



UNIVERSITY
OF MANITOBA

Undergraduate Calendar

For the Academic Year 2003 - 2004

**The University of Manitoba
Winnipeg, Manitoba
R3T 2N2**

Website: www.umanitoba.ca/calendar

Important Notice

The University of Manitoba reserves the right to make changes in the information contained in the *Undergraduate Calendar*, the *Graduate Calendar*, and the *Registration Guide* without prior notice. The University of Manitoba Web site, www.umanitoba.ca is a source for updated information.

Not every course listed in the *Undergraduate Calendar* or the *Graduate Calendar* will be offered in this academic year.

Courses which are offered this year are listed in the *Registration Guide*.

It is the responsibility of all students

- To familiarize themselves each year with the university's academic regulations and policy in general;
- To familiarize themselves with the regulations and policies applying specifically to their faculty, school, or program;
- To familiarize themselves with the specific graduation requirements of the degree, diploma, or certificate they are seeking; and
- To ensure that the courses they have selected are appropriate to their programs.

In the event of an inconsistency between the general academic regulations and policies published in the *Undergraduate Calendar* and the *Graduate Calendar*, and such regulations and policies established by Senate and the councils of the faculties and schools, the version established by Senate and the councils of the faculties and schools shall prevail.

The regulations and policies contained in this year's editions of the *Undergraduate Calendar*, the *Graduate Calendar*, and the *Registration Guide* apply, subject to change, only for the academic year indicated on the cover page of each publication.

The material in the current editions of the *Undergraduate Calendar*, the *Graduate Calendar* and the *Registration Guide* was submitted by the academic and administrative units concerned. The university neither represents nor warrants that all general information and course references used in these publications is accurate although reasonable efforts have been used to check the accuracy of the information.

Students also agree by the act of registration to be bound by the regulations, policies, and bylaws of the University of Manitoba that are in effect at the time of registration, including any amendments which may be enacted during the period of their registration. Students agree by the act of registration to be bound by the regulations, policies, and bylaws of the faculty or program in which they have registered, including any amendments which may be made during the period of their registration. Students also acknowledge that such amendments may have retroactive application.

No liability shall be incurred by the University of Manitoba for any loss or damage suffered or incurred by any student, or any party claiming through or under any student, as a result of delays in, or termination of, services, courses or classes by acts of God, fires, floods, riots, wars, strikes or lock-outs, damage to university property, financial exigency, or any occurrence beyond the reasonable control of the university. Further, the University of Manitoba shall not be liable for any losses or damage suffered by a student who discloses his/her personal identification number (PIN) to anyone other than a university employee in the course of registration.

The Freedom of Information and Protection of Privacy Act and The Personal Health Information Act at the University of Manitoba

The Freedom of Information and Protection of Privacy Act (FIPPA) and The Personal Health Information Act (PHIA) both apply to the University of Manitoba. Should any of the University's policies conflict with FIPPA or PHIA, the provisions of FIPPA or PHIA shall prevail unless otherwise expressly provided for at law.

Notice Regarding Collection, Use, and Disclosure of Personal Information by the University

The University collects personal information in the course of admission, registration and related activities. This personal information is collected under the authority of *The University of Manitoba Act*. It may be shared with other educational institutions, government departments, and co-sponsoring organizations and, for those students who are members of UMSU, it will be disclosed to the University of Manitoba Students' Union. Information regarding graduation and awards may be made public. Upon graduation, name and address together with information on degrees, diplomas, and certificates earned will be given to and maintained by the alumni records department in order to assist in the University's advancement and development efforts. All personal information is protected by the protection of privacy provisions of the *Freedom of Information and Protection of Privacy Act*. Questions about the collection of information should be directed to the FIPPA Coordinator's Office, University of Manitoba Archives and Special Collections, 331 Dafoe Library, University of Manitoba, Winnipeg, Manitoba, R3T 2N2 (telephone: 204 474 8339).

Notification of Disclosure of Personal Information to Statistics Canada

Statistics Canada is the national statistical agency. As such, Statistics Canada carries out hundreds of surveys each year on a wide range of matters, including education.

It is essential to be able to follow students across time and institutions to understand, for example, the factors affecting enrolment demand at post-secondary institutions. The increased emphasis on accountability for public investment means that it is also important to understand "outcomes." In order to carry out such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates. Institutions collect and provide to Statistics Canada student identification information (student's name, student ID number, Social Insurance Number), student contact information (address and telephone number, student demographic characteristics, enrolment information, previous education, and labour force activity).

Under the *Federal Privacy Act*, individuals can request access to their own, individual information held on federal information banks, including those held by Statistics Canada.

The *Federal Statistics Act* provides the legal authority for Statistics Canada to obtain access to personal information held by educational institutions. The information may be used only for statistical purposes, and the confidentiality provisions of the *Statistics Act* prevent the information from being released in any way that would identify a student.

Students who do not wish to have their information used are able to ask Statistics Canada to remove their identifying information from the national database.

Further information on the use of this information can be obtained from Statistics Canada's web site: <http://www.statcan.ca> or by writing to the Postsecondary Section, Centre for Education Statistics, 17th Floor, R. H. Coates Building, Tunney's Pasture, Ottawa, Ontario, Canada, K1A 0T6.

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The University of Manitoba

As Manitoba's largest post-secondary institution, the only one that is research-intensive, and the only one that offers medical and doctoral degrees, the University of Manitoba plays an unrivaled role in contributing to the vitality of this province. It educates the majority of the province's professionals – whether they be nurses, architects, lawyers, pharmacists, teachers, engineers, dentists, or doctors. It also educates most of the province's community, political and business leaders.

More than 22,000 students, and 4,000 teaching and support staff combine to make the University of Manitoba a vibrant community committed to teaching, learning, and the search for new knowledge.

The location of the Fort Garry campus, nestled inside a loop of the Red River, is as unique a setting as that of any university in Canada. This campus is the location of most of the university's faculties and schools. There is also the Bannatyne Campus, adjacent to the Health Sciences Centre in central Winnipeg, where the faculties of Dentistry and Medicine are located. Other places where the University of Manitoba is visible include the Winnipeg Education Centre, the location for social work education for inner city residents; agricultural research farms at Glenlea and Carman; field stations at Delta Marsh on Lake Manitoba, Star Lake in the Whiteshell, and Wallace Lake in eastern Manitoba. In addition, a number of distance education programs provide a province-wide presence for the university throughout Manitoba.

The University of Manitoba is a coeducational, nondenominational, government-supported institution. It is a member of the Association of Commonwealth Universities and of the Association of Universities and Colleges of Canada.

The University of Manitoba was established in 1877 to confer degrees on students graduating from its three founding colleges: St. Boniface College, St. John's College, and Manitoba College. It was the first university to be established in western Canada.

In 1900 the Manitoba legislature amended the University of Manitoba Act so that it could begin teaching in its own right. In 1904 a building in downtown Winnipeg became the first teaching facility with a staff of six professors, all scientists. The U of M moved to its present permanent location in Fort Garry following the transfer of the Manitoba Agricultural College to the university.

In its early years the University of Manitoba expanded through the addition of colleges to its corporate and associative body. In 1882 the Manitoba Medical College, originally founded by physicians and surgeons in the province, became a part of the university. Other affiliations followed: the Methodist church's Wesley College joined in 1888; the Manitoba College of Pharmacy in 1902; the Manitoba Agricultural College in 1906; St. Paul's College in 1931; and Brandon College in 1938. St. Andrew's College, initially an associated college in 1964, became an affiliated college in 1981.

In 1967 two of the colleges of the University of Manitoba were given university status by the provincial government. United College, which was formed by the merging of Wesley College and Manitoba College, became the University of Winnipeg, and Brandon College became Brandon University.

St. Boniface College, now called Collège universitaire de Saint-Boniface, and St. John's College, two of the original founding colleges, are still part of the University of Manitoba.

St. Boniface, a Roman Catholic institution which traces its beginnings to 1818 and the earliest days of the Red River settlement, is the university's only French-speaking college.

St. John's College, which dates to 1820 and founded by the Anglican church, is situated on the Fort Garry campus and is committed to fostering a sense of community and belonging among its faculty, students and staff.

St. Paul's College was founded in 1926 by the Archdiocese of Winnipeg and became part of the University of Manitoba in 1931. In 1933 the Jesuit order assumed responsibility for the college and organized the college's academic program in accordance with its internationally recognized educational principles. The college moved into its Fort Garry Campus premises in 1958.

St. Andrew's College was established in 1946 by the Ukrainian Orthodox Church of Canada and moved to the Fort Garry Campus in 1964. It offers programs in Ukrainian Canadian heritage studies and, in addition, prepares candidates for the ordained ministry and lay leadership in the Ukrainian Orthodox church and other Orthodox churches.

The Mission and Vision of the University of Manitoba

Universities serve society by contributing to: the development of an educated and enlightened population, capable of informed judgment and responsible citizenship; the availability of persons who have the knowledge, skills and adaptability required by public and private enterprise, or by individuals seeking professional service; and the advancement of knowledge, skill and human creativity. It is within this context that the University of Manitoba has articulated the following statement concerning its mission, goals, distinctive role and accountability.

Mission

The mission of the University of Manitoba is to create, preserve and communicate knowledge and, thereby, contribute to the cultural, social and economic well-being of the people of Manitoba, Canada and the world.

Goals

In fulfilling its mission, the University of Manitoba seeks to:

- Provide the highest possible quality of undergraduate and graduate university teaching in the humanities, social sciences, natural and applied sciences, the fine and performing arts and the professions;
- Enhance student success by fostering an environment conducive to intellectual and personal growth;
- Conduct original scholarship and basic and applied research, and produce creative works of highest quality as judged by international standards;
- Serve the community directly by making its expertise available to individuals and institutions, and by providing as much access to the university's intellectual, cultural, artistic and physical resources as its primary teaching and research responsibilities permit;
- Preserve and protect academic freedom and intellectual independence, and provide a forum for critical inquiry and debate; and,
- Promote equity in access and employment and in the conduct of the university's affairs.

Role

The University of Manitoba as the largest and most comprehensive institution of higher learning in Manitoba plays a distinctive role within the province. In addition to offering undergraduate liberal education in arts, science and education, the University of Manitoba provides programs in a broad range of professional studies, applied sciences and fine and performing arts and is responsible for the vast majority of graduate education and research in Manitoba. The University of Manitoba serves all parts of the province, including inner city and suburban areas, rural and northern regions and attracts students from all population groups and from all walks of life.

It manages and delivers a comprehensive array of both degree and non-degree credit courses not only on its campuses but also by correspondence and other distance education modalities both throughout the province and beyond the province, thereby significantly increasing accessibility to university education.

The University of Manitoba is also distinctive among post-secondary institutions in the province by virtue of the multi-disciplinary activity within the university and through its participation in multi-institutional consortia and networks. It seeks to advance its traditional role in teaching and learning, research and community service through the establishment of new linkages with business, industry, arts organizations, social agencies, non-profit organizations and governments designed to contribute directly to the eco-

nomic life of Manitobans and to provide lifelong learning opportunities for them. Through residential educational programs for seniors, Mini-University for youngsters, the summer ballet school, the music preparatory program, public lectures, concerts, recitals, theatrical productions, art exhibits, library and archival services, athletic and recreational programs and in many other ways, the university seeks to reinforce its role as an important part of the culture and heritage of Manitoba.

The university is an active contributor to national and international development by conducting educational programs and research under contract. It also contributes to international development through the opportunities provided to students and visiting scholars from other countries to study at the University of Manitoba. Recognizing that many of the intellectual and practical challenges facing society require an integrated disciplinary approach, the university has established a variety of centres, institutes and specialized research groups designed to tackle important problems in a number of areas.

Accountability

In recognition of its mission, goals and role, the University of Manitoba is accountable for:

- Facilitating access to its programs for as many students as meet its admission requirements and as can be accommodated and effectively educated within the available resources;
- Providing programs that meet accepted and appropriate standards for admission, evaluation and graduation of students and for curriculum content and teaching effectiveness;
- Facilitating research, scholarship and creative works that are of high quality as judged by international standards;
- Providing an exemplary environment for work and study with particular attention to policies and procedures designed to foster equity; and,
- Exhibiting responsible management of physical and human resources.

Vision

The following vision statement was articulated in Building on Strengths, the report of the Task Force on strategic planning in 1998:

We believe that the University of Manitoba will be a leader among Canadian universities as it becomes known for meeting challenges while it advances knowledge and understanding. We will not only be the oldest of western Canada's universities we will also be among the best of Canada's universities. We will be respected for our knowledge of the world and for our understanding of the complexities of our Prairie region in its cultural, socioeconomic and scientific dimensions, which we will articulate according to international standards of science and scholarship. We will be recognized for our centrality in the development of Manitoba's knowledge-based society in a knowledge-based global economy.

We will attain our vision by:

- Providing outstanding education in undergraduate and selected professional and graduate areas;
- Producing research, scholarship and creative work that is recognized internationally, nationally, and locally;
- Providing an equitable environment focused on learning; and
- Enhancing a strong tradition of community and professional service.

Members of the Board of Governors

Chair

Wayne Anderson, B.S.A., M.B.A.

Vice-Chair

Terry Sargeant, B.A., LL.B.

Chancellor

William Norrie, C.M., O.M., Q.C., B.A., LL.B., LL.D. (Man.), LL.D. (Wpg.)

President and Vice-Chancellor

EmÁke J.E. SzathmÁry, B.A.(Hons.), Ph.D., LL.D.

Appointed by the Lieutenant-Governor-in-Council:

Morgan Albl

Alfred Black, B.Math., M.Math.

Vanaja Dhruvarajan, M.A., Ph.D.

GÉrald Dureault, B.A., B.Ed.

Kris Frederickson, BSc.

Ellen Gordon, B.A., MSW

Esyllt Jones, B.A., M.A.

Lisa Meeches, B.A.

Joanna Plater, B.A. (Hons.), M.A.

Terry Sargeant, B.A., LL.B.

Shirley Van Schie, B.A. (Adv.), M.A., LL.B.

Doris Young, B.A. (Hons.), M.P.A.

Elected by Senate

Harry W. Duckworth, B.Sc.(Hons.), Ph.D.

Janet Hoskins, B.E.S., M.Sc., Ph.D.

Anthony Secco, B.Sc. (Hons.), Ph.D.

Elected by Graduates

Wayne Anderson, B.S.A., M.B.A.

Ian Smith, B.Sc. (Hons.), M.Sc., Ph.D. D.Sc. (H.C.) Fil. Doktor (H.C.)

Doug Ward, B.A., LL.B.

Elected by the University of Manitoba Students Union

Romel Dhalla, B.A.

James Kusie

Nicholas Louizos

University Secretary

Beverly M. M. Sawicki, B.A.(Hons.), LL.B.

Senior Administrative Officers

President and Vice-Chancellor

EmÁke J.E. SzathmÁry, B.A.(Hons.), Ph.D., LL.D.

Vice-President (Academic) and Provost

Robert Kerr, B.Sc., MSc., Ph.D.

Vice-President (Administration)

Michael W. McAdam, B.B.A, C.A., M.B.A.

Vice-President (Research)

Joanne C. Keselman, B.A., M.A., Ph.D.

Vice-President (External)

Elaine Goldie, Cert. Ed.

University Secretary

Beverly M.M. Sawicki, B.A.(Hons.), LL.B.

Vice-Provosts

David R. Morphy, B.A., M.A., Ph.D.

Karen C. Ogden, A.B., M.A.T.

Richard A. Lobdell, B.A., M.A., Ph.D.

Associate Vice-Presidents

Deborah McCallum, B.Sc.

Digvir Jayas, B.Sc., M.Sc., Ph.D.

Director of Libraries

Carolynne Presser, A.B., M.L.S.

Comptroller

Leanne Burkowski, B.Comm.(Hons.), C.A.

Affiliated, Member and Constituent Colleges

St. Andrew's College

Principal: Vivian Olender, B.A.(Hons.), M.A., Ph.D.

Collège Universitaire de Saint-Boniface

Recteur: Paul Ruest, B.A. (Lat. Phil.), B.Ed. M.Ed., Ph.D.

St. John's College

Warden: Janet A. Hoskins, B.E.S., M.Sc., Ph.D.

St. Paul's College

Rector: John J. Stapleton, B.S., M.T.S., M.A., Ph.D.

University College

Provost: Eugene P. Walz, B.A., M.A., Ph.D.

Approved Teaching Centres

William and Catherine Booth College

Prairie Theatre Exchange

University Distinguished Professors

Anna, T.E., B.A., M.A., Ph.D. (Duke); **Anthonisen**, N.R., A.B. (Dartmouth), M.D. (Harvard), Ph.D. (McGill); **Card**, H.C., B.Sc.(E.E.), M.Sc. (Manitoba), Ph.D. (Manchester); **Cohen**, H., B.Sc.(Hons.) (Manitoba), Sc.M. (Brown), Ph.D. (Minnesota); **Dhalla**, N.S., B.Sc. (Punjab), M.Sc. (Pennsylvania), Ph.D. (Pittsburgh); **Eales**, J.G., B.A.(Hons.) (Oxford), M.Sc., Ph.D. (UBC), F.R.S.C.; **Fortier**, P., B.A.(Hons.) (Toronto), D.E.S. (Strasbourg), M.A., Ph.D. (Wisconsin); **Friesen**, G., B.A. (Saskatchewan), M.A., Ph.D. (Toronto); **Gratzer**, G., F.R.C.S., Ph.D. (Budapest); **Gupta**, N.D., B.A. (Kashmir), LL.B., M.A. (Aligarh), Ph.D. (Australian National), F.R.S.C.; **Hawthorne**, F.C., B.Sc. (Spec.) (Imperial College), A.R.S.M. (Royal School of Mines, London), Ph.D. (McMaster), F.R.S.C., F.G.A.C., F.M.S.A.; **Israels**, L.G., B.A. (Saskatchewan), M.D. (Manitoba) (Medicine); **Mendelsohn**, N.S., B.A., M.A., Ph.D. (Toronto), F.R.C.S. (Mathematics); **Morrish**, A.H., F.R.S.C., B.Sc.(Hons.) (Manitoba), M.A. (Toronto), Ph.D. (Chicago); **Plummer**, F., B.Sc. (Hons.), M.D. (Manitoba), F.R.C.P.C.; **Ronald**, A.R., M.D., B.Sc., (Med.) (Manitoba); **Schaefer**, T., B.Sc. (Hons.), M.Sc. (Manitoba),

D.Phil. (Oxford), F.R.S.C.; **Sehon**, A., B.Sc., M.Sc., Ph.D., D.Sc. (Manchester), F.R.S.C.; **Shafai**, L., B.Sc. (Tehran), M.Sc., Ph.D. (Toronto), F.R.S.C.; **Smil**, V., M.S. (Prague), Ph.D. (Pennsylvania State), F.R.S.C.; **Stanton**, R.G., B.A.(Hons.) (Western), M.A., Ph.D. (Toronto), D.Sc. (Newcastle, NSW); **van Oers**, W.T.H., Ph.D. (Amsterdam); **Wolfart**, H.C., [B.A. equiv.] (Albert-Ludwigs-Universität, Freiburg im Breisgau), M.A. (Yale), M.A. (Cornell), M.Phil., Ph.D. (Yale), F.R.S.C.; **Younes**, M., Ch.B., D.P.H. (Egypt), F.R.C.P., Ph.D.,

Distinguished Professor Emeritus

Bowman, J.M., M.D. (Manitoba); **Friesen**, H.G., O.C., B.Sc. (Med.), M.D. (Manitoba), D.Sc. (Western Ontario), F.R.C.P.(C), F.R.S.C.; **Hamerton**, J.L., B.Sc., D.Sc. (London), F.C.C.M.G., F.I.Biol.; **Klostermaier**, K.K., D.Phil. (Gregorian), Ph.D. (Bombay); **Kroetsch**, R.P., B.A. (Alberta), M.A. (Middlebury), P.S. (Iowa), F.R.S.C.

Academic Schedule 2003-2004

Application and admission dates may be found on our website:

www.umanitoba.ca. Click on "Current Students".

Regular Session: September 2003 - April 2004

Summer Session: May 2003 - August 2003

- Spring Intersession May 5 - June 27, 2003
- Spring/Summer Evening May 5 - August 9, 2003
- Summer Day July 2 - August 23, 2003

MARCH 2003

March 3 Monday Intermediate Fieldwork begins for second year Occupational Therapy students.

March 17 - 21 Monday-Friday Mid-term break for first- and second-year Medicine.

March 31 - April 25 Monday-Friday Community Pharmacy Practice for all third-year Pharmacy students

APRIL 2003

April 1 Tuesday Last date for reports on theses/practica (and the corrected copies of the theses/practica), comprehensive examinations and M. Eng. Projects to be submitted to the Faculty of Graduate Studies by students expecting to graduate in May.

April 5 Saturday Language reading tests for graduate students.

April 11 Friday Intermediate Fieldwork ends for second-year Occupational Therapy students

April 13 Sunday School of Art Open House

April 14 Monday Summer Fieldwork 1 commences for second-year Occupational Therapy students.

April 18 GOOD FRIDAY University closed. No classes or examinations.

April 28 Monday Summer Fieldwork 2 begins for third-year Occupational Therapy students

MAY 2003

May 1 Thursday Last date for application for June supplemental examinations in Agriculture Diploma.

Nursing Summer Term starts.

May 2 Friday Last date for registration in Spring Intersession and Spring/Summer Evening courses without late registration fee. Last date to register and pay fees for Challenge for Credit where the final examination is held during the Spring Intersession/first term Spring/Summer Evening exam series in June.

Medicine 4 clerkship closes.

May 3 Saturday Annual traditional graduation Powwow in honour of Aboriginal graduates.

May 5 Monday Classes begin in Spring Intersession and Spring/Summer Evening.

May 5 - 14 Monday-Wednesday Medical Council of Canada examinations.

May 13 Tuesday Last day of classes for first-year Medicine.

May 16 Friday Last day of classes for second-year Medicine.

May 19 Monday VICTORIA DAY University closed. No classes or examinations.

May 23 Friday Summer Fieldwork 1 ends for second-year Occupational Therapy students.

May 28 - 29 Wednesday-Thursday One Hundred and Twenty-Fourth Annual Convocation.

JUNE 2003

June 2 Monday Last date for receipt of applications for supplemental examinations in third-year Medical Rehabilitation.

Supplemental examinations in Agriculture Diploma.

Last date for receipt of applications for supplemental examinations in first- and second-year and Physical Therapy degree completion programs of Medical Rehabilitation.

Last date to register and pay fees for Challenge for Credit where the final examinations are held during the Spring/Summer Evening exam series in August.

Convocation ceremony, Collège Universitaire de Saint-Boniface.

June 6 Friday Summer Fieldwork 2 ends for third-year Occupational Therapy students.

June 9 Monday The sale of student parking permits begins through the telephone registration system (UMREG - 958-7600)

June 9 - August 1 Monday-Friday Supplemental examination period in Dentistry and Dental Hygiene.

June 16 Monday Deadline for receipt by Faculty of Graduate Studies of Annual Progress Reports for Masters' and Ph.D. students.

June 20 Friday Deadline for payment of parking fees.

June 23 Monday Last date for receipt in Graduate Studies Office of Ph.D. theses (for distribution) from students expecting to graduate in October.

June 24 Tuesday Classes end in Spring Intersession.

June 27 Friday Exams end in Spring Intersession.

Last day for registration in Summer Day courses without late registration fee.

Last date to register and pay fees for Challenge for Credit, where the final examinations are held during the Summer Day exam series in August.

JULY 2003

July 1 Tuesday CANADA DAY University closed. No classes or examinations.

July 2 Wednesday Classes begin in Summer Day.

Last date for distribution of Master's theses/practica (to examining committee) by students expecting to graduate in October.

July 4 Friday Last date for receipt of applications for autumn supplemental examinations in those faculties and schools offering these, except Medical Rehabilitation. Arrangements for writing at approved off campus centres must be completed by this date.

AUGUST 2003

August 1 Friday Last date to apply for graduation in October 2003 via UMREG - the telephone/web registration system.

August 4 Monday CIVIC HOLIDAY University closed. No classes or examinations.

August 7 Thursday Classes end in Spring/Summer Evening.

August 9 Saturday Exams end in Spring/Summer Evening.

August 11 Monday First term begins in third- and fourth-year Dentistry.

August 18 Monday First term begins in first- and second-year Dentistry.

First term begins in first- and second-year Dental Hygiene.

Orientation begins for first-year Medicine.

August 20 Wednesday Classes end in Summer Day.

Inaugural exercises for Faculty of Medicine. B.Sc.(Med.) presentations begin in Faculty of Medicine.

August 21 - 22 Thursday-Friday In-person registration in Medicine.

August 23 Saturday Exams end in Summer Day.

August 25 Monday First day of classes in first-, second- and third-year Medical Rehabilitation.

Classes begin in first-, second- and third-year Medicine.

Classes begin in fourth-year Pharmacy.

Last date for reports on theses/practica (and the corrected copies of the theses/practica), comprehensive examinations and M. Eng. Projects to be submitted to the Faculty of Graduate Studies by students expecting to graduate in October.

SEPTEMBER 2003

September 1 Monday LABOUR DAY University closed. No classes or examinations.

September 2 Tuesday Orientation for first-year Social Work students.

Field Orientation for second and third-year Social Work students.

Classes begin in Law.

Registration in Law not permitted after this date without the permission of the dean.

September 2 - 3 Tuesday-Wednesday University 1 Orientation

NOTE: University 1 students are reminded that these orientation sessions are part of their academic program and attendance is required.

September 3 Wednesday Last day to register and pay fees without penalty for all programs except the Agriculture Diploma (September 19).

Field Orientation for second and third-year Social Work students.

Last date for registration and fee payment without fee penalty for students wishing to take Distance Education Courses commencing in September. For further details, see the *2003-2004 Distance Education Program Guide*.

September 4 Thursday Classes begin in most faculties and schools (including evening classes) except Education 'non-L' lecture section courses and Education courses with L40 and L59 lecture sections. (See *Registration Guide*)

September 4 - 5 Thursday-Friday Clinical orientations for all nursing students registered in clinical courses. Nursing students, not in clinical courses, should attend theory courses as scheduled.

September 4 - 17 Thursday-Wednesday Period for late registration and registration revisions in all programs except Agriculture Diploma and Education 'non-L' lecture section courses and Education courses with L40 and L59 lecture sections (See *Registration Guide*). A financial penalty is assessed on all late registrations during this period.

September 6 Saturday Language reading tests for graduate students.

September 17 Wednesday Registration revisions and late registration in courses other than those offered in second term only, including Challenge for Credit, are not permitted after this date except in Agriculture Diploma (See October 1) and Education 'non-L' lecture section courses and Education courses with L40 and L59 lecture sections (see *Registration Guide*).

First Term and Full courses dropped after this date are recorded as Voluntary Withdrawals. (See refund schedule in the *Registration Guide* for financial implications.) (For Education 'non-L' lecture section courses and Education courses with L40 and L59 lecture sections see the *Registration Guide*)

Last date to apply for graduation in February 2004 via UMREG - the telephone/web registration system.

September 19 Friday Orientation in Agriculture Diploma.

Last date to register and pay fees, without financial penalty, for Agriculture Diploma.

September 22 Monday Classes begin in Agriculture Diploma.

September 25 Thursday 2003 School Counsellors Admissions Seminar.

OCTOBER 2003

October 1 Wednesday Last date for registration revisions in first term Agriculture Diploma. First term and full courses dropped from the diploma program after this date are recorded as Voluntary Withdrawals. (See refund schedule for financial implications).

Last date for application to write examinations at a location other than the University of Manitoba in courses ending in December taken through the Distance Education Program by independent study, group-based study or net-based study.

October 3 Friday Medicine 3 (ITC) ends.

October 6 Monday Clinical Clerkship in Medicine begins.

October 13 Monday THANKSGIVING University closed. No classes or examinations.

October 20 Monday Enrolment Services/Financial Aid and Awards: Entrance Scholarship Presentation and Reception.

Last date for receipt in Graduate Studies Office of Ph.D. theses (for distribution) from graduate students expecting to graduate in February.

October 21 Tuesday Enrolment Services/Admissions Evening of Excellence

October 22 - 23 Wednesday-Thursday Thirty-Sixth Annual Fall Convocation.

October 24 Friday First term lectures end for fourth-year Pharmacy.

October 27 Monday Last date for distribution of masters' theses/practica (to examining committee) by students expecting to graduate in February.

October 27 - 31 Monday-Friday Examination period for first term of fourth-year Pharmacy.

NOVEMBER 2003

November 3 Monday Orientation for experiential rotations for all fourth-year Pharmacy students.

November 11 Tuesday REMEMBRANCE DAY University closed. No classes or examinations.

November 12 Wednesday Last date for Voluntary Withdrawal from all first term half-courses in all Faculties and Schools (except Education 'non-L' lecture section courses and Education courses with L40 and L59 lecture sections - see *Registration Guide*). (See refund schedule in *Registration Guide* for financial implications). Note that some courses have irregular voluntary withdrawal and refund schedules. See Faculty chapters of the *Registration Guide*. UMREG telephone and web registration closes at 5:30 p.m.

First term experiential rotations begin in fourth-year Pharmacy.

November 14 Friday Master's of Occupational Therapy Program Module 1 ends.

November 17 Monday Master's of Occupational Therapy Program Module 2 Basic Fieldwork begins.

DECEMBER 2003

December 3 Wednesday Last day of lectures in Agricultural and Food Sciences (degree), Architecture (including Interior Design and Environmental Design), Arts, Education except Education 'non-L' lecture section courses and Education courses with L40 and L59 lecture sections (see *Registration Guide*), Engineering, Art, Human Ecology, Management, Music, Nursing, Pharmacy (except for fourth-year), Physical Education/Recreation Studies, Science, Social Work and University 1.

December 5 Friday Last day of lectures in Agriculture Diploma.

December 6 Saturday On this date in 1989, 14 women were murdered at l'École Polytechnique, Université de Montréal. The university remembers these women at memorial events scheduled on or near this date.

December 5 - 18 Friday-Thursday Examination period. Students are reminded that they must remain available until all examination and test obligations have been fulfilled.

December 5 Friday Last day of lectures in Law.

Field instruction ends in second- and third-year Social Work.

Last day of lectures in first, second and third-year of Dentistry.

December 6 Saturday Examinations begin in Law.

December 8 - 15 Monday-Monday Examination period in Agriculture Diploma.

December 8 - 19 Monday-Friday Examination period for first, second- and third-year Dentistry.

December 9 Tuesday Last day of lectures in fourth-year Dentistry and all years of Dental Hygiene

December 10 - 19 Wednesday-Friday Examination period for fourth-year Dentistry and all years of Dental Hygiene.

December 12 Friday Medical Rehabilitation closes except for the Physical Therapy department.

Master's of Occupational Therapy Program Module 2 Basic Fieldwork ends.

First Term experiential rotations end in fourth-year Pharmacy.

December 15 - 19 Monday-Friday International Dental Degree Program on-site assessment.

December 18 Thursday End of examinations and first term

Physical Therapy department closes.

December 19 Friday Clinics end in third and fourth-year Dentistry.

Last day of lectures in Medicine (first- and second-year).

December 23 Tuesday Last working day. University closes until January 5. Medicine 4 Clerkship closes until January 2.

JANUARY 2004

January 2 Friday Medicine 4 Clerkship resumes.

January 5 Monday University re-opens.

Second term experiential rotations begin in fourth-year Pharmacy.

Lectures resume in all faculties and schools (except fourth-year Pharmacy).

Field instruction begins in second- and third-year Social Work.

Advanced Fieldwork begins in third-year Occupational Therapy.

Last date for application for January supplemental examinations for Agriculture Diploma.

January 5 - 16 Monday-Friday Period for registration and registration revisions in second term half-courses in all programs except Agriculture Diploma (see January 14).

January 6 Tuesday Last date for reports on theses/practica (and the corrected copies of the theses/practica), comprehensive examinations and M. Eng. Projects to be submitted to the Faculty of Graduate Studies by students expecting to graduate in February.

January 7 Wednesday Supplemental examinations for Agriculture Diploma.

January 10 Saturday Language reading tests for graduate students.

January 14 Wednesday Last date for registration and/or registration revisions in Agriculture Diploma. Second term courses dropped from the Agriculture Diploma after this date are recorded as Voluntary Withdrawals.

January 16 Friday Last date for registration in second term half courses, including Challenge for Credit, and/or registration revisions in all programs except the Agriculture Diploma (see January 14) and Education 'non-L' lecture section courses and Education courses with L40 and L59 lecture sections (see *Registration Guide*).

Second term and full courses dropped after this date from any program except the Agriculture Diploma and Education courses in the Bachelor of Education (see *Registration Guide*) are recorded as Voluntary Withdrawals. (See *Registration Guide* Refund Schedule for financial implications.)

Final date for receipt of second term and full courses fee payments.

Last date for registration for students wishing to take Distance Education courses commencing in January. For further details, please consult the 2003-2004 Distance Education Program Guide.

Last date to apply for graduation in May 2004 via UMREG - the telephone/web registration system.

January 26 Monday Last date for receipt, in Graduate Studies office, of Ph.D. thesis (for distribution) from students expecting to graduate in May.

FEBRUARY 2004

February 2 Monday Last date for application to write examinations at a location other than the University of Manitoba in courses ending in April taken through the Distance Education program by independent study, group-based study or net-based study.

Last date for distribution of Masters' theses/practica (to examining committee) by students expecting to graduate in May.

February 6 Friday Second term experiential rotations end in fourth-year Pharmacy.

February 9 Monday Second term lectures begin in fourth-year Pharmacy.

February 13 Friday Advanced Fieldwork ends for third-year Occupational Therapy students.

February 16 Monday Selected Studies Block begins for third-year Occupational Therapy students.

February 16 - 20 Monday-Friday MID-TERM BREAK No classes or examinations, except for Medicine, fourth-year Pharmacy, second-year and third-year Occupational Therapy and Physical Therapy students.

February 17-18 Tuesday-Wednesday Information Days for high school students

MARCH 2004

March 5 Friday Last date for Voluntary Withdrawal without academic penalty from full courses and second term half-courses for students in the Agriculture Diploma. (See refund schedule for financial implications).

March 15 - 19 Monday-Friday Mid-Term break for first- and second-year Medicine.

March 17 Wednesday Last date for Voluntary Withdrawal from full courses and second term half-courses in all Faculties and Schools (except students in the Agriculture Diploma, see March 5; and Education 'non-L' lecture section courses and Education courses with L40 and L59 lecture sections see *Registration Guide*). See refund schedule in the *Registration Guide* for financial implications. NOTE: Some courses have irregular voluntary withdrawal and refund schedules. See the faculty chapters of the *Registration Guide*. UMREG telephone and web registration closes at 5:30 p.m.

March 19 Friday Last day of lectures in third-year Pharmacy.

March 22 - 26 Monday-Friday Examination period for third-year Pharmacy.

March 26 Friday Last day of lectures in Agriculture Diploma.

March 27 Saturday Language reading tests for graduate students.

March 29 - April 5 Monday-Monday Final examinations in Agriculture Diploma.

March 29 - April 23 Monday-Friday Community pharmacy practice for third-year Pharmacy.

March 30 Tuesday Last date for reports on theses/practica (and the corrected copies of the theses/practica), comprehensive examinations and M. Eng. Projects to be submitted to the Faculty of Graduate Studies by students expecting to graduate in May.

APRIL 2004

April 5 Monday End of examinations and second term for the Agriculture Diploma.

April 8 Thursday Final lectures in all faculties and schools, Medicine, and Education 'non-L' lecture section courses and Education courses with L40 and L59 lecture sections (see *Registration Guide*).

Lectures and all clinics close for Dental Hygiene 1 and 2.

April 9 GOOD FRIDAY University closed. No classes or examinations

April 12 Monday Examinations begin in Law.

Field instruction ends in second- and third-year Social Work.

April 12 - 16 Monday-Friday Examination period for Dental Hygiene 1 and 2.

April 12 - 28 Monday-Wednesday Examination period - Students are reminded that they must remain available until all examination and test obligations have been fulfilled.

April 15 Thursday Last day of lectures in fourth-year Pharmacy.

April 16 Friday Term ends for third-year Occupational Therapy students. Classes and regular clinics end for fourth-year Dentistry.

April 19 Monday Exams begin in Fourth-year Pharmacy.

Summer Fieldwork 2 begins for third-year Occupational Therapy students.

April 19 - 23 Monday-Friday Examination period for fourth-year Dentistry.

April 23 Friday Graduation ceremony for School of Agriculture.

Master's of Occupational Therapy Program Module 3 ends.

Last day of lectures in Dentistry years 1 and 2.

April 26 Monday Master's of Occupational Therapy Program Module 4 Intermediate Fieldwork begins.

April 26 - May 7 Monday-Friday Examination period for first-, and second-year Dentistry.

April 28 Wednesday End of examinations and second term in those Faculties and Schools where examinations commenced April 12.

April 30 Friday Last date for registration in Spring Intersession and Spring/Summer Evening courses without late registration fee.

Medicine 4 Clerkship closes.

Last day of lectures and regular clinics for third-year Dentistry.

MAY 2004

May 1 Saturday Annual traditional graduation Powwow in honour of Aboriginal graduates.

May 3 Monday Classes begin in Spring Intersession and Spring/Summer Evening Session.

Nursing Summer term starts

Last date to register and pay fees for Challenge for Credit where the final examinations are held during the June series.

Last date for applications for June supplemental examinations in Agriculture Diploma.

May 10 - 21 Monday-Friday Exam period for third-year Dentistry.

May 11 - 12 Tuesday-Wednesday Medical Council of Canada examinations.

May 14 Friday Last day of classes in first- and second-year Medicine.

May 24 Monday VICTORIA DAY University closed. No classes or examinations.

May 26 - 27 Wednesday-Thursday One Hundred and Twenty Fifth Annual Spring Convocation.

May 28 Friday Summer Fieldwork 2 ends for third-year Occupational Therapy students.

May 31 Monday Convocation ceremony at Collège universitaire de Saint-Boniface.

Supplemental exams for Agriculture Diploma.

JUNE 2004

June 14 Monday Deadline for receipt, by the Faculty of Graduate Studies, of Annual Progress Reports for Master's and Ph.D. students.

June 21 Monday Last date for receipt, in Graduate Studies Office, of Ph.D. thesis (for distribution) from students expecting to graduate in October.

June 28 Monday Last date for distribution of Master's thesis/practica (to examining committee) by students expecting to graduate in October.

June 30 Wednesday Classes begin in Summer Day Session.

JULY 2004

July 1 Thursday CANADA DAY University closed. No classes or examinations.

July 30 Friday Nursing Summer Term ends.

Deadline Dates

Where deadline dates fall on a weekend or statutory holiday, the normal closing time of the next working days will be used.

Examination Obligations

Students are reminded that they must remain available until all examination and test obligations have been fulfilled.

Observance of Religious Holidays.

The university acknowledges the right of all students to observe recognized Holy Days of their faith which fall within the above schedule and will, at its discretion, upon request, make necessary arrangements to ensure that studies are not jeopardized.

Instructors should be notified of a student's intended absence in advance, and at least three weeks notice of absence from scheduled examinations should normally be given where special arrangements are sought.

Schedule of Registration Activities

The dates for the registration in each faculty and school for the 2003-2004 session are published in the *Registration Guide* which is issued to all returning and new students and sent on request to others interested in this information.

For further information on registration activities contact:

Student Records Office
400 University Centre
University of Manitoba
Winnipeg, Manitoba R3T 2N2
Telephone: 204 474 9423
Email : student_records@umanitoba.ca

Web Address: www.umanitoba.ca/student/records

University of Manitoba

Admissions

General Office

424 University Centre

Telephone: (204) 474 8808

Fax: (204) 474 7554

E-mail for general admission inquiries: admissions@umanitoba.ca

E-mail for special events/tours: student_recruitment@umanitoba.ca

Director: Peter Dueck

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SECTION 1: Welcome

You are joining a vibrant community of nearly 25,000 students and 4,500 academic and support staff members that emphasizes excellence in teaching, learning, and research.

The University of Manitoba is a community of people who study, teach, conduct research, and create music and art, and whose ideas and accom-

plishments have an impact on our society and culture both here in Manitoba and in the wider world.

The University of Manitoba is the province's largest university and the first to be established in western Canada. In February 2002, the University of Manitoba celebrated its 125th birthday.

The majority of new University of Manitoba students will enter University 1, an innovative program that was specially designed to provide choice and flexibility. University 1 gives you the opportunity to begin your university studies with a year of personal and academic exploration. Advisors are always available to provide academic advice and assistance. During the University 1 Orientation that begins your first academic year, you will be introduced to the wide range of campus support services that can help you with all aspects of student life.

If you are joining the University of Manitoba after completing some college or university courses at another institution, you are equally welcome as you continue your studies.

This book, the *Undergraduate Calendar*, along with its companion publication, the *Registration Guide*, provides the basic information you require to apply, register, and complete your programs. In addition, there are advisors in the general offices of all academic units who are ready to answer your questions and to help you understand policies and regulations that affect you.

Again, welcome to the University of Manitoba. You are joining a large community of students and scholars, and when you graduate you will be joining an even larger community of graduates.

Application and admission dates may be found on our website:

www.umanitoba.ca. Click on "Current Students".

SECTION 2: An Overview of Undergraduate Admission

Students are admitted to the University of Manitoba on the basis of high school standing or on the basis of previous studies at other universities or colleges. Applicants who do not meet the normal academic requirements of the University of Manitoba may qualify for admission with mature student status. Students may also apply as Special, Visiting, or Auditing students. (See Section 5, Other Admission Categories.)

Most students applying to the University of Manitoba on the basis of high school standing will be admitted to University 1, a first year program designed to provide a foundation for studies in Arts, Science, and the professional disciplines. Exceptions to the University 1 pathway exist for applicants to the Faculty of Engineering, the diploma program of the Faculty of Agricultural and Food Science, the School of Art (Studio programs), the School of Music, and the Continuing Education Division (General Studies).

Mature status students who meet the criteria outlined in Section 5.1 and who plan to complete degree programs at the University of Manitoba will be admitted to University 1.

Students who have completed 24 credit hours or more of university level courses in University 1, or at other institutions, and students who have completed two-year diploma programs at recognized community or technical colleges, may apply directly to the faculty or school of their choice.

Students who have completed less than 24 credit hours of course work at another institution will normally apply for admission to University 1 based on high school standing.

Enrolment Limitations

Most faculties and schools in the University of Manitoba have enrolment limitations, and a process of selection is applied by the university. The main criterion for admission is the scholastic achievement of the student. In instances such as the School of Music and the School of Art, additional criteria designed to assess the students' suitability for education are applied. These criteria are summarized in the chapters of this *Calendar* of each faculty and school, and are described in detail in applicant information bulletins available from Enrolment Services/Admissions, 424 University Centre.

In some programs the number of students applying for admission greatly exceeds the number which the university is able to admit. Selection, therefore, is based upon scholastic achievement and suitability for the discipline. In some faculties and schools first consideration is given to residents of Manitoba who are Canadian Citizens or Permanent Residents. A limited number of places may be assigned to Canadian Citizens or Permanent Residents who are resident outside Manitoba or to those who are not Canadian citizens/permanent residents. The William and Catherine Booth College (approved teaching centre) and Collège universitaire de Saint-Boniface (an affiliated college) are not limited in their enrolment, and interested students are directed to those colleges for information.

SECTION 3: Admission from High School

All candidates for admission must meet both the general entrance requirements of the University of Manitoba and the specific subject and performance requirements of University 1 or the faculty/school of their choice.

For information about admission to University 1, or to a specific faculty or school, refer to its chapter in this *Calendar*.

3.1 General Entrance Requirements for Manitoba High School Students Effective for 2003-2004

To meet the General Entrance Requirements of the University, candidates must present:

- (1) Standing in 28 credits which satisfy Manitoba Education and Training's description of the high school program with:
- (2) Five credits at the Senior 4 level, so that these five credits:
 - (a) Cover four different subject areas, AND
 - (b) Include a minimum of three subjects from the list of Academic Subjects Approved for Selection (below) in three different subject areas.

Anglais 40S and Français 40S together may be used as a substitute for English 40 (2 credits) to satisfy a specific requirement of a faculty or school.

The remaining two credits may be selected from Manitoba Education and Training's approved courses at the Senior 4 level designated A (Advanced), G (General), or S (Specialized) in any subject area.

Academic Subjects Approved for Selection

(Equivalent courses in French are also acceptable)

Applied Math 40S	Hebrew 40S
Art 40S	History 40S
Biology 40S	Icelandic 40S
Canadian Aboriginal Language 41G	Italian 40S
Chemistry 40S	Japanese 40S
Chinese (Mandarin) 40S	Latin 40S
Clothing, Housing & Design 40S*	Music: Band, Choral, Guitar or Strings/Orchestra 40S, or Private Music Option 42S
Computer Science 40S	Physics 40S
Consumer Math V and V I 45S	Polish 40S
Duetsch 40S	Portugese 40S
English/Anglais 40SS	Pre-Calculus Math 40S
Family Studies 40S*	Social Studies: World Issues 40S
Filipino 40S	Spanish 40S
Food and Nutrition 40S*	Ukrainian 40S
French/Français 40S	
Geography 40 S	
German 40S	
*1 subject area	

42S credit granted for IB (Higher Level), AP Courses, and with Senate approval, 42U credits, are considered acceptable within this list and may also qualify for advanced credit.

Certificates usually accepted as equivalent to Manitoba high school standing are listed in Section 3.2.

Candidates must also meet **Specific Subject and Performance Requirements** as set out by the faculty or school to which they are seeking admission. These specific subject and performance requirements may be found in the chapter for each faculty and school in this *Calendar*.

Average for Selection

Manitoba and northwest Ontario (Thunder Bay and west) high school students will be selected on the basis of an average calculated on three or four courses specified by each faculty or school. Although the remaining courses offered will not be used in the computation of the average, each must bear at least a passing grade. Applicants presenting high school records from other provinces or countries will be selected on the basis of an average calculated from the complete record in their graduating year, or as specified under the following section, 'Certificates Equivalent to Manitoba High School Standing'.

3.2 Certificates Equivalent to Manitoba High School Standing

Applications on the basis of certificates from outside the province of Manitoba will be considered on their merits. In general, students must meet:

- The minimum requirements for admission to the university in their own locality; and
- The academic requirements of the faculty or school to which they are seeking admission at the University of Manitoba.

The following certificates are usually accepted as equivalent to Manitoba high school standing and will, therefore, meet the university's general entrance requirements for students from that region. Students must also meet any specific subject requirements of the faculty or school of application.

3.2.1 Other Provinces and Territories in Canada

Alberta: Grade 12 with a minimum overall average of 60 per cent on five credits.

British Columbia: Grade 12 with a minimum overall average of "C" or better on a minimum of four credits.

New Brunswick: Grade 12 with a minimum overall average of 60 per cent on six credits.

Newfoundland: Grade 12 with a minimum overall average of 60 per cent on ten credits.

Northwest Territories: Grade 12 with a minimum overall average of 60 per cent on five credits.

Nova Scotia: Grade 12 with a minimum overall average of 60 per cent.

Nunavut: Grade 12 with a minimum overall average of 60 per cent on five credits.

Ontario: Ontario Secondary School Diploma (OSSD) and six Ontario Academic Courses (OACs), including Specific Subject and Performance Requirements for program of application. A minimum 60% average over the top six OACs must be presented; or

Completion of the Ontario Secondary School Diploma (OSSD), including a minimum of six Grade 12 U or M courses, and the Specific Subject and Performance Requirements for program application. A minimum 60% average over the top six Grade 12 U or M courses must be presented.

Prince Edward Island: Grade 12 with a minimum of 60 per cent in a university entrance program.

Quebec: First-year CEGEP with satisfactory standing (normally a GPA of 2.0 or better or 65 per cent or better).

Saskatchewan: Grade 12 with a minimum overall average of 65 per cent on seven credits.

Yukon Territory: Same requirements as applicants from British Columbia.

3.2.2 International Baccalaureate

Three courses at the higher level and three courses at the subsidiary level, with a minimum score in each subject of 4 and an overall minimum score of 24. Credit may be granted for higher level courses with minimum scores of 5 in specific subject areas; see section 3.3 Advanced Standing for High School Students.

3.2.3 Countries and Regions Outside Canada

The academic qualifications acceptable for admission to a direct entry faculty such as University 1 are listed below:

NOTE: The asterisk (*) indicates requirements under review and/or subject to university Senate approval.

British-patterned education: (United Kingdom and most Commonwealth countries except as noted separately below) General Certificate of Education, with two subjects at Advanced Level and three at Ordinary Level, or three subjects at Advanced Level and one at the Ordinary Level, with a C overall average; no subject accepted below a D grade. Acceptable alternative: U.K. Higher National Diploma or Certificate.

French-patterned education: (Algeria, Cote d'Ivoire, Cambodia, France, French Guinea, Haiti, Laos, Morocco) Diplôme de Bachelier de l'Enseignement du Second Degré (Baccalaureate Parts I and II)

Latin America: (Costa Rica, Guatemala, Honduras, Nicaragua, Peru, Venezuela: all others see individual listings below) first year at a recognized university in the same country

**Middle East :* (Bahrain, Iran, Iraq, Jordan, Kuwait, Libya, Oman, Qatar, Saudi Arabia, Syria, Sudan, United Arab Emirates, Yemen): all others see individual listing below): national secondary school certificate

Russian-patterned education: (Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Uzbekistan) Maturity Certificate

Yugoslavian-patterned education: (Bosnia-Herzegovina, Croatia, Macedonia, Serbia, Slovenia, Yugoslavia) Matura/Secondary School Leaving Diploma

International Baccalaureate: 3 courses at the Higher level and 3 courses at the Subsidiary level with a minimum score in each subject of 4 with an overall minimum score of 24. Advanced credit may be granted for Higher level courses with minimum scores of 5 in specific subject areas.

**Argentina:* Bachillerato or Bachillerato Especializada with a minimum 6 average or the examination Ciclo Basico Comun with a 5 average

Australia: matriculation as defined by the home state university

Bangladesh: Higher Secondary Certificate (HSC) in at least the second division

**Brazil:* Certificado de Conclusão de Grau or a Diploma de Técnico de Nível Médio with a minimum 6.5 average or the examination Concurso Vestibular with a minimum 5 average

China: Senior Middle School Diploma

Czech Republic: Maturitní Zkouška (Maturita)

**El Salvador:* Bachillerato in the academic specializations only with a minimum 6.5

Ethiopia: first year standing at a recognized university in the same country

Germany: Reifezeugnis

Greece: Apolytirion

Hong Kong: General Certificate of Education as described above (see British-patterned education) or the University of Hong Kong Matriculation Certificate assessed as the G.C.E.

India: second division or higher in one of: All-Indian Senior School Certificate, Higher Secondary Certificate (Pre-Degree, Pre-Professional or Pre-University), Intermediate Certificate, Higher Secondary Certificate Part 2

Indonesia: Sekolah Menengah Uman (S.M.U.); pre 1993: S.M.A.

Ireland: (Republic of) Leaving Certificate

Israel: Bagrut Certificate

Italy: Maturita Classica Diploma or Maturita Scientifica Diploma

Japan: Upper Secondary School Diploma

Kenya: Kenya Certificate of Secondary Education (KCSE)

Malaysia: Sijil Tinggi Persekolahan Malaysia (STPM) or MICSS Unified Examination Certificate (UEC)

Mexico: Bachillerato certificate with a minimum 7.0 average

**Nigeria:* Senior School Certificate with a maximum 5.0 average

Pakistan: Higher Secondary School Certificate (HSC) in at least the second division

Philippines: second year standing at a recognized institution of higher learning

Poland: Maturity/Swiadectwo Dojrzalosci Certificate

Portugal: first year standing at a recognized university in the same country

Singapore: Government Higher School Certificate (Chinese) with two subjects at the Principal Level and three subjects at the Subsidiary Level

Slovak Republic: Maturity Certificate (Maturitnej Skuske)

Somalia: First year university standing

South Korea: Academic Upper Secondary School Certificate (Immumgye Kodung Hakkyo Choeupchang)

South Africa: Matriculation Certificate of the Joint Matriculation Board in the first or second class with a minimum standing of C or one of the following certificates in the first or second class providing that exemption from the Matriculation Examination of the Joint Matriculation Examination of the Joint Matriculation Board has been granted: Cape Senior Certificate of the Department of Public Education, Natal Senior Certificate of the Department of Education, Orange Free State School Leaving Certificate of the Department of Education

Spain: Titulo de Bachillerato or University Orientation Year

Taiwan: Senior High School Leaving Certificate

**Thailand:* Mathayom /Maw 6

Ukraine: Atestat pro Povnu Zagal'nu Sersdniu Osvitu (Grade 12)

United States of America (and Puerto Rico): complete Grade 12 with a minimum average of C or better on a minimum of five academic Grade 12 subjects

Not Acceptable: The following qualifications by themselves are not acceptable as a basis of admission: GCE (O) levels only; West African School Certificate; Hong Kong Certificate of Education; Ordinary Diploma and Technician Diploma; Malaysian Technical Diploma; U.K. City and Guilds Certificate; U.K. College of Preceptors Licentiate; U.K. Ordinary National Certificate or Diploma; West Indies CXC.

Admission requirements for applicants from countries not included above can be obtained from Enrolment Services/Admissions.

Graduates from international schools overseas will be considered for admission only if they are eligible for admission to a major university of their country of citizenship; or they have successfully completed an internationally examined curriculum such as the GCE or IB diploma, or they have successfully completed the formal graduation requirements of a Canadian provincial ministry of education in an approved institution. (See above for minimum requirements.)

3.3 Advanced Standing for High School Students

Students who have completed courses in the *Advanced Placement* program (Advanced Placement College Board) examinations with a minimum score of 4 in specific areas or the *International Baccalaureate* program (higher level courses with minimum scores of 5 in specific subject areas), or who have completed university level courses while in high school (including Challenge for Credit), may apply for transfer of credit to the program they are entering. Students should consult Enrolment Services/Admissions for information.

Students admitted on the basis of high school graduation may be denied transfer of credit for any university studies completed between the filing of the application and subsequent registration at the University of Manitoba.

SECTION 4: Applicants with Prior University/College Study

4.1 Faculty and School Requirements and Performance Levels

Each faculty and school has its own admission requirements. With a few exceptions, the first year of most faculty and school programs will be completed in University 1. The introductory section of each faculty or school chapter provides information on the minimum courses required for admission, as well as prescribing a “focused approach” for degree completion in the shortest possible time.

Following University 1 (or the equivalent from another program or at another university or college), students seek admission to a faculty or school program.

Students are advised that selection processes are competitive and in many cases applicants must present adjusted grade point averages greater than the minimum level stated. Applicants who satisfy the minimum requirements are also advised that while they are eligible for consideration, selection will be based on the program specific criteria. Additional specific information regarding the selection process is available from the general offices of all faculties or schools, or from Enrolment Services/Admissions, 424 University Centre.

4.2 Readmission, Continuing and Returning Students

All students who were admitted and who did not follow through with registration must apply to Enrolment Services/Admissions for re-admission.

All students who voluntarily withdrew from their first-year programs in faculties other than Agricultural and Food Sciences, Arts, Human Ecology or University 1, must reapply.

Former students who have attended other institutions since their last registration at the University of Manitoba must apply to Enrolment Services/Admissions, for re-admission, unless the other institution was attended on a letter of permission.

All students who initially registered in Agricultural and Food Sciences, Arts, Education, Human Ecology or University 1 but have not been in attendance for up to five years, may automatically re-register if they are in good academic standing and have not attended another institution since their last attendance at the University of Manitoba.

Students whose past registration was in these faculties but who have not been in attendance for more than five years, and students registered in Engineering and Science who have not attended for one year or more, should seek formal permission to re-register from the dean’s office of the faculty concerned, to ensure that work previously completed complies with current program requirements.

All students who were admitted to the Asper School of Business, Dental Hygiene, Environmental Design, School of Art, Nursing, Music, Physical Education and Recreation Studies, where there is limited enrolment, and who have not been in attendance for one year or more, must make formal application to re-register to the office of the dean or director before June 1. Their acceptance back into the program will be subject to quota restrictions and compliance with existing program requirements.

Students who wish to change to a different faculty or school, or who are no longer eligible to continue in one program of studies at the University of Manitoba, may apply for admission to another faculty or school by the deadline date indicated in the academic schedule, and must meet the entrance requirements of the faculty of choice.

Graduates who wish to take further courses in their own faculty, but not towards a degree, must apply for readmission as a “special student.”

4.3 Transit to Arts or Science from University 1

University 1 students intending to transit to the Faculty of Arts or Science may do so at any time prior to their next regular session registration subject to the following conditions:

- Students who have completed at least 24 credit hours may choose to transit to the Faculty of Arts or Science.
- Students who have completed 30 credit hours or more in University 1 must choose to transit to Arts or Science, if not admitted to another faculty or school, prior to the next regular session registration.
- Upon entry to the Faculty of Arts or Science, a student’s performance in University 1 will be assessed according to the standards required in Arts and Science. Students will then be allowed to enter the faculty of their choice either in clear standing or on probation. See the chapters for the faculties of Arts or Science in this *Calendar* for further details.

4.4 Applying to All Other Faculties or Schools from University 1 or Another Program

All applicants seeking admission to professional or selective faculties or schools where enrolment is limited must obtain the applicant information bulletin for that program from Enrolment Services/Admissions, before completing their application. The faculty or school bulletin is the only document which describes all the specific prerequisites for eligibility and selection.

4.5 Transfer Students from Other Post-Secondary Institutions

Transfer students are those who have completed university level courses at another college or university and who want to transfer credits to a degree program at the University of Manitoba.

Transfer students with less than 24 credit hours of studies will normally be assessed on the basis of their high school record for admission to University 1. Students who have completed 24 credit hours or more of university level courses at another institution, and students who have completed a two year-diploma program at a recognized community or technical college, may apply directly to the faculty or school of their choice.

Students who have completed university level courses at another college or university may have these courses reviewed for credit transfer to a degree program at the University of Manitoba.

Students who are on probation or on academic suspension as a result of work completed elsewhere will not normally be considered for admission to the University of Manitoba.

4.6 Advanced Standing for Transfer Students

Advanced standing may be granted in compliance with the residence requirements, provided the work completed is part of the requirements of the degree program in which the student wishes to enrol. Some faculties and schools may consider only courses completed within ten (or fewer) years. Credit will be granted only for courses taken at a recognized institution. Standing cannot be determined until official transcripts and complete course descriptions have been received. Since it takes considerable time to have courses evaluated for transfer credit, students are urged to submit their results and course descriptions as early as possible in order that the evaluation process can be completed in time for registration. Students who

do not have evaluations completed prior to registration should consult their faculty or school for guidance in selecting courses.

Further information on transfer of credit and residence requirement is found in the chapter, General Academic Regulations and Requirements.

Some faculties and schools may have limitations on possible credit taken beyond a specified period, this information is described in their chapters or in the applicant information bulletin.

4.7 Transfer Students From Community Colleges

NOTE: This section is under review

Graduates of 10-month certificate programs with a minimum 2.5 average (grades of "C+" and higher) will be considered for admission as regular students to the University of Manitoba. Admission to a specific faculty or school will be with the consent of the dean or director, and will be conditional upon the presence of specific subject fields within the program of studies completed. No advanced credit will be awarded for work completed in a certificate program if it is used as basis of admission.

Graduates of two-year diploma programs with a minimum 2.5 average (grades of "C+" and higher) will be considered for admission as above, and may be granted advance standing not exceeding the residency policy of the faculty concerned.

Students who complete studies in a diploma program with a minimum 2.5 (grades of "C+" and higher) average may use this academic record for admission and/or advanced standing purposes.

Graduates of certificate programs, and students and graduates of diploma programs in other provinces, will be considered on equivalent terms to Manitoba community college students.

4.8 Admission of Students from Canadian or U.S. Bible Colleges

Students who have attended a Bible college will be considered for admission and transfer of credit according to the rules outlined below, providing:

- The Canadian Bible college is a member institution of the Association of Universities and Colleges of Canada (AUCC) or is affiliated with an AUCC member institution (other than as an approved teaching centre), or is accredited by the American Association of Bible Colleges (AABC).
- The U.S. Bible college holds regional accreditation in the U.S., or is accredited by AABC.
- Satisfactory completion of a minimum 30 credit hours in a degree program with a minimum cumulative GPA of 2.5. Applicants with less than 30 credit hours completed may be considered on the basis of their high school program.

Transfer of credits for applicants from Bible colleges:

- A minimum grade of "C" in any transferable course.
- A maximum of 60 credit hours of transfer credit including a maximum of 18 credit hours for courses in religious studies.
- Normally no credit will be granted for courses in church education, church administration and pastoral studies, or courses intended to promote a particular doctrinal or denominational allegiance.
- Transfer of credit will only be considered for courses completed during or after the 1991-1992 academic session.
- Only courses acceptable as transferable to the University of Manitoba may be used to fulfil minimum credit hour and course prerequisite requirements for admission to professional faculties/schools.
- Students from Bible colleges may not be considered for admission as second degree applicants.
- Seminary studies may not be used as a basis of admission nor will they will be considered for transfer of credit.

4.9 Graduates of Diploma Schools of Nursing (R.N.)

Graduates of diploma schools of nursing may be considered admissible as regular students to the University of Manitoba. Admission to specific facul-

ties and schools will be with the consent of the dean or director and will be conditional upon the presence of specific subject fields within the program completed. Applicants in this category may be granted advance standing not exceeding the residency policy of the faculty concerned (grades of "C+" or equivalent in individual courses have the potential for credit in a degree program).

4.10 Graduates of Diploma Schools of Psychiatric Nursing (R.P.N.)

Diploma programs in Manitoba may receive credit transfer for professional work completed.

4.11 Canadian Coast Guard College

Graduates of the Canadian Coast Guard College diploma programs with a minimum 2.5 ("C+") average will be considered for admission as regular students to the University of Manitoba, and may be granted up to one year of advance standing, as appropriate to faculties and schools.

4.12 Graduates of Continuing Education Division Certificate Programs

Graduates of certificate programs offered under the auspices of the University of Manitoba Continuing Education Division which require a minimum of 180 contact hours, may be eligible to receive credit towards an undergraduate degree providing they have been admitted to a faculty or school in which transfer of credit is appropriate. A minimum overall average of 2.5 or better must have been achieved to qualify for consideration. The maximum amount of credit which may be transferred will be determined by Continuing Education in consultation with the relevant faculty or school.

SECTION 5: Other Admission Categories

5.1 Mature Student Status

Mature student status is granted to one who:

- Does not meet the normal entrance requirements;
- Is at least 21 years of age (before May 1 for admission to Intersession or Summer Evening Session; before July 1 for Summer Day Session; and before September 30 for the Regular Session; and before January 31 for admission in January; or for admission based on the recommendation of the dean); and,
- Is either a resident of the province of Manitoba, or a Canadian citizen, or a permanent resident of Canada.

Applicants seeking admission under mature student status are advised to seek further information from Enrolment Services/Admissions, 424 University Centre.

Because faculties and schools vary in their definition of mature student status, applicants are advised to consult the relevant *Calendar* chapter for additional information. Some faculties and schools may admit students with mature student status directly into their first-year program, while others do so after University 1.

A student may qualify for admission under mature student status for full-time or part-time study. Applicants who have completed course work at another post-secondary institution are not normally eligible for mature student status admission.

A student with mature student status whose primary language is other than English must satisfy the English proficiency requirement.

5.2 Special Students

Special students are those who wish to enrol in a degree credit course for professional or personal interest and who are not seeking to complete a degree. These students apply to the faculty or school offering the course, or to the General Studies program of the Continuing Education Division. See the faculty or school chapters for information regarding special students.

5.3 Visiting Students

Visiting students are students who are registered at another institution who are taking one or more courses at the University of Manitoba on a Letter of Permission from their home university.

5.4 Auditing Students

Auditing students are those admitted for the purpose of attending one or more courses for personal or professional interest, and not for any academic credit. No documentation other than the information requested in the application form is required for admission. Auditing students are not entitled to examination or other evaluation privileges, and in no instance may credit standing be obtained for a course which has been audited. Once admitted, the written consent of the instructor of the course(s) which the student wishes to audit must be presented at the time of registration for approval by the faculty or school. (Students admitted in a category other than auditor may audit courses with the approval of the dean or director, provided written permission of the instructor is presented at registration.)

SECTION 6: English Language Proficiency

6.1 English Language Proficiency Requirement

English is the language of instruction and communication at the University of Manitoba. Accordingly, an applicant whose primary language is not English, or whose previous education was in another language, must demonstrate a command of English sufficient to meet the demands of classroom instruction, written assignments, and participation in tutorials and discussions.

Canadian Citizens, Permanent Residents and others whose primary language is English are deemed to be proficient in English by virtue of having lived and been educated in a country where English is the primary language (country as determined by the Enrolment Services/Admissions).

Canadian Citizens and Permanent Residents and International (study permit) applicants whose primary language is NOT English must provide evidence of proficiency in English by meeting the University of Manitoba standards as outlined in the following section.

6.2 English Language Proficiency Options

Any applicant who is asked to demonstrate proficiency in the English language may do so by meeting any one of the following options.

- Achieve a minimum score of 550 with no less than 50 (unscaled) in each of the component scores on the paper-based Test of English as a Foreign Language (TOEFL); or
Achieve an equivalent level of performance on the computer-based Test of English as a Foreign Language (TOEFL); i.e., 213 total score with a minimum of 17 (unscaled) in each component score.
- Achieve minimum scores of 4.5 in Reading, 4.5 in Listening and 4.0 in Writing on the Canadian Test of English for Scholars and Trainees (CANTEST).
- Achieve a minimum score of 6.5 based upon module A, or module B, on the International English Language Testing System (IELTS).
- Achieve a minimum score of 80 on the Michigan English Language Assessment Battery (MELAB).
- Achieve a grade of A, B, or C on the University of Cambridge Certificate of Proficiency in English.
- Achieve a score of 60 or more in the Canadian Academic English Language Assessment (CAEL).
- Achieve a minimum of 65% in the direct-entry English program, also known as the Academic English Program for University and College Entrance (AEPUCE), as taught by the English Language Centre at the University of Manitoba.

Information on these options is available from Enrolment Services/Admissions, 424 University Centre.

6.3 English Language Proficiency Waiver

An English language proficiency waiver may be granted to anyone who is a Permanent Resident, Naturalized Canadian, or who is in Canada on a study permit.

Students seeking this exemption must complete an application for the waiver, provide supporting documentation, and have the information assessed as satisfactorily meeting one of the following:

- Ten consecutive years of residency in Canada, which may include years of study.
- Successful completion of a three-year secondary (high school) program in Canada, or three years of post-secondary education in Canada, or any combination of three years of successful secondary and post-secondary education in Canada.
- Graduation from a Manitoba high school with 5 credits at the Senior 4 level which include two credits of English at the 40 level with an average grade of 75 per cent.
- Verify conditions equivalent to the above in a country where English is the primary language.
- Achieve a grade of 5 or better on the International Baccalaureate Higher Level English course, or a grade of 4 or better on the Advanced Placement English Composition: Literature and Composition.

Requests for waivers from individuals who do not meet any of the above criteria but whose command of the English language is apparent will be considered on an individual basis.

Information and application forms for the waiver of English language proficiency are available from Enrolment Services/Admissions, 424 University Centre.

SECTION 7: Application Procedure

7.1 Application Forms, Deadlines and Documents

Application forms are available either from Enrolment Services/Admissions, 424 University Centre; telephone (204) 474 8808, or from the general office of the faculty or school to which application is made. The *Application for Undergraduate Admission* is also available at website: www.umanitoba.ca/student/admissions/guideandform.shtml. Application forms for all other faculties and schools are available at www.umanitoba.ca/student/admissions/guide/other_programs.shtml.

Students are encouraged to submit their applications as early as possible to Enrolment Services/Admissions. Students cannot register until an admission decision has been made. Generally faculties and schools do not consider nor issue acceptances to students awaiting supplemental or summer session results. In those faculties and schools which do, applications must be filed in time to meet the deadline date. An admission decision will only be made upon receipt of final examination results.

Application to live in a campus residence is made separately (see the Student Affairs chapter).

Transfer student applicants are required to submit official transcripts of all previous work completed. Transcripts should be submitted with the application, or as soon as final results are available, but no later than the deadline date for submission of documents.

Transfer student applicants who register for further university/college courses subsequent to their application to the University of Manitoba (unless on a Letter of Permission from the University of Manitoba) *must* submit an official transcript of final grades. Admission status will be reassessed, and unless prior permission has been obtained from Enrolment Services/Admissions, transfer of credit may be denied.

Information on the entrance requirements, application procedure, selection criteria, application fee and required documentation for a specific faculty or school, is available from Enrolment Services/Admissions, 424 University Centre, and is also part of the applicant information bulletin that accompanies the application. This material is also available on the university website.

7.2 Appeals of Admission Decisions

Individuals who wish to have their applications reconsidered should direct their request within ten days to the chair of the faculty/school selection committee; or in the case of Agricultural and Food Sciences, Arts, Human Ecology, Engineering, Education, Fine Arts, Science, and University 1 to the respective general office. Additional information on appeals is available from these general offices. Advice on appeals is available from the Of-

Office of Student Advocacy, 519 University Centre, telephone (204) 474 7423.

If applicants wish to appeal the reconsidered decision of the selection committee, they should direct their request to the Secretary of Senate for transmission to the Senate Committee on Admission Appeals, within ten days following the mailing of the results of the selection committee's reconsideration.

Information and appeal forms for the Senate Admission Appeals Committee are available from, Enrolment Services/Admissions, 424 University Centre, or the University Secretary, 312 Administration Building.

7.3 Application Fraud or Misconduct

Application fraud or misconduct includes:

- Failure to declare attendance at another post-secondary institution;
- Presenting falsified academic documentation or causing or encouraging another person to falsify records through translation or data changes;
- Presenting falsified personal documentation, e.g. using a false name, date of birth, country of origin, etc.;

- Presenting falsified or fictitious reference documentation;
- Cheating on, or having another person write, a standardized entry exam such as, TOEFL, MCAT, LSAT, DAT or GMAT;
- Presenting another person's standardized test score as one's own to falsify a test result; and
- Failure to report suspensions from another post-secondary institution.

Declaration

All persons seeking admission to the University of Manitoba must sign the following declaration on the Application for Admission Form: "I hereby certify that I have read and understood the instructions and information sheet accompanying any part of this application form and that all statements made in connection with this application are true and complete."

The commission of applicant fraud or misconduct may result in acceptance and registration being withdrawn and the applicant disqualified from consideration, not only in the year of application, but in subsequent sessions. If discovered in a subsequent session it may result in dismissal from the university.

Registration and Fees

Student Records General Office

400 University Centre
Telephone: (204) 474 9423
Fax: (204) 269 1065
Director: Richard Levin

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SECTION 3: International Students

SECTION 1: Introduction and Overview

Registration is the process of selecting and enrolling in courses using the registration system (UMREG), and paying fees.

Students new to the University of Manitoba will receive a Certificate of Acceptance that includes a student number as well as other information relating to registration. Unless advised otherwise, new students will also receive by mail a copy of the *Undergraduate Calendar* and the *Registration Guide*.

Students who have applied to a University of Manitoba faculty or school following a qualifying program of university study (such as University 1, or at another institution) will also receive an acceptance letter with information specific to the program they are entering.

Registration consists of:

- Selecting courses;
- Obtaining, where necessary, approval for the courses selected from the dean, director, or other faculty/school representative;
- Obtaining space in courses selected, and preparing a timetable;
- Having fees assessed and making a payment of fees to the comptroller; and,
- Obtaining a student identification card.

The *Registration Guide* describes in detail the registration system (UMREG), fee payment procedures, and obtaining identification cards, as well as providing registration information specific to each faculty and school.

New editions of the *Undergraduate Calendar* and the *Registration Guide* are published each spring and distributed to current students at the end of the spring term.

Individuals who are not current students and who would like details on admission and registration for the next session should write to: The Student Records Office, University of Manitoba, Winnipeg, Manitoba R3T 2N2; telephone (204) 474 9420. Graduate Student information is published in the *Graduate Calendar*.

1.1 Academic sessions

Regular Session

The Regular Session of the University of Manitoba begins in September of each year and ends the following April. It consists of two terms, a fall term and a spring term. Timetable information on all courses offered during the Regular Session is published in the *Registration Guide*.

Summer Session

Some faculties offer courses from May to August. These sessions provide an opportunity to complete degree requirements, or ease course loads in the Regular Session. All students are eligible to enrol in courses in any one these sessions.

Spring Intersession begins in early May and continues until the end of June; the *spring/Summer Evening Session* begins in early May and continues until early August; and *Summer Day Session* begins in early July and continues to mid-August.

Distance Education

A limited number of courses are also offered by distance education during the Regular Session and Summer Session. Distance education is an option for students whose personal timetables make it difficult to attend classes on campus.

Distance education courses are offered in three formats:

Independent study, which are print-based home-study courses available for students to study independently through correspondence.

Net-based courses use the Internet as the means of instruction to provide a visual and interactive environment that includes direct contact with an instructor and classmates.

Group-based study involves a grouping of students in communities distant from Winnipeg who are linked to the instructor as well as the other groups by means of an audioconference network.

Information on Summer Session and distance education courses is available from the Continuing Education Division, 188 Continuing Education Complex; telephone (204) 474 9921.

1.2 Orientation

Students new to the University of Manitoba must participate in a two-day orientation program organized by University 1. In addition, most faculties and schools organize orientation programs for their new students. Information on these events is included in the registration material mailed to the students eligible for participation.

Students who plan to enrol in one of the university's affiliated colleges may obtain college orientation directly from the college general office.

SECTION 2: Registration

2.1 Registration Eligibility

Students in Manitoba and North America will normally enrol in courses using the touch tone telephone registration system (also called UMREG) in accordance with the access schedule published in the *Registration Guide*.

Access to the telephone registration system for the Regular Session begins in July of each year and continues throughout the summer.

Students in Dentistry, Dental Hygiene, Law, Medicine, and Medical Rehabilitation will be mailed information on registration. Other students should consult the *Registration Guide* for information or visit website: www.umanitoba.ca/regguide.

Students must ensure that their registration is processed in accordance with the registration procedure and dates stipulated for their faculty or school in the *Registration Guide*.

After enrolling for the courses selected students must complete registration by making fee payment before the published deadline. The *Registration Guide* provides fee payment information.

2.2 Classification of Students

The classification of a student at the University of Manitoba is determined on admission. See the chapter, Admission to the University of Manitoba.

Undergraduate Students

Undergraduate students are those who are enrolled in University 1, or in a degree, diploma, or certificate program other than those offered by the Faculty of Graduate Studies or the Continuing Education Division.

Special Student Registration

Special students are those who are admitted to a faculty or school with the permission of that dean or director to take one or more courses which are not to be included as credit toward a degree, diploma, or certificate. At the discretion of the dean or director, courses completed by a special student may subsequently be accepted as credit toward a degree program. Special students are allowed to register in courses the dean and/or director approves. The fee charged to each special student will be the fee normally associated with the course(s) when such course(s) is/are taken as a portion of a program by undergraduate students. Special students will be bound by the examination regulations and the withdrawal dates of the faculty or school in which they are registered. (Students admitted to the university in a category other than special, may with the permission of the dean or director take courses as a special student depending upon faculty/school regulations.)

Visiting Student Registration

Visiting students are those who enrol in one or more courses at the University of Manitoba with the purpose of having credit transferred to their home university.

Prior to being admitted for the first time, visiting students must present a Letter of Permission from the registrar, or appropriate dean, of their home university granting permission for enrolment in the specific course(s) desired. The Letter of Permission must be submitted to the Admissions Office along with their application to the University of Manitoba. Registration is not permitted until the Admissions Office has recorded the specific course permission and finalized the admission.

Once registered as a visiting student at the University of Manitoba, such students are eligible to re-register in subsequent sessions without re-applying through the Admissions Office provided: they have not changed their home university since their last registration at the University of Manitoba; they are registering in the same faculty/school at the University of Manitoba; and they have the Letter of Permission from their home university indicating the specific course(s) desired. If all of these requirements are met, visiting students must merely present their Letter of Permission along with their latest student history from the University of Manitoba, to the appropriate faculty/school representative prior to registration.

Auditing Student Registration

Students auditing course(s) are doing so for personal interest and not for academic credit and, as such, are not entitled to examination or other evaluation privileges. In no instance may degree credit be obtained for a course which has been audited. Students auditing any course must register and will be charged a fee equal to one-half of the fee normally associated with that course when taken for credit purposes. See chapter, Admission to the University of Manitoba.

2.3 Student Status: Full-time and Part-time

Registered students fall into one of two categories based upon their credit hour course load.

Full-time students are those students registered in at least 60 per cent of the credit hours of the full year program for their faculty or school.

Part-time students are students who are registered in less than 60 per cent of the credit hours of the full year program for their faculty or school.

Students who begin the year as full-time students and who in the course of the session withdraw from courses such that their credit hour level falls below 60 per cent of the full year program will automatically be classified as part-time students.

Eligibility

To be eligible for participation in Canadian Inter-University Athletic Union competition, a student must be registered in at least 60 per cent of the credit hours of a normal full year's program.

2.4 Payment of Fees

Your registration is complete only when the university receives your payment. Payments made after published fee deadlines will be considered late and a late registration fee will be assessed.

Fee payment deadline dates are published in the *Registration Guide* and are available at website: www.umanitoba.ca/regguide.

Students are responsible for paying their fees regardless of whether or not a fee statement is mailed to them. Information on your fee balance is available through the registration system.

You can pay your fees at: Fort Garry Campus, Cashier's Office, 138 University Centre or Bannatyne Campus, P001 Pathology Building. For questions related to payment of fees call 474-9433 or visit the web site at www.umanitoba.ca/financial_services/revcap/fees/index.shtml.

Fee payments may be made by cheque, draft, money order or cash. Cheques, drafts, and money orders must be made payable to: The University of Manitoba. Payments should include student number, address, and telephone number. If cheques are postdated for after the fee deadline, applicable late fees will be assessed. A \$30 charge, plus applicable late fees, will apply to all returned cheques.

Fee payments can be made using PC/WEB (Online) banking or telephone banking. If you are not already using Online or telephone banking, sign up by contacting your financial institution or visit the following website for links: www.umanitoba.ca/admin/financial_services/revcap/fees/online.shtml

Students whose academic fees are being paid by an outside agency must make arrangements for this method of payment with Revenue, Capital and General Accounting, 315 Administration Building in **advance** of the fee deadline date. A letter from the agency detailing the arrangements **must** be submitted or the student's registration may be cancelled.

Students whose fee payment is dependent upon the receipt of government-sponsored student financial aid must make arrangements with the university's Financial Aid and Awards Office if this aid is not available at the deadline date for payment of fees.

2.5 Challenge for Credit Fee

Students challenging a course(s) must register and will be charged a fee equal to one-half of the fee normally associated with the course(s).

2.6 Acceptance Deposits

Students who apply to for admission to the following programs, and who are accepted into the program, must confirm their acceptance by a deposit by the date specified in their letter of acceptance: Dentistry, Dental Hygiene, Education, 4 Yr. B.Ed., Certificate and After-Degree Programs, Environmental Design, Law, Management, Medicine, Music, Nursing, Pharmacy, Physical Education, Recreation Studies, Social Work, and Medical Rehabilitation.

Students who are offered a place in more than one program may only accept one offer of admission. The amount of the deposit is non-refundable but is credited to academic fees upon registration in program.

2.7 Property Damage Assessment

The university may levy an assessment against a student or students for damage to, or loss of, university property, equipment, or materials.

2.8 Provisionally Registered Students

Students whose registration is cancelled after being allowed to register provisionally pending receipt of documentation or clarification of their academic status are responsible for academic fees for the period during which they were provisionally registered.

2.9 Age Exemption

Academic fees will be waived for Canadian citizens or permanent residents who reach age 65 by September 1 for the Regular Session, or May 1 for the Summer Session, provided they have been admitted and are eligible for registration. Proof of age and citizenship status may be required.

2.10 Instalment Payments

Students may pay fees in two instalments. Fee amounts owing are available through the telephone registration system (UMREG), and at the Student Records home page on the website. Information on payment deadline dates and procedures is published in the *Registration Guide*. **Students are responsible for fee payment regardless of whether or not they receive a fee statement by mail.**

2.11 Late Payment/Cancellation

The final dates for payment of first- and second-term fees are set out in the Academic Schedule, after which late payment charges and late registration charges are assessed. Cancellation of registration procedures may be initiated for those students who remain delinquent in respect of fees as of these dates.

Students whose registration is cancelled will be notified and allowed a further ten day period during which their registration will be reinstated upon full payment of the outstanding account balance (including late payment fees) plus a \$40 reinstatement fee. Reinstatement is not possible if the student(s) fails to comply within the stated time period.

2.12 Student Organization Fees

Student organization fees, with the exception of the fee for the University of Manitoba Students' Union Student Accident Plan, are assessed on a pro-rated, per credit hour basis and depend upon the faculty/school, the program, and the course load of the individual student.

2.13 Health Requirements

While health examinations are not required for registration at the University of Manitoba, students registering in the following are advised to undergo a health examination with their physicians or the University Health Service: Nursing, Physical Education, as well as all students who are participating in organized intercollegiate or intramural sports.

Immunizations are considered essential in health science programs and information on specific requirements is included in the chapter pertaining to the program and is also available from the faculty or school general office.

All Canadian students must carry health insurance through their home provinces. All international students not covered by a provincial plan must purchase the medical insurance plan provided by the University of Manitoba. It is also recommended that international students undergo a health examination prior to their arrival in Canada.

Health and immunization services required for occupational or educational institutions are not covered under provincial insurance plans and will be provided on a fee for service basis either by the student's own physician or the University Health Service.

2.14 Identification Cards

Photo identification cards are necessary for access to major student services. The initial card is provided at no charge the first time a student registers. There is a fee for replacement cards. ID cards are provided by Student Records, 400 University Centre.

2.15 Tuition Fee Information

Tuition and other fees associated with registering as a student are reviewed in the spring of each year. At the time of printing this edition, the fee schedules for 2003-2004 were not yet decided.

As soon as 2003-2004 fees have been set, they will be available in print from Student Records, 400 University Centre, and will also be posted on the university's website: www.umanitoba.ca/student/records/.

In the meantime, the fees that were in place for 2002-2003 are published in the *Registration Guide* to give students an indication of program costs.

SECTION 3: International Students

Language Proficiency

All students whose primary language is not English, or whose previous education was in another language, must demonstrate a command of English sufficient to understand and participate in classroom instruction, and to complete written assignments. The English language proficiency requirement is described in the *Undergraduate Calendar*, in the chapter, Admissions.

Student Authorization to Enter Canada

All international students must obtain a Student Authorization before entering Canada. The application for a student authorization must be processed through the nearest Canadian embassy or consulate. The following documents are required: valid passport; Certificate of Acceptance to the University of Manitoba; evidence of adequate financial support to live and study in Canada; and a letter from a relevant sponsoring agency if applicable.

International Undergraduate Student Differential Fee

All international undergraduate students will pay an additional international student differential fee of 75 per cent of tuition fees for the courses in which they register.

Health Insurance

All non-Canadian students, who have been granted a Student Authorization are required by university regulations to obtain complete health insurance coverage through the purchase of a health insurance plan arranged for by the university. This plan, which the university has arranged for its international students is the only plan acceptable.

Proof of coverage in this plan must be presented before registration at the university can be accepted. (See *Registration Guide* for further details.) The fee assessment for all international students includes a charge for "single" health insurance coverage. The first term minimum payable will include this charge and must be paid prior to registration.

International students who are claiming exemption based on coverage by Manitoba Health Services Commission, the Canadian International Development Agency, or other provincial or international scholarship plans must present proof of coverage to have the charge removed.

Faculty, School, Department and Program Codes

Faculty/School Codes

Agricultural and Food Science	07
Agriculture Diploma	24
Art, School of	15
Arts	01
Business, Asper School of	06
Continuing Education	26
Dentistry	17
Dental Hygiene	20
Education	08
Engineering	03
Environment	28
Environmental Design	09
Graduate Studies	16
Human Ecology	04
Interior Design	23
Law	10
Medicine	05
Medical Rehabilitation	19
Music	21
Nursing	13
Pharmacy	11
Physical Education and Recreation Studies	22
Science	02
Social Work	12
University 1	27

Department and Program Codes In Alphabetical Order

(In brackets following each department number is the faculty or school to which the department or program belongs).

Accounting and Finance (Business)	009
Actuarial Studies and Research (Business)	010
Agribusiness and Agricultural Economics (Agricultural and Food Sciences)	061
Allied Health Science (Medical Rehabilitation)	163
Anesthesia (Medicine)	096
Animal Science (Agricultural and Food Sciences)	035
Anthropology (Arts)	076
Architecture (Architecture)	050
Art, Diploma in (Art)	058
Arts Minor (Engineering)	159
Asian Studies (Arts)	150
Biochemistry (Science)	060C
Biochemistry and Molecular Biology (Medicine)	082
Biochemistry and Medical Genetics (Medicine)	137
Biology (Science)	071
Biosystems Engineering (Agricultural and Food Sciences/Engineering)	034
Botany (Science)	001
Business Administration (Business)	027
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Canadian Studies (Arts)	151
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Central and East European Studies (Arts)	099S
Chemistry (Science)	002
City Planning (Architecture)	073
Civil Engineering (Engineering)	023
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Clinical Health Psychology (Medicine)	127
Clothing and Textiles (Human Ecology)	064
Community Health Sciences (Medicine)	093
Computer Science (Science)	074
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Critical Care (Medicine)	108
Curriculum: Teaching and Learning (Education)	132
Dental Diagnostic and Surgical Sciences (Dentistry)	103
Dental Hygiene (Dental Hygiene)	070
Diploma in Dairying (Agricultural and Food Sciences)	041
Disability Studies (Education)	162
Drama (Arts)	099D

Ecology (Science)	001E
Economics (Arts)	018
Education (Graduate Studies)	124
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Electrical and Computer Engineering (Engineering)	024
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G1 Intern (Medicine)	109
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Human Anatomy and Cell Science (Medicine)	080
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Medicine (Medicine)	083
Medieval and Renaissance Studies (Arts)	099M
Microbiology (Science)	060
Music (Music)	033
Native Studies (Arts)	032
Near Eastern and Judaic Studies (Arts)	055
Neurosurgery (Medicine)	110
Nursing (Nursing)	049
Obstetrics, Gynecology and Reproductive Sciences (Medicine)	084

Ophthalmology (Medicine)	085	Native Studies (Arts)	032
Oral Biology (Dentistry)	100	Music (Music)	033
Orthopedics (Medicine)	111	Biosystems Engineering (Agricultural and Food Sciences/Engineering)	034
Otolaryngology (Medicine)	086	Animal Science (Agricultural and Food Sciences)	035
Pathology (Medicine)	088	Entomology (Agricultural and Food Sciences)	038
Pediatrics and Child Health (Medicine)	087	Plant Science (Agricultural and Food Sciences)	039
Pharmacology and Therapeutics (Medicine)	089	Soil Science (Agricultural and Food Sciences)	040
Pharmacy (Pharmacy)	046	Diploma in Dairying (Agricultural and Food Sciences)	041
Philosophy (Arts)	015	French, Spanish and Italian (Arts)	044
Physical Education (Physical Education and Recreation Studies)	057	Law (Law)	045
Physics and Astronomy (Science)	016	Pharmacy (Pharmacy)	046
Physiology (Medicine)	090	Social Work (Social Work)	047
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Psychology (Arts)	017	Geography (Environment)	053
Public Administration (Graduate Studies)	115	Fine Arts (Art)	054
Radiology (Medicine)	092	Near Eastern and Judaic Studies (Arts)	055
Recreation Studies (Physical Education and Recreation Studies)	123	Resource Management (Environment)	056
Religion (Arts)	020	Physical Education (Physical Education and Recreation Studies)	057
Resource Management (Environment)	056	Art, Diploma in (Art)	058
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Slavic Studies (Arts)	052	Biochemistry (Science)	060C
Social Work (Social Work)	047	Genetics (Science)	060G
Sociology (Arts)	077	Agribusiness and Agricultural Economics (Agricultural and Food Sciences)	061
Soil Science (Agricultural and Food Sciences)	040	Family Studies (Human Ecology)	062
Statistics (Science)	005	Clothing and Textiles (Human Ecology)	064
Statistics - Actuarial Mathematics (Science)	005A	General Agriculture (Agricultural and Food Sciences)	065
Statistics - Mathematics (Science)	005M	Medical Rehabilitation (Medical Rehabilitation)	068
Surgery (Medicine)	094	Graduate Studies courses (Graduate Studies)	069
Theatre (Arts)	154	Dental Hygiene (Dental Hygiene)	070
Translation (Saint Boniface)	122	Biology (Science)	071
Urban Studies (Arts)	099U	Immunology (Medicine)	072
Urology (Medicine Post Graduate)	113	City Planning (Architecture)	073
Women's Studies (Arts)	156	Computer Science (Science)	074
Zoology (Science)	022	Computer Science - Mathematics (Science)	074M
		Anthropology (Arts)	076
		Sociology (Arts)	077
		Food Science (Agricultural and Food Sciences)	078
		Environmental Design (Architecture)	079
		Human Anatomy and Cell Science (Medicine)	080
		Biochemistry and Molecular Biology (Medicine)	082
		Medicine (Medicine)	083
		Obstetrics, Gynecology and Reproductive Sciences (Medicine)	084
		Ophthalmology (Medicine)	085
		Otolaryngology (Medicine)	086
		Pediatrics and Child Health (Medicine)	087
		Pathology (Medicine)	088
		Pharmacology and Therapeutics (Medicine)	089
		Physiology (Medicine)	090
		Psychiatry (Medicine)	091
		Radiology (Medicine)	092
		Community Health Sciences (Medicine)	093
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		Medieval and Renaissance Studies (Arts)	099M
		Central and East European Studies (Arts)	099S
		Urban Studies (Arts)	099U
		Oral Biology (Dentistry)	100
		Restorative Dentistry (Dentistry)	102
		Dental Diagnostic and Surgical Sciences (Dentistry)	103
		Emergency (Medicine)	105
		Family Practice (Medicine)	106

Department and Program Codes In Numeric Order

(In brackets following each department number is the faculty or school to which the department or program belongs).

Botany (Science)	001	Anthropology (Arts)	076
Ecology (Science)	001E	Sociology (Arts)	077
Chemistry (Science)	002	Food Science (Agricultural and Food Sciences)	078
Classics (Arts)	003	Environmental Design (Architecture)	079
English (Arts)	004	Human Anatomy and Cell Science (Medicine)	080
Statistics (Science)	005	Biochemistry and Molecular Biology (Medicine)	082
Statistics - Actuarial Mathematics (Science)	005A	Medicine (Medicine)	083
Statistics - Mathematics (Science)	005M	Obstetrics, Gynecology and Reproductive Sciences (Medicine)	084
Geological Sciences (Environment)	007	Ophthalmology (Medicine)	085
German (Arts)	008	Otolaryngology (Medicine)	086
Accounting and Finance (Business)	009	Pediatrics and Child Health (Medicine)	087
Actuarial Studies and Research (Business)	010	Pathology (Medicine)	088
History (Arts)	011	Pharmacology and Therapeutics (Medicine)	089
Icelandic (Arts)	012	Physiology (Medicine)	090
Philosophy (Arts)	015	Psychiatry (Medicine)	091
Physics and Astronomy (Science)	016	Radiology (Medicine)	092
Psychology (Arts)	017	Community Health Sciences (Medicine)	093
Economics (Arts)	018	Surgery (Medicine)	094
Political Studies (Arts)	019	Anesthesia (Medicine)	096
Religion (Arts)	020	Medical Microbiology (Medicine)	097
Zoology (Science)	022	Interdisciplinary Courses (Business)	098
Civil Engineering (Engineering)	023	Interdisciplinary Courses (Arts)	099
Electrical and Computer Engineering (Engineering)	024	Drama (Arts)	099D
Mechanical and Industrial Engineering (Engineering)	025	Latin American Studies (Arts)	099L
Business Administration (Business)	027	Medieval and Renaissance Studies (Arts)	099M
General Human Ecology (Human Ecology)	028	Central and East European Studies (Arts)	099S
Foods and Nutrition (Human Ecology)	030	Urban Studies (Arts)	099U
Landscape Architecture (Architecture)	031	Oral Biology (Dentistry)	100
		Restorative Dentistry (Dentistry)	102
		Dental Diagnostic and Surgical Sciences (Dentistry)	103
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Critical Care (Medicine)	108	Mathematics (Science)	136
G1 Intern (Medicine)	109	Mathematics - Actuarial Mathematics (Science)	136M
Neurosurgery (Medicine)	110	Mathematics - Physics and Astronomy (Science)	136P
Orthopedics (Medicine)	111	Biochemistry and Medical Genetics (Medicine)	137
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Transalation (Saint Boniface)	122	Global Political Economy (Arts)	157
Recreation Studies (Physical Education and Recreation Studies)	123	Arts Minor (Engineeering)	159
Education (Graduate Studies)	124	Catholic Studies (Arts)	160
Human Genetics (Medicine)	125	Disability Studies (Education)	162
Linguistics (Arts)	126	Allied Health Science (Medical Rehabilitation)	163
Clinical Health Psychology (Medicine)	127	Logistics	164
Environmental Science (Environment)	128	Interdisciplinary Courses (Medicine)	165
Educational Administration, Foundations and Psychology (Education)	129	Interdisciplinary Courses (Architecture)	166
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General Academic Regulations and Requirements

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APPENDIX A: List of Approved Written English and Mathematics Courses

APPENDIX B: Course Identification

SECTION 1: Introduction

This chapter contains the regulations and requirements that apply to all students, regardless of their faculty or school.

Each faculty and school has its own supplementary regulations and requirements. These are published in the faculty or school chapters of this *Calendar*. Some faculties and schools also have additional regulations and requirements governing their programs; these are available from their general offices.

It is the responsibility of each student to be familiar with the academic regulations and requirements of the University of Manitoba in general and of the specific academic regulations and requirements of their faculty or

school of registration. Accordingly, students are asked to seek the advice of advisors in faculty and school general offices whenever there is any question concerning how specific regulations apply to their situations.

SECTION 2: Residence and Written English and Mathematics Requirements

2.1 Residence Requirements for Graduation

Each faculty and school recommends to the Senate the number of credit hours each student must complete in order to graduate from its programs. Senate also requires each student to complete a minimum number of credit hours at the University of Manitoba – this is called the “residence requirement.”

Unless otherwise stated in faculty and school chapters, the minimum residence requirement of the University of Manitoba is the work normally associated with one year in the case of programs of three years’ duration, and two years for programs of four years’ duration. Some faculties and schools may have additional residence requirements specified in their program regulations. However, in all cases, the residence requirement is assessed following an appraisal of the educational record of the student applying to transfer credits from another institution or applying to earn credits elsewhere on a letter of permission. The residence requirement is not reduced for students whose “challenge for credit” results in a passing grade.

2.2 University Written English and Mathematics Requirement for Undergraduate Students

All students are required to complete, within the first 60 credit hours of their programs, a minimum of one three credit hour course with significant content in written English, and a minimum of one three credit hour course with significant content in mathematics.

Some degree programs have designated specific written English and mathematics courses to fulfil this requirement. See the program descriptions in the faculty and school chapters of this *Calendar* for details.

Courses, and sections of courses, that satisfy the written English requirement are identified by the letter “W” included in course numbers in this *Calendar* and in the *Registration Guide*, while mathematics courses and sections are identified by the letter “M.” A complete list of courses fulfilling the written English and mathematics requirements is published in Appendix A of this chapter.

Exemptions to the Written English and Mathematics Requirement:

- All students with completed baccalaureate degrees and who transfer into any program to which these requirements apply.
- Registered Nurses entering the Bachelor of Nursing Program for Registered Nurses.
- Students admitted before the 1997-98 Regular Session.
- Written English exemption only: Students transferring from Collège universitaire de Saint-Boniface who have completed a written French requirement (i.e. one of 144.093, 144.109, 144.111, 144.102) at the college before transferring to the University of Manitoba shall be deemed to have met the written English requirement.

SECTION 3: Grades and Grade Point Average Calculation

Final grades in most courses are expressed as letters, ranging from D, the lowest passing grade, to A+ the highest. Each letter grade has an assigned numerical value which is used to calculate grade point averages.

Some courses are graded on a pass/fail basis and because no numerical value is assigned to these courses, they do not affect grade point averages. Courses graded in this way are clearly identified in course descriptions and program outlines.

3.1 The Letter Grade System

Letter Grade	Grade Point Value	
A+	4.5	Exceptional
A	4.0	Excellent
B+	3.5	Very Good
B	3.0	Good
C+	2.5	Satisfactory
C	2.0	Adequate
D	1.0	Marginal
F	0	Failure
P		Pass
S		Standing

The grade of "D" is regarded as marginal in most courses by all faculties and schools. It contributes to decreasing a sessional or cumulative Grade Point Average to less than 2.0. The course in which "D" standing is obtained need not be repeated except by probationary students in certain faculties or where a minimum grade of "C" is required in a prerequisite subject. Courses graded "D" may be repeated for the purpose of improving a GPA. Students in doubt as to the status of their record should consult an advisor in their faculty or school.

For minimum grade levels, especially as they affect progression requirements, see the faculty or school regulations or consult an advisor.

3.2 Calculation of Grade Point Average

Unless otherwise stated in faculty and school regulations, a Grade Point Average of at least 2.0 is required to graduate. Unless faculty regulations allow a failure or other specifically designated course(s) to be removed from the computation, it is included in calculating the GPA.

Weighted Grade Point

The weighted grade point for a course is the product of the credit hours for the course and the grade point obtained by the student.

Weighted Grade Point Total

The weighted grade point total is the sum of weighted grade points accumulated as students proceed through their program of studies.

Grade Point Average (GPA)

The grade point average (GPA) is the weighted grade point total divided by the total number of credit hours.

Cumulative Grade Point Total

Unless otherwise stated in the faculty/school regulations, the cumulative grade point total is the sum of the weighted grade points from the time the student enrolled in the faculty or school and it includes the original grades and subsequent grades of any subject repeated, substituted (where permitted), or graded "F", "NP" (failure, no paper).

Cumulative Grade Point Average

The Cumulative GPA is the cumulative grade point total divided by the total number of credit hours attempted at the University of Manitoba which form part of the students' approved program, including transfer courses.

Sessional Grade Point Average

The Sessional GPA is calculated on the basis of all final grades received in the session. (e.g. Regular Session or Summer Session).

NOTE: Information on credit hours, courses, prerequisites and corequisites, is found in Appendix B of this chapter, entitled Course Identification.

3.3 Academic Honours

Students qualify for the Dean's Honour List when they achieve qualifying grade point averages as specified in the faculty and school chapters of this *Calendar* or in program regulations.

In addition, outstanding academic achievement will qualify students for other honours and awards. These include the University Gold Medal which is awarded at graduation in each faculty or school to the student with the most outstanding academic record; program medals which are awarded by faculties and schools to the best student graduating from a specific program; graduation "with distinction," which is recorded on the transcripts of all students who attain a qualifying grade point average; and other medals and prizes that are specific to programs or disciplines.

SECTION 4: Academic Evaluation

4.1 Methods of Evaluation

Within the first week of lectures, instructors must inform the class of the method of evaluation to be used in each course. See the Responsibilities of Academic Staff to Students Policy, in the chapter University Policies. In departments where a course is offered in more than one section, the department offering the course endeavours to provide instruction so that all sections cover similar topics and that all students achieve a similar level of competency in the topic. However, there will be differences in evaluation as well as in teaching style, readings and assignments from one section to another. Students may contact the department for additional information before registration.

4.1.1 Credit for Term Work

In subjects involving written examinations, laboratories, and term assignments, a student may be required to pass each component separately. If no final examination is scheduled in a course, the student's final grade will be determined on the basis of the method of evaluation as announced in the first week of lectures.

If credit is not given for term work, the student's final grade will be determined entirely by the results of the final written examination. Where the final grade is determined from the results of both term work and final examinations, the method of computing the final grade will be as announced within the first week of classes. Should a student write a deferred examination, term grades earned will normally be taken into account as set out in the immediately preceding paragraph.

4.1.2 Incomplete term work

A student who is unable to complete the term work prescribed in a course may apply to the instructor prior to the end of lectures for an incomplete grade and time extension for work completion. It is understood that the student is to write the final examination if one is scheduled for the course.

Taking into account the results of the final examination, the value of the term work completed, and the extent of the incomplete term work, the instructor shall calculate the temporary grade using a zero value for incomplete work. In no case will the satisfaction of the incomplete requirements cause a grade to be lowered.

The following maximum time extensions are allowed: August 1, for courses terminated in April; December 1, for courses terminated between May and August; April 1, for courses terminated in December. If a final grade is not reported within one month of the extension deadline, the letter "I" will be dropped, and the grade will remain as awarded. The student's opportunity to improve the grade will have lapsed.

4.1.3 Repeating a Course

Subject to faculty or school regulations, required courses graded "F" must be repeated, usually in the next session. Elective courses graded "F" may either be repeated or another elective substituted. All electives in a program must be approved by the faculty or school.

The student who wants to repeat course(s) in which a final grade of "C" or higher has been obtained must obtain special permission from the dean or director.

4.1.4 Probation and Academic Suspension

Failure to meet minimum levels of performance as specified in the regulations of the faculty or school will result in a student being placed either on probation or academic suspension in accordance with the faculty or school regulations.

A student's status is determined each session following final examinations. A student placed on probation is advised to discuss his/her program prior to the next registration with a representative of the dean or director to determine which courses, if any, should be repeated. In order to be removed

from probation, the student must exceed the probation levels at the time of the next assessment, or the student will be placed on academic suspension.

A student placed on academic suspension will normally be permitted to apply for re-entry to the faculty or school after one year has elapsed, but reinstatement is not automatic and individual faculty or school regulations must always be consulted.

4.2 Examinations

4.2.1 Examination General Regulations

Any test(s) which have an aggregate value of more than 20% of the total value of the course may not be scheduled to take place during the 14 calendar days ending with the last day of classes in the term during the Regular Sessions as defined in the *Calendar*, or during the last two classes of Summer Evening and the last three classes of Intersession and Summer Day sessions.

No project or assignment may be announced during the periods outlined above, unless contained in the information required to be provided to all students during the first week of classes (See the Responsibilities of Academic Staff to Students in the chapter on Policies and Guidelines of the University).

4.2.2 Final Examinations

No final examinations or term or take home examinations shall be scheduled to occur prior to the examination periods as described in the *Calendar* except with the expressed consent of the deans and directors involved.

The weight of each question shall be clearly indicated on the examination paper.

The name of the instructor or the examination committee shall be clearly indicated on the examination paper

Students (with the exception of students auditing courses) are required to write all final examinations. Those who absent themselves without an acceptable reason will receive a grade classification of "NP" accompanied by a letter grade based on term work completed for the course using a zero value for incomplete term work and for the final examination. If no credit for term work is involved, a grade of "F" will be assigned. Under certain conditions a student may apply for a deferred examination; see Deferred Examinations.

Examinations are scheduled:

- In December for courses terminating in December.
- In April/May for both full and half courses terminating in April.
- In May/June for Intersession and certain Spring/Summer Evening courses.
- In July/August for Summer Evening and Spring/Summer Day courses terminating in July and August.

Students are not permitted to leave an examination within the first 30 minutes and any student arriving more than 30 minutes after the commencement, but before the end, of a final examination scheduled by the Student Records Office, might not be permitted to write that examination on the authority of the chief invigilator of the examination room.

Provided fairness is guaranteed beforehand, miniature electronic calculators shall be allowed during examinations, with the consent of the department.

The use of audio visual supports (including, but not limited to overhead or slide projectors, and audio/visual tape players) to display examination or test questions shall be prohibited except where arrangements have been made to display all questions simultaneously for the entire examination/test period or in courses where time limited identification is a legitimate and specified part of the examination/test process.

Answers to examination questions shall not be posted prior to the conclusion of the examination.

Final grades must be posted by faculties and schools (identifying students by student number only) as soon as the grades have been approved by the faculty/school/department (as appropriate) and have been submitted to the Student Records Office. (This policy is under review).

4.2.3 Student Access to Final Examinations

In order to allow proper feedback, each student shall have an opportunity to read his/her own final examination script and any comments on it, but only in the presence of the instructor or a department-appointed staff mem-

ber. Such access will be permitted normally upon reasonable notice from the day following the deadline for formal appeal or from the date of the resolution of an appeal, whichever is later, until the date on which scripts are, by these regulations, to be destroyed. Informal consultation, provided both instructor and student are available and willing, may take place during the period in which access to the scripts is not required.

Notwithstanding the above, there is no obligation upon departments to make machine-scored answer sheets available for consultation by students. It is expected that departments will provide appropriate means of feedback to students in such circumstances and, where appropriate, will encourage instructors to discuss selected questions and answers.

Access to answer scripts of external examinations are governed by the regulations of the institution whose examination has been written.

4.2.4 Special Examination - Religious Reasons

A student who, because of religious obligations, is unable to write a final examination when scheduled, shall be given an opportunity to write a special examination. The student is required to give reasonable notice (approximately three weeks) to the head of the department concerned prior to the examination series and to present evidence concerning the religious obligations involved.

4.2.5 Deferred Examinations

A student may file an application for a deferred examination with the dean of the faculty or the director of the school of registration, for reasons of illness or other disability, or for compassionate reasons, setting out the reasons for deferral. The application must normally be filed within seven working days of the end of the examination series in which the examination was scheduled to be written and must be accompanied by a medical certificate or other appropriate documentation certifying the reason for the deferral, the inability of the student to write the examination at the regular scheduled time and, where possible, indicating the period of disability. Based on the evidence, the dean or director shall decide whether the application is approved.

A student requesting a deferred examination on the grounds of participation in an inter-university, inter-provincial, national or international scholastic or athletic event(s) shall be granted a deferral provided an application and appropriate documentation is filed with the dean or director of the faculty or school or registration well in advance (normally 20 days) of the scheduled examination, and that the dean or director is satisfied, based on the evidence, that the application should be granted.

No deferred examinations shall be granted on the basis of conflict(s) with vacation or holiday plans.

Any student leaving an examination early for reasons of illness, or other disability, or for compassionate reasons must notify the chief invigilator before leaving the room. The chief invigilator must report all such notifications. Students leaving an examination early in compliance with this section are eligible to apply for deferred examinations.

No faculty or school shall have regulations that compel students to accept deferral for any or all examinations in any examination series.

When an application for a deferred examination is approved by the faculty or school office, the head of the department in which the course is offered, in consultation with the instructor, shall schedule the deferred examination to take place normally within 30 working days from the end of the examination series from which the examination was deferred. The foregoing does not limit the ability for heads of departments, instructors and students from reaching mutually satisfactory arrangements for the scheduling of a deferred examination.

In the event that a student is unable to write the examination as outlined above, they shall write the deferred examination at the next scheduled examination series in which the course is offered, unless the head of the department, in consultation with the instructor concerned, chooses to assign a grade without examination. In such cases the grade(s) shall be assigned on the basis of term work following procedures established by faculty or school councils.

If the progression rules of a faculty or school require the successful completion of an entire academic year before a student is eligible to proceed into the next academic year, the deferred examination must be written within a time frame that enables the examination to be written and graded, and, if necessary, a supplemental examination to be written and graded, before the start of the next academic year.

A student who accepts standing in a course without examination may not, at a later date, request permission to write a deferred examination.

A student who, for medical reasons, withdraws from a program or receives deferred examination for all final examination series shall be informed by the faculty or school that re-registration will not be possible until it has established, through proper medical consultation, fitness to resume studies.

4.2.6 Supplemental Examinations

A limited number of faculties and schools permit a supplemental examination when a student has failed a course or failed to achieve a satisfactory result. Please refer to the section of the Calendar for your faculty or school for its policy on supplemental examinations. Where a faculty's or school's regulations permit supplemental examinations, students are normally notified of this privilege on their grade statements or by their faculty or school following publication of the grades. Students who are granted supplemental privileges are normally required to sit the examination within 30 working days from the end of the examination series in which the supplemental grade was received unless the progression rules of a faculty or school require the successful completion of an entire academic year before a student is eligible to proceed into the next. In this case, students are obliged to sit the examination at the next ensuing examination period.

The passing grade in supplementals must be at least "C." Students are normally required to carry a full-time program in order to be eligible. Accordingly, students who are granted incomplete or deferred status may not be eligible. A student may only write a supplemental once in any course; otherwise the course must be repeated.

Students are advised to check with faculty or school offices or consult an advisor as to specific regulations that may apply.

To write a supplemental examination an application must be made to the office of the dean or director and the appropriate fee paid. The application form will be forwarded to the Student Records Office and the supplemental grade will be submitted following completion of the examination.

4.2.7 Special Supervision of Off-Campus Examinations:

Students who have been given permission to write deferred or supplemental examinations off-campus may apply to the Student Records Office to write at an approved centre outside of Winnipeg.

4.2.8 Examinations: Personations

A student who arranges for another individual to undertake or write any nature of examination for and on his/her behalf, as well as the individual who undertakes or writes the examination, will be subject to discipline under the university's Student Discipline Bylaw, which could lead to suspension or expulsion from the university. In addition, the Canadian Criminal Code treats the personation of a candidate at a competitive or qualifying examination held at a university as an offence punishable by summary conviction. Section 362 of the code provides:

Personation at Examination

362. Every one who falsely, with intent to gain advantage for him/herself or some other person, personates a candidate at a competitive or qualifying examination held under the authority of law or in connection with a university, college or school or who knowingly avails him/herself of the results of such personation is guilty of an offence punishable on summary conviction. 1953- 54,c.51, s.347.

Both the personator and the individual who avails him/herself of the personation could be found guilty. Summary conviction could result in a fine being levied or up to two years of imprisonment.

4.3 Other Forms of Earning Degree Credit

4.3.1 Letter of Permission for Transfer of Credit

Students in degree programs at this university may take courses at other recognized colleges or universities for transfer of credit provided such courses are approved at least one month prior to the commencement of classes at the other institution by the faculty or school in which they are currently registered. The approval is subject to individual faculty/school regulations and is granted in the form of a Letter of Permission. The student must obtain a Letter of Permission whether or not the course/s being taken are for transfer of credit to the University of Manitoba. Failure to obtain a Letter of Permission may have serious academic implications.

To obtain a Letter of Permission, application must be made to the Student Records Office as early as possible and at least one month prior to when required at the other institution.

Each application must be accompanied by the appropriate fee. The fees are for each application and a separate application is required for each session and institution regardless of the number of courses being considered. Students planning to seek permission to take courses elsewhere for transfer of credit to the University of Manitoba are cautioned to check the current *Calendar* for the residence and degree requirements of the degree programs in which they are enrolled.

Transferred courses will be given assigned credit hour values and grades. The transferred grade will be included in the student's sessional and cumulative GPA.

4.3.2 Challenge for Credit

The purpose of Challenge for Credit is to provide students of the university with some means of obtaining academic credit in University of Manitoba courses (not otherwise obtainable as a transfer of credit from other institutions) for practical training and experience, or reading and study previously completed. Students who have registered to challenge would normally not attend classes or laboratories. Courses which have previously been taken at the University of Manitoba may not be challenged for credit.

To be eligible to challenge for credit a student must first be admitted to a faculty or school of the University of Manitoba. Eligible students will be required to demonstrate their competence in the courses which they are challenging for credit. Where formal, written examinations are required, these will be generally scheduled during the regular examination sessions in April/May, June, August, or December.

Challenged courses do not reduce the residence requirement.

For information regarding requirements, procedures, applications and fees a student should contact the office of the faculty or school in which the student is enrolled, or in the case of new students, the faculty or school to which the new student has been admitted.

4.3.3 Transfer of Credit Between Programs Within the University of Manitoba

When students transfer credits into their programs from another faculty or school within the University of Manitoba, the credit hour value used by the faculty or school offering the course is used. That is, there can only be one credit weight designated for a course with a particular course number.

SECTION 5: Appeals of Grades

5.1 Appeals of Grades Received for Term Work

The appeal of term work returned or made available to students before the last day of classes shall be subject to the policies and procedures established by faculty or school councils.

Students may formally appeal a grade received for term work provided that the matter has been discussed with the instructor in the first instance in an attempt to resolve the issue without the need of formal appeal. Term work grades normally may be appealed up to ten working days after the grades for the term work have been made available to the student.

Students may obtain the form "Application for Appealing a Grade Given for Term Work" from the general office of the department which offered the course. The fee which is charged for each appealed term work grade will be refunded for any grade which is changed as a result of the appeal.

5.2 Appeal of Final Grades

If a student has good reason to believe a mistake has been made in the assessment of the original grade, an appeal of the assigned grade may be made. A student may enter an appeal, through the Student Records Office, for assessment of one or more grades following the posting of grades by the faculty/school/department, but in no instance later than twenty-one (21) days following the release of grades by the Student Records Office. The fee which is charged for each appealed grade will be refunded for any grade which is changed. It should be noted that an appealed grade may not be lowered. Appeal forms may be obtained from the Student Records Office. Students should note that the deadline for appeal of assigned grades will not be extended for students who are on "hold status" nor will official grades be released by the Student Records Office until the "hold" has been cleared. (This policy is under review).

5.3 Academic Appeals

With the exception of decisions on admissions or disciplinary matters, all academic appeals from decisions of faculty or school appeals committees

at the University of Manitoba or by the Comitee d'appels at Collège universitaire de Saint-Boniface shall be heard by the Senate Appeals Committee regardless of the institute of registration of the student concerned.

The complete terms of reference for the Senate Committee on Appeals as well as an Appeal Form may be obtained from the Office of the University Secretary, 312 Administration Building or Student Advocacy/Student Resource Services, 519 University Centre.

SECTION 6: Attendance and Withdrawal

6.1 Attendance at Class and Debarment

Regular attendance is expected of all students in all courses.

An instructor may initiate procedures to debar a student from attending classes and from final examinations and/or from receiving credit where unexcused absences exceed those permitted by the faculty or school regulations.

A student may be debarred from class, laboratories, and examinations by action of the dean/director for persistent non-attendance, failure to produce assignments to the satisfaction of the instructor, and/or unsafe clinical practice or practicum. Students so debarred will have failed that course.

6.2 Withdrawal from Courses and Programs

6.2.1 Voluntary Withdrawal

The registration revision period extends two weeks from the first day of classes in both terms. Courses dropped during this period shall not be regarded as withdrawals and shall not be recorded on official transcripts or student histories.

After the registration revision period ends students shall be allowed a limited number of voluntary withdrawals (VWs) which shall be recorded on official transcripts and student histories. The normal allowable maximum number of VWs shall be equivalent to one full year of study as defined in the *Undergraduate Calendar* description of the program. Faculties and schools may apply more restrictive or different regulations so long as they are reported to and approved by Senate prior to implementation.

The maximum permissible number of VWs established by a faculty/school shall be applied to all students taking its courses regardless of their faculty/school of registration. The effect on students' status in their faculty of registration of VWs in courses offered by other faculties or schools shall be governed by the regulations of the faculty/school of registration. VWs from courses taken while in one program (faculty/school) shall be transferred to another program (faculty/school) if those courses normally would be transferred.

When the maximum VW limit is reached, students may decrease their VW count by one full course equivalent for each successful year of study. After five years of no registrations, the count on the number of VWs that apply to the VW maximum shall be reset to zero.

Students who are at or near the VW limit set by their faculty or school, should consult an advisor.

The following dates are deadlines for voluntary withdrawals:

- The Voluntary Withdrawal deadline shall be the 48th teaching day in both first and second term for those half-courses taught over the whole of each term;
- The Voluntary Withdrawal deadline for full-courses taught over both first and second term shall be the 48th teaching day of the second term; and
- The Voluntary Withdrawal deadline for full-and-half courses taught during Intersession, Summer Session, or during some other special schedule shall be calculated in a similar manner using a pro-rated number of teaching days.

The exact Voluntary Withdrawal dates that apply to courses offered in the current academic session are published in the Academic Schedule at the front of this *Calendar* and in the *Registration Guide*.

VWs accumulated prior to September 1, 1993 shall not be counted toward any limit on the number of VWs permitted.

Limited Access to Courses Following VW

Limited Access restricts the registration of students who have voluntarily withdrawn from a course after the last date for course changes; who have previously audited the course; who have had their registration cancelled for non-payment of fees; or who have received a grade in a course, regardless of whether the grade is a passing or failing grade. The limited access policy is designed to give registration preference to students who have not previously registered in the course. Limited access prevents students from re-registering until a specified date; see the *Registration Guide* for information.

Normally limited access shall apply to the two sessions following the session in which the course was originally taken.

Exceptions to Limited Access: The following faculties and schools have voluntary withdrawal regulations specific to their programs and the limited access policy does not apply to their programs: Dentistry, Law, Dental Hygiene, Medicine, Medical Rehabilitation, and Social Work.

Student should consult with their advisor regarding the specific VW and limited access policy for their faculty or school.

6.2.2 Authorized Withdrawal

Subject to the provision of satisfactory documentation to the faculty of registration, Authorized Withdrawals (AWs) may be permitted on medical or compassionate grounds. AWs will not be counted toward the numerical limit on VWs established by a faculty or school.

6.2.3 Required Withdrawal from Professional Programs

Senate, at the request of some faculties and schools, has approved bylaws granting them the authority to require a student to withdraw on the basis of unsuitability for the practice of the profession to which the program of study leads.

This right may be exercised at any time throughout the academic year or following the results of examinations at the end of every year.

This right to require a student to withdraw prevails notwithstanding any other provisions in the academic regulations of the particular faculty or school regarding eligibility to proceed or repeat.

Where Senate has approved such a bylaw, that fact is indicated in the *Calendar* chapter for that faculty or school. A copy of the professional unsuitability bylaw may be obtained from the general office of the faculty or school.

SECTION 7: Academic Integrity

7.1 Plagiarism and Cheating

Plagiarism or any other form of cheating in examinations, term tests or academic work is subject to serious academic penalty (e.g. suspension or expulsion from the faculty or university). Cheating in examinations or tests may take the form of copying from another student or bringing unauthorized materials into the exam room (e.g., crib notes, pagers or cell phones). Exam cheating can also include exam impersonation. (Please see Section 4.2.8 on Exam Personation). A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty.

To plagiarize is to take ideas or words of another person and pass them off as one's own. In short, it is stealing something intangible rather than an object. Plagiarism applies to any written work, in traditional or electronic format, as well as orally or verbally presented work. Obviously it is not necessary to state the source of well known or easily verifiable facts, but students are expected to appropriately acknowledge the sources of ideas and expressions they use in their written work, whether quoted directly or paraphrased. This applies to diagrams, statistical tables and the like, as well as to written material, and materials or information from Internet sources.

To provide adequate and correct documentation is not only an indication of academic honesty but is also a courtesy which enables the reader to consult these sources with ease. Failure to provide appropriate citations constitutes plagiarism. It will also be considered plagiarism and/or cheating if a student submits a term paper written in whole or in part by someone other than him/herself, or copies the answer or answers of another student in any test, examination, or take-home assignment.

Working with other students on assignments, laboratory work, take-home tests, or on-line tests, when this is not permitted by the instructor, can con-

stitute Inappropriate Collaboration and may be subject to penalty under the Student Discipline By-Law.

An assignment which is prepared and submitted for one course should not be used for a different course. This is called “duplicate submission” and represents a form of cheating because course requirements are expected to be fulfilled through original work for each course.

When in doubt about any practice, ask your professor or instructor.

The Student Advocacy Office, 519 University Centre, 474-7423, is a resource available to students dealing with Academic Integrity matters.

7.2 Personation at Examinations

See section 4.2.4, Personation: Examinations

SECTION 8: Graduation and Convocation

8.1 Graduation

Students may graduate from the University of Manitoba in May, October, and February of each year.

Students are eligible to graduate when they have completed all of the requirements for their degree program in accordance with the regulations described in the *Undergraduate Calendar* and the regulations available from the general offices of their faculties and schools.

It is the responsibility of each student to be familiar with the graduation requirements of the program in which they are enrolled. Consultation with academic advisors is advised to ensure that graduation requirements are met.

8.2 Application for Graduation

Every candidate for a degree, diploma or certificate must make formal application at the beginning of the session in which the student expects to complete graduation requirements.

Application is to be made through the telephone registration system. See *Registration Guide* for details.

8.3 Convocation

Convocation ceremonies are held in May and October of each year.

February graduates are included in the May ceremonies.

Graduating students are encouraged to attend with their families and friends because it is the one ceremonial occasion that marks the successful conclusion of their program of studies.

All prospective graduating students who apply for graduation will be asked to confirm their intention to attend Convocation.

Complete details of the time, location, and ceremony arrangements will be included in the material from the Convocation Office of Student Records.

Students who, for any reason, do not attend Convocation will receive their degrees in absentia.

8.3.1 Academic Dress

Academic gowns, hoods, and caps are provided by the university as part of the Convocation arrangements.

8.3.2 Convocation Information

Information on Convocation may be obtained from the Student Records Office, 400 University Centre.

APPENDIX A: List of Approved Written English and Mathematics Courses

A complete list of all courses which satisfy the university written English and mathematics requirement is provided below. In the *Undergraduate Calendar*, course numbers of designated written English courses are marked with a “W,” after the course number, and designated mathematics courses are marked with an “M,” after the course number.

In addition to the courses listed below, individual sections of courses which satisfy the university written English requirement will be marked, in the *Registration Guide*, with a “W” after the section number. These approved sections are all in the Faculty of Arts..

List of Approved Written English Courses

Faculty of Agriculture

065.203W Technical Communications (3)

Faculty of Arts

Anthropology

076.236W Ethnohistory of Sub-Saharan Africa (B) (3)

Asian Studies

150.141W Asian Civilization (6)

150.142W Asian Civilization to 1500 (3)

150.143W Asian Civilization from 1500 (3)

150.207W South Asian Civilization (6)

150.211W East Asian Civilization (6)

Canadian Studies

151.113W Introduction to Canadian Studies (6)

Catholic Studies

160.119W Introduction to Catholic Studies (3)

Classics

003.260W Greek History (6)

003.261W Roman History (6)

Economics

018.227W European Economic History (6)

English

004.120W Representative Literary Works (6)

004.093w English Composition (3)

004.094W Writing about Literature (3)

004.126W Twentieth Century Literature in English (6)

004.131W Literary Topics 1 (3)

004.134W Introduction to Literary Analysis (3)

004.200W Intermediate Writing and Research (6)

German and Slavic Studies

052.228W

Russian Culture 1 (3)

052.229W

Russian Culture 2 (3)

052.235W

Russian Women’s Writing From the 1950’s to the Present Day (3)

052.255W

Introduction to Ukrainian Literature (6)

052.261W

Russian Literature: Medieval to Modern (6)

052.267W

Ukrainian Civilization 1 (3)

052.268W

Ukrainian Civilization 2 (3)

052.275W

Contemporary Russian Literature and Film (3)

052.377W

Tolstoy (3)

052.391W

Shevchenko (3)

052.397W

Women and Ukrainian Literature (3)

052.398W

Women and Russian Literature (3)

History

011.1XXW All History courses at 100 level

011.2XXW All History courses at 200 level

Interdisciplinary

099.111W Introduction to University (3)

099.114W European Literature 1 (3)

099.115W European Literature 2 (3)

Native Studies

032.120W The Native Peoples of Canada (6)

032.122W The Native Peoples of Canada, Part 1 (3)

032.202W The Métis of Canada (3)

Philosophy

015.215W Mind and Body (3)

015.247W Philosophy of Law 2 (3)

015.261W The History and Philosophy of Science (6)

015.279W Moral Philosophy (6)

015.322W Feminist Philosophy (3)

Political Studies

019.150W Introduction to Politics (6)

019.207W Introduction to Canadian Government (6)

019.251W Great Political Thinkers (6)

Psychology

017.230WM Advanced General Psychology (6)

017.250W Elements of Ethnology (3)

Religion

020.132W Introduction to World Religions (6)

020.142W	Ethics in World Religions (3)
020.144W	Evil in World Religions
020.216W	Introduction to Hebrew Scriptures (3)
020.217W	Introduction to New Testament (3)
020.221W	Psychology of Religion (6)
020.259W	Religion and Social Issues (3)
Women's Studies	
156.153W	Introduction to Women's Studies in the Humanities (3)
156.154W	Introduction to Women's Studies in the Social Sciences (3)
156.251W	Women and Education (3)
156.256W	Women, Science and Technology (3)
Faculty of Engineering	
130.201W	Technical Communications (3)
Faculty of Environment	
053.351W	Agricultural Geography (6)
053.358W	Landforms (6)
Faculty of Law	
045.147W	Legal Methods (5)
045.257W	Introduction to Advocacy (4)
Faculty of Science	
001.101W	Economic Plants
School of Dental Hygiene	
070.134W	Communication (2) and
070.135W	Community Health (4) and
070.124W	Pre-clinical and Clinical Dental Hygiene (9)
(All three courses taken as a sequence satisfy the university written English requirement.)	
Faculty of Human Ecology	

028.103W	Human Ecology: Perspectives and Communication (3)
School of Medical Rehabilitation-Occupational Therapy Program	
068.152W	Principles of Occupational Therapy (4)

List of Approved Mathematics Courses

Faculty of Science

Any course offered by the departments of Statistics (005), and Mathematics (136) will satisfy the mathematics requirement.

Physics

016.102M General Physics 1 (3)

016.103M General Physics 2 (3)

Faculty of Arts

Psychology

017.226M Introduction to Research Methods (3)

017.230WM Advanced General Psychology (6)

Sociology

077.229M Introduction to Research Methods (6)

School of Art

054.102M Math in Art (3)

Faculty of Environment

053.368M Research Methods in Geography (6)

School of Medical Rehabilitation

068.246M Statistics (3)

School of Music

033.323M Acoustics of Music (3)

APPENDIX B: Course Identification

Credit Hours

Each faculty and school develops courses for its degree credit programs, subject to Senate approval, and assigns a credit hour value to each course.

The credit hours for a course are expressed as a number associated with the course which indicates its relative weight. There is a correlation between class hours and credit hours (i.e., full course: 6 credit hours = 3 hours a week, both terms; and half course: 3 credit hours = 3 hours a week, one term).

Prerequisite and Corequisite Courses

Where the sequence in which courses are taken is important, one course is stipulated as being prerequisite to another (e.g., Mathematics 1 may be prerequisite to Mathematics 2). Unless otherwise specified in the regulations of any faculty or school, the prerequisite requirement is met if at least a passing grade (D) is earned in the course. If the course is failed, permission may be granted to repeat it concurrently with the course for which it is prerequisite.

Where a course is specified as a corequisite course, it must be taken at the same time as (or prior) to the course requiring it as a corequisite.

Course Numbers

First Three Digits

The first three digits in every course number (that is, the digits before the decimal point) indicate the academic department or program with which the course is associated.

A list of the departmental (or program) codes is published in the *Registration Guide*.

Last Three Digits

At the University of Manitoba the last three digits of the course number (that is, the digits after the decimal point) reflect the level of contact with the subject.

For example:

018.120 Principles of Economics (6)

018 is the department code for Economics in the Faculty of Arts
120 indicates that it is a introductory or first year course.
(6) indicates that it is a six credit hour course.

The 200, 300, 400 course numbers after the period indicate the second, third, and fourth levels of university contact with a subject.

Numbers in the 500 range are normally associated with pre-Master's work or courses in the Faculty of Education, e.g., Post Baccalaureate Certificate and the Post-Graduate Medical Education program.

Courses numbered 600-800 are graduate courses of the Faculty of Graduate Studies.

Course numbers in the 900 series are used to identify courses taken at the University of Winnipeg by students in the University of Manitoba/University of Winnipeg Joint Master's Programs. The 900 numbers do not indicate the level of the course taken (see *Graduate Calendar* or *University of Winnipeg Calendar*).

In most cases, some correlation exists between the course number and a student's year of study; that is, third-year students will generally carry course loads comprised primarily of 300-level courses.

Other Course Information

"W" after the course number indicates that it satisfies the written English requirement.

"M" after the course number indicates that it satisfies the mathematics requirement.

"F" after the course number indicates that the course is taught at College Universitaire de Saint-Boniface.

☼ before the course number indicates that the course is part of the Canadian studies program.

& before the course number indicates that the course is part of the Women's Studies Program.

L after the bracketed credit hour number, i.e., (6)L, indicates that the course includes a laboratory section.

In some faculties, course information includes term and scheduling information as follows:

030.414 Quantity Food Production and Management (3-L:0-0) 3

In the above example, the colon separates first term information from second term information. The figure "3" indicates the credit hours. "3-L" before the colon indicates that there are three lectures each week in first term with a laboratory component; the "0-0" after the colon indicates that the course is not offered in second term.

University Policies

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● *The Freedom of Information and Protection of Privacy Act (FIPPA) and The Personal Health Information Act (PHIA) both apply to the University of Manitoba. The Board of Governors appointed the president as the designated head under the act. The president, in turn, has delegated her duties to the FIPPA coordinator and the FIPPA Review Committee. Should any of the University's policies conflict with FIPPA or PHIA, the provisions of FIPPA or PHIA shall prevail unless otherwise expressly provided for at law. For access to university information, including personal information, apply under the appropriate act (FIPPA or PHIA). Application forms can be accessed at: www.umanitoba.ca/libraries/archives/fippa*

● *The University of Manitoba Policy and Procedure Manual is currently under revision. Students encountering difficulty locating documents on the website should contact the Office of the University Secretary, 312 Administration Building.*

PART ONE:

SECTION 1: Policy on the Responsibilities of Academic Staff with Regard to Students

1.1. Objectives

The objectives of this policy are to identify the responsibilities of academic staff with regard to students; to promote harmonious relations between academic staff and students; and to promote fair and equitable treatment of students.

1.2 Definitions

For purposes of this document, the following terms shall be defined as provided by this article:

A. Academic staff shall include all individuals holding full- or part-time appointments at the rank of Instructor I, Instructor II, senior instructor, lecturer, assistant professor, associate professor or professor. The term shall include also academic administrators, academic librarians, counsellors, adjunct professors, professional associates, research associates, research assistants, student research assistants, and student teaching assistants, insofar as such persons perform duties within the ambit of the policy.

B. Student shall mean any person who is registered as a student in the university. The current terms of reference of the Office of Student Advocacy follows this section.

1.3 Statement of Responsibilities

Some of the responsibilities of academic staff with regard to students rest with the individual staff member, while others are collective responsibilities, to be exercised through the actions of department and faculty/school administrators and councils.

A. Individual Responsibilities

The individual responsibilities of academic staff members with regard to students are primarily instructional and scholarly, and secondarily administrative. They may include:

1. Undergraduate, graduate, and continuing education instruction, including the organization, preparation and delivery of course material, the evaluation of student academic progress, the reporting of such evaluation in accordance with approved policies and schedules, consultation with students out of class or laboratory hours, and supervision of student research and thesis preparation;

2. Scholarly attainment through personal study and research, including study for purposes of academic self-improvement or course improvement, keeping abreast of new developments, and research that leads to a useful or original contribution toward the advancement of knowledge and understanding; and,

3. Administrative work as required for instructional and scholarly activities, including committee work at various levels departmental, faculty, university as it pertains directly or indirectly to students.

B. Collective Responsibilities

The collective responsibilities of the academic staff belonging to an academic unit are to provide an effective learning environment and to endeavour to ensure fair and consistent treatment of students. They include:

1. Periodically reviewing and updating all courses and programs;

2. Ensuring that academic regulations and policies provide fair and consistent treatment of students; and,

3. Providing for convenient student access to information on policies, regulations and procedures that may affect their academic progress, including

the provision of names of instructors assigned to teach particular courses and sections at the earliest possible opportunity.

1.4 Discharge of Responsibilities

A. Individual Responsibilities

1. Academic staff members shall discharge their instructional responsibilities with academic integrity, scholarly competence, and pedagogic effectiveness.

2. Academic staff members shall maintain their familiarity with current university faculty/school and/or department policies regarding plagiarism and cheating, examination impersonations, student access to final examination scripts, student discipline, grade appeals, and the university policy regarding sexual harassment.

3. In discharging their instructional responsibilities, academic staff members shall adhere to regulations pertaining to the format, content and conduct of courses and laboratories, including regulations pertaining to examinations, term work, grades, and related matters.

4. A course outline or syllabus shall be provided in each course section, within the first week of classes:

4.1 The academic staff member responsible for that section shall provide in writing to every member of the class: name of instructor; office number and telephone number; a list of textbooks, materials and readings that the student is required to obtain including the appropriate referencing style guide(s) acceptable to the instructor and/or discipline in courses where it is relevant; an outline of the topics to be covered; a description of the evaluation procedure to be used, including the weighting of the components that will contribute to the final grade and whether evaluative feedback will be given to the student prior to the voluntary withdrawal date (see note); an indication of instructor availability for individual student consultation; a tentative schedule of term assignments and tests; and a statement of the practice to be following regarding late submission of assignments.

NOTE: It is understood that the provision of this information is not intended to affect the question of equity in multi-sectioned courses in any way.

4.2 The academic staff member shall provide in writing to every member of the class information regarding academic integrity which shall include: a reference to statements on academic dishonesty including "plagiarism and cheating" and "examination impersonation" found in the *Calendar*; and, where appropriate, a reference to specific course requirements for individual work and group work. Students should be made aware that a group project adheres to the principles of academic integrity. Students should also be made aware of any specific instructions concerning study groups and individual assignments. The limits of collaboration on assignments should be defined as explicitly as possible.

5. Academic staff members shall teach their courses with due regard to *Calendar* descriptions.

6. It is the responsibility of academic staff members to specify textbooks and materials in accordance with announced purchasing deadlines.

7. In their dealings with students, academic staff shall:

7.1 not deny registration for instruction in those courses for which the permission of the instructor is required, except where the student lacks appropriate qualifications or where an approved policy on limited enrolment is in effect;

7.2 comply with existing human rights legislation, and refrain from differential treatment of individual students on the basis of their actual or presumed membership in, or association with, some class or group of persons;

7.3 not accept money or other goods or services from students for assistance with any course offered by the university. This clause, however, shall not prevent student teaching assistants or other part-time instructors from accepting payment for tutoring in courses/sections which do not fall within the scope of their university employment;

7.4 be available for a reasonable amount of time, on a known and posted basis, for individual consultation with students registered in their courses or laboratories;

7.5 evaluate student academic performance in a fair and reasonable manner, and by means of appropriate academic criteria only;

7.6 where appropriate, provide written evaluative feedback prior to the voluntary withdrawal deadlines specified in the *Calendar*;

7.7 foster a free exchange of ideas between themselves and their students in the classroom and allow students the freedom to take legitimate exception to the data, views, or methods presented;

7.8 respect the confidentiality of documentary information about students;

7.9 keep confidential any information about the academic performance of a student, unless release is authorized by the student, required by the instructional team, or requested by an administrative officer in accordance with the university policy on the release of information;

7.10 explicitly acknowledge in written or oral presentations any indebtedness to student research or assistance;

7.11 not obtain any improper personal advantage from a student or student work; and,

7.12 academic staff members shall not retaliate against a student who has filed a complaint, whether the complaint was substantiated or unsubstantiated.

8. Academic staff members shall not cancel, miss, terminate or shorten scheduled instruction except for good reason. Whenever a scheduled period of instruction is cancelled, the academic staff member shall:

8.1 inform the class at the earliest possible time;

8.2 inform the administrative head of the academic unit; and,

8.3 where possible, ensure that appropriate substitution or make-up instruction is provided.

9. Academic staff members who provide instruction shall comply with the schedules and formats for reporting student grades, as established by departments and the Student Records Office. Where such grades are reviewed by departmental committees, instructors should be available for the duration of the committees' work. An instructor who learns of an error, which if corrected would raise an assigned grade, should correct it without requiring the student affected to appeal the grade.

10. Academic staff members shall adhere to the relevant university, faculty/school, and/or departmental policy regarding professor-course evaluation.

B. Collective Responsibility

1. Through their faculty/school and department councils, academic staff members should review program and course descriptions periodically to ensure that the material to be presented is current and appropriate and that the *Calendar* information is clear and accurate.

2. The following material must be kept on file in faculty/school or departmental general offices and made available to students:

2.1 University, faculty/school or departmental regulations regarding class attendance and penalties, if any, for noncompliance;

2.2 The information described in Section 4.A.4, that is provided in writing to the class by the academic staff member for each course section;

2.3 University, faculty/school, and/or departmental regulations and procedures, if any, regarding the evaluation of professors and courses by students;

2.4 University, faculty/school, and/or departmental policy regarding student access to final examination scripts;

2.5 University policy on student discipline;

2.6 University, faculty/school, and departmental procedures regarding grade appeals;

2.7 University policy on the responsibilities of academic staff with regard to students; and,

2.8 University policy regarding sexual harassment.

3. Where necessitated by large class sizes or other circumstances, academic units shall ensure that course instructors and/or designated substitutes are available for individual consultation with students for a reasonable amount of time on a known and posted basis.

1.5 Cautionary Notice

Students are reminded that the initiation of a frivolous or vexatious complaints may result in disciplinary action being taken against them by the university.

SECTION 2: Policy on Sexual Harassment

Approved by: Board of Governors, November 21, 1984;

Revised: March 23, 1995

The University of Manitoba endeavours at all times to provide an environment that is supportive of the fair treatment of all members of the University community and is conducive to relationships based on mutual respect, cooperation and understanding. The University does not condone behaviour that is likely to undermine the dignity, self-esteem or productivity of any staff member or student, and seeks to prevent such behaviour through special programs of education and discussion.

Sexual harassment violates not only the human rights of the victim but also the fundamental values of the University including the value it places on high standards of personal and professional integrity and responsibility. Accordingly all members of the University community have a responsibility to contribute to promoting an environment in which sexual harassment does not occur.

While the University supports the informal resolution of problems associated with such behaviour, where appropriate, the University considers sexual harassment in all its forms to be a serious offense which may lead to a range of disciplinary measures up to, and including, dismissal or expulsion.

A complaint may be made by any person who believes that he or she has been subjected to sexual harassment by any member of the University in the course of University or University-related activities. An incident involving the University may properly be considered sexual harassment under this policy whether or not it occurs on campus, or whether or not it occurs during working hours.

2.1 Definition

For the purposes of this policy, sexual harassment is deemed to include but is not restricted to:

1. Unwanted sexual attention by a person who knows or ought reasonably to know that such attention is unwanted;
2. Expressed or implied promise of reward for complying with a sexually oriented request;
3. Actual reprisal or an expressed or implied threat of reprisal for refusal to comply with a sexually oriented request;
4. Actual denial of opportunity or an expressed or implied threat of denial of opportunity for refusal to comply with such a request; or
5. Sexually oriented behaviour or gender-based abusive and unwelcome conduct or comment which has the purpose or effect of creating an intimidating, hostile or offensive environment.

Examples of sexual harassment include but are not limited to:

1. Sexist remarks, jokes, innuendos or taunting about a person's body, appearance, characteristics or clothes;
2. Displaying of pornographic or other sexually offensive or derogatory pictures or material;
3. Persistent and unwelcome invitations or requests for "dates;"
4. Leering or other sexually oriented gestures;
5. Inappropriate questions or sharing of information about a person's sexuality or sexual orientation;
6. Inappropriate touching;
7. Sexual assault.

Sexual harassment may be physical and/or psychological in nature. One incident or a series of incidents (even where a single incident would not necessarily be considered to be harassment) may constitute sexual harassment. It may involve individuals or groups. It may take the form of excluding, on the basis of gender or sex, an individual or a group from rights or privileges to which they are otherwise entitled.

Although sexual harassment has typically involved a female victim, both males and females can be harassed by members of either sex. Although sexual harassment typically involves a person in a superior position as the initiator, it is recognized that people in subordinate or equal positions may also be initiators. Thus sexual harassment may occur in a variety of ways,

e.g., harassment of a student by a student; or of a staff member by a staff member; or of a student by a staff member; or of a staff member by a student.

Printed copies of this policy (which includes complaint procedures) are available from the Office of the University Secretary, 312 Administration Building, the Student Advocacy/Student Resource Services, 519 University Centre, and the University Policy and Procedure Manual (Policy 223) on the website at www.umanitoba.ca

SECTION 3: Policy on Human Rights

Approved December 12, 1991; Revised March 23, 1995

The University of Manitoba endeavours at all times to provide an environment that is supportive of the fair treatment of all members of the University community and is conducive to relationships based on mutual respect, cooperation and understanding. The University does not condone behaviour that is likely to undermine the dignity, self-esteem or productivity of any staff member or student and seeks to prevent such behaviour through special programs of education and discussion. The University endorses programs to overcome systemic discrimination or historic disadvantage through formally and publicly approved policies on such issues as employment equity and pay equity, and it supports reasonable accommodation for those with special needs.

Unreasonable discrimination based on, inter alia, racial, ethnic or national origin, age, sex, sexual orientation, ancestry, disability, religious belief, or political belief, and any coercive or harassing behaviour, violates not only the human rights of the victim but also the fundamental values of the University, including the value it places on high standards of personal and professional integrity and responsibility. Accordingly the University expects members of the University community to respect all fundamental human rights and values, and to be vigilant in protecting the dignity and equality of opportunity, within the context of the Manitoba Human Rights Code, of all who participate in the University's activities.

While the University supports the informal resolution of problems associated with violations of human rights, such violations are serious offenses and may lead to a range of disciplinary measures up to, and including, dismissal or expulsion.

A complaint may be made by any person who believes that he or she has been subjected to discrimination or harassment by any member of the University in the course of University or University-related activities. An incident involving University or University-related matters may properly be considered discrimination or harassment whether or not it occurs on campus or whether or not it occurs during working hours.

3.1 Definitions

For the purposes of this policy discrimination means, except where bona fide and reasonable cause exists, or where it is based upon bona fide and reasonable requirements or qualifications, the differential treatment, whether intended or not, of an individual or group of individuals on the basis of:

1. An individual's actual or presumed membership in or association with some class or group of persons, rather than on the basis of personal merit; or
2. Any of the following characteristics set out in the Manitoba Human Rights Code:
 - a) ancestry, including colour and perceived race;
 - b) nationality or national origin;
 - c) ethnic background or origin;
 - d) religion or creed, or religious belief, religious association or religious activity;
 - e) age;
 - f) sex, including pregnancy, the possibility of pregnancy, or circumstances related to pregnancy;
 - g) gender-determined characteristics or circumstances other than those included under the characteristic of sex;
 - h) sexual orientation;

- i) marital or family status;
 - j) source of income;
 - k) political belief, political association or political activity;
 - l) physical or mental disability or related characteristics or circumstances;
- or
3. the individual's or group's actual or presumed association with another individual or group whose identity or membership is determined by any of the characteristics referred to in section (2) above; or

Failure to make reasonable accommodation for the special needs of an individual or group shall be considered a violation of this policy, if such failure is based upon any characteristic referred to in section (2) above.

For the purposes of this policy harassment is deemed to include but is not restricted to behaviour or abusive and unwelcome conduct or comment which has the purpose or effect of creating an intimidating, hostile or offensive environment. (Sexual harassment is dealt with in a separate policy - see Policy 223.) Examples of discrimination and harassment include but are not limited to:

1. Derogatory written or oral comments and gestures (e.g., name-calling, slurs, graffiti, pictures, gestures, remarks, jokes) based on any of the characteristics referred to in section (2) above;
2. Evaluations of performance as a student or staff member based on any of the characteristics referred to in section (2) above;
3. Behaviour stating or implying actual or perceived abilities or inabilities based on any of the characteristics referred to in section (2) above;
4. Refusal to work with or share University facilities based on any of the characteristics referred to in section (2) above;
5. Applying stereotypes or generalizations based on any of the characteristics referred to in section (2) above.

One incident or a series of incidents may constitute discrimination or harassment. It may involve individuals or groups.

Discrimination and harassment can occur in a variety of ways, e.g., of a student by a student; or of a staff member by a staff member; or of a student by a staff member; or of a staff member by a student.

3.2 Affirmative Action

Notwithstanding any other provision of this policy, it is not discrimination or a contravention of this policy,

1. To make reasonable accommodation for the special needs of an individual or group, if those special needs are based upon any characteristic referred to in subsection (2);

or

2. To plan, advertise, adopt or implement an affirmative action program or other special program that;

a) Has as its object the amelioration of conditions of disadvantaged individuals or groups, including those who are disadvantaged because of any characteristic referred to in subsection (2),

and

b) Achieves or is reasonably likely to achieve that object.

3.3 Implementation

The University shall establish mechanisms to give effect to this policy. These mechanisms shall include:

1. Articulation of procedures to deal with the handling of complaints and the responsibilities of administrative officers in respect of complaints and any disciplinary action arising there from;
2. The appointment of a Human Rights Investigation Officer, or Officers, (the "Investigation Officer") whose duties shall include the investigation of complaints, provision of advice and assistance to staff members, students and administrative officers in connection with complaints (None of these responsibilities extends to matters falling within the responsibilities of the Sexual Harassment Investigation Officer under the Policy on Sexual Harassment.)

3. The establishment and implementation of educational programs designed to enhance awareness of human rights and the communication of the University's policy and procedures relating to the subject; and,

4. The preparation of an annual report, which shall be a public document, on the number, type and disposition of cases of human rights violations and on educational and other activities related to the prevention of such violations.

This policy replaces the Statement on Discrimination approved by the Board of Governors in December, 1991.

The printed copies of this policy (which include complaint procedures) are available from the Office of the University Secretary, 312 Administration Building, the Student Advocacy/Student Resource Services, 519 University Centre, and the University of Manitoba Policy and Procedure Manual (Policy 236) on the website at www.umanitoba.ca

SECTION 4: Accessibility Policy for Students with Disabilities

The University of Manitoba is committed to reasonable accommodation of the needs of persons with documented disabilities by making efforts to create a barrier-free campus and provide other supports and services within the limits of available resources. The University will endeavour to meet the identified needs of each student by adapting services, courses, and programs as feasible and as resources allow, while maintaining appropriate academic standards. The University expects that the responsibility for making reasonable accommodations will be shared by the students, instructors and support staff.

In applying the accessibility policy for students with disabilities, the University of Manitoba will use reasonable efforts to:

- Ensure that students with disabilities are considered for admission to programs for which they are academically qualified;
- Make appropriate disability-related accommodations for students with disabilities to assist these students in meeting the academic requirements of their programs of study, while maintaining a commitment to appropriate academic standards;
- Make facilities safe and accessible for such students;
- Foster a supportive university community by working to remove attitudinal barriers and to inform and educate community members;
- Implement delivery structures within the limits of available resources.

Printed copies of this policy are available from the Office of the University Secretary, 312 Administration Building, the Student Advocacy/Student Resource Services, 519 University Centre, and at the University of Manitoba Policy and Procedure Manual (Policy 1211) on the website at www.umanitoba.ca

SECTION 5: Disclosure and Security of Student Academic Records

The University and its constituent units have a clear obligation to the student and to society concerning the disclosure and security of information about a student's academic record.

The Student's Academic Record - A Definition

For the purposes of this document, the student's academic record refers to the information accumulated on a student in relation to the student's admission to and registration and academic activity at The University of Manitoba. (The student's academic record also may be referred to as the student's academic file or simply the student's file.)

The student record described in this document does not ordinarily include detailed information held by University Health Services, Counselling Services or the University Discipline Committee. Separate records are maintained by each of these units which have developed their own set of guidelines on security and disclosure. A general statement from a physician or counsellor which is relevant to the student's academic performance and which has been furnished at the request or with the consent of the student may be included in the student's file. Similarly if a student is suspended or expelled for disciplinary reasons, only the fact of the suspension or expulsion shall ordinarily be entered on the student's academic record and

only for as long as specified in accordance with the Student Discipline By-Law.

It is recognized that throughout the course of a student's academic career there are many types of records kept on the student within the University. The student's academic record or versions of it may be in the form of hard-copy files, in the form of information recorded on a computerized database, or other forms such as microfiche or microfilm. Files on an individual student are often kept in a variety of locations, e.g., Admissions, Student Records, Faculty and Departmental Offices.

A complete copy of this policy is available in the University of Manitoba Policy and Procedure Manual (Policy 423) on the web site at www.umanitoba.ca

NOTE: This policy is currently undergoing revision to comply with *The Freedom of Information and Protection of Privacy Act (FIPPA)*. Students who have any questions about the status of Policy 423 should contact the Office of the University Secretary, 312 Administration Building.

SECTION 6: Language Usage Guidelines

The University of Manitoba, as an institution of higher learning, has a commitment to high standards in all communications, both written and oral as well as a prominent role in promoting desirable social change. As an employer, it is especially sensitive to the fair treatment of individuals and groups. The University of Manitoba therefore follows guidelines which are designed to avoid communicating in a manner that reinforces questionable attitudes and assumptions about people and sex roles. Often the problem is one of word choices which maybe interpreted as biased, discriminatory, or demeaning, even though they were not intended to be. These guidelines will assist administrators in choosing words which are accurate, clear, and free from bias.

Guidelines

Sexism in communications may be divided into two conceptually different categories:

- Problems of designation, and
- Problems of evaluation.

Problems of Designation

In the case of sexism, long-established cultural practice can exert a powerful, insidious influence over even the most conscientious person. Nouns, pronouns, and adjectives that designate persons can be chosen to eliminate, or at least to minimize, the possibility of ambiguity in sex identity or sex role. In the following examples, problems of designation are divided into two sub-categories: ambiguity of referent, where it is unclear whether the communicator means one or both sexes, and stereotyping, where the communication conveys unsupported or biased connotations about sex roles and identity.

Problems of Evaluation

By definition, communications should be free of implied or irrelevant evaluation of the sexes.

Difficulties may derive from the habitual use of cliches or familiar expressions such as "man and wife." The use of "man and wife" together implies differences in the freedom and activities of each. "Husband and wife" are parallel, "man and wife" are not. In the examples that follow, problems of evaluation, like problems of designation, are divided into ambiguity of referent and stereotyping.

Problems of Designation

Ambiguity of Referent:

Example: The student is usually the best judge of the value of his counselling. Options might include deleting the referent "his," changing to a plural subject (Students are...value of the counselling service they receive), or rephrase (The best judge of the value of counselling is usually the student).

Example: Man or mankind (people, human beings, etc.) the average man (average person, people in general), manpower (workforce, personnel, human resources).

Stereotyping:

Example: Research scientists often neglect their wives and children. Solution: Acknowledge that women as well as men are research scientists (Research scientists often...neglect their families).

Example: Mothering. Solution: substitute - parenting, nurturing.

Example: Woman doctor, male nurse, lady lawyer. Solutions delete sex description unless necessary to the discussion, then use female doctor, female lawyer.

Problems of Evaluation

Ambiguity of Referent:

Example: The authors acknowledge the assistance of Mrs. John Smith. Solution: Use given names in acknowledgements, e.g., Ms., Miss or Mrs. Jane Smith.

Stereotyping

Example: men and girls. Solution: Use parallel terms - men and women, girls and boys, unless specifically wishing to denote adult and child relationship).

Example: woman driver. Solution: Specify only if necessary and then use female driver.

Example: Staff members and their wives. Solution: Staff members and their spouses/friends/guests.

Example: The girls in the office. Solution: Substitute - secretaries, staff, office assistants).

A more detailed list of examples of the sexist use of language can be obtained by contacting the Office of the President and the University of Manitoba Policy and Procedure Manual (Policy 231) on the website at www.umanitoba.ca

SECTION 7: Conflict of Interest Between Evaluators and Students Due to Close Personal Relationships

The purpose of this policy is to ensure that the relationship between an evaluator and the person being evaluated is and is seen to be impartial.

An evaluator includes any person who participates, whether at first instance or on appeal, in the process of admitting or selecting a student to a course or program, determination of a student's progress or academic standing, or the receipt by a student of a prize, award or university financial support.

A conflict of interest means a close personal relationship between an evaluator and a student or applicant or between evaluators, that gives rise to a reasonable apprehension of bias and, in any event, such relationships shall include that of: parent/child, spouses, grandparent/grandchild; siblings, in-laws or persons living in the same dwelling unit.

A complete copy of this policy may be obtained from Student Advocacy/ Student Resource Services, 519 University Centre or the University Policy and Procedure Manual (Policy 1306) on the website at www.umanitoba.ca

SECTION 8: Other Policies of Interest to Students

8.1 Campus Alcohol Policy

The purpose of this policy is to explicitly establish the general means by which alcohol abuse on the University of Manitoba campuses can be reduced or perhaps eliminated.

The University shall meet the policy's objective by: offering an alcohol education and awareness program within the scope of programs offered by or through Student Affairs; maintaining University guidelines with respect to the serving and consumption of alcohol on campus; requiring that events and facilities at which alcohol is served on campus be managed effectively and in accordance with the University guidelines and Manitoba Liquor Control Commission regulations; and monitoring the application

and effectiveness of the policy and guidelines through an Alcohol Beverage Committee, which also will provide to the Vice-President (Administration) on relevant problems and on proposed changes to the policy and guidelines.

This policy applies broadly, and covers all activities, events, locales and facilities on the University of Manitoba campuses at which alcohol is served or is available.

A complete copy of this policy may be obtained from Student Advocacy/ Student Resource Services, 519 University Centre or The University of Manitoba Policy and Procedure Manual (Policy 240) on the website at www.umanitoba.ca

8.2 HIV/AIDS Policy

The University and the University community shall not discriminate against any individual for the reason that he/she has AIDS or has tested positive for the HIV antibody.

This undertaking applies broadly across University services, programs, admissions, employments, facilities and accommodations.

A complete copy of this policy may be obtained from Student Advocacy/ Student Resource Services, 519 University Centre or The University of Manitoba Policy and Procedure Manual (Policy 509) on the website at www.umanitoba.ca

8.3 Parking Regulations

All members of the University community and persons attending on property, owned and occupied or under the charge or control of the University, including roadways (the "University property") are required to familiarize themselves and comply with the Regulations.

The Regulations are in addition to any by-laws of the City of Winnipeg and any legislation and regulations of the Province of Manitoba regulating the operation or use of motor vehicles or regulating the crossing of or walking upon roadways by pedestrians.

A complete copy of the University Parking Regulations is found in the *Registration Guide* and The University of Manitoba Policy and Procedure Manual (Policy 206) on the website at www.umanitoba.ca

PART TWO:

Students are expected to conduct themselves responsibly with due regard for the rights of others and to maintain a high level of personal and academic integrity. Students who transgress these standards, whether expressed in policy or implied in generally accepted codes of conduct, can expect disciplinary action. Penalties arising from disciplinary actions may include fines, withholding of student privileges, suspension or expulsion from programs, or some other action specific to the situation. Penalties may also affect student eligibility to continue in their programs or to graduate.

The following are some of the policies and regulations relating to student discipline and behaviour.

SECTION 1: Student Discipline Bylaw

A primary responsibility of the University is to provide its students with the opportunity for inquiry and freedom to discuss and express views openly and freely without fear of retaliation, or abuse of person or property. These attributes are the foundation of good citizenship.

To this end, students have an obligation to act in a fair and reasonable manner towards their peers, the faculty, staff, administration and the physical property of the university. Academic integrity and personal conduct, both on-campus and off-campus, are critical elements in achieving these goals. Violations of university regulations which have been adopted to protect the university community will be subject to disciplinary action. This may include, but is not limited to, violations of regulations governing plagiarism, cheating, examination impersonation, academic fraud and acts of personal behaviour such as sexual harassment, violation of human rights, vandalism and substance abuse. The Student Discipline Bylaw provides guidance to those individuals charged with administering disciplinary action while, at the same time outlining the protection to be afforded students through their right of appeal. Disciplinary authorities are encouraged,

whenever possible and appropriate, to settle findings of violation by informal resolution.

Students may request information from their faculty or school offices, the Office of Student Advocacy, or may obtain a copy of the bylaw from the office of the Secretary of Senate or obtain a copy of the By-Law from the Office of the University Secretary, 312 Administration Building, Student Advocacy/Student Resource Service, 519 University Centre or the University of Manitoba Policy and Procedure Manual (Policy 1202) on the website at www.umanitoba.ca

SECTION 2: Inappropriate and Disruptive Student Behaviour

Although this policy is directed to dealing with students who exhibit inappropriate or disruptive behaviour, there are some general statements which should be made:

1. The vast majority of students will complete their academic life at the University acting appropriately and without causing disruption to their fellow students or to the University.

This policy is not directed towards individual students who have a mental illness provided their behaviour is neither inappropriate or disruptive.

A staff member may notice that an individual student is exhibiting stress, even though he/she is not acting disruptively. In that case, the observation should be addressed with the student and, if appropriate, the student should be referred for voluntary counselling.

2. "In appropriate or disruptive behaviour is behaviour which persistently interferes with the academic or administrative activities of the University (and/or) which inhibits the ability of other students to learn and of instructors to teach" – Amanda G. "Dealing with the Disruptive College Student: Some Theoretical and Practical Considerations," *College Health*, April 1986.

Such behaviours would include, but are not limited to the following: threats to the physical safety of the individual or others; verbal threats or abuse of students or University personnel; recurring and wilful damage of University property; and actions which habitually interfere with the learning environment or requires the inordinate time and attention of faculty and staff.

The majority of students engaging in such behaviour will accept personal responsibility and appropriate referral for voluntary counselling. Additional action is detailed in the policy.

A complete copy of this policy may be obtained from Student Advocacy/ Student Resource Services, 519 University Centre or the University of Manitoba Policy and Procedure Manual (Policy 1210) on the website at www.umanitoba.ca

SECTION 3: Hold Status

Students will be placed on "Hold Status" if they incur any type of outstanding obligation (either financial or otherwise) to the university or its associated faculties, schools, colleges or administrative units.

Some typical reasons for holds are:

- Outstanding fees or other unpaid university fees
- Outstanding library books and/or fines
- Parking fines
- Outstanding transcripts or documents required from other institutions
- Students records pending disciplinary action.

No administrative or academic services will be provided to students on Hold Status until the specific obligations have been met.

Students who have not cleared their Hold Status from previous registrations will not be permitted to register again until the hold has been cleared or permission to register has been obtained from the Office of the Vice-President (Administration).

Student Services

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SECTION 1: Introduction to the Services Offered by Student Affairs

Vice Provost Office

208 Administration Building

Telephone: (204) 474 8279

Website: www.umanitoba.ca/student/provost/

Vice Provost (Student Affairs): David Morphy

The mandate of Student Affairs is twofold: providing services and programs to students of an academic, personal and developmental nature, and providing administrative support to the university community.

Student Affairs coordinates the functions of the Aboriginal Student Centre, Counselling Service, Enrolment Services (Admissions, Financial Aid and Awards, Student Recruitment), Housing and Student Life, International Centre for Students, Student Advocacy/Student Resource Services, Student Employment Services, Student Records/Convocation, and University Health Service.

The vice provost (student affairs) works in liaison with all student groups and academic and administrative units that provide services and functions that affect students. The office provides an important link for students with the total university community. Students are encouraged to contact the office with issues or concerns, or positive initiatives of a general nature that affect the quality of student life at the university.

SECTION 2: Aboriginal Student Centre

Office: 537 University Centre

Telephone: (204) 474 8850; **Fax:** (204) 275 3142

E-mail: ASC@UManitoba.CA

Website: www.umanitoba.ca/student/asc/

Director: Kali Storm

Mission Statement

"Providing student support in a manner consistent with the cultures and values of Aboriginal Peoples for the purpose of increasing/enhancing the accessibility and retention of Aboriginal students. The Aboriginal Student Centre is dedicated to the creation of an educational environment that includes the affirmation of Aboriginal cultures, values, languages, history, and way of life by increasing the knowledge foundation offered at the University of Manitoba."

Services Provided

Mental/Academic Assistance: Application, course selection and registration assistance, tutorial referrals, advocacy and assistance dealing with professors and the university system (e.g. appeals, voluntary withdrawals and special consideration).

Spiritual/Cultural Support: Cultural supports and Elder-In-Residence, Traditional Teachings, sharing circles, Annual Traditional Graduation Powwow.

Emotional/Personal Supports: Advocacy and support, someone to talk to in a family environment, on and off campus resource information and referrals, peer supports and an Aboriginal Student Lounge, (541-0 University Centre).

Physical and recreational information: Funding information and applications (First Nations, Metis, student aid, bursaries), job postings, social activities, Volunteer Initiative Program(VIP).

University of Manitoba Aboriginal Students Association (UMASA)

The University of Manitoba Aboriginal Students Association provides support and information on Aboriginal issues. The student association plans and organizes recreational, political and cultural events throughout the year. All registered U of M students who support these initiatives are encouraged to join. The UMASA lounge in 113 Helen Glass is open from 8:30 a.m. to 10 p.m. for student use.

SECTION 3: Student Counselling and Career Centre

Fort Garry Campus : 474 University Centre; telephone (204) 474 8592

Bannatyne Campus : S207 Medical Services Building; (204) 789 3857

Website: www.umanitoba.ca/student/counselling/

Director: Don Stewart

Personal Counselling

We offer a wide range of services to help students achieve personal, career and academic success including group programs, individual counselling, workshops (career, personal and educational), consultation and assessment. We help students deal more effectively with a wide variety of issues, such as career and academic indecision, adjusting to life transition, stress, depression, loss, family issues, relationship difficulties, abuse, academic

performance, self confidence, motivation and procrastination, and finding meaning in life.

Our staff includes professionals from Clinical Psychology, Counselling Psychology, Educational Psychology and Social Work.

Fort Garry Campus

Students interested in seeing a counsellor at the Fort Garry Campus may drop in during intake hours for a brief introductory meeting. Intake hours are between 9:30 - 11:00 and 1:30 - 3:00, Monday to Friday (hours may be reduced during the summer months - please call for summer intake hours). Students are usually seen on a first-come, first-served basis. Following intake, referral is made to a counsellor, group program or career service within the Student Counselling and Career Centre, or to services elsewhere. (Students may go directly into career counselling without going to intake by attending a Career Exploration Workshop)

Bannatyne Campus

The Bannatyne counselling team is available for noon-hour, late afternoon, and early evening appointments Monday to Thursday. Appointments may be booked through the SCCC receptionist at 474 8592. Drop-in contacts are welcome whenever the door is open.

Group Programs

A variety of group programs are offered throughout the academic year. Groups have addressed assertiveness, graduate student support, depression, procrastination, single parent support, stress management, men's issues, women and self esteem, exploration of self, eating disorders, Aboriginal healing and exam anxiety. Group program information is posted regularly throughout the University on the web.

Career Services

The Student Counselling and Career Centre provides a comprehensive program to assist in career decision-making and planning. The following resources are available to all students:

Career Exploration Workshop

This 2-hour interactive workshop was designed to help students begin to make decisions about their career path. Students will be shown a career decision-making process to help make career decisions with confidence. Interactive exercises will be conducted to help students begin identifying important career factors as well as potential career options. Students will also be introduced to all career services available at the Student Counselling and Career Centre. Opportunities for discussion with a career counsellor may be possible depending on time constraints. Career Exploration Workshops are held throughout the year and are open to University of Manitoba students at no charge. Students should pre-register at the Student Counselling and Career Centre.

Career Counselling and Career Inventories

Career counselling and career inventories can help students resolve career questions and develop career plans. Students are eligible to receive one-on-one career counselling from a professional career counsellor for any career-related question or concern. Career inventories currently offered by the Student Counselling and Career Centre include the Myers-Briggs Type Indicator (personality instrument), the Strong Interest Inventory (interest instrument) and the Self-Directed Search (interest instrument). A modest fee will apply for each of these inventories. Students must ordinarily attend a Career Exploration Workshop prior to attending a career counselling session or prior to completing a career inventory. Students can also attend a drop-in, first come first serve Career Consultation Meeting for any career-related concern without a prior appointment. Check at the Student Counselling and Career Centre front desk for these drop-in times.

Career Resource Centre

The Career Resource Centre houses the combined career resources of the Student Counselling and Career Centre and Student Employment Services. Exploring occupational options? Searching for educational alternatives? Planning a comprehensive job search? Thinking of starting your own business? If you need career information, stop by the Centre. Career Resource Assistants are available to help you, Monday – Friday, 8:30 a.m. - 4:30 p.m. No appointment is necessary. Visit us on-line at www.umanitoba.ca/student/counselling/crc.html.

Career Mentor Program

Students are invited to explore the world of work through the Career mentor Program. Hundreds of mentors, many of them University of Manitoba alumni, are eager to meet with students for informational interviews and

workplace tours. A short orientation is provided to ensure that students are prepared for the visit.

For over a decade, students have been making professional connections, exploring occupational options and receiving practical career advice through the Career Mentor Program. Start turning your career dreams into reality. Sign up for the Career mentor Program today!

The Career mentor Program runs from September – April. A nominal, one-time fee applies.

Visit us on-line at www.umanitoba.ca/student/counselling/mentor.html

Referral and Consultation

Counsellors are also able to provide a confidential referral and consultation service to other members of the university community.

SECTION 4: Enrolment Services

421 University Centre

Telephone: (204) 474 8820

Director: Peter Dueck

Admissions Office

424 University Centre

Telephone: (204) 474 8808; Fax: (204) 474 7554

E-mail: admissions@umanitoba.ca

Website: www.umanitoba.ca/student/admissions

Application forms and information on all undergraduate programs are available from Admissions. Refer to the inside front cover of this *Calendar* for application deadline dates.

Admissions officers are available to give advice and assistance, particularly with respect to prerequisite courses and admission requirements to professional faculties and schools.

Financial Aid and Awards

422 University Centre

Telephone: (204) 474 9531 Fax: (204) 474 7554

E-mail: awards@umanitoba.ca

Website: www.umanitoba.ca/student/fin_awards

Students seeking information about scholarships, bursaries, prizes, loans or the food bank should inquire at the general office. The Financial Aid and Awards Office administers numerous awards in trust with, or offered annually to, the university by individuals, organizations, and businesses. It maintains a close liaison with the Student Financial Assistance Branch of Manitoba Education and Training and, as a cooperating agency, carries out numerous detailed procedures for the government's student aid programs. It also acts as a channel for grants and loans provided to students from other provinces and jurisdictions and for scholarships and bursaries provided by other organizations.

Student Recruitment

424 University Centre

Telephone: (204) 474 8805 Fax: (204) 474 7554

E-mail: admissions@umanitoba.ca

The Student Recruitment section of Enrolment Services coordinates and delivers informational services to prospective students, their parents/families, and their schools. Requests for school visits, participation in career fairs, or on-campus tours should be directed to this office.

SECTION 5: Housing and Student Life

416 University Centre

Telephone: (204) 474 9717

Website: www.umanitoba.ca/student/housing/

Director: Garth Wannan

E-mail: housing_studentlife@umanitoba.ca

Off-Campus Accommodation

This office, 415 University Centre, maintains lists of accommodation available in all areas of Winnipeg. Students may consult these listings 24 hours a day at the Website above, by calling the computerized housing registry at (204) 474 8570 or, for more detailed information, by visiting the office between 8:30 a.m. and 4:30 p.m. Monday to Friday.

Living arrangements listed include room and board, rooms with kitchen privileges, suites, apartments, houses and townhouses. The university does not approve, license nor inspect housing, but lists accommodation for referral only. Landlords are required to offer their accommodation in accordance with existing housing legislation and on the same basis as the university offers its facilities; i.e., without regard to race, colour, religion, nationality, sex, age, marital status, ethnic origin, or source of income.

Residence (On-Campus Accommodation)

By September 2003 the six residences on the University's Fort Garry campus (Mary Speechly Hall, Tache Hall, University College, Aurthur V. Mauro Student Residence, St. John's College, and St. Andrew's College) provide accommodation for 1260 students. Each residence has its own unique personality and living options. Living on-campus can be an important part of being a student. For information about on-campus housing contact the Residence Office, 110 Pembina Hall, University of Manitoba, Winnipeg, Manitoba R3T 2N1; telephone (204) 474 9942 or toll free 1 800 859 8737.

Website: www.umanitoba.ca/student/housing/

E-mail: residence@umanitoba.ca

Mary Speechly Hall and Tache Hall Residences

Speechly/Tache is characterized by a commitment to unity and diversity. Though the Speechly and Tache residences are administered jointly, each building retains its own character. Tache Hall boasts antique oak trim, open fireplaces and expansive stairwells; Speechly Hall, with bright rooms and friendly lounges, provides a modern complement to Tache's old world charm. Together, they house almost 600 students in a choice of single and double rooms on both non-co-ed and co-ed floors.

In addition, Speechly/Tache offers a number of residence life options for needs and interests of specific student groups that offer programs and activities tailored to suit a particular lifestyle. The special interest communities include: Architecture/Interior Design, Engineering/Sciences; Graduate House; Health and Fitness; International House and Scholars House.

Residents' meals are served in Pembina Hall, a large dining hall. Enclosed walkways from residence halls to the dining hall provide protection from Winnipeg's weather.

Residents of Speechly/Tache also enjoy easy access to: An in-house computer lab; piano practice areas; comfortably furnished lounges with fireplaces; furnished study/hospitality lounges on most floors; two gymnasias (with stationary bicycles, rowing and weight machines); large multi-purpose areas (for social, cultural or recreational events); student-run coffee shop (with a large screen TV and a satellite dish, video games, board games, a pool table and refreshments); sewing room; and kitchen for use on special occasions when Food Service is not in operation (i.e., during holiday periods).

The Resident Student Association Council (RSAC), works with residence administration to provide the students with many exciting programs, activities, and services. In order to ensure that residents are able to maintain a balance between social and academic activity, evening quiet hours are scheduled.

University College Residence

University College is a constituent college of the University of Manitoba. Its residence offers a smaller more personal atmosphere where students, both day and residence, can interact with each other and with academics in an informal setting. The residence accommodates 250 men and women in mostly single rooms. Tunnels connect the college residence to most buildings on campus. The residence package includes a "declining balance" meal card which can be used at any food service outlet.

University College provides comfortable accommodation with a central lounge on each floor with a TV (satellite), a VCR and a microwave. Each floor has separate wings for men and women, connected by the lounge. Special interests are served by the Scholars' and Professional/Graduate student floors. The residence also houses recreation areas (with fitness equipment, pool table, and grand piano), a study hall, computer lab, and laundry room.

The student government organizes residence social activities throughout the year including intramural sports, as well as on-and off-campus activities. In addition to personal development and academic success programs, which are provided by the on-site student staff, the college offers guest speakers to enable students to expand their knowledge outside the class-

room. Courtesy hours are in effect during exam preparation and writing periods.

Aurthur V. Mauro Student Residence

For students in their 2nd year of University or higher, the Aurthur V. Mauro Student Residence offers an alternative to traditional residence living. Scheduled to open in September 2003, this residence will accommodate 310 students in 2 bedroom suites. Each suite includes 2 furnished bedroom with telephone, cable television and high speed internet connections. It also includes a kitchenette and its own washroom.

Facilities in the building include a games room, fitness centre, convenience store, laundry and storage. Meal plans for residents of Aurthur V. Mauro Student Residence are optional.

St. John's College Residence

St. John's College was founded in 1849, but its origins date back to the early days of the Red River settlement. In 1877 St. John's together with St. Boniface and Manitoba colleges founded the University of Manitoba. This record is evidence of St. John's historical commitment to higher education.

St. John's College Residence embodies a unique blend of the social and the academic. Residence provides opportunities for students to participate in college and residence social and athletic programs, to take advantage of both formal and informal tutorial and study sessions, and to live and study in the context of a small, personal community. Other events provide students opportunities to socialize and meet with college professors outside of the confines of the classroom. In addition, a regular schedule of study hours ensure residents of the quiet necessary for academic work.

Located in the centre of the Fort Garry Campus, St. John's Residence provides accommodation for 100 men and women. Residence student affairs are governed through the Residence Student Association, which works in close cooperation with the four student dons and the dean of residence. St. John's Residence includes the following features: single occupancy, carpeted rooms; full meal plan, offering excellent value and quality; two student lounges, both equipped with TV and VCR; residence study room; games room, with table tennis and pool table; fully equipped student kitchen; laundry room; full access to college facilities, including the chapel, food services, library, common room and computer lab

For information, contact: Dean of Residence, St. John's College, 92 Dysart Road, Winnipeg, Manitoba R3T 2M5; telephone (204) 474 8363; Fax: (204) 474 7610; E-mail: woodcrof@cc.umanitoba.ca

St. Andrew's College Residence

St. Andrew's College, an affiliated college, was established in 1964 on the University of Manitoba campus. It presently houses the Centre for Ukrainian Canadian Studies, and the Theology Faculty of the Ukrainian Orthodox Church of Canada. Students in any faculty, however, may live in residence as long as they hold membership in St. Andrew's College.

Residence is available for 38 women and men in small single, large single and double rooms. Special facilities include a library, TV lounge area, multi-purpose room, seminar rooms, dining hall and storage space. St. Andrew's College also has a Ukrainian Orthodox Chapel. The kitchen provides 19 meals per week which are characterized by home style cooking, including Ukrainian cuisine.

The residence is administered by the residence supervisor and residence assistants along with an active Residents' Council. An attractive feature of the residence life is the rich Ukrainian cultural program whereby the students have the opportunity to participate in choral music, folk dance, and theatre. In addition St. Andrew's students participate in an inter-university exchange program each year.

For information, contact: Residence and Property Supervisor, St. Andrew's College, 29 Dysart Road, Winnipeg, Manitoba R3T 2M7; telephone (204) 474 8895; Fax: (204) 474 7624

SECTION 6: International Centre for Students (ICS)

541 University Centre

Telephone: (204) 474 8501 Fax: (204) 474 7562

Website: www.umanitoba.ca/student/ics/

Interim Director: Fred Drewe

The mission of the International Centre for Students (ICS) is to facilitate the success of University of Manitoba students in their international learning experiences. ICS has a three-fold mandate:

- to assist and support international students.
- to facilitate student participation in international exchanges and provide information on other international opportunities.
- to promote intercultural understanding and internationalization of the student body.

Services and programs for international students include pre- and post-arrival handbooks, campus and city orientation sessions, a welcome family program, student advising, and a variety of workshops and events designed to facilitate adjustment to life in Canada. The World W.I.S.E. Resource Centre, located within ICS, contains information on study, work, and volunteer opportunities abroad. ICS also coordinates a number of international student exchange programs which are open to all UM students. ICS sponsors a number of activities and events to promote intercultural understanding, such as the Campus Buddy Program and World Fusion Multicultural Week.

SECTION 7: Student Advocacy/Student Resource Services

Director: Lynn Smith

Student Advocacy

519 University Centre

Telephone: (204) 474 7423 Fax: (204) 474 7567

Website: www.umanitoba.ca/student/advocacy/

The Office of Student Advocacy provides centralized services for receiving student complaints and grievances.

This centre serves as an information source for students regarding their rights and responsibilities. Students are assisted in the resolution of problems or concerns resulting from academic and/or discipline decisions. Students are advised of policies and procedures to follow, both informally and formally. Where indicated, students are referred to other units on campus.

Pre-appeal Stage: Information, advice, consultation, mediation and referrals.

Appeal Stage: Assistance with appeal letters and communications with the appeal chair, assistance with preparation of appeal presentation, appearance with students at appeal hearings.

Post Appeal Stage: Follow up with administrative staff or chairs of appeal committees and students.

Bannatyne Campus, the St. Boniface General Hospital: Advocacy services for students are also available at these sites by contacting the general office at (204) 474 7423.

Student Advocacy Terms of Reference

The Office of Student Advocacy (the "Office") shall:

1. Be under the general charge of a director who shall report to the Board of Governors and Senate at least annually on the activities of the office and to the vice-provost (student affairs) for routine financial, logistic and administrative matters;
2. Serve as a general information unit for students, former students, or those who have applied to become students, and provide them with information on their rights, responsibilities, and the procedures to follow to resolve problems or concerns resulting from actions or decisions, arising from University of Manitoba rules and regulations, as taken by officers of the University that may be unfair, unjust, discriminatory or create undue hardship; and,
 - 2.1 in carrying out its information function, the Student Advocacy office will receive student complaints and refer complainants, as appropriate, to other University officers or staff, including, without limitation, Equity Services; the Ombudsman; faculty members and academic or support service administrators;
3. Investigate or facilitate the investigation of any concern or complaint presented by a student or former student or applicant;

4. Review policies, procedures, regulations, rules and criteria and recommend any changes thereto that are necessary to ensure prompt decision making, appropriate procedures and protection of the rights of students;

5. Subject to clause 5.2 hereof, provide assistance or representation to students who are appealing an academic or disciplinary action and are appearing before a residence, faculty, Senate or University committee; and,

5.1 in discharging its representational function, be responsible for the recruitment, selection, training and assigning of 'student advocates' recruited from the student body;

5.2 Withhold or withdraw representation if, in the opinion of the Director of the Office, the case has no merit; the student is not cooperative; the student has retained legal counsel; and/or the circumstances indicate that such involvement would be counterproductive;

6. Have access to such information as is appropriate having regard to the representational functions of the office, while at all times respecting confidentiality and only releasing confidential information after written permission is given by the affected parties for such release;

7. Keep suitable records of complaints, findings and recommendations as may be necessary; such records shall be accessible only to members of the office, as per FIPPA legislation .

Peer Advisors

150 University Centre

Phone: (204) 474 6696

E-mail: peer@umsu.org

Peer advisors are student volunteers committed to providing support to their peers. Peer advisors are supportive listeners and may be approached on any academic, health or personal concern. All Peer Advisor services are free of charge and completely confidential.

Student Resource Services

520 University Centre

Telephone: (204) 474 9251 Fax: (204) 275 8098

Website: www.umanitoba.ca/student/resource

The director has administrative responsibility for the Chaplains' Association, Disability Services, English Language Centre; Learning Assistance Centre and the Playcare Centre.

Chaplains' Association

Website: www.umanitoba.ca/student/resource/chaplains

The chaplains at the university are appointed by religious bodies, but offer support to all students regardless of religious preference. They provide a wide variety of services to students and staff. The chaplains are located on the first floor of University Centre and can be reached at the following numbers:

Chaplains' Secretary	(204) 474 8721
Jewish	(204) 474 9325
Lutheran	(204) 474 8386
Mennonite	(204) 474 9691
Pentecostal	(204) 474 8389
United	(204) 474 8387

In addition, religious programs and worship services take place at St. Andrew's College (Ukrainian Orthodox (204) 474 8895); St. John's College (Anglican, (204) 474 8363); and St. Paul's College (Roman Catholic (204) 474 8575). Students may contact the colleges for more information.

Disability Services

155 University Centre

Telephone: (204) 474 6213

TTY: (204) 474 9790

Website: www.umanitoba.ca/student/resource/disability-services

Students and staff with disabilities are encouraged to contact Disability Services for information and advice on accessibility and services available to them at the university. This office should be contacted to register for use of the on-campus transportation system, a service designed mainly for students in wheelchairs and for students with mobility limitations. Elevator keys are also available through this office.

English Language Centre

520 University Centre

Telephone: (204) 474 9251

Website: www.umanitoba.ca/student/resource/english/

The English Language Centre provides English language instruction for international students enrolled at the University of Manitoba and for individuals preparing to study at the university. The focus of all the courses is on the English required in an academic setting at both graduate and undergraduate levels. ELC courses are offered in fall, winter and summer sessions. The Centre provides the following:

Homestay Program

The Centre offers Homestay where students may practice English and learn about Canadian culture.

Intensive Program

The two Intensive Programs are offered three times a year in 14 week sessions.

- Academic English Program for University and College Entrance (AEPUCE)

- This course is designed to prepare students for admission to the University of Manitoba. Individuals who have achieved a TOEFL score of 500 (173 Computer Version), CanTEST band 3.5 or equivalent are eligible to take the course. Upon successful completion, students have met the English requirements for admission to the University of Manitoba.

- Intensive Academic Program (IAEP)

This course is designed to prepare intermediate and advanced students for academic study. At the end of each IAEP session, students write the CanTEST. These test results may be used to meet the English requirements of the University of Manitoba.

NOTE: In addition to providing courses, the centre is an official testing site for the Canadian Test of English for Scholars and Trainees (CanTEST), an English proficiency test, the results of which are accepted by the University of Manitoba admissions.

Short Term Program

The English Language Centre offers short term courses four times a year for University of Manitoba students and potential students as well.

Courses include:

- Oral English for Academic Purposes: conversation and discussion; seminars and presentations.
- Academic Writing Courses: grammar review and practice; critical reading and summary writing; essay writing.
- For Graduate Students: pronunciation seminar; oral English (Fort Garry and Bannatyne campuses); research writing (Fort Garry and Bannatyne campuses).

Learning Assistance Centre

520 University Centre

Telephone: (204) 474 9251

Website: www.umanitoba.ca/student/resource/learning

The Learning Assistance Centre is the place on campus where students can get help with: time management, goal setting, textbook reading, note taking, preparing for exams, multiple choice and essay exams, motivation, memory and concentration, essays, and research papers.

One-to-One

Students can drop by to see one of our learning skills specialists for help with study skills or writing. Also, they can work more intensively on specific assignments or papers. Our staff is available on a walk-in basis, Monday to Friday, 8:30 a.m. to 4:30 p.m.

Writing Help Centre

Student volunteers are available for extra help with essays and research papers. This extra help is available during regular session.

Weekly Workshops

Free study skills workshops are offered Wednesdays from 2:30 to 3:20 p.m. The Wednesday Workshops are: Memory & Concentration, Your Learning Style, Tips on Writing Papers, How to Remember What you Read, Study Tips That Reduce Stress, Tips on Preparing for Exams, Tips on Writing Essay Exams, Tips on Multiple-Choice Exams.

Handouts

A collection of handouts is available on a variety of study topics such as time management, concentration & memory, notes, reading, stress, exams, and any other study concerns.

Courses

- University Preparatory Program

In Summer, students who need to brush up on their academic skills can take an intensive course in: Power Learning and Reading, or Essay Writing. There is a charge for these 18 hour, non-credit courses.

The PlayCare Centre

109 University College

Website: www.umanitoba.ca/student/resource/playcare

This facility is licensed as a full-time daycare. The centre provides care for full days or half days for children between two and five years of age and for ages 6-12 on school in-service days. For information, telephone (204) 474 6949 or visit the facilities.

SECTION 8: Student Employment Services

474 University Centre

Telephone: (204) 474 9456

Website: www.umanitoba.ca/student/employment/

Director: Raymond Côté

Student Employment Services (SES) assists students in career planning and with their employment searches. This is accomplished through the On-Campus Recruitment Program, permanent, summer and part-time job listings, volunteer opportunities in the community, individual consultations and workshops on resume writing, interview techniques and job search strategies. SES posts all job openings including volunteer on the workopolisCampus.com website. Complete postings, including job descriptions and duties, are input daily and are available 24 hours a day, 7 days a week. Students can link to workopolisCampus.com through the SES website but first they must obtain the access code from 474 University Centre which allows them to register and take advantage of the many options.

Cooperative Education and Internship at the University of Manitoba

Coop education and internships provide students with a unique educational experience by enabling students to relate classroom studies to experience in the working world. Students benefit from their work experience by: developing practical work skills and expanding their network of contacts in the working world; developing skills in communication and responsibility; earning money to help defray their university expenses; making career decisions with the benefit of on-the-job work experience and, upon graduation, being able to fill positions which involve greater responsibility.

SES directly helps coop and internship students with their employability by assisting them to improve their resume writing, interview and job search skills through group sessions and one-on-one appointments. It also provides support to academic departments with coop or internship programs by doing promotions to employers. The fourteen programs participating in Coop Education, along with the primary contact person for each program, are listed below.

Agricultural and Food Sciences (Coop) Degree and Diploma:
Gordon Mushey, (204) 474 6943

Biochemistry, Ecology, Genetics, Microbiolog, Zoology: (Coop):
Heather Christensen, (204) 474 7396

Biosystems Engineering (Coop): Dr. Ron Britton/Myra Friesen,
(204) 474 9722

Civil Engineering (Coop): Kathie Anderson, (204) 474 6251

Computer Science (Co-op): Gerri Acorn, (204) 474 8695

Electrical and Computer Engineering (Internship): Marcia Labiuk,
(204) 474 9099

Environmental Science (Coop): Leslie Goodman, (204) 474 9847

Manufacturing Engineering (Coop): Evelyn McFarlane, (204) 474 7358

Mechanical Engineering (Coop and Internship): Evelyn McFarlane,
(204) 474 7358

Master in Public Administration (Coop): Cathy Dunlop, (204) 474 9521

CO-OP Japan

The University of Manitoba is also a member university of the Co-op Japan Program (CJP). CJP is open to senior level science and engineering students. In order to qualify for participation, students must have at least one year of Japanese language study, as well as a minimum of eight months work experience related to their academic discipline, prior to their placement with a company in Japan. Once selected for placement, students are required to take and pay for a one-month immersion Japanese language

and culture program, which is taken directly prior to going to Japan. Work terms in Japan are paid and are seven months to one year in duration. Students live in company dormitories and commute to work each day, living and working alongside their fellow Japanese co-workers.

There is a wide range of coop work term placements available from hardware and software development using advanced technology, to new materials development, bio-technology, and chemical engineering. The majority of work placements are with large internationally oriented companies in the Tokyo and Osaka areas of Japan.

For information on the Co-op Japan Program, contact: Ray Côté, Director of Student Employment Services, 474 University Centre; telephone (204) 474 6841.

SECTION 9: Student Records Office

400 University Centre

Telephone: (204) 474 9423; Fax: (204) 275-2589

Website: www.umanitoba.ca/student/records/

Director: Neil Marnoch

Major services of the office which directly concern students are: address changes, application and information for graduation, application for Letters of Permission, Convocation ceremonies, fee assessment (charges and refunds), external examinations, examination timetable, fee appeals, final examinations, final grade reporting, graduation parchment replacement, international student health insurance, name changes, Photo ID cards, registration, transcripts, and T2202A education tax forms.

The current edition of the *Registration Guide* and the Student Records website contain up-to-date information on these services.

SECTION 10: University Health Service

104 University Centre

Telephone: (204) 474 8411; Fax: (204) 474 7573

Website: www.umanitoba.ca/student/health/

Director: Wade Glew

The University Health Service is available to all university students and staff, their spouses and dependent (under 21 years) family members. To assist students in maintaining a high level of personal and community health, the University Health Service is available for episodic and continuing care during regular university hours. Doctors also provide emergency after-hours care.

All Canadian students must carry health insurance through their home province. All international students not covered by a provincial health plan must purchase insurance through the special plan provided for by the university (see the *Registration Guide* for specific details).

Health examinations are not required for registration at the University of Manitoba. However, students registering in the following programs are advised to undergo a health examination with their family physicians or University Health Service:

- All students registered in Nursing
- All students registered in the Bachelor of Physical Education degree program
- All students who are participating in intercollegiate and/or organized intramural sports competition programs
- All students from countries other than Canada.

Immunizations are considered essential in some faculties or schools (e.g., School of Nursing). Students are advised to contact their own faculties or schools for specific regulations and immunization schedules.

Services required for occupational and educational institutions are not covered under provincial health insurance plans and will be provided on a fee for service basis.

The University Health Service provides travel health advice and required immunizations to all faculty, students and staff of the University of Manitoba on a fee for service basis.

OTHER SERVICES FOR STUDENTS

SECTION 1: Book Store

The Book Store is owned and operated by the University of Manitoba. The university Book Store has two locations: The main Book Store in University Centre on the Fort Garry Campus, and a health sciences book store in the Brodie Centre on the Bannatyne Campus. Both locations provide services in textbooks, reference books, special orders, computers and software, art supplies, stationery, crested clothing and giftware.

Computers on Campus, located at both stores, offers educational prices on computer hardware and software and is an authorized IBM and Apple repair centre.

Lists of required textbooks and course materials are available in August so that course materials may be purchased before classes begin. The Book Store also "buys back" reconfirmed textbooks for cash.

Mail order service is also provided by writing, phoning or Faxing the Book Store, University of Manitoba, Winnipeg, Manitoba, R3T 2N2. Payment can be made by credit card or ordered COD within Canada. Total charges will include COD fees, postage and handling.

Fort Garry Campus

Store Hours Information Line: (204) 474 8178

Book Store: (204) 474 8321, or Toll free: 1-800 310 3331

Fax: (204) 474 7555

Website: www.umanitoba.ca/bookstore

Fall and Winter Hours: September to March

Monday and Tuesday: 9 a.m. - 7 p.m.

Wednesday, Thursday and Friday: 9 a.m. - 5 p.m.

Saturday: 10 a.m. - 4 p.m.

Summer Hours: April to August

Monday, Wednesday, Thursday and Friday: 9 a.m. - 5 p.m.

Tuesday: 9 a.m. - 7 p.m.

Saturday: 10 a.m. - 4 p.m.

Extended hours for the last week of August and the first two weeks of September will be announced.

Bannatyne Campus

Telephone: (204) 789 3601

Fax: (204) 789 3901 or Toll Free Fax: 1 800 361 2005

Fall and Winter Hours:

Monday to Friday: 9 a.m. - 5 p.m.

Saturday: Noon - 4 p.m.

(closed Saturdays, April to August)

SECTION 2: Bison Sports

The University of Manitoba is a member of Canada West Universities Athletic Association, a regional association within Canadian Interuniversity Sport (CIS).

Bison teams include basketball, football, golf, cross country, ice and field hockey, swimming, track and field, volleyball, and wrestling. To be eligible for CIS and CWUAA competition, a student must be registered in at least 18 credit hours, with a minimum of nine credit hours in each term.

Information on all activities including schedules is available by telephoning (204) 474 9611 or (204) 474 9243, or from 124 Frank Kennedy Physical Education Centre.

SECTION 3: Campus Parking

General office: 125 University Centre

Telephone: (204) 474 9483 Fax: (204) 261 8884

Approximately 2900 parking spaces are available for purchase by students. These spaces are situated in lots around the campus and assigned to students for long-term parking. The Parkade, meters and ticket-dispenser areas supply an additional 1,300 spaces for short-term or casual parking. Motorcycles are accommodated in two convenient locations.

Parking permits go on sale in June through the university telephone registration system. Detailed instructions are included in the current edition of the *Registration Guide*.

On weekends, holidays and after 4:30 p.m. on weekdays, free parking is available in most parking lots except 24-hour reserved areas, areas designated for handicapped parking, the Parkade and other restricted areas. Fines are levied for parking violations.

For information regarding parking, contact Parking Services.

The complete text of the Parking Regulations as authorized by the university Board of Governors is published in the *Registration Guide*

SECTION 4: Food Services

General office: 207 Pembina Hall

Telephone: (204) 474 9916 Fax: (204) 474 7538

Food Services is operated by ARAMARK Canada, which is responsible for providing the food requirements for students and staff as well as catering university special functions. Cafeterias, canteens and national branded franchises are located throughout the Fort Garry Campus.

Flexible meal plans are available to both residence and non-residence students. These plans provide regular meals at economical prices.

Information on food service locations and meal plans is available from the Food Services office.

SECTION 5: Recreation Services

General office: 124 Frank Kennedy Physical Education Centre

Telephone: (204) 474 8234

Facilities

To encourage recreation on campus, the university has a wide variety of recreation facilities. On the Fort Garry campus, the Frank Kennedy Physical Education Centre, the Max Bell Centre, and the Investors Group Athletic Centre contain indoor jogging tracks, a swimming pool, indoor and outdoor tennis courts, weight and fitness areas, a combatives room, a dance studio, gymnasia for basketball and volleyball, squash and racquetball courts, and an international-size year round ice arena. The Joe Doupe Recreation Centre, in the Brodie Centre, Bannatyne Campus, provides recreation facilities and programs to students and staff there. Access to these facilities requires a facility use membership available from the equipment desks in Frank Kennedy, Max Bell and Joe Doupe locations. An eight-month student membership is \$75. (Sept. 1, 2002 - April 30, 2003)

Intramural Competition and Sports Clubs

Intramural sports give students and staff an opportunity to participate and compete in recreational activities of their choice. There are men's, women's and co-ed divisions. Basketball, ice hockey, floor hockey, soccer, ultimate frisbee and volleyball are examples of the sports available. In addition, more than a dozen sport clubs give opportunity to get more involved in a particular sport. Some examples include squash, kayaking, tennis, karate, wall climbing, judo, and wilderness adventure.

Adult Recreation Instructional Programs

Recreation Services offers instruction on a fee per course; some examples include the martial arts, dance, weight training, outdoor recreation, relaxation and flexibility, kayaking, CPR and first aid.

Fitness

Recreation Services is a provincial leader in fitness assessment and counselling, fitness programming and fitness leadership development. Fitness is currently divided into two operational units:

Fitness Assessment and Counselling: Fitness assessment and counselling services range from general fitness assessment to body composition analysis; sport training to nutrition counselling. Staff are prepared to help set up a fitness program tailored to individual needs, interests and goals.

Fitness Programs: There are more than 40 classes weekly in such activities as bench stepping, toe box, aquafitness, and low impact. Access to all regular fitness classes is included with a Facility Use Pass. Specialty classes include pre- and post-natal, and older adult classes. Individual and group nutritional programs conducted by a registered dietitian and certified sports nutritionist are also offered.

Children's Camps

The year-round program includes sport, skill and fitness development, creative dance, Mini University and computer camps for children 3-16 years of age. University students can gain practical work experience conducting these camps or assisting in coaching clinics. Call 474 9142 for information.

Joe Doupe Recreation Centre, Bannatyne Campus

Located in the lower level of the Brodie Centre, the Joe Doupe Recreation centre provides a full sized gymnasium with an elevated walking/running track, weight training and aerobic exercise equipment and an aerobics studio. For information, call Recreation Services at 789-3866 or the Joe Doupe Equipment Desk at 789-3858, or visit the centre on the lower level.

Section 6: Answers Information

General Office: 1st floor University Centre

Telephone: 204 474 8211

Answers

If you have a question, there's no better place to go than Answers. Answers can provide you with information on nearly everything on campus, from registration to directions to anywhere you could possibly want to go. Answers also sells tickets to most campus and off-campus events, as an official Select-A-Seat and Ticketmaster outlet. It is also the place to go for Transit post-secondary discounted bus passes, as well as any other transit tickets and information you require. Add in free phones, campus lost and found and staff that will even give out change and you've got the campus service to beat all others.

Section 7: University of Manitoba Students' Union (UMSU)

General Office: 101 University Centre

Telephone: 204 474 6822

Fax: 204 269 1299

Website: www.umsu.ca

Who we are?

Established in 1919, and incorporated in 1975 by a provincial statute, the University of Manitoba Students' Union (UMSU) is the largest student organization in Manitoba and has numbers in excess of 25,000 graduate and undergraduate student members.

Over the course of its existence, UMSU has had many individuals involved with the organization who have added to its historical relevance in the community. People once involved with the Union include television personality Monty Hall, former Chancellor Arthur Mauro, current Chancellor William Norrie, Harold Buchwald of the law firm Pitplado and Israel Asper of Canwest Global. The list of influential UMSU Alumni will continue to grow, adding to the diversity and stimulus of our society.

What we do?

UMSU advocates on behalf of students to all levels of government involved with post-secondary education - Federal, Provincial, Municipal and Administration. UMSU also offers numerous services including a health and dental plan, campus radio, tutor registry and scholarships and bursaries for its members. The expansion and continued success of the businesses includes the UMSU Digital Copy Centre, GPA's Convenience Store, Archives Used Bookstore, IQ's Cafe and Billiards. The businesses supplement UMSU's annual revenues which exceed \$8 million and add to the flexibility and opportunity to better serve students.

Student Governance

Student Governance is an important function of the UMSU. Through campaigning and election, many student representatives are chosen to serve their respective constituents. The UMSU President, UMSU Vice-President, UMSU Council Representatives, and Student Senators go through the process of campaigning and election in order to serve the student body as advocates at the different levels of government. For important decisions to be made at the University, student opinion is necessary for due process. There is imperative need for accountable and responsible student representatives. UMSU has had a long standing tradition of strong student advocacy at all levels of government involving post-secondary education.

The UMSU Executive consists of five members. The President and Vice-President are elected for a one-year term by the entire student body. The Director of Public Relations, Director of Student Affairs, and Director of

Programming are appointed to one year terms by UMSU Council. Along with the five UMSU Executives, UMSU has 25 full time staff and 150 part time staff.

UMSU Businesses

Answers Information Booth

If you have a question, there's no better place to go than Answers. Answers can provide you with information on nearly everything on campus, from registration to directions. Answers also sells tickets to most campus and off-campus events and is an official Select-A-Seat and Ticketmaster outlet. It is also the place to go for the 20% off Transit post-secondary bus passes, as well as any other transit tickets. There are three free phones, a campus lost and found and staff that will even give out change. Answers is located adjacent to the UMSU offices on the main floor in University Centre.

Archives Used Bookstore

Whether you are looking to buy or sell textbooks, Archives is the place to go. Archives sells textbook on consignment – students wanting to sell their old textbooks can set their own prices and get 80% back from any books that sell. Those students wanting to buy textbooks can choose from a great selection of affordable and used textbooks. Archives is also available online, making finding a textbook even easier. Archives is located at 107 Helen Glass Nursing Building in the UMSU Annex.

G.P.A.'s Convenience Store

Good Prices Always (G.P.A.'s) is UMSU's convenience store located in the heart of University Centre. G.P.A.'s offers drinks, a wide variety of snacks, frozen dinners, ice cream treats and bulk foods at the lowest prices on campus. Tobacco and newspapers are also sold at G.P.A.

Degrees Restaurant

Hungry? Looking for a new place to eat at the Fort Garry Campus? Make sure you check out UMSU's latest initiative. With fast, friendly counter-service and quality homestyle food at reasonable prices, Degrees is the place to be to satisfy any appetite. Degrees is located on the 3rd floor of University Centre.

Digital Copy Centre

UMSU's Digital Copy Centre offers a full range of photocopying and printing services. They offer black and white and colour copying, laser printing from both Mac and PC computers, binding, faxing and a variety of other services. Lecture notes for certain classes are also sold at the Copy Centre. The Digital Copy Centre is located on the main floor of University Centre.

IQ's Café & Billiards

IQ's, located on the third floor of University Centre, is UMSU's coffee shop and pool hall. With 11 pool tables and Starbuck's coffee, IQ's is the place to go for good times and cheap pool on campus. With a 2200 square foot expansion, IQ's now offers a comfortable and well lit study space and internet portals.

UMSU Services

101.5 UMFM Campus Radio

CJUM-FM 101.5 is launching its fifth year with the finest mix of music and talk. UMFM offers musical depth and diversity and intelligent talk to the City of Winnipeg 24 hours a day, 7 days a week from the state-of-the-art studios overlooking the heart of the Fort Garry Campus. The UMSU owned radio station offers work-shops to students and the public-at-large to upgrade interview, production, or show-creation skills. Orientations are offered in September, October, January and March. For more information, visit www.umfm.com.

Food Bank

UMSU provides substantial support for the University's Food Bank. Students who are in need can drop in to the Financial Aid and Awards office where they will be treated with respect and confidentiality. As the food bank operates on contributions, any groups or students who are able to are asked to donate non-perishable food items. Donations can be made at the UMSU office or at any UMSU event. For more information on the Food Bank, call 474-9261.

Health & Dental Plan

In January of 2002, students at the University of Manitoba made a historic decision by voting 87% in favour of UMSU's proposed health plan. For the first time in the history of the University of Manitoba, students will no longer be without extended medical and dental coverage. All graduate and undergraduate students are automatically enrolled in the plan when they register as a full-time student (18 credit hours or more). If you are al-

ready covered under an extended health and/or dental plan, you may choose to opt of the UMSU plan(s) and have your fees reassessed. A summer mailout will be distributed to all full-time students with further details every year.

Income Tax Services

Each spring, an accountant or qualified student comes to University Centre to complete tax returns for students. This service is subsidized by UMSU as an economical and convenient alternative for the university community. This service is located in 105 University Centre.

Peer Advisors

Peer Advisors are student volunteers that are committed to providing support to their fellow students. Each Peer completes an intensive training program led by counseling professionals. Peer Advisors are approachable resources for students who need information or support concerning health, academic or personal issues. Peer Advisors are non-judgmental. We offer a safe environment for all students to talk about any concerns and make referrals to other campus and community resources as appropriate. Peer Advisors can provide information and pamphlets on an array of topics for students. We also offer free condoms to students. Students can drop by during office hours at 150 University Centre, phone the office at 474-6696 or e-mail us at peer@umsu.ca All services are free, confidential and open to any student or member of the university community.

Registries

Tutor Registry

From essay writing to math help, UMSU maintains a listing of tutors for a wide variety of subjects. It is a listing of tutors, their qualifications and hourly rates. Any student requiring additional assistance from fellow peers for course work or examination may visit the Answers Information Booth, the UMSU Office in 101 University Centre or visit on-line www.umsu.ca

Carpool Registry

UMSU will be providing a carpool registry for all students and staff at the University of Manitoba. This cost-effective and environmentally friendly initiative will be available through the UMSU web page at www.umsu.ca Students will be able to register themselves as car pool participants or recipients from any part of Winnipeg.

Student Housing Registry

Available through the UMSU website will be an easily accessible on-line housing registry for students. Rental properties in Winnipeg are grouped by type of dwelling (i.e. Apartment, room with kitchen privileges, sublets, etc.), and by area of the city. Renters can post their properties on this site for a small fee and students can access this information for free on the internet or by telephone.

UMSU Publications

Annual Daytimer/Handbook

A free daytimer is available for all students by UMSU during the first week of fall orientation. It contains a yearly calendar, information about UMSU including its businesses and services, a Bison Sports Schedule, University Student Services, important phone numbers, and brief information from all student councils and student groups.

Convocation Guide

This guide accompanies the official University Convocation Guide and is given out during the Spring and Fall Convocation Ceremonies to each graduate. It contains crosswords, word searches, and other fun activities to occupy the graduate's time during this special ceremony.

UMSU Scholarships and Bursaries - *Students Helping Students*

In response to the U of M's inadequate scholarship and bursary program, in 1996, the UMSU Council passed a resolution creating a new student fee of \$30.00 per student. Distribution works as follows: 30% for scholarships, 40% for bursaries, and 30% for the Endowment Fund. Scholarships are distributed to the top 4% of all students by Faculty and are based on academic merit. Bursaries are awarded, on a capita basis, to all students based on financial need. The long-term goal of the endowment fund is to phase out the student fee collection. Financial Aid and Awards distributes the fund and a Board of Trustees administers the fund.

www.umsu.ca

UMSU's website www.umsu.ca is a student's portal to information on every aspect of their university experience. One can find information about the history of UMSU, Executive and Council Members, Student Councils and Groups, UMSU's businesses and services, the Health and Dental Plan,

student advocacy, press releases, and links to the University of Manitoba, Bison Sports, CASA, and UFMF.

UMSU Special Events

The UMSU Event Department is responsible for providing students with all social, cultural, and academic events. All events produced by the UMSU Events Department are fully funded and supported by the students at the U of M.

Major Events for 2003-2004

Orientation Week (September)
Malpractice Social (October)
EBC Christmas Charity Ball (December)
Twelve Bells New Year's Bash (December)
Celebration Week (January)
Spring Break Trip (February)
Shalayleegagan (March)
UMSU Events Concerts (various)

Student fee components

Students at the Bannatyne Campus (Medicine, Medical Rehabilitation, Dentistry, and Dental Hygiene) pay different fees from those paid by Fort Garry Campus students. These differences are noted below:

\$37: The largest portion of the fee goes toward the operating costs of UMSU, finance and subsidize the programs, operations, services, salaries and administration. Included is support for programming events, student groups, student services, debt reduction, publications and lobbying services. Bannatyne campus students pay \$11 into this portion of the UMSU fees.

\$30: For a scholarship and bursary program sponsored by UMSU that provides aid based on academic achievement and financial need.

\$7.75 - \$27.75: The amount allocated to individual faculty/school student councils varies from \$7.75 to \$27.75. More detail can be obtained from the senior stick (president) of that council.

\$6: For the capital cost of University Centre; Bannatyne students pay \$11.50 into the Joe Doupe Fund, which is administered by UMSU.

\$5: For operation of the CJUM-FM radio station.

\$1: For the capital sinking fund to fund major UMSU projects. Bannatyne students pay \$0.50 into the fund.

\$0.75: For the faculty reallocation fund. This was established by UMSU to assist smaller faculty/school councils offer a minimum level of programming. All students with membership in one of the colleges or the Resident Students' Association Council (RSAC), are required to pay half of their student organization membership fee to their college of membership to cover activities sponsored by the college or residence council. The other half of their fee goes to their faculty or school.

\$6: For support of the student newspaper, The Manitoban.

\$0.50: For the local committee of World University Students' Council to assist in bringing refugee students to the university from other countries.

\$0.50: All students pay 50 cents per credit hour, to a maximum of 22 credit hours, to purchase UMSU space in the Helen Glass Nursing Centre.

\$0.50: For a program called World Wise for student study and travel abroad.

\$2: For support of the U of M Recycling Group.

UMSU Health & Dental Plan

\$197.00 : All full-time graduate and undergraduate students (enrolled in 18 credit hours or more) are automatically members of UMSU's Health & Dental Plan. For 2002/2003, the fee schedule is:

Health - \$85,

Dental - \$107,

Administration - \$5. (fee is subject to change)

Students, who chose to and can show evidence of existing coverage, may opt out of either or both plans and will have the student record amended. The administration fee will be used to cover the costs associated with the plan including such items as an office, staffing and the opting-out administration.

SECTION 8: Office of the Ombudsman

Ombudsman: Evelyn Bernstein

406 University Centre

Telephone: (204) 474-8439 Fax: (204) 474-7526

www.umanitoba.ca/staff/ombudsman

The Ombudsman is a designated neutral person who provides confidential and informal assistance for resolving university-related concerns, especially those that are not being adequately addressed through usual procedures. The Ombudsman is independent of the University's formal administrative structure and will consider all sides of an issue in an impartial and objective manner. The Ombudsman cannot impose solutions, but will identify options and strategies for resolution. The Ombudsman also has the power to conduct investigations, and to make recommendations with regard to policies, procedures, or other systemic issues.

When should you go to the Ombudsman?

When you have a situation requiring help in communication or negotiation with faculty, staff, or others.

When you are unsure which policies, procedures, or regulations apply in your situation.

When you feel a policy, procedure, or regulation has been unfairly or erroneously applied to you.

When you have a complaint about an office or a service at the University of Manitoba.

When you want to discuss a sensitive issue in confidence.

When you are uncertain of where to go or what options are available to you.

University of Manitoba Libraries

General Office

Libraries Administration, 156 Elizabeth Dafoe Library

Telephone: (204) 474 9881

Fax: (204) 474 7583

Taped recording of hours for all Libraries: 474 9770

Website: www.umanitoba.ca/libraries/

Director:Carolynne Presser

E-mail: carolynne_presser@umanitoba.ca

Chapter Contents

SECTION 1: Introduction

SECTION 2: Using the Libraries

SECTION 3: University Libraries - Resources and Locations

SECTION 1: Introduction

The Libraries, as an essential partner in the mission of the University of Manitoba, provides access to knowledge in support of the university's teaching, research, and community service programs. Its vision is to be recognized as an essential resource of information within the University and the Province of Manitoba, providing a learning environment which fosters scholarship, creativity, and skill-based learning.

The Libraries' collections have been intertwined with the history of the university since its beginning. The first gift of 4,958 books to the University of Manitoba came in 1883 from Alexander Kennedy Isbister. Over one hundred years later, the Libraries' system continues to maintain and preserve noteworthy collections. It offers students, faculty, staff, and Manitobans access to more than two million books and bound periodicals, a rapidly expanding system of networked databases and full text electronic resources, and a variety of other materials such as audiotapes, videotapes, phonorecords, slides, product catalogues, sheet maps, and microforms.

The University of Manitoba Libraries consists of eight unit libraries and nine satellite information centres located on the Fort Garry and Bannatyne Campuses and at the Concordia, Grace General, Seven Oaks General, St. Boniface General and Victoria General Hospitals. The Libraries' administration and Libraries' Electronic Technologies and Services offices are located in the Elizabeth Dafoe Library of the Fort Garry Campus. The Acquisitions and Bibliographic Control departments, which acquire and process materials for most of the libraries, are located in the Elizabeth Dafoe Library, as are the Libraries' Collections Management and Archives & Special Collections departments.

Academic Librarians

Director of Libraries

Presser, C., (A.B. (Hunter College), M.L.S. (Pratt).

Associate Director, Collections

Breyfogle, D.H., B.A.(Hons.) (Winnipeg), M.L.S. (Toronto), M.A. (Manitoba).

Associate Director, Information Services and Systems

Miller, S.R., B.Sc.(Hons.) (UBC), M.Sc. (London).

Information Literacy Coordinator

Braaksma, E., B.A.(Hons) (Brock), M.L.S. (Toronto).

Libraries Electronic Technologies and Services (LETS), BISON Coordinator

Nicholls, P., B.A.(Hons.) (Waterloo), M.A., M.L.S. (Western)

Libraries Systems Librarian, LETS

Fawcett, P.J., B.A., B.L.S. (Alberta).

Collections Management, Coordinator

Horner, J.C., B.A.(Hons.), M.A. (Manitoba), M.L.S. (Toronto).

Preservation Librarian

Lewis, G., B.A., M.A. (Manitoba), M.S.L.S. (Syracuse).

Collections Librarian

Richl, P., B.A. (Winnipeg), M.I.St. (Toronto).

Bibliographic Control, Head

Partington, L.E., B.A. (Manitoba), M.L.S. (Toronto).

Cataloguers

Bone, C., B.A. (Manitoba), M.L.I.S. (Dalhousie); Gray, M.E., B.A. (Saskatchewan), B.L.S. (UBC), M.L.S. (Toronto), M.A. (Manitoba); O'Hara, L., B.A. (Manitoba), M.L.S. (Toronto); Talbot, G.O., B.A., M.L.S. (Oklahoma).

SECTION 2: Using the Libraries

Assistance in using the Libraries' resources is available at all libraries and information centres throughout the university. These resources include BISON (the online public catalogue), NETDOC (Networked Databases), the general collections, periodical and bibliographical indexes and abstracts, government publications, microforms, etc. BISON may be accessed from terminals in the Libraries, as well as from computer workstations throughout the university, and from off campus by 24-hour dial-in access via UManet. Many library services are available electronically through the Libraries' website or UMinfo, the university's campus-wide information system.

Computerized bibliographic search services and CD-ROM databases are available in most library units. Access to equipment and services for students with disabilities is also available.

Distance Education students are provided with document delivery services and other library services primarily through the Elizabeth Dafoe Library, the D.S. Woods Education Library, and the Neil John Maclean Health Sciences Library.

Students are bound by the Libraries' policies, copies of which are available at the circulation desks in all unit libraries.

Library Cards

The Photo ID card issued by Student Records to students is required for library privileges, and the cards are **not** transferable. Students are responsible for all items charged to the Photo ID. Adult residents of Manitoba may become borrowers for an annual fee of \$50. The fee for university Alumni is \$25.

Library Notices and Fines

Loan periods and the number of items that may be borrowed will vary depending on the library used. Fines are imposed on overdue material and charges are levied for damaged or lost items. Library notices regarding overdue items and holds are sent *only by e-mail*. The Libraries will endeavour to telephone borrowers when an item has been recalled and the due date has been changed.

Library Security and Damage

An electronic security system is in operation at all library exits to detect material that is not properly charged out to a borrower. The turnstile will lock and sound an alarm when it detects material that has not been charged out and will remain so until the reason for the alarm has been determined and remedied. The university reserves the right to examine an individual's personal possessions and record the individual's name and student ID number in such an instance.

The university considers mutilation or theft of library materials to be a serious offence and offenders will be subject to penalties sanctioned by the director of Libraries and the president of the university. Although book return bins are provided for the convenience of borrowers when libraries are closed, the Libraries assumes no responsibility for loss or mutilation of any library material returned through the book bins.

Reciprocal Borrowing Privileges

The Libraries takes part in reciprocal borrowing programs that provide borrowing privileges at other academic libraries for students and faculty. For information, contact the Libraries Administration office at (204) 474 9881.

Document Delivery

The Libraries will attempt to obtain articles or request interlibrary loans for books and scholarly materials not held in its own collections. The service is free, thanks to federal funding through an Indirect Costs of Research grant. Orders by fax, e-mail or Web forms are preferred. Information on these services is available at all circulation desks.

Photocopying

Photocopy machines, which take coins or vendacards, are available in all libraries. Vendacards can be purchased at most libraries.

Laser Printing

At a charge of 10 cents per page, laser printing is available in all libraries on the Fort Garry and Bannatyne campuses, and the library at St. Boniface General Hospital. Colour printing is available at \$1.00 per page at the Technology Resource Centre in the Elizabeth Dafoe Library. Word processing and laser printing for theses, resumes, term papers, graphs, and spread sheets are offered from computer labs in the following libraries: Elizabeth Dafoe, D.S. Woods Education, E.K. Williams Law, William R. Newman Agriculture, Neil John Maclean Health Sciences, and Sciences and Technology.

Copyright Warning

- Duplication of copyrighted material is governed by the Copyright Act, (RSC 1985, c.C-42 as amended), and by the terms of a license between the University of Manitoba and the Canadian Copyright Licensing Agency (CANCOPY). Unless prior written permission has been obtained from the copyright owner, the use of photocopy machines to make any copy which contravenes *The Canadian Copyright Act*, or the provisions of the license between the university and CANCOPY, is strictly forbidden.

- CANCOPY has granted the university a license which permits making copies of published works for use by students, and academic and administrative staff, provided:

- the published work is not on the CANCOPY exclusions list (see circulation desk of libraries, general offices of faculties/schools, UMinfo online); and

- the following copying limits are observed:

- Copying shall not exceed 10 per cent of a published work (15 per cent where the copies are made for the purpose of resale) or the following, whichever is greater:

- an entire newspaper article or page;

- an entire single short story, play, poem, essay or article from a book or periodical issue containing the works;

- an entire single item of print music from a book or periodical issue containing other kinds of work;

- an entire entry from an encyclopedia, dictionary, annotated bibliography or similar reference work;

- an entire reproduction of an artistic work (including drawing, sculpture, painting, prints, architectural works or art, or works of artistic craftsmanship) from a book or periodical issue containing other works;

- an entire chapter which is 20 percent or less of a book.

If there is doubt as to the copyright status of the material to be copied, further information is available from the brochure *Copying Right*, available at all circulation desks, or by calling the university's copyright information number at (204) 474 7499. Copyright information is also available online from UMinfo.

SECTION 3: University Libraries Resources and Locations

Albert D. Cohen Library (Management)

208 Drake Centre; telephone: (204) 474 8440

This library consists of materials on accounting and finance, actuarial and management sciences, business administration, and marketing. Its specialized collection includes company annual reports, trade directories, and investment and marketing update services. ABI Power Pages, a full image/text management journal database, is also available from the library. The library's reserve collection is now partially available on the World Wide Web.

Academic Librarians

Head

Felbel, D.T., B.A.(Hons.) (Manitoba), M.L.S. (Western).

Reference

Dakshinamurti, G., B.A., M.A. (Madras), M.L.S. (CUNY), Ph.D. (Manitoba).

Architecture and Fine Arts Library

John A. Russell Building; telephone: (204) 474 9216

This library contains resources on architecture, fine arts, landscape architecture, environmental design, city and regional planning, facility management, interior design, and photography. Library holdings include a vertical file, art reproductions, maps and architectural drawings, selected government publications, and the slide collection of more than 100,000 images. The Product Catalogue Collection, 203 Architecture II Building, is a resource of architectural and interior design manufacturers' brochures, catalogues, and samples.

Academic Librarians

Head

Lochhead, M.E., B.A.(Mount Allison), M.L.S.(Alberta).

Reference

Valmestad, L., B.F.A. (Saskatchewan), M.A. (Queen's), M.L.I.S. (Western).

Archives and Special Collections

331 Dafoe Library; Telephone: (204) 474 6350

This department of the library supports the university's courses, programs and research with a wide-ranging archival collection, including Canadian prairie literary manuscripts, the archives of the agricultural experience, the *Winnipeg Tribune* photographs and clippings, as well as the university's own archives. The department contains rare books and an extensive photography and sound and moving image collection. It also coordinates the application of the Freedom of Information and Protection of Privacy Act for the university. Applications for access are available at the archives office.

Academic Librarians

Archives and Special Collections, University Archivist and Head

Sweeney, S., B.A., M.A. (UBC).

Acquisitions and Access Archivist

Hubner, B., B.A., M.A. (Saskatchewan), M.A. (Manitoba).

Rare Books Cataloguer

Divay, G., B.A., M.A., Ph.D. (Laval), M.L.S. (McGill), M.A. (Manitoba).

Carolyn Sifton-Helene Fuld Library

351 Taché Avenue; telephone (204) 237 2807

The Carolyn Sifton-Helene Fuld Library at the St. Boniface General Hospital is a satellite information centre of the Neil John Maclean Health Sciences Library. It provides health sciences information resources to support patient care, education, management, research, and outreach services to staff and students at the hospital. The collection includes reference material, about 400 current periodical subscriptions, and an extensive monograph collection.

Academic Librarian

Head

Rabnett, M., B.A.(Hons.), M.L.S. (Toronto).

Concordia Hospital Library

Room 308, 1095 Concordia Ave., R2K 3S8; telephone (204) 661 7163

This library at the Concordia Hospital is a satellite information centre of the Neil John Maclean Health Sciences Library. It provides health sciences information resources to support patient care education, management, research and outreach services to staff and students at the hospital.

Academic Librarian

Shaw-Daigle, C., B.A. (Manitoba), M.L.S. (Emporia State, Kansas).

D.S. Woods Education Library

100 Education Building; telephone: (204) 474 9976

This library features special collections, including the instructional materials collection (K-12 textbooks and audiovisual teaching aids), child and adolescent literature collections, the history of education in Manitoba archives, and current education periodicals. General collections in child development, education, and higher education are housed in the Elizabeth Dafoe Library.

Academic Librarian

Head

Aho, V., B.Ed. (Calgary), Pre-M.Ed. (Manitoba), M.L.I.S. (UBC).

Donald W. Craik Engineering Library

351 Engineering Building; telephone: (204) 474 6360

The reference, reserve, engineering standards, and electronic information collections enable this library to serve as the primary source of engineering information of engineering students and practising professionals in the province. Additional engineering resources are held in the Sciences and Technology Library.

Academic Librarians

Godavari, S.N., B.A. (Winnipeg), B.L.S. (UBC); **Ford, L.**, B.A. (Adv.), M.A. (Manitoba), M.L.I.S. (Alberta).

Elizabeth Dafoe Library

Telephone: (204) 474 9544

The Elizabeth Dafoe Library is considered the main university library. It serves the faculties of Arts, Education, Human Ecology, Nursing, Physical Education and Recreation Studies, Social Work, and the Natural Resources Institute. Its holdings include books and periodicals as well as government publications, microforms, sheet maps and varied audiovisual materials. The Icelandic and Slavic collections, as well as archival and manuscript materials relating to Western agricultural history and prairie literature, are of special interest. Data Resource and Geographical Information Systems (GIS) services are offered at this library. The library has a computer lab and a Technology Resource Centre with a total of 32 computers for student use.

Academic Librarians

Head

Michaud-Ostryk, N.R., B.A. (Collège universitaire de Saint-Boniface), M.L.S. (Montreal), M.A. (Manitoba).

Reference Head

Blanchard, J., B.A. (Brandon), M.A. (Manitoba), M.L.I.S. (Western).

Reference Librarians

Andrich, S.E., B.A. (Manitoba), B.A.(Hons.) (Winnipeg), M.L.S. (Western); **Budnick, C.**, B.A. (Manitoba), B.L.S. (UBC), M.A. (Manitoba); **Ellis, R.**, B.A. (Windsor), B.L.S. (Toronto), M.A. (Oregon); **Johnson, J.**, B.A. (UBC), M.L.S. (UBC); **Larimer, H.C.**, B.S. (Western Kentucky), M.L.S. (Pittsburgh); **Steer, C.E.**, B.A., B.L.S. (Alberta), B.F.A.(Hons.), M.A. (Manitoba); **Strike, G.W.**, B.Sc., B.A. (Winnipeg), M.L.I.S. (McGill); **Yoshida, A.**, B.A., M.L.S. (Toronto).

Off Campus Librarian, Continuing Education

Matesic, G., B.A.(Hons) (Dalhousie), M.A. (Carlton), M.L.S. (Western).

Icelandic Collection, Head

Johnson, J.S., B.A. (Manitoba), B.L.S. (Alberta).

Slavic Collection

Kominowski, J., B.A., M.A. (Manitoba), M.L.I.S. (Western).

E.K. Williams Law Library

401 Robson Hall; telephone: (204) 474 9995

This collection is comprised of legal textbooks, case reports, statutes, periodicals, and related government publications from Canada, the United Kingdom, other commonwealth countries, and the United States.

Academic Librarians

Head

Eaton, J., B.A.(Hons.) (Victoria), LL.B. (Toronto), M.L.S. (Maryland).

Reference

St. John, M., B.A. (Prince Edward Island), B.Ed., B.L.S., (Ottawa).

Technical Services

Sirko, A., B.A., M.A. (Carleton), M.L.S. (Western).

Eckhardt-Gramatté Music Library

223/4 Music Building; telephone (204) 474 9567

In addition to books and periodicals, the Music library is home to an extensive collection of music scores, performance music, phonorecords, compact discs, audio tapes, and video cassettes.

Academic Librarian

Simosko, V.N., B.A., M.L.S. (Rutgers).

Father Harold Drake Library

119 St. Paul's College; telephone: (204) 474 8585

The college library gives special attention to philosophy, Catholic theology, English literature, Canadian history, and medieval history. The library supports the Arts and Science courses taught by the college, as well as its Catholic studies and Christian ministries programs.

Academic Librarian

Head

Lewis, G., B.A., M.A. (Manitoba), M.S.L.S. (Syracuse).

Grace General Hospital Library

300 Booth Drive, R3J 3M7; telephone (204) 837 0127

This library at the Grace General Hospital is a satellite information centre of the Neil John Maclean Health Sciences Library. It provides health sciences information resources to support patient care education, management, research and outreach services to staff and students at the hospital.

Academic Librarian

Gottschalk, T., B.A. (Alberta), M.L.S. (Illinois).

Neil John Maclean Health Sciences Library

Brodie Centre, Bannatyne Campus; telephone: (204) 789 3464

This library supports the teaching, research and patient care requirements of Medicine, Dentistry, Dental Hygiene, and Medical Rehabilitation. It also serves health care professionals at the teaching hospitals in Winnipeg and throughout the province. Its holdings include clinical and basic science books and periodicals, audiovisual and electronic media, as well as a small but valuable collection of medical classics in the Ross Mitchell Rare Book

Room. There are also two learning resource centres and approximately 60 computer workstations for student use.

Academic Librarians

Head

Ducas, A.M., B.A.(Hons.) (Montreal), M.L.S. (McGill).

Aboriginal Health Librarian

Linton, J., B.A. (Trent), M.L.I.S. (UBC).

Resources Development Librarian

Cooke, C.A., B.A. (Toronto), M.L.I.S. (Western).

Clinical Programs Librarian

Demczuk, L., B.A. (Guelph), M.A., M.L.S. (Toronto).

Education Services Librarian

Hodgson, A., B.Sc., M.L.I.S. (Western);

Reference/Outreach Librarian

Gottschalk, T., B.A. (Alberta), M.L.S. (Illinois).

MHINET Librarian

Yu, P., B.A., M.L.I.S. (UBC).

Medical Rehabilitation Librarian

Poluha, W.A., B.Sc. (Winnipeg), M.Sc. (McMaster), M.L.I.S. (Western);

Neilson Dental Librarian

Thornton-Trump, A.L., B.A. (Manitoba), M.L.S. (Missouri).

Information Technology Librarian

Tennenhouse, M., B.Sc.(Hons.) (Manitoba), M.L.S. (Alberta).

St. John's College Library

321 St. John's College; telephone: (204) 474 8542

The library supports the college's undergraduate curriculum. Library holdings are strong in Anglican church theology and history, Old and New Testament studies, pastoral theology, and Canadian studies (history, political studies, English and French-Canadian literature).

Academic Librarian

Head

Ellis, R., B.A. (Windsor), B.L.S. (Toronto), M.A. (Oregon).

Sciences and Technology Library

211 Machray Hall; telephone: (204) 474 9281

This multi-disciplinary library serves the faculties of Science, Pharmacy, Agricultural and Food Sciences and Engineering. The library includes materials in the natural and biological sciences, all areas of mathematics and statistics, computer science, pharmacy, agricultural economics, animal science, entomology, food science, plant science, soil science, and all engineering disciplines.

Academic Librarians

Head

Harper, J.A., B.Sc.(Hons.) (Trent), M.L.S. (Western).

Reference

Schultz, R., B.Sc. (Manitoba), M.L.I.S. (Western); Speare, M., B.A. (Brandon), B.Sc. (Manitoba), M.L.S. (Dalhousie), Sutherland, J., B.Sc., M.Sc. (Saskatchewan), M.L.I.S. (Western).

Seven Oaks General Hospital Library

2300 McPhillips St., R2V 3M3; telephone (204) 632 3107

This library at the Seven Oaks General Hospital is a satellite information centre of the Neil John Maclean Health Sciences Library. It provides health sciences information resources to support patient care education, management, research and outreach services to staff and students at the hospital.

Academic Librarian

Cohen Baker, A., B.A. (Manitoba), M.L.S. (Emporia State)

Victoria General Hospital Library

2340 Pembina Highway, R3T 2E8; telephone (204) 477 3307

This library at the Victoria General Hospital is a satellite information centre of the Neil John Maclean Health Sciences Library. It provides health sciences information resources to support patient care education, management, research and outreach services to staff and students at the hospital.

Academic Librarian

Shaw-Daigle, C., B.A. (Manitoba), M.L.S. (Emporia State, Kansas).

William R. Newman Library (Agriculture)

236 Agriculture Building; telephone (204) 474 8382

This library is an electronic information resource centre with a small physical collection that includes reserve material, reference material, and the latest two years of current agricultural periodicals. The library's computer resources give patrons access to agricultural databases, Internet home pages, and other electronic information resources. Other agriculture resources are held in the Sciences and Technology Library.

Academic Librarian

Gregg, M., B.A. (Michigan), M.L.I.S. (Western).

University 1

University 1 Student Help Centre

205 Tier Building

Telephone: (204) 474 6209

Fax: (204) 474 7659

E-mail: university_1@umanitoba.ca

Website: umanitoba.ca/U1

Director: Beverly Cameron

Advising Services Coordinator: Heather Paterson

Student Advisors: Christine Adams, Sharon Bannatyne, Lesley Friesen, Gayle Gordon, Kathy Synkiw

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SECTION 1: University 1 Overview

1.1 Transition to University

As with all new experiences, the transition to first year of university is often a difficult period for students. One of the reasons students struggle with this transition is because the unfamiliar new situations that university presents results in students experiencing a lack of control. In university, students are required to be more independent and to take more responsibility for their

education than they likely have had to in the past. University students are expected to, among other things, become familiar with this *Calendar*, choose courses according to program requirements, build a timetable, register using UMREG (the University of Manitoba registration system), attend classes, complete assignments on time, and be aware of appropriate deadline dates such as the last date to withdraw from classes. University 1 was designed with the idea that the first year of university is a transition period for students. The goal of University 1 is to help students make the best possible personal and academic transition to university.

University 1 takes a developmental approach in advising first year students, by helping students become actively responsible for their education and by providing them with information as they need it. University 1 provides programs to help students make a successful transition to university, including Start@U1 registration information sessions (see section 3.4 in this chapter), University 1 Orientation, and a newsletter, titled *One*.

The expectation is that University 1 students will take an active role in their education by utilizing the resources provided by the University 1 Student Help Centre. Student advisors are available at the Student Help Centre to help University 1 students clarify information they have received (see section 1.3 in this chapter). Students will gain the most from an advising session if they come to it prepared, ready to learn, and willing to be an active participant in that session and in their academic futures. Active involvement will help make the transition to university less difficult because students will know what to expect and how to deal with situations as they arise, and students will feel more in control of their academic experiences.

1.2 The Freedom to Choose

University 1 is an approach to first year university education that provides students with choice and flexibility within an environment that allows them to achieve their educational objectives. University 1 students can take courses required for admission to one or more faculty or school and, at the same time, sample courses related to several disciplines or programs. At the end of University 1, students should be eligible to apply for admission to their faculty, school or professional program of choice.

Three Approaches to Course Selection

Students with clear academic and career choices can base University 1 course choices on the *Focused Approach*, a full-course load that allows students to complete their programs in the shortest time. Students trying to decide between two or more programs may base their University 1 course choices on the *Balanced Approach*, where entrance requirements to more than one faculty can be completed at the same time. The widest exploration of options is found in the *Sampling Approach*, in which students select University 1 courses according to individual interests. Students following this approach may require additional courses to qualify for admission to the target faculty that they choose.

Detailed information on the University 1 course selection approaches is available in the University 1 *STARTbook*. New University 1 students will receive their copy of the *STARTbook* at Start@U1 registration information sessions (see section 3.4 in this chapter). Returning University 1 students can pick up their copy of the *STARTbook* at the University 1 Student Help Centre in early May.

1.3 The Student Help Centre

Student advisors are available to assist students with program planning, registration difficulties, personal issues or concerns, and to connect them to other campus resources. Students are seen on a drop-in basis throughout the year in the University 1 Student Help Centre, 205 Tier Building. Newly admitted students should attend a Start@U1 registration information session (see section 3.4 in this chapter) prior to consulting with a University 1 student advisor.

In addition to a flexible academic plan, University 1 provides programs to help students make a successful transition to university and make more informed program choices. Start@U1 registration information sessions are required for all new students. These sessions guide students through the process of course selection and registration. Start@U1 sessions are offered

in June and July; the specific dates are listed in Section 1.1 in the University 1 chapter of the *Registration Guide*. Sessions will be offered for late applicants throughout August as required. Start@U1 teaches students what they need to know when choosing courses, planning a timetable and using UM-REG. See Section 3.4 in this chapter for information on Start@U1 for students starting in different sessions. University 1 Orientation is the first two days of the Regular Session. University 1 Orientation is also offered one evening in mid-December for students admitted for January. University 1 Orientation highlights the range of university services available to new students, and offers workshops to help students make the transition to university. Information concerning Start@U1 and University 1 Orientation will be sent to all University 1 students as appropriate.

SECTION 2: Admission to University 1

2.1 First Year Study in University 1

University 1 is the first 30 credit hours of most University of Manitoba programs, and in most cases may be completed through either full-time or part-time study. Most high school graduates, mature students, and transfer students with less than 24 credit hours are admitted to University 1. (Exceptions are students admitted to the School of Art (Studio programs), the School of Music, the School of Agriculture (the Agriculture Diploma program), and students who qualify for direct entry to the Faculty of Engineering.) The courses taken in University 1 are introductory university level courses that may qualify students to enter the target faculty of their choice. When students complete 30 credit hours in University 1, they must transit to another faculty or school and complete its program requirements in order to graduate. (See Section 3.2 in this chapter).

2.2 Admission Based on Manitoba High School

Manitoba high school graduates must meet the University of Manitoba general entrance requirements with five credits at the Senior 4 level (covering four different subject areas), including three subjects at the 40S level from the list of 40S subjects approved for selection (see Section 3.1 in the Admissions chapter of this *Calendar*, for the complete list).

In addition, students must meet Option 1, Option 2 or Option 3 as outlined below:

Option 1:

Two credits in English/Anglais 40S (minimum 60 per cent), or one credit in English/Anglais 40S (minimum 60 per cent) and one credit in French/Français 40S (minimum 60 per cent), AND one credit in Pre-Calculus or Applied Mathematics 40S, or Consumer Mathematics V and VI 45S. A selection average of 63 per cent is required based upon the three highest grades attained in subjects included on the approved list in Section 3.1 in the Admissions chapter of this *Calendar*.

or

Option 2:

One credit in English/Anglais 40S (minimum 60 per cent), or one credit in French/Français 40S (minimum 60 per cent), AND Pre-Calculus Mathematics 40S (minimum 60 per cent). A selection average of 63 per cent is required based upon the three highest grades attained in subjects included on the approved list in Section 3.1 in the Admissions chapter of this *Calendar*.

or

Option 3:

Have a standing of 80 per cent or higher in three different 40S courses chosen from any three of the following five subject areas:

Area 1: English/Anglais or French/Français 40S

Area 2: Pre-Calculus Mathematics 40S

Area 3: Science 40S (Biology, Chemistry, or Physics)

Area 4: Humanities or Social Science 40S (Geography, History, Social Studies, a 40S language, or a 41G Canadian Aboriginal language)

Area 5: Art 40S, Music 40S, or any other course from the approved list in Section 3.1 in the Admissions chapter of this *Calendar* except for Consumer Mathematics 45S and language courses.

Note: 42S credits granted for IB (Higher Level) or AP can be substituted for the 40S courses listed in the five areas in Option 3. With Senate approval 42U credits can also be used.

2.3 Admission Based on High School in Other Canadian Provinces

All applicants applying with credentials from other Canadian provinces must meet the general entrance requirements as listed in Section 3.2.1, in the Admissions chapter of this *Calendar*. To qualify for University 1 they must also meet the requirements outlined below. Within the requirements outlined below students require a minimum of 60 per cent in their Grade 12 English or French credit and a minimum of 50 per cent in their Grade 12 Mathematics credit, with the exception of applicants from Ontario (see below for details).

Alberta, New Brunswick, Newfoundland, Northwest Territories, Nova Scotia, Nunavut, Prince Edward Island: Completion of Grade 12 in a university entrance program with an overall average of 63 per cent or better including Grade 12 Mathematics and Grade 12 English or French.

British Columbia, Yukon Territory: Completion of Grade 12 in a university entrance program with an overall average of C or better including Grade 12 Mathematics and Grade 12 English or French.

Saskatchewan: Completion of Grade 12 in a university entrance program with an overall average of 65 per cent or better including Grade 12 Mathematics and Grade 12 English or French.

Quebec: Completion of first year CEGEP with an overall average of 65 per cent or better including CEGEP Mathematics and CEGEP English or French.

Ontario: Completion of six OACs with an overall average of 63 per cent or better including OAC Mathematics and OAC English or French. Or completion of six Grade 12U or 12M courses, and either Option 1 or Option 2 outlined below:

Option 1:

English (or French) 12U with a minimum 60%, AND
One 12U, 12C or 11U Math
63% average over the top six Grade 12U or 12M courses

or

Option 2:

Six 12U or 12M courses with a minimum 80% in three different 12U or 12M courses chosen from any three of the following five subject areas:

Area 1: English or French

Area 2: Mathematics

Area 3: Science

Area 4: Humanities or Social Science (Geography, History, Social Studies, or a language)

Area 5: Fine Art, Music, or any other non-language

2.4 Admission Based on International High School

All applicants applying with credentials from outside Canada must meet the equivalent of the general entrance requirements as listed in Section 3.2.3, in the Admissions chapter of this *Calendar*.

2.5 Additional Information for High School Applicants

The courses listed in Section 2.2 and 2.3 of this chapter are required for admission to University 1. Some introductory university courses require specific high school courses as prerequisites, which are specified in the course descriptions of this *Calendar*.

English 40G, core, is considered equivalent to an English 40S course for selection purposes.

Courses completed in Advanced Placement and International Baccalaureate programs are considered as 40S level courses for admission and selection purposes.

Manitoba and Northwest Ontario (Thunder Bay and west) students will be selected on the basis of an average calculated on the best three different courses from the approved list as specified in Section 3.1 in the Admissions chapter of this *Calendar*. Although the remaining required courses will not be used in the computation of the average, each must bear at least a passing grade.

Applicants presenting academic records from other provinces or countries will be selected on the basis of an average calculated from the complete

record in their high school graduating year, or as specified under the section Certificates Equivalent to Manitoba High School Standing in Section 3.2 in the Admissions chapter of this *Calendar*.

2.6 Mature Students

Students who are at least 21 years of age (before May 1 for admission to Intercession or the Summer Evening Session; before July 1 for admission to the Summer Day Session; before September 30 for admission to the Regular Session; and before January 31 for admission in January), who do not meet the high school or transfer requirements, and are Canadian citizens or permanent residents of Canada, may qualify for admission as mature students. Although students admitted in this category are not required to have specific courses for admission, they must meet normal course prerequisites, which are listed in the course descriptions of this *Calendar*. See Section 5.1 in the Admissions chapter of this *Calendar* for more details on Mature Student Status.

2.7 Transfer Students

Students who have completed less than 24 credit hours of studies at a post-secondary institution will normally be assessed on the basis of their high school record for admission to University 1, and must meet the high school requirements or the mature student requirements listed in Section 2.6 of this chapter. Students who have completed 24 credit hours or more of university level courses at another institution, and students who have completed a two year diploma program at a recognized community or technical college, are not admissible to University 1 and may apply directly to a faculty or school. See Section 4 of the Admissions chapter of this *Calendar* for more details.

SECTION 3: University 1 Course Requirements

3.1 Course Requirements

The University 1 curriculum includes: six credit hours of courses offered by the Faculty of Arts, six credit hours of courses offered by the Faculty of Science, and six credit hours of courses offered by either the Faculty of Arts or the Faculty of Science (this may be three credit hours from each of Arts and Science). The remaining 12 credit hours may be taken from any faculty or school offering courses to University 1 students, including additional Arts and Science courses, for a total of 30 credit hours. This curriculum will normally be fulfilled through the completion of courses that are required for admission to faculties and schools. Students who are admitted to faculties and schools after University 1 and who have not completed the University 1 curriculum will complete the remaining requirements as part of their degree program. Additionally, students may be eligible to move to a faculty or school program with 24 credit hours, but must complete remaining University 1 coursework in their intended degree program. (See Section 3.2 in this chapter).

The list of courses available to University 1 students follows in the Appendix at the end of this chapter. With special permission, students may be permitted to take courses not on this list.

Students who complete less than 24 credit hours in their first year will remain in University 1 for their next registration and may register for a full course load.

The *STARTbook* (the University 1 workbook available at Start@U1) describes the courses and course selection options available to University 1 students. (See Section 3.4 of this chapter.)

3.2 Transfer to Faculties and Schools Following University 1

Target faculties and schools that students may enter after University 1 have established minimum admission or “transit” requirements. It is strongly advised that students pay attention to these requirements when choosing their courses in University 1. Many target faculties and schools have also established a *Focused Approach* for choosing courses in University 1 that will allow students to complete their degree in the shortest possible time.

Target faculties and schools that admit students directly from University 1 require, for admission, the completion of either 24 or 30 credit hours, depending on the program. Students should be aware that there are often alternative courses that will fulfil admission requirements and that, with

careful planning, the University 1 course selection can qualify students for admission to more than one program. The basic course requirements for admission to faculties and programs after University 1 are summarized in each faculty or school section in this *Calendar* and in the *STARTbook*. Students who wish to be eligible for admission to more than one program should follow the *Balanced Approach* listed in the *STARTbook*. Detailed information on admission requirements can be found in the *Applicant Information Bulletin* available for each program from the Admissions Office, 424 University Centre.

Students who have completed 30 credit hours or more must exit University 1 before registering in the next Regular Session. Students may remain in University 1 for the Summer Session following the completion of 30 credit hours, but students who have completed more than 51 credit hours at the end of a Regular Session must exit University 1 before registering in the Summer Session. Students who must exit University 1 and do not qualify for admission to their target faculty or school may transit to the Faculty of Arts or the Faculty of Science.

Students who have completed 24 credit hours or more may “transit” to either the Faculty of Arts or the Faculty of Science or may apply for admission to another faculty or school to which they may be eligible. See the admission requirements section in each faculty or school chapter of this *Calendar* and the *STARTbook*. See the *Registration Guide* for instructions on how to transit. Students may elect to remain in University 1 if they have completed between 24 and 29 credit hours. Students with less than 30 credit hours who remain in University 1 for their next registration may register for a full course load.

Note: School of Art (Studio programs), the School of Music, the School of Agriculture (the Agriculture Diploma program), and the Faculty of Engineering continue to admit students directly from high school, providing specific entrance requirements are met. Students may also apply for admission to these programs from University 1. See the chapters of these faculties and schools in this *Calendar* for program information.

3.3 University Written English and Mathematics Requirement

All students admitted to the University of Manitoba are required to successfully complete, within the first 60 credit hours of their programs, a minimum of one three credit hour course with significant content in written English, and a minimum of one three credit hour course with significant content in mathematics.

Some target faculties and schools require that the written English and mathematics requirements be completed within University 1. Other target faculties and schools may have designated specific written English and mathematics courses in Year 2 of their programs that fulfil this requirement. Students should refer to the admission requirements outlined by individual target faculties in this *Calendar* and in the *STARTbook* for further information.

A complete list of all courses that satisfy the university written English and mathematics requirements is provided in Appendix A in the General Academic Regulations and Requirements chapter of this *Calendar*.

Courses that satisfy the written English requirement are marked with a “W” and courses that satisfy the mathematics requirement are marked with an “M” in the course descriptions included in this *Calendar*. These letters follow the course number. For some courses only specified sections of a course meet the written English requirement; these sections are identified in the *Registration Guide* with a “W” following the section number, e.g., L02W.

3.4 Guide to Course Selection

Start@U1 and the STARTbook

All new University 1 students are required to attend a Start@U1 registration information session before registering for courses. Start@U1 sessions are offered in June and July for students beginning classes in September. Detailed information about the June and July Start@U1 sessions can be found in Section 1.1 in the University 1 chapter of the *Registration Guide*. Additional information will be mailed in mid-May to all newly admitted University 1 students. Sessions will be offered for late applicants throughout August as required.

University 1 students who begin classes in January will be sent information about Start@U1 sessions offered in the Fall. University 1 students who begin in Summer Session will not be required to attend a Start@U1 session

before they register in Summer Session, but they will have to attend one of the sessions offered in June or July before they will be able to register for the Regular Session.

Course selection information for University 1 students is found in University 1's *STARTbook*, which is distributed at Start@U1 sessions.

Returning University 1 students may pick up their copy of the *STARTbook* at the University 1 Student Help Centre in early May.

Refer to Section 3.1 in this chapter for course requirements in University 1. Students should choose courses that are appropriate for entry to their desired target faculties or schools. Information about course requirements for each target faculty or school can be found in the admission section in the chapter pertaining to each faculty or school in this *Calendar*, the *STARTbook*, and in the *Applicant Information Bulletin* available from the Admissions Office, 424 University Centre.

3.5 Prerequisites and Corequisites

Prerequisite: If a course is prerequisite for a second course, the prerequisite must be met in order to begin the second course. To determine a course's prerequisite, see the course descriptions in the Faculty chapters of this *Calendar*. Normally, a minimum grade of "C" is required in all courses listed as prerequisites, except as otherwise noted in the course descriptions.

Corequisite: If a first course is a corequisite for a second course, the first course (unless previously completed) must be taken concurrently with the second course. To determine if a course has a corequisite, see the course descriptions in the Faculty chapters of this *Calendar*. Normally, a minimum grade of "D" is required in all courses listed as corequisite, except in the Faculty of Arts where normally a grade of "C" is required.

3.6 Courses Available to University 1 Students

Courses available to University 1 students are listed in the Appendix at the end of this chapter. The University 1 course list includes all introductory courses offered by the Faculty of Arts and the Faculty of Science, as well as introductory level courses offered by many other faculties and schools. All courses required for entry to target faculties and schools are included, as well as courses that may be taken to sample programs to which University 1 students may apply.

Courses appearing on the University 1 course list are approved for credit in University 1 and are acceptable for credit in all target faculties and schools, with the exception of English 004.093W and 004.094W, which are not acceptable for credit in the Faculties of Engineering, Nursing, or Pharmacy, and Interdisciplinary 099.111W, which is not acceptable for credit in the Faculty of Engineering.

SECTION 4: University 1 Regulations

The provisions of the General Academic Regulations and Requirements chapter, and the University Policies chapter in this *Calendar*, apply to all students. In addition, University 1 and the faculties and schools offering University 1 courses have regulations and requirements that apply specifically to its students.

4.1 Maximum Course Load

University 1 students are normally restricted to a maximum of 30 credit hours during a Regular Session, with a maximum of five courses in each term. A credit hour overload may be considered for second term based on first term performance. Contact the University 1 Student Help Centre to discuss course overload requests.

4.2 Withdrawal from Courses

See Section 6.2 in the General Academic Regulations and Requirements chapter of this *Calendar*.

Voluntary Withdrawals (VWs) are incurred when students drop courses after the normal registration revision period. University 1 and some other faculties have a VW limit of 30 credit hours. VWs accumulated while in University 1 may count toward the VW limit in the faculty or school a student enters following University 1. See each faculty or school chapter in this *Calendar* regarding the transfer of VWs from University 1.

Students are strongly encouraged to speak to a University 1 student advisor prior to dropping a course to discuss the consequences of the VW decision

and to create a recovery plan. Dropping a course may adversely affect eligibility to transfer to a target faculty.

VW deadline dates are listed on the inside cover of the *Registration Guide*. VW deadlines are final. Students may not VW a class after the deadline, except as described under the heading 'Authorized Withdrawal'. Students enrolled after the deadline must complete the remaining term work and write the final exam. Students that do not will receive a grade classification of "NP" (No Paper) accompanied by a letter grade based on term work completed for the course using a zero value for any incomplete term work and for the final examination.

Authorized Withdrawal: Students with valid and documented reasons for withdrawal, such as medical illness or compassionate circumstances, may be authorized to withdraw from a course(s) without academic penalty. These "authorized withdrawals" (AWs) may only be approved by the University 1 Student Help Centre. AWs are not counted toward the VW limit of 30 credit hours, and do not subject a student to Limited Access (see Section 4.9 in this chapter). AWs, however, do not result in a greater fee refund. Students seeking a greater refund of tuition fees must submit a fee appeal to Student Records. For more information on AWs see Section 6.2.2 in the General Academic Regulations and Requirements chapter of this *Calendar*.

4.3 Incomplete Term Work

Students who are unable to complete the term work prescribed in a course may apply to the instructor prior to the end of lectures for an incomplete grade and time extension for work completion. The student is expected to write the final examination if one is scheduled for the course. See section 4.1.2 in the General Academic Regulations and Requirements chapter of this *Calendar*.

4.4 Final Examinations

See Section 4.2 in the General Academic Regulations and Requirements chapter in this *Calendar*.

Students (with the exception of those auditing a course) are required to write all final examinations. Those who are absent without acceptable reason will receive a grade classification of "NP" (No Paper) accompanied by a letter grade based on term work completed for the course using a zero value for incomplete term work and for the final examination. If no credit for term work is involved, a grade of "F" will be assigned. Under certain conditions a student may apply for a deferred examination (see Section 4.5 in this chapter).

It is each student's responsibility to remain available during the entire examination period. Travel is not accepted as a reason for a deferred examination.

The Academic Schedule published at the front of this *Calendar* indicates the examination period for each academic session. The time, date, and location of examinations are available, about half way through the term, online at umanitoba.ca/student/records/, as well as in a master timetable that is available in the University 1 Student Help Centre and throughout the campus on Student Affairs bulletin boards.

4.5 Missed Examinations

A University 1 student, who is unable to write a final examination because of illness or other disability, or compassionate circumstances, must file an application for a deferred examination with the University 1 Student Help Centre. The application must normally be filed within seven working days of the end of the examination series in which the examination was to be written. Appropriate documentation must be provided that verifies that the incapacity existed at the time the examination was to be written. A deferred examination is not normally granted in advance. See section 4.2.5 in the General Academic Regulations and Requirements chapter of this *Calendar*.

4.6 Grade Appeals

University 1 students who do not agree with a grade assigned to term work (lab assignments, essays, term tests, etc.) or their final grade should discuss this with their instructor and attempt to resolve the issue without the need to submit a formal appeal. If an agreement is reached, an appeal is not necessary. If an agreement is not reached, it is necessary to either appeal term grades, or appeal final grades.

A formal appeal of a grade assigned for term work (lab assignments, essays, term tests) normally must be submitted within 10 working days after the

grade has been made available. Students may obtain the form “Application for Appealing a Grade Given for Term Work” from the general office of the department that offered the course.

A formal appeal of the final grade assigned will only result in the re-marking of the student’s final exam. Final grade appeal applications are available from Student Records. Students have 21 days after the release of final grades by Student Records to submit a grade appeal application.

For more information on grade appeals, see section 5 in the General Academic Regulations and Requirements chapter of this *Calendar*.

4.7 Repeating Courses

University 1 students may repeat a course they have previously taken, but they are **not required** to do so because of a low grade or a VW unless it is a course required for admission or required once in their target faculty. University 1 students who wish to repeat a course that they have received a grade of “D” or better in must consult with a University 1 student advisor prior to registration. Students may be eligible for a laboratory exemption in classes they are repeating with a laboratory component (see section 4.8 in this chapter). Students will be subject to Limited Access in courses they are repeating (see section 4.9 in this chapter).

Repeating a course will **not** result in the removal of the first attempt and grade in that course from the student’s record. The course will appear on the transcript twice if it is attempted twice. Both grades will be included in the calculation of the student’s Cumulative Grade Point Average. Students must refer to each faculty or school’s *Applicant Information Bulletin* to determine how repeating a course may affect admission eligibility.

4.8 Laboratory Exemptions

University 1 students who are repeating a course with a laboratory component may qualify for a laboratory exemption if they have previously passed the laboratory component. Only certain courses (usually courses in the Faculty of Science) offer laboratory exemptions. Students should see the general office of the department offering the course to determine if they are eligible for a laboratory exemption. It is a student’s responsibility to ensure that they are eligible for an exemption. See the instructions for registering in a laboratory exemption in section 1.11 in the University 1 chapter of the *Registration Guide*. University 1 students who are eligible for a laboratory exemption in a course that they have a VW in must bring written permission from the department offering the course to the University 1 Student Help Centre prior to registration.

4.9 Limited Access

Limited Access is a university-wide priority system that is intended to allow students the opportunity to register in each course at least once during their university career. Students who wish to repeat a course that they have previously completed or voluntarily withdrew from will be subject to Limited Access in that course for the two sessions (including Summer Session) following the session in which the original course was taken. Registration in courses that students are subject to Limited Access in will only be allowed following the Initial Access Period of registration. Laboratory exemptions do not exempt a student from Limited Access.

4.10 Academic Performance

Grades earned while in University 1 will determine admission to most target faculties or schools. Grades obtained in University 1 will become a part of the student’s permanent record and will appear on the official transcript of marks.

Normally students with grade point averages less than 2.0 are not eligible to transfer to faculties or schools other than the general degree programs in the Faculty of Arts or the Faculty of Science. When students transit to the faculties of Arts or Science, academic performance will be assessed on the basis of grades obtained in University 1. Students will enter the Faculty of Arts or the Faculty of Science in “good standing” or “on probation”. All courses attempted in University 1 will be transferred to the faculties of Arts or Science. See section 4.1.3 in the Faculty of Arts chapter and section 3.2 in the Faculty of Science chapter of this *Calendar* for information on how students are assessed as on “good standing” or as “on probation”.

4.11 University 1 Honour List

Students enrolled in 24 credit hours or more and who achieve a Sessional Grade Point Average of 3.50 or higher during a Regular Session, will be placed on the University 1 Honour List.

The University 1 Honour List designation will appear on the student’s transcript of marks.

4.12 Challenge for Credit

Any student wishing to challenge a course for credit should consult a University 1 student advisor. See Section 4.3.2 in the General Academic Regulations and Requirements chapter of this *Calendar*.

4.13 Taking Courses at Another University

Students wishing to complete courses at another institution for credit at the University of Manitoba must obtain written permission from Student Records prior to registering at the other institution or the transfer of credit will not be permitted. All courses completed on a Letter of Permission, along with the grades obtained, will be transferred and become part of the student’s permanent record at the University of Manitoba. Students with questions regarding the transfer credit should consult with a University 1 student advisor.

Students who attend other post-secondary institutions without a Letter of Permission must reapply for admission to the University of Manitoba before the application deadline. The penalty for unauthorized or undisclosed attendance may be disciplinary withdrawal.

See Section 4.3.1 in the General Academic Regulations and Requirements chapter of this *Calendar*.

APPENDIX: University 1 Course List

Refer to Section 3 in this chapter for information about choosing courses in University 1. Course descriptions can be found by: first turning to the Faculty or School chapter in this *Calendar* in which the course is taught; and then turning to the section for the department that offers the course. Faculties and schools are listed in alphabetical order, with school chapters following faculty chapters. Departments are listed alphabetically within each faculty or school chapter. Courses are listed in the department sections and sorted in numerical order.

Note that not all courses listed in this section are offered every year. To determine which courses are offered in the 2003-2004 Regular Session refer to the *Registration Guide* and the *STARTbook*. Students may be permitted to take courses not on this list with permission of the teaching faculty or school and University 1.

Course No.		Credit Hours
Faculty of Agricultural and Food Sciences		
<i>Agribusiness</i>		
061.100	Introduction to Agribusiness Management	3
<i>General Faculty</i>		
065.150	Natural Resources and Primary Agricultural Production	3
065.151	Production, Distribution and Utilization of Agricultural Products	3
In addition to the courses listed above, students who are registering in University 1 for a second year to complete courses required for entry to Agricultural and Food Sciences may request permission to register in any advanced level Agricultural and Food Sciences courses for which they have the prerequisites, subject to space limitations. Students must first consult the Faculty of Agricultural and Food Sciences and a University 1 student advisor. Caution: Agricultural and Food Sciences courses not on the University 1 course list may not be transferable to programs other than Agricultural and Food Sciences.		
Faculty of Architecture		
079.160	Introduction to Environmental Design	3
079.166	History of Culture, Ideas and Environment 1	3
079.167	History of Culture, Ideas and Environment 2	3
Faculty of Arts		
In addition to the 100 level courses listed below, University 1 students may take any 200, 300 and 400 level Arts courses for which they have the prerequisite, subject to space limitations.		
<i>Anthropology</i>		
076.120	Introductory Anthropology	6
076.121	Human Origins and Antiquity	3
076.122	Cultural Anthropology	3
076.152	Critical Cultural Anthropology	3
<i>Asian Studies</i>		
150.141W	Asian Civilizations	6
150.142W	Asian Civilizations to 1500	3

150.143W	Asian Civilizations from 1500	3			
150.176	Introduction to Chinese (Mandarin)	6	052.123	Language Seminar in Ukraine 1	3
150.177	Introduction to Japanese	6	052.127	Conversational Ukrainian	6
150.178	Basic Sanskrit	6	052.131	Introductory Ukrainian	6
150.179	Basic Hindi-Urdu	6	052.132	Introductory Ukrainian 2	3
150.236	Mandarin Comprehension	6	052.272	Intermediate Ukrainian	6
150.276	Intermediate Chinese (Mandarin)	6	052.273	Intermediate Ukrainian 2	3
150.277	Intermediate Japanese	6		<i>Polish</i>	
<i>Canadian Studies</i>			052.189	Introductory Polish	6
151.113W	Introduction to Canadian Studies	6		<i>History</i>	
<i>Catholic Studies</i>			011.120W	An Introduction to the History of Western Civilization	6
160.119W	Introduction to Catholic Studies	3	011.126W	New Directions in History: Inquiries into the Cultural Basis of the Modern World	3
<i>Classics</i>			011.127W	New Directions in History: Inquiries into the Power Relations of the Modern World	3
<i>Classical Studies</i>			011.131W	Canada-United States: Contemporary Problems in Perspective: Initial Problems	3
003.127	Introduction to Ancient Greek Culture	3	011.132W	Canada-United States: Contemporary Problems in Perspective: Current Problems	3
003.128	Introduction to Ancient Roman Culture	3	011.135W	An Introduction to the History of Western Civilization to 1500	3
	<i>Greek</i>		011.136W	An Introduction to the History of Western Civilization from 1500	3
003.101	Introduction to the Reading of Ancient Greek 1	3	011.137W	An Introduction to Modern World History: 1500-1800	3
003.102	Introduction to the Reading of Ancient Greek 2	3	011.138W	An Introduction to Modern World History: 1800-Present	3
003.103	New Testament Greek	6	011.139W	History of Colonial Canada: 1500-1885	3
003.106	Introductory Modern Greek 1	3	011.140W	History of the Canadian Nation Since 1867	3
003.107	Introductory Modern Greek 2	3	011.141W	Asian Civilizations	6
003.131	Intermediate Readings in Ancient Greek	3	011.142W	Asian Civilizations to 1500	3
003.133	The Acts of the Apostles	3	011.143W	Asian Civilizations from 1500	3
	<i>Latin</i>		011.144W	History of Canada	6
003.108	Introduction to the Reading of Latin 1	3	011.150W	An Introduction to Modern World History: 1500 - Present	6
003.109	Introduction to the Reading of Latin 2	3	011.205W	South Asia since 1947	3
003.132	Intermediate Readings in Latin	3	011.206W	The Emergence of the Medieval World	3
<i>Drama - see Theatre</i>			011.207W	The Early and High Middle Ages, 800-1300 A.D.	3
<i>Economics</i>			011.208W	The Byzantine Empire and the Slavic World	3
018.120	Principles of Economics	6	011.209W	The Middle Ages in Decline	3
018.121	Introduction to Canadian Economic Issues and Policies	3	011.213W	Emergence of Modern South Asia: 1757-1947	3
018.122	Introduction to Global Environmental Economic Issues and Policies	3	011.214W	Colonial Latin America	3
<i>English</i>			011.215W	Independent Latin America	3
004.093W	English Composition (Note: This course is not acceptable for credit in the Faculties of Engineering, Nursing and Pharmacy).	3	011.218W	The History of Catholicism to 1540	3
004.094W	Writing About Literature (Note: This course is not acceptable for credit in the Faculties of Engineering, Nursing and Pharmacy).	3	011.221W	History of Britain, 1485 to the Present	6
004.120W	Representative Literary Works	6	011.223W	History of the United States from 1607	6
004.126W	Twentieth-Century Literature in English	6	011.224W	History of Antisemitism and the Holocaust	6
004.131W	Literary Topics 1	3	011.228W	Aboriginal History of Canada	6
004.134W	Introduction to Literary Analysis	3	011.237W	History of Europe since the French Revolution	6
<i>Film Studies</i>			011.238W	The Twentieth-Century World	6
152.129	The Art of the Film 1	3	011.241W	History of India	6
152.130	The Art of the Film 2	3	011.249W	History of Russia	6
<i>French, Spanish and Italian</i>			011.252W	A History of Germany since the Reformation	6
<i>French</i>			011.255W	History of Ukraine	6
044.115	Introductory French	6	011.257W	Nationalism in Modern Times	3
044.119	Français	6	011.258W	A History of Fascism: The Politics and Culture of the Radical Right	3
044.120	French 1	6	011.265W	Modern China and Japan	6
044.125	Français Oral 1	6	011.266W	History of the Soviet Union	3
	<i>Spanish</i>		011.267W	History of Capitalism	3
044.118	Introductory Spanish	6	011.268W	A History of Socialism from the French Revolution to the Present	3
044.126	Intermediate Spanish Language Review	3	011.269W	The Common People in Industrial Society	6
044.127	Spanish Oral 1	3	011.271W	Women in History	6
	<i>Italian</i>		011.272W	The World Since 1945	6
044.108	Introductory Italian	6	011.276W	History of the United States from 1877	3
<i>German and Slavic Studies</i>			011.282W	An Introduction to Historical Method	6
<i>German</i>			011.284W	A History of Russia to 1917	3
008.111	Elementary German	6	011.289W	Imperialism	6
008.112	Beginning German	6	011.290W	Topics in Social History	6
008.210	Intermediate German	6	011.293W	The History of the British Isles, 412-1485	6
	<i>Russian</i>		011.295W	Early Canada: from the Earliest Settlement to 1867	6
052.130	Introductory Russian	6	011.296W	The New Dominion: 1867 to 1921	6
052.133	Introductory Russian 2	3	011.297W	Modern Canada: 1921 to the Present	6
052.281	Intermediate Russian	6			
052.282	Intermediate Russian 2	3			

011.299W	The History of Catholicism since 1540	3	009.110	Introductory Financial Accounting	3
<i>Icelandic</i>			<i>Business Administration</i>		
012.122	Introduction to Icelandic Culture and Civilization	6	027.203	Administrative Theory	3
012.124	Modern Icelandic 1	6	027.207	Introduction to Organizational Behaviour	3
<i>Interdisciplinary</i>			027.208	Introduction to Management and Organization Theory	3
099.111W	Introduction to University (Note: This course is not acceptable for credit in the Faculty of Engineering).	3	<i>Marketing</i>		
099.112	Reading and Writing Across the Disciplines	6	118.221	Fundamentals of Marketing	3
099.114W	European Literature 1	3	In addition to the courses listed above, students who are registering in University 1 for a second year to complete courses required for entry to the Asper School of Business may register in any advanced level Business course for which they have the prerequisites, subject to space limitations. Students must first consult a University 1 student advisor. Caution: Business courses that are not on the University 1 course list may not be transferable to programs other than Business, Arts and Science.		
099.115W	European Literature 2	3	Faculty of Engineering		
<i>Labour and Workplace Studies</i>			130.112	Thermal Sciences	4
153.127	Introduction to the Political Economy of Labour	3	130.118	Electric Circuits	4
153.128	Introduction to Labour Institutions and Problems	3	130.135	Engineering Statics	4
<i>Linguistics</i>			130.140	Engineering Design	4
126.120	Introduction to Linguistics	6	In addition to the courses listed above, students who are registering in University 1 for a second year to complete courses required for entry to Engineering may request permission to register in any advanced level Engineering courses for which they have the prerequisites, subject to space limitations. Students must first consult the Faculty of Engineering and a University 1 student advisor. Caution: Engineering courses that are not on the University 1 course list may not be transferable to programs other than Engineering.		
126.134	Semantics	3	Faculty of Environment		
126.136	Languages of Canada	3	In addition to the 100 level courses listed below, University 1 students may take any 200, 300 and 400 level Environment courses for which they have the prerequisite, subject to space limitations.		
126.138	General Phonetics	3	<i>Environmental Science</i>		
126.142	Language and Gender	3	128.100	Environmental Science 1: Concepts	3
126.144	Rules of English Grammar	3	128.200	Environmental Science 2: Issues	3
<i>Native Studies</i>			<i>Geography</i>		
032.100	Orientation Course: The Colonizers and the Colonized	3	053.120	Introductory Geography	6
032.120W	The Native Peoples of Canada	6	053.128	Introduction to Human Geography	3
032.122W	The Native Peoples of Canada, Part 1	3	053.129	Introduction to Physical Geography	3
032.124	The Native Peoples of Canada, Part 2	3	<i>Geological Sciences</i>		
	<i>Native Languages</i>		007.123	Physical and Historical Geology	6
032.125	Introductory Cree 1	3	007.124	Earth and Planetary Science	6
032.126	Introductory Cree 2	3	007.134	The Dynamic Earth	3
032.127	Introductory Ojibway 1	3	007.135	The Evolving Earth	3
032.128	Introductory Ojibway 2	3	007.136	Environmental Earth Science	3
032.129	Introductory Inuktitut	3	007.137	The Earth in Space	3
Near Eastern and Judaic Studies			007.144	Introduction to the Dynamic Earth	3
	<i>Semitic Languages and Literature</i>		Faculty of Human Ecology		
055.112	Biblical Hebrew	6	<i>Human Nutritional Sciences</i>		
055.125	Hebrew 1	6	030.120	Food: Facts and Fallacies	3
055.126	Hebrew 2	6	030.121	Nutrition for Health and Changing Lifestyles	3
	<i>Yiddish</i>		<i>Family Studies</i>		
055.122	Yiddish	6	062.101	Human Development in the Family	3
<i>Philosophy</i>			062.114	Family Studies: Relationships	3
015.120	Introduction to Philosophy	6	062.142	Family Management Principles	3
015.129	Critical Thinking	3	062.190	Families, Housing and Community: An Introductory Perspective	3
015.132	Introductory Logic	6	<i>Clothing and Textiles</i>		
015.133	Introduction to Symbolic Logic	6	064.122	Dynamics of the Fashion Industry	3
015.151	Historical Introduction to Philosophy	6	In addition to the courses listed above, students who are registering in University 1 for a second year to complete courses required for entry to Human Ecology may request permission to register in any advanced level Human Ecology courses for which they have the prerequisites, subject to space limitations. Students must first consult the Faculty of Human Ecology and a University 1 student advisor. Caution: Human Ecology courses that are not on the University 1 course list may not be transferable to programs other than Human Ecology.		
<i>Political Studies</i>			Faculty of Nursing		
019.150W	Introduction to Politics	6	049.126	Human Growth and Development	3
<i>Psychology</i>			049.128	Introduction to Nursing	3
017.120	Introduction to Psychology	6			
<i>Religion</i>					
020.112	Biblical Hebrew	6			
020.132W	Introduction to World Religions	6			
020.135	The History of Eastern Christianity	6			
020.139	Readings in Biblical Hebrew 1	3			
020.140	Readings in Biblical Hebrew 2	3			
020.141	Death and Concepts of the Future	3			
020.142W	Ethics in World Religions	3			
020.143	Food: Religious Concepts and Practices	3			
020.144W	Evil in World Religions	3			
020.145	Religion and The Media	3			
<i>Sociology</i>					
077.120	Introduction to Sociology	6			
<i>Theatre</i>					
154.122	Introduction to Theatre	6			
<i>Women's Studies</i>					
156.153W	Introduction to Women's Studies in the Humanities	3			
156.154W	Introduction to Women's Studies in the Social Sciences	3			
156.256W	Women, Science and Technology	3			

Asper School of Business

Accounting & Finance

Students in University 1 will not normally be permitted to take advanced level Nursing courses. With permission from University 1, students may be able to take Faculty of Nursing courses that are on the list of courses from other faculties acceptable for credit in the Faculty of Arts and in the Faculty of Science. For specific courses see Section 9 in the Faculty of Arts chapter or Section 4.18 in the Faculty of Science chapter of this *Calendar*.

Faculty of Physical Education and Recreation Studies

Physical Education

057.120	Physical Activity, Health and Wellness	3
057.150	Foundations of Physical Education and Exercise Science	3

Recreation Studies

123.120	Introduction to Leisure Travel	3
123.140	Concepts of Recreation and Leisure	3

In addition to the courses listed above, students who are registering in University 1 for a second year to complete courses required for entry to Physical Education and Recreation Studies may request permission to register in any advanced level Physical Education and Recreation Studies courses for which they have the prerequisites, subject to space limitations. Students must first consult the Faculty of Physical Education and Recreation Studies and a University 1 student advisor. Caution: Physical Education and Recreation Studies courses that are not on the University 1 course list may not be transferable to programs other than Physical Education and Recreation Studies.

Faculty of Science

In addition to the 100 level courses listed below, University 1 students may take any 200, 300 and 400 level Science courses for which they have the prerequisite, subject to space limitations.

Biology

071.100	Biology: Foundations of Life	3
071.101	Biology: Biological Diversity and Interactions	3
071.111	Health and the Health Professions (Note: This course will not be acceptable as part of the 6 credit hours of Faculty of Science electives for admission to the Faculty of Nursing.)	3
071.125	Biology B	6
071.134	The State of the Earth's Environment: Contemporary Issues	3

Botany

001.101W	Economic Plants	3
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Chemistry

002.090	Preparatory Chemistry	0
002.100	Understanding the World through Chemistry	3
002.103	Carbon Chemistry in Nature and Society	3
002.130	University 1 Chemistry: Structure and Modelling in Chemistry	3
002.131	University 1 Chemistry: An Introduction to Physical Chemistry	3
002.132	University 1 Chemistry: An Introduction to Organic Chemistry	3

Computer Science

074.101	Introductory Computer Science 1	3
074.102	Introductory Computer Science 2	3
074.126	Introductory Computer Usage 1	3
074.127	Introductory Computer Usage 2	3

Mathematical Sciences

136.101M	Applied Finite Mathematics	3
136.102M	Mathematics in Art	3
136.119M	Topics in Mathematics	6
136.120M	Elements of Discrete Mathematics	3
136.130M	Vector Geometry and Linear Algebra	3

136.131M	Matrices for Management and Social Sciences	3
136.150M	Introduction to Calculus	3
136.151M	Applied Calculus 1	3
136.152M	Introductory Calculus for Management and Social Sciences	3

136.153M	Calculus with Computers	3
136.168M	Mathematics for Agriculture and Related Sciences	6
136.169M	Calculus	6
136.170M	Calculus 2	3
136.171M	Applied Calculus 2	3
136.173M	Calculus 2 with Computers	3

Microbiology

060.122	Essentials of Microbiology	3
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Physics and Astronomy

Astronomy

016.180	General Astronomy	6
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Physics

016.090	Preparing for University Physics	0
016.102M	General Physics 1	3
016.103M	General Physics 2	3
016.105	Physics 1: Mechanics	3
016.107	Physics 2: Waves and Modern Physics	3
016.130	Energy and the Environment	6
016.141	The New Physics	3
016.142	More New Physics	3

Statistics

005.100M	Basic Statistical Analysis 1	3
005.200M	Basic Statistical Analysis 2	3

Zoology

022.132	Anatomy of the Human Body	3
022.133	Physiology of the Human Body	3

Faculty of Social Work

047.131	Introduction to Social Welfare Policy	3
047.208	Interpersonal Communication Skills	3

School of Art

054.102M	Mathematics in Art	3
054.103	Introduction to Art 1A	3
054.104	Introduction to Art 2A	3
054.105	Introduction to Art 1B	3
054.106	Introduction to Art 2B	3
054.120	Fundamentals of Drawing	9
054.122	Basic Design	9
054.126	Drawing for Non-Majors	6

School of Music

033.105	The Well-Tempered Concert-Goer	3
033.107*	Introduction to the History of Music	3
033.108*	History of Music 2	3
033.111*	Music Theory 1	3
033.112*	Music Theory 2	3
033.128*	Musical Style and Structure 1	3
033.129*	Musical Style and Structure 2	3
033.193*	Rudiments of Music	3
033.302	History and Performance of Jazz	3

* Contact the School of Music for permission to register.

Faculty of Agricultural and Food Sciences

General Office

256 Agriculture Building

Telephone: (204) 474 9295

E-mail: agfoodsci@umanitoba.ca

Website: www.umanitoba.ca/afs/

Dean: Harold Bjarnason

Student Advisor: TBA

Associate Deans: Bernie Dronzek, Rachael Scarth

Manager of Finance and Administration: Harminder Dhanjal

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SECTION 1: Academic Staff

Deans Emeriti

L.H. Shebeski, R.C. McGinnis, J.I. Elliot

Agribusiness and Agricultural Economics

Professors

Bjarnason, H.F., B.A. (Manitoba), M.Sc. (South Dakota State), M.A., Ph.D. (Wisconsin); **Boyd**, M.S., B.A. (Seattle Pacific), M.A. (Washington State), Ph.D. (Purdue); **Kraft**, D.F., B.S.A.(Hons.) (Manitoba), Ph.D. (Washington State); **MacMillan**, J.A., B.S.A. (Toronto), M.Sc. (Illinois), Ph.D. (Iowa State); **Oleson**, B.T. B.A., M.A. (Manitoba), Ph.D. (Minnesota).

Associate Professors

Coyle, B.T., B.Sc. (Hons.), M.Sc. (British Columbia), Ph.D. (Maryland); **Johnson**, G.V., B.S., M.S., M.A., Ph.D. (Wisconsin).

Assistant Professors

Brewin, D.G., B.Sc. (Alberta), M.Sc. (Saskatchewan), Ph.D. (Pennsylvania State); **Carlberg**, J.G., B.Comm., B.A.(Hons), M.Sc. (Saskatchewan), Ph.D. (Oklahoma State); **Kim**, B.Y.R., B.Sc., M.Sc., Ph.D. (Alberta); **Rude**, J.I., B.A., M.A. (Saskatchewan), Ph. D. (Guelph).

Instructor II

Grant, C., B.S.A., M.Sc. (Manitoba).

Animal Science

Professors Emeriti

Kondra, P.A., B.S.A., M.Sc. (Manitoba), Ph.D. (Minnesota); **Marquardt**, R.R., B.S.A. (Saskatchewan), M.Sc. (Alberta), Ph.D. (Washington State); **Parker**, R.J., B.Sc. (Glasgow), M.S.A. (Toronto), Ph.D. (Michigan State), Dip.Agr. (Redding); **Seale**, M.E., B.Sc. (Alberta), M.Sc., Ph.D. (Minnesota), F.A.I.C.; **Stringam**, E.W., B.Sc., M.Sc. (Alberta), Ph.D. (Minnesota), F.A.I.C.

Professors

Campbell, L.D., B.S.A.(Hons.), M.Sc. (Manitoba), Ph.D. (Wisconsin); **Connor**, M.L., B.Sc.(Agr.) (Guelph), M.Sc., Ph.D. (Manitoba); **Guenter**, W., B.S.A., M.Sc. (Manitoba), Ph.D. (North Dakota State); **Wittenberg**, K.M., B.S.A., M.Sc., Ph.D. (Manitoba).

Associate Professors

Crow, G.H., B.Sc.Agric., M.Sc. (Guelph), Ph.D. (Saskatchewan); **Kennedy**, A.D., B.S.A., M.Sc. (Manitoba), Ph.D. (Alberta); **Lewis**, N.J., B.Sc., M.Sc., Ph.D., D.V.M. (Guelph).

Assistant Professors

House, J.D., B.Sc., Ph.D. (Guelph); **Nyachoti**, C.M., B.Sc. Agric. (Kenya), M.Sc. Ph.D. (Guelph); **Ominski**, K.H., B.Sc., Ph.D. (Manitoba); **Plaizier**, J.C.B., B.Sc., M.Sc. (Wageningen), Ph.D. (Guelph).

Senior Instructor

Onischuk, L.A., B.S.A., Ph.D. (Manitoba).

Biosystems Engineering

Dean Emeritus

Laliberte, G.E., B.E., M.Sc. (Manitoba), Ph.D. (Colorado State), PEng.

Professor Emeritus

Muir, W.E., B.E. (Saskatchewan), M.S. (Illinois), Ph.D. (Saskatchewan), P.Eng.

Professors

Britton, M.G., B.E. (Saskatchewan), M.Sc. (Manitoba), Ph.D. (Texas A and M), PEng; **Conkowski**, S., B.Sc., M.Sc. (Technical Univ.), Ph.D., Sc.D. (Agric. Univ.), PEng.; **Jayas**, D.S., B.Sc. (G.B.Pant), M.Sc. (Manitoba), Ph.D. (Saskatchewan), P.Ag., PEng; **Zhang**, Q., B.Sc. (Hefei Polytechnical), M.Sc., Ph.D. (Pennsylvania State), PEng.

Associate Professor

Sri Ranjan, R., B.Sc. (Peradeniya), M.Sc., Ph.D. (Colorado State), PEng.

Assistant Professors

Chen, Y., B.Sc., M.Sc. (China), Ph.D. (McGill), P.Eng; **Cicek**, N. B.Sc. (Bosphorus), M.Sc., Ph. D. (Cincinnati); **Mann**, D.D., B.Sc., M.Sc., Ph.D. (Manitoba), P.Eng; **Paliwal**, J., B.Tech. (India), M.Sc., Ph.D. (Manitoba).

Lecturers

Dick, J.K. B.Sc. M.Sc., Ph.D. (Manitoba), P.Eng; **Inglis**, D., B.Sc., L.L.B. (Manitoba); **Johnson**, D.J., B.S.A., B.Ed. (Manitoba); **Philp**, J.D., B.S.A. (Manitoba)

Entomology

Professors Emeriti

Brust, R.A., B.S.A., M.Sc. (Manitoba), Ph.D. (Illinois); **Jay**, S.C., B.A. (McMaster), B.S.A. (Manitoba), M.S.A. (Toronto), Ph.D. (London).

Senior Scholar

Mackay, P.A., B.Sc., M.Sc. (Toronto), Ph.D (British Columbia).

Professors

Galloway, T.D., B.Sc.Agr. (Guelph), Ph.D. (Manitoba); **Holliday**, N.J., B.Sc.(Hons.) (London), Ph.D. (Bristol); **Roughley**, R.E., B.Sc. Agr., M.Sc. (Guelph), Ph.D. (Alberta).

Associate Professor

Currie, R.W., B.Sc., M.Sc., Ph.D. (Manitoba).

Food Science

Professor Emeritus

Bushuk, W., B.Sc., M.Sc. (Manitoba), Ph.D. (McGill), F.R.S.C., F.C.I.C., F.A.I.C.

Professors

Arntfield, S.D., B.Sc., M.Sc. (McGill), Ph.D. (Manitoba); **Blank**, G., B.Sc., M.Sc., Ph.D. (Manitoba); **Holley**, R.A., B.Sc., M.Sc. (McGill), Ph.D. (Guelph); **Scanlon**, M.G., B.Sc.(Hons.), Ph.D. (Leeds).

Associate Professors

Sapirstein, H.D., B.Sc. (Michigan), B.Sc.Ag. (Alberta), Ph.D. (Manitoba).

Assistant Professor

Beta, T., B.Sc. (Zimbabwe), M.Sc. (Texas A&M), Ph.D. (Pretoria), **Han**, J.H., B.Sc., M.Sc. (Korea), Ph.D. (Purdue).

Instructor II

Hydamaka, A.W., B.Sc., M.Sc. (Manitoba), Ph.D. (Reading).

Plant Science

Professors Emeriti

Evans, L.E., B.S.A. (Saskatchewan), M.Sc., Ph.D. (Manitoba); **Larter**, E.N., B.Sc., M.Sc. (Alberta), Ph.D. (Washington);

Professors

Ballance, G.M., B.Sc.(Hons.), M.Sc. (Manitoba), Ph.D. (Heriot-Watt); **Brûlé-Babel**, A.L., B.S.A., Ph.D. (Saskatchewan); **Dronzek**, B.L., B.Sc., M.Sc., Ph.D. (Manitoba); **Entz**, M.H., B.S.A., M.Sc. (Manitoba), Ph.D. (Saskatchewan); **Hill**, R.D., B.Sc., M.Sc., Ph.D. (Manitoba); **McVetty**, P.B.E., B.Sc., M.Sc. (Queen's), Ph.D. (Manitoba); **Pritchard**, M.K., B.S.A., M.Sc. (Manitoba), Ph.D. (Purdue); **Remphrey**, W.R., B.Sc. (Hons.), Ph.D. (Saskatchewan); **Scarth**, R., B.A., M.Phil., Ph.D. (Cambridge); **Vessey**, J.K., B.Sc.(Hons.), M.Sc., (Dalhousie), Ph.D. (Queen's).

Associate Professors

Fernando, W.G.D., B.Sc. (Peradeniya), M.Sc. (Kelaniya), Ph.D. (Oregon State); **Fristensky**, B.W., B.A. (Cornell), Ph.D. (Washington State); **Lamari**, L., B.Sc. (Institut de Technologie Agricole), M.Sc., Ph.D. (Manitoba); **Van Acker**, R.C., B.Sc., M.Sc. (Guelph), Ph.D. (Reading).

Assistant Professors

Daayf, F., B.Sc. (Marrakech), M.Sc., Ph.D. (Montpellier), D. d'État (Marrakech); **Froese**, J.C., B.S.A., (Manitoba), M.Sc. (Iowa State), Ph.D. (Maryland).

Instructor

Martens, G.B., Agric. Dip., B.Sc.(Hons.) (Manitoba).

Soil Science

Professor Emeritus

Soper, R.J., B.A., B.S.A., M.Sc. (Saskatchewan), Ph.D. (McGill), F.A.I.C.

Senior Scholars

Racz, G.J., B.S.A., M.Sc. (Saskatchewan), Ph.D. (Manitoba); **Shaykewich**, C.F., B.S.A., M.Sc. (Manitoba), Ph.D. (McGill).

Professors

Goh, T.B., B.Ag.Sc. (Hons.) (Malaya), M.Sc. (Ghent), Ph.D. (Saskatchewan).

Associate Professors

Burton, D.L., B.Sc.(Hons.) (Dalhousie), M.Sc. (Guelph), Ph.D. (Alberta); **Flaten**, D.N., B.S.A. (Saskatchewan), Ph.D. (Manitoba).

Assistant Professors

Akinremi, O.O., B.Agr. (Ife), M.Sc., Ph.D. (Manitoba); **Bullock**, P.R., B.S.A., M.Sc. (Saskatchewan), Ph.D. (Australian National University); **Far-enhorst**, A., B.Sc., M.Sc. (Amsterdam), Ph.D. (Toronto); **Lobb**, D.A., B.Sc. (Toronto), M.Sc., Ph.D. (Guelph); **Tenuta**, M., B.Sc. (Hons.) (Toronto), M.Sc. (Guelph), Ph.D. (Western Ontario).

School of Agriculture

Professor

Pritchard, M.K. B.S.A., M.Sc. (Manitoba), Ph.D. (Purdue).

Instructor

Metrycki, B., B.A. (Winnipeg).

Lecturers

Corbett, S., Dip.Agric. (Manitoba); **Koroscil**, L., Dip.Agric. (Manitoba); **Steeves**, E.I., Dip.Agric (Manitoba).

SECTION 2: Introduction to Agricultural and Food Sciences

The degree programs in the faculty are designed to prepare graduates for service in professions concerned with the production, processing and marketing of food. Professional agriculturists hold positions in extension, resource management and conservation, teaching, research and business. Professional food science graduates hold similar positions related to food manufacturing and processing. Graduates from the faculty have important contributions to make in the economy of Canada and the well-being of its citizens. Other graduates accept international responsibilities, particularly in the developing countries. Programs of study in the faculty include courses in physical and biological sciences, mathematics, social sciences, and humanities. With these courses as background, major studies may be taken in areas represented by programs in the faculty. Graduates of the B.Sc. (Agriculture), B.Sc. (Agribusiness), B.Sc. (Agroecology) and B.Sc. (Food Science) degrees are eligible to practice agrology as members of the Manitoba Institute of Agrologists. An agrologist is a "person who is qualified to teach or to practice the science and art of agriculture or to conduct scientific experiments and research in relation thereto." The motto of the profession is *Ciba ad Omnes* (Food for All). B.Sc. (Food Science) graduates are eligible to become members of the Canadian Institute of Food Science and Technology (CIFST), a professional society associated with the manufacturing, processing and packaging of food.

Faculty overview

The oldest college of its kind in western Canada had its beginning in Winnipeg in 1906. The Faculty of Agriculture and Home Economics was founded in Tuxedo and the first class entered the former Manitoba Agricultural College that year. The first agricultural diplomas were conferred in 1908 and the first agricultural degrees in 1911.

Home Economics students began enrolling in the faculty in 1910, but several years elapsed before degrees were conferred. It wasn't until eight years later, in 1918, that the first graduates of the degree program were recognized.

In 1913, the Manitoba Agricultural College moved to a site in Fort Garry that later became the campus of the University of Manitoba. The administration of the Manitoba Agricultural College was transferred to the University of Manitoba in 1924 and instructional work was taken over by the Faculty of Agriculture and Home Economics.

Agriculture and Home Economics became separate faculties in 1970 and, in July 1991, the name was changed from Faculty of Agriculture to the Faculty of Agricultural and Food Sciences.

SECTION 3: Admission to the Faculty of Agricultural and Food Sciences

3.1 Degrees and Diploma offered

Bachelor of Science in Agriculture

Bachelor of Science in Agribusiness

Bachelor of Science in Agroecology

Bachelor of Science in Food Science

Minimum time to graduation: Four years (University 1 plus three years).

Diploma in Agriculture

Minimum time to graduation: Two years with admission directly from high school.

Pre-Veterinary Program: A two-year beyond senior matriculation program providing prerequisite subjects for entrance to the Western College of Veterinary Medicine, University of Saskatchewan and the Ontario Veterinary College, University of Guelph.

The following is a summary of the admission requirements. Equivalent academic courses completed at recognized universities elsewhere will be considered. All admission requirements, as well as application deadline dates and forms, are included in an applicant information bulletin that is available from the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

3.2 Admission and Course Requirements: All Agriculture degree programs

The requirement for admission to the Faculty of Agricultural and Food Sciences is a minimum cumulative grade point average of 2.00 on a minimum of 24 credit hours.

It is recommended that students take the following courses in University 1 to allow completion of the degrees in the minimum amount of time.

B.Sc. (Agribusiness)

- Economics (6 credit hrs)
 - 018.120 or 018.121 and 018.122
- Mathematics (6 credit hrs)
 - 136.168M (or 136.152M or 136.150M, and 136.131 or 136.130)
- Agriculture (9 credit hrs)
 - 061.100
 - 065.150
 - 065.151
- Biology* (6 credit hrs)
 - 071.125
- Open Electives (3 or 9 credit hrs)*

B.Sc. (Agriculture), B.Sc. (Agroecology), B.Sc. (Food Science)

- Chemistry (6 credit hrs)
 - 002.130 and 002.131
- Economics (6 credit hrs)
 - 018.120 or 018.121 and 018.122
- Mathematics (6 credit hrs)
 - 136.168M (or 136.152M or 136.150M, and 136.131 or 136.130)
- Biology* (6 credit hrs)
 - 071.125
- Agriculture (6 credit hrs)
 - 065.150
 - 065.151
- Open Electives (nil or 6 credit hrs)

* Students entering with a grade of 70% or better in Biology 300 or 40S and a Senior 4 (grade 12) average of 70% or better, may elect 6 credit hours of open electives in lieu of 071.125.

Other requirements: All Agriculture Degree Programs

High school prerequisites include Chemistry 40S and Math 40S (Pre-Calculus); pre-veterinary students should include Physics 40S.

Students are required to take six credit hours of Philosophy in their degree. English 004.120W or 004.126W may be used toward 3 of the Philosophy credits.

The written English and mathematics requirement are met by completing the required courses in Agriculture.

Applicants who do not meet the above-mentioned course requirements may be eligible for admission. Please contact the Student Advisor, Faculty of Agricultural and Food Sciences at (204) 474-8269, for further information.

First Year Agriculture: Brandon University

Brandon University offers the first year of the Agriculture degree program of the Faculty of Agricultural and Food Sciences. Under arrangements between the two universities, students who complete the first-year Agriculture program at Brandon University may apply for admission with full credit into the second year programs of the University of Manitoba.

Transfers of Credit

Some courses taken within the Diploma in Agriculture of the Faculty of Agricultural and Food Sciences qualify for credit towards the undergraduate degree program. These courses are outlined in the table below. Students should have a C. G. P. A. of 2.50 and a C+ or better in courses for which transfer is being considered.

Transfer of Credits – Diploma/Degree

Diploma	Degree
034.060 Farm Machinery	034.209 Machinery for Ag Production
035.042 Animal Biology & Nutrition	035.250 Animal Production
035.067 Beef Production and	035.452 Ruminant Production
039.075 Forage & Pasture Mgmt	Systems – Meat or 035.453
035.068 Dairy Cattle Production &	Ruminant Production Systems –
Mgmt and 039.075 Forage & Pasture	Milk
Mgmt	
035.060 Animal Health and Welfare	035.454 Monogastric Produc-
and 035.069 Swine Production	tion Systems or 035.455 Avian
035.060 Animal Health & Welfare	Production Systems
and 035.070 Poultry Production	
038.062 Pest Mgmt & Farm Insects	038.001 Unallocated
039.041 Cereal & Oilseeds Practice	039.250 Crop Production
039.079 Landscape Horticulture and	039.251 Fundamentals of Horti-
039.080 Diversification with Horti-	culture
cultural crops	
039.077 Weed Mgmt	039.354 Weed Science
040.042 Soil Productivity & Land Use	040.351 Fundamentals of Soils
and 065.042 Intro Soils & Crops	
040.062 Soil Mgmt and 034.069	040.451 Soil & Water Mgmt
Water Mgmt	
061.044 Ag Econ & Marketing 1 and	061.251 Agricultural Marketing
061.045 Ag Econ & Marketing 2	
061.073 Financial Risk Mgmt	061.312 Commodity Futures
	Markets
061.068 Ag Business Mgmt	061.100 Ag Business Mgmt
061.072 Farm Business Mgmt	061.353 Farm Management
065.064 Mgmt Plan Project I and	061.001 Unallocated
065.065 Mgmt Plan Project II	
065.042 Intro Soils & Crops	061.150 Natural Resources &
	Ag Production
065.002 Unallocated	065.151 Utilization of Ag Prod
065.041 Communications & Learning	065.203 Technical Communica-
Skills (min B grade)	tions

Courses taken outside the Faculty of Agricultural and Food Sciences or outside of the University of Manitoba may also qualify for credit towards the degree if the course content and the student's performance are deemed appropriate by the department concerned.

SECTION 4: Academic Regulations

The B.Sc. (Agriculture), B.Sc. (Agribusiness), B.Sc. (Agroecology) and B.Sc. (Food Science) degree programs have the triple objectives of vocational, professional and cultural education. To fulfil the objectives, the degrees are offered in a program of study. Most courses in first-year, which are taken in University 1 and some in second year, are prescribed. The remainder of second year courses and all courses in third and fourth years are determined by the program of study, and by the student's selection of elective courses.

It is strongly recommended that all students plan their coursework for third and fourth years before the end of their second academic year.

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Faculty of Agricultural and Food Sciences has regulations and requirements, published below, that apply specifically to its students. Supplementary academic regulations are on file in the general office. Admission information can be found in the Admissions chapter of this *Calendar*.

Scholastic Requirements

To obtain a B.Sc. (Agriculture), B.Sc. (Agribusiness), B.Sc. (Agroecology) or B.Sc. (Food Science) degree, a student must pass 120 credit hours comprising of 30 hours from University 1 and 90 hours in the Faculty of Agricultural and Food Sciences (i.e., a total of 20 full-courses or the equivalent).

A maximum of 144 credit hours (24 full-courses or the equivalent) may be attempted to obtain the 120 credit hours.

A minimum passing grade of “D” in prescribed courses is required of all students in the faculty.

Elective courses in which passing grades were not obtained need not be repeated.

A student’s Grade Point Average (GPA) will be determined from the number of “effective” courses which apply at a particular stage. The effective courses consist of all courses passed in addition to all failures which have not been cleared or substituted for in the student’s record.

In order to graduate, students must obtain a minimum GPA of 2.0 calculated over the final 120 credit hours before graduation.

Residence Requirements of Degree Program

The residence requirements for the degrees offered by the Faculty of Agricultural and Food Sciences, can be found in the chapter, General Academic Regulations and Policy.

Time Limits and Lapse of Credit

The normal maximum time allowed for the completion of the Agriculture degree programs is ten years from the date of first registration. A candidate for a degree will not be permitted to count toward that degree any courses taken more than ten years prior to the date of awarding the degree.

Probational Standards

Effective Courses to Date		Minimum GPA
1-5	(6-30 credits)	1.80
5 1/2-10	(33-60 credits)	1.85
10 1/2- 15	(63-90 credits)	1.90
15 1/2- 20	(93-120 credits)	1.95
20+	(120+ credits)	2.00

Academic Suspension Regulations

A student is placed on academic suspension when one of the following occurs:

- When a student fails to obtain 12 Weighted Grade Points in the first year program; or
- When a student fails to meet the probational standards after attempting a minimum of 24 credit hours while on probation; or
- When a student accumulates failures in excess of 24 credit hours.

Re-entry Regulations

A student must remain out of faculty for a period of one year and then apply for re-entry.

The student must complete at least 12 credit hours with a minimum Grade Point Average of 2.50 in courses approved by the faculty in the academic term or session in which reinstatement is being attempted.

The student loses credit for all courses in which a grade of “D” was obtained prior to being reinstated.

The student is given credit for courses in which grades of “C” or better were obtained, as well as the courses attempted for reinstatement.

The student is reinstated and placed in the category of “good academic standing.”

A student who is placed on academic suspension for the second time, will not be permitted reinstatement in the faculty.

Appeals

Appeals of academic assessment of students must be submitted to the general office of the Faculty of Agricultural and Food Sciences within 21 days of the date of notification of the action sent to the student.

Graduation With Distinction: Degree Programs

The B.Sc. (Agriculture), B.Sc. (Agribusiness), B.Sc. (Agroecology) and B.Sc. (Food Science), degrees with distinction will be awarded to students who:

- Complete the normal 120 credit hours for the degrees which include 30 hours from University 1 requirements, and 90 hours from the Faculty of Agricultural and Food Science requirements and obtain a cumulative Grade Point Average (GPA) of 3.75 or higher;
- Transfer from other universities or colleges, or from the Diploma in Agriculture program, and take at least 90 credit hours while registered in the Faculty of Agricultural and Food Sciences in order to complete the B.Sc. (Agriculture), B.Sc. (Agribusiness), B.Sc. (Agroecology) or B.Sc. (Food Science) degrees. A cumulative GPA of 3.75 or higher will be required in the 90 or more credit hours.

Dean’s Honour Roll

Students registered in 24 to 30 credit hours in the degree program and who obtain a sessional GPA of 3.50 or higher will be placed on the Dean’s Honour Roll.

Course Load Limits

A normal “course load” is 30 credit hours during the regular session, with 15 credit hours normally taken in each academic term. A student may attempt a maximum of 39 credit hours during the regular session, with not more than 21 credit hours in an academic term, provided the student is in a good academic standing and has completed at least 24 credit hours in the previous regular session.

University Written English and Mathematics Requirements

All students are required to complete, the university written English and mathematics requirement within the first 60 credit hours of their program. This requirement is described in the chapter, General Academic Regulations and Requirements of this *Calendar*.

For the degree program in Agriculture, the university written English requirement can be met by 065.203W Technical Communications, or by 004.120W, or 004.126W. (NOTE: Technical Communications cannot be taken in University 1). The mathematics requirement can be met by completing 136.168M or 005.100M.

SECTION 5: Program Requirements

In order to fulfil the requirements for a degree in the Faculty of Agricultural and Food Sciences, students must complete five components:

- Faculty Core
- Degree Core
- Program Core
- Restricted Electives
- Free Electives

These requirements are outlined for all four degrees in the sections which follow.

5.1 Faculty Core

Course No.		Credit Hours
002.130	University 1 Chemistry: Structure and Modelling in Chemistry (see Note 1)	3
	and one of the following two courses:	
002.131	University 1 Chemistry: An Introduction to Physical Chemistry (see Note 1)	3
	or	
002.132	University 1 Chemistry: An Introduction to Organic Chemistry (see Note 1)	3
005.100M	Basic Statistical Analysis 1	3
136.168M	Mathematical Science for Agricultural and Related Sciences	6
018.120	Principles of Economics or 018.121 and 018.122	6
061.100	Introduction to Agribusiness Management (see Note 2)	3

065.150	Natural Resources and Primary Agricultural Production	3
065.151	Production, Distribution and Utilization of Agricultural Products	3
065.203W	Technical Communications	3
065.450	Agri-Food Systems (see Note 3)	3
071.125	Biology B	6
Six credit hours from the following: (see Note 4)		
015.129	Critical Thinking (3)	
015.261	The History and Philosophy of Science (6)	
015.275	Ethics and the Environment (3)	
015.283	Business Ethics (3)	
015.285	Philosophy of Social Science (3)	6
Total credit hours		42 - 48

NOTES:

- 1) Students planning to enter into the B.Sc. Agribusiness degree program may elect 6 credit hours of courses in lieu of 002.130 and 002.131 or 002.132.
- 2) 118.221 Fundamentals of Marketing may be substituted for 061.100 in the B.Sc.(Food Science) degree program.
- 3) 078.451 Food Product Development may be substituted for 065.450 in the B.Sc.(Food Science) degree program.
- 4) 004.120 or 004.126 may be substituted for three credit hours of this requirement and for 065.203W Technical Communications.

5.2 Bachelor of Science (Agriculture)

The four year program (one year in University 1 and three years in the Faculty of Agricultural and Food Sciences) leading to the B.Sc. (Agriculture) is a professional program which prepares graduates for careers in the public and private sectors related to the production and distribution of agricultural commodities. Graduates will also be prepared to enter directly into a program of graduate studies. In addition to the faculty core courses, all students are required to take the following B.Sc.(Agriculture) degree core requirements and the respective program core courses.

B.Sc. (Agriculture) Degree Core

Course No.		Credit Hours
002.277	Elements of Biochemistry 1 (060.277)	3
035.250	Animal Production	3
039.250	Crop Production	3
039.252	Genetics	3
061.251	Introduction to Agricultural and Food Marketing	3
065.237	Principles of Ecology (001.237 or 022.237)	3
Total credit hours		18

Agronomy Core

001.201	Plant Structure and Function 1	3
039.350	Plant Physiology (Not required for students who have taken the former 001.230)	3
039.351	Cropping Systems	3
039.452	Crop Physiology	3
040.351	Fundamentals of Soils and Landscapes	3
040.452	Soil Fertility	3
040.451	Soil and Water Management	3
Total credit hours		21

Animal Systems Core

002.278	Elements of Biochemistry 2 (060.278)	3
035.251	Anatomy and Physiology 1: Control Systems	3
035.252	Anatomy and Physiology 2: Nutrient Utilization	3
035.350	Principles of Animal Genetics	3
035.351	Feeds and Feeding	3
035.352	Animal Reproduction	3
035.353	The Animal and Its Environment	3
Total credit hours		21

Plant Systems Core

001.201	Plant Structure and Function 1	3
002.278	Elements of Biochemistry 2 (060.278)	3
039.350	Plant Physiology	3
039.352	Principles of Plant Improvement	3
040.351	Fundamentals of Soils and Landscapes	3
060.210	General Microbiology A	3
Total credit hours		18

Within the B.Sc. (Agriculture) students will elect one of three programs of study or specialities – Agronomy, Animal Systems or Plant Systems. Students will normally begin the program of study of their choice in second year. A description of each program and their requirements follows.

Agronomy Program

Chair: M.H. Entz

Office: 311 Agriculture Building

Telephone: 204 474 6077

The Agronomy program, which students enter into after completing University 1, will provide an integrated and comprehensive study of the factors and processes associated with the science of crop production and the management and use of land and water resources. The program emphasizes land management and the sustainability of agronomic and horticultural crop systems.

Second Year

Course No.		Credit Hours
001.201	Plant Structure and Function 1	3
002.277	Elements of Biochemistry 1 (060.277)	3
039.250	Crop Production	3
039.252	Genetics	3
040.351	Fundamentals of Soils and Landscapes	3
061.100	Introduction to Agribusiness Management	3
065.203W	Technical Communications	3
	Restricted Elective Philosophy - Group 5 and free elective(s)	9
Total credit hours		30

Third Year

005.100M	Basic Statistical Analysis 1	3
035.250	Animal Production	3
039.350	Plant Physiology	3
039.452	Crop Physiology	3
061.251	Introduction to Agricultural and Food Marketing	3
065.237	Principles of Ecology (001.237 or 022.237)	3
	Restricted and/or Free Electives	12
Total credit hours		30

Fourth Year

039.351	Cropping Systems	3
040.451	Soil and Water Management	3
040.452	Soil Fertility	3
065.450	Agri-Food Systems	3
	Restricted and/or Free Electives	18
Total credit hours		30

Restricted Electives

Group 1

Two courses (six credit hours) from the following:

039.354	Weed Science (3)	
039.427	Plant Disease Control (3)	
038.413	Principles of Insect Control (3)	6

Group 2

One course (three credit hours) from the following:

035/039.441	Grassland Agriculture: Plant, Animal and Environment (3)	
039.251	Fundamentals of Horticulture (3)	
039.352	Principles of Plant Improvement (3)	3

Group 3

One course (three credit hours) from the following:

040.306	Introduction to Agrometeorology (3)	
040.406	Physical Properties of Soils (3)	
040.412	Soil Microbiology (3)	
040.413	Soil Chemistry and Mineralogy (3)	3

Group 4

One course (three credit hours) from the following:

034.209	Machinery for Agricultural Production (3)	
034.450	Water Management (3)	
034.452	Crop Preservation and Handling (3)	3

Group 5

Six credit hours from the following:

015.129	Critical Thinking (3)	
015.261	The History and Philosophy of Science (6)	
015.275	Ethics and the Environment (3)	
015.283	Business Ethics (3)	

015.285 Philosophy of Social Science (3) 6
Free Electives 18

Animal Systems Program

Chair: W. Guenter
Office: 240 Animal Science Building
Telephone: 204 474 9334

The Animal Systems program, which students enter after completing University 1, will provide an integrated and comprehensive study of the factors and processes associated with the science of animal production. The program will be based on a strong foundation in the scientific disciplines underlying growth and reproduction in animals and how they respond to a range of environmental systems and constraints.

Second Year

Course No.		Credit Hours
002.277 (060.277)	Elements of Biochemistry 1	3
002.278 (060.278)	Elements of Biochemistry 2	3
035.250	Animal Production	3
035.251	Anatomy and Physiology 1	3
035.252	Anatomy and Physiology 2	3
039.250	Crop Production	3
039.252	Genetics	3
061.100	Introduction to Agribusiness Management	3
065.203W	Technical Communications	3
	Restricted Elective - Group 4	3
<i>Total credit hours</i>		30

Third Year

005.100M	Basic Statistical Analysis	3
035.350	Principles of Animal Genetics	3
035.351	Feeds and Feeding	3
035.353	The Animal and Its Environment	3
061.251	Introduction to Agricultural and Food Marketing	3
065.237 (001.237 or 022.237)	Principles of Ecology	3
	Restricted Elective Group 4	3
	Restricted and/or Free Electives	9
<i>Total credit hours</i>		30

Fourth Year

035.352	Animal Reproduction	3
065.450	Agri-Food Systems	3
	Restricted Elective - Group 1	3
	Restricted Elective - Group 2	3
	Restricted and/or Free Electives	18
<i>Total credit hours</i>		30

Restricted Electives

Group 1

Must take at least one course (three credit hours) from the following:

035.452	Ruminant Production Systems - Meat (3)	
035.453	Ruminant Production Systems - Milk (3)	3

Group 2

Must take at least one course (three credit hours) from the following:

035.454	Monogastric Production Systems (3)	
035.455	Avian Production Systems (3)	3

Group 3

Must take at least three courses (nine credit hours) from the following:

034.451	Agricultural Waste Management (3)	
035.428	Applied Animal Genetics (3)	
035/039.441	Grassland Agriculture: Plant, Animal and Environment (3)	
035.450	Animal Health (3)	
035.451	Domesticated Animal Behaviour (3)	
035.456	Issues in Animal Agriculture (3)	
038.316	Veterinary and Wildlife Entomology (3)	
078.350	Processing of Animal Food Products (3)	9

Group 4

Must take at least six credit hours from the following:

015.129	Critical Thinking (3)	
015.261	The History and Philosophy of Science (6)	
015.275	Ethics and the Environment (3)	

015.283 Business Ethics (3)
015.285 Philosophy of Social Science (3) 6
Free Electives 18

Plant Systems Program

Chair: G.M. Ballance
Office: 228 Agriculture Building
Telephone: 204 474 6086

The Plant Systems program, which students enter after completing University 1, will provide an integrated and comprehensive study of the factors and processes associated with the science of the improvement, protection, production and utilization of agronomic and horticultural crops. The program will be based on an understanding of the biological principles that determine plant growth and plant response to a range of cultural and environmental factors.

Second Year

Course No.		Credit Hours
001.201	Plant Structure and Function 1	3
002.277 (060.277)	Elements of Biochemistry 1	3
002.278 (060.278)	Elements of Biochemistry 2	3
035.250	Animal Production	3
039.250	Crop Production	3
039.252	Genetics	3
061.100	Introduction to Agribusiness Management	3
065.203W	Technical Communications	3
	Restricted Elective Philosophy - Group 6 and free elective	6
<i>Total credit hours</i>		30

Third Year

005.100M	Basic Statistical Analysis 1	3
039.350	Plant Physiology	3
040.351	Fundamentals of Soils and Landscapes	3
060.210	General Microbiology A	3
061.251	Introduction to Agricultural and Food Marketing	3
065.237 (001.237 or 022.237)	Principles of Ecology	3
	Restricted Elective Philosophy - Group 6	3
	Restricted and/or Free Electives	9
<i>Total credit hours</i>		30

Fourth Year

039.352	Principles of Plant Improvement	3
065.450	Agri-Food Systems	3
	Restricted and/or Free Electives	24
<i>Total credit hours</i>		30

Restricted Electives

Group 1

One course (three credit hours) of the following:

039.433	Intermediate Genetics (3)	
039.450	Plant Genetic Engineering (3)	3

Group 2

One course (three credit hours) of the following:

039.451	Plant Metabolism (3)	
039.452	Crop Physiology (3)	
040.452	Soil Fertility (3)	3

Group 3

Two courses (six credit hours) of the following:

038.413	Principles of Insect Control (3)	
039.354	Weed Science (3)	
039.427	Plant Disease Control (3)	6

Group 4

One course (three credit hours) of the following:

039.251	Fundamentals of Horticulture (3)	
039.337	Environmental Horticulture (3)	
039.453	Woody Plants in the Prairie Landscape (3)	3

Group 5

One course (three credit hours) to be selected from above courses, (Groups 1 to 4) or from the following:

001.221	Biology of Fungi and Lichens (3)	
035/039.441	Grassland Agriculture: Plant, Animal and Environment (3)	
038.432	Pollination Biology (3)	

038/040.454	Pesticides and Toxicology (3)	
039.314	Introductory Cytogenetics (3)	
039.318	Greenhouse Crop Production (3)	
039.353	Horticultural Food Crops (3)	
039.430	Grain Technology (3)	
065.250	Population Genetics (3)	3

Group 6

Six credit hours from the following:

015.129	Critical Thinking (3)	
015.261	The History and Philosophy of Science (6)	
015.275	Ethics and the Environment (3)	
015.283	Business Ethics (3)	
015.285	Philosophy of Social Science (3)	6
	Free Electives	18

5.3 Bachelor of Science (Agribusiness)

Agribusiness students specialize in the people component of agriculture. This begins with the consumer, ends with the producer and involves all those along the food chain. Food production and distribution is undertaken in a business environment and agribusiness is the study of decision-making within this setting. Graduates gain insight into the agribusiness environment through mastering concepts in economics, finance, marketing and management. In addition to the faculty core courses, all students are required to take the B.Sc. (Agribusiness) degree core requirements and the respective program core courses listed below. Students in Agribusiness are not required to take University 1 Chemistry as part of the Faculty Core requirement.

B.Sc. (Agribusiness) Degree Core Course Requirements

Course No.		Credit Hours
005.200	Basic Statistical Analysis 2	3
009.110	Introductory Financial Accounting	3
018.245*	Microeconomic Theory and Its Applications 1	3
018.247*	Macroeconomic Theory and Its Applications 1	3
027.244	Human Resource Management	3
061.251	Introduction to Agricultural and Food Marketing	3
061.308	Introduction to Econometrics	3
061.350	Agricultural and Food Policy	3

One course (three credit hours) from the following:

039.250	Crop Production (3)	
035.250	Animal Production (3)	
065.237	Principles of Ecology (3)	3
(001.237 or 022.237)		
Total credit hours		27

NOTE: * In place of 018.245 and 018.247, students planning graduate study should consider taking the following Honours courses which require written permission from the head of the Department of Economics prior to registration: 018.270 and 018.280.

Within the B.Sc. (Agribusiness) degree students will elect one of two different programs of study, Agricultural Economics or Agribusiness. Students will normally begin the program of study of their choice in second year. A description of each of the programs of study and their program requirements follows.

Agricultural Economics Core

018.246**	Microeconomic Theory and Its Applications 2	3
018.248**	Macroeconomic Theory and Its Applications 2	3
061.425	Commodity Market Analysis	3
Total credit hours		9

NOTE: **In place of 018.246 and 018.248, students planning graduate studies should consider taking the following Honours courses which require written permission from the head of the Department of Economics prior to registration: 018.370 and 018.380.

Agribusiness Core

027.215	Introduction to Management Sciences	3
	or	
061.252	Introduction to Management Sciences	3
061.352	Food Distribution and International Merchandising	3
061.354	Financial Risk Management	3
118.221	Fundamentals of Marketing	3

Three courses (nine credit hours) from the following:

035.250	Animal Production (3)	
039.250	Crop Production (3)	

065.237	Principles of Ecology (3)	
(001.237 or 022.237)		
061.239	Introduction to Environmental Economics (3)	9
Total credit hours		21

Agricultural Economics Program

Chair: D.F. Kraft

Office: 356 Agriculture building

Telephone: 204 474 8714

The Agricultural Economics program, which students will enter into after completing University 1, is the application of economics to the production, processing, distribution, and utilization of agricultural commodities. Students will develop: 1) an in-depth knowledge in economic concepts and their application to the financial management of agricultural systems and related industries; and 2) an understanding of a) the principles underlying the analytical methods used in economics, b) the global aspects affecting commodity markets, and c) the relationship between agricultural decisions and natural resource use.

Second Year

Course No.		Credit Hours
005.100M	Basic Statistical Analysis 1	3
005.200	Basic Statistical Analysis 2	3
009.110	Introductory Financial Accounting	3
018.245	Microeconomic Theory and Its Applications 1	3
018.247	Macroeconomic Theory and Its Applications 1	3
061.100	Introduction to Agribusiness Management	3
061.251	Introduction to Agricultural and Food Marketing	3
065.203W	Technical Communications	3

One course (three credit hours) of the following:

035.250	Animal Production (3)	
039.250	Crop Production (3)	
065.237	Principles of Ecology (3)	3
(001.237 or 022.237)		
	Restricted Elective Philosophy - Group 1	3
Total credit hours		30

Third Year

018.246	Microeconomic Theory and Its Applications 2	3
018.248	Macroeconomic Theory and Its Applications 2	3
027.244	Human Resource Management	3
061.308	Introduction to Econometrics	3
061.350	Agricultural and Food Policy	3
	Restricted Elective Philosophy - Group 1	3
	Restricted and/or Free Electives	12
Total credit hours		30

Fourth Year

061.425	Commodity Market Analysis	3
065.450	Agri-Food Systems	3
	Restricted and/or Free Electives	24
Total credit hours		30

Restricted Electives

Group 1

Six credit hours from the following:

015.129	Critical Thinking (3)	
015.261	The History and Philosophy of Science (6)	
015.275	Ethics and the Environment (3)	
015.283	Business Ethics (3)	
015.285	Philosophy of Social Science (3)	6

Group 2

At least nine credit hours from the Department of Economics at the 300 level or above

Group 3

At least nine credit hours from the Faculty of Agricultural and Food Sciences

Agribusiness Program

Chair: M. Boyd

Office: 357 Agriculture Building

Telephone: 204 474 6031

The Agribusiness program will develop an in depth knowledge of the principles of managing an agricultural or food business. Through their choice of restricted electives students will elect to specialize in management or international agribusiness. The international agribusiness option involves the restricted electives option that requires taking a minor in one of the cross disciplinary programs in the Faculty of Arts. International agribusiness re-

quires knowledge of languages, cultures, and international political history, in addition to the other business skills required by the B.Sc. (Agribusiness) degree. Students electing the agribusiness management option will select their restricted electives from the Faculty of Management and the Faculty of Agricultural and Food Sciences. Depending upon the students interests, the restricted electives and electives will provide a more in depth understanding of the business principles involved in the production, processing and distribution of agricultural products.

Second Year

Course No.		Credit Hours
005.100M	Basic Statistical Analysis 1	3
005.200	Basic Statistical Analysis 2	3
009.110	Introductory Financial Accounting	3
018.245	Microeconomic Theory and Its Applications 1	3
018.247	Macroeconomic Theory and Its Applications 1	3
027.215	Introduction to Management Sciences (3)	
	or	
061.252	Introduction to Management Sciences (3)	3
061.100	Introduction to Agribusiness Management	3
065.203W	Technical Communications	3
118.221	Fundamentals of Marketing	3

One course (three credit hours) from the following:

039.250	Crop Production (3)	
035.250	Animal Production (3)	
061.239	Introduction to Environmental Economics (3)	
065.237	Principles of Ecology (3)	3
	(001.237 or 022.237)	

Total credit hours 30

Third Year

027.244	Human Resource Management	3
061.251	Introduction to Agricultural and Food Marketing	3
061.308	Introduction to Econometrics	3
061.350	Agricultural and Food Policy	3
061.354	Financial Risk Management	3

Two courses (six credit hours) from the following:

035.250	Animal Production (3)	
039.250	Crop Production (3)	
065.237	Principles of Ecology (3)	
	(001.237 or 022.237)	
061.239	Introduction to Environmental Economics (3)	6
	Restricted Electives and/or Free Electives	9

Total credit hours 30

Fourth Year

061.352	Food Distribution and International Merchandising (3)	3
065.450	Agri-Food Systems (3)	3
	Restricted and/or Free Electives	24

Total credit hours 30

Restricted Electives

Six courses (18 credit hours) from either Group 2 and Group 3 combined (Management Option), or, Group 4 (International Option):

Group 1

Six credit hours from the following:

015.129	Critical Thinking (3)	
015.261	The History and Philosophy of Science (6)	
015.275	Ethics and the Environment (3)	
015.283	Business Ethics (3)	
015.285	Philosophy of Social Science (3)	6

Management Option

At least one course (three credit hours) from the Faculty of Management and a total of nine credit hours from the following courses:

Group 2

005.301	Topics in Statistical Analysis Applied to Business (3)	
005.317	Statistical Quality Control (3)	
009.111	Introduction to Management Accounting (3)	
009.220	Corporation Finance (3)	
027.260	Fundamentals of Production and Operations Management (3)	
027.203	Administrative Theory (3)	

027.208	Introduction to Management and Organization Theory (3)	
118.325	Marketing Strategy (3)	
118.330	International Marketing (3)	
118.427	Sales Management	
061.210	Economics of World Agriculture (3)	
061.212	World Agribusiness Study Tour (3)	
061.221	Transportation Principles (3)	
061.239	Introduction to Environmental Economics (3)	
061.312	Commodity Futures Markets (3)	
061.355	Environmental Policy (3)	
061.353	Farm Management (3)	
061.356	Agribusiness Portfolio Management (3)	
061.412	Intermediate Econometrics (3)	
061.424	Agricultural Economics Special Project (3)	
061.425	Commodity Market Analysis (3)	9-12

Group 3

Restricted Electives

6-9

At least two courses (6 credit hours) from departments in the Faculty of Agricultural and Food Sciences other than the Department of Agribusiness and Agricultural Economics

Group 4

International Option

18
Minor in Asian Studies or Central and East European Studies or Latin American Studies as defined in the Faculty of Arts chapter of this *Calendar* under cross-disciplinary programs.

5.4 Bachelor of Science (Agroecology)

Chair: N.J. Holliday

Office: 214 Animal Science Building

Telephone: 204 474 8365

The Agroecology program, which students enter after completing University 1, provides students with an understanding of the natural processes in the agroecosystem and the impact of agricultural practices on these processes. The program emphasizes three areas: ecological sciences, agricultural production, and the social and economic implications of environmental management. Students will develop an understanding of how to manage natural and agricultural resources in a manner that enhances economic production while maintaining the integrity of natural and agricultural environments. An undergraduate research project is completed during third and fourth years as part of 065.351 and 065.454. Graduates are prepared for careers at the technical and management levels in government and non-government agencies involved in planning and management of natural and agricultural resources. By appropriate choice of free elective courses, students can prepare for graduate studies.

In addition to the courses prescribed in the faculty core for all students in the Faculty of Agricultural and Food Sciences, the following courses are prescribed for students in the program leading to the B.Sc. Agroecology.

B.Sc. Agroecology Degree Core

Course No.		Credit Hours
001.354	Community Ecology	3
002.130	University 1 Chemistry: Structure and Modeling in Chemistry	3
	and one of the following two courses:	
002.131	University 1 Chemistry: An Introduction to Physical Chemistry	3
	or	
002.132	University 1 Chemistry: An Introduction to Organic Chemistry	3
002.277	Elements of Biochemistry 1	3
	(060.277)	
005.200	Basic Statistical Analysis 2	3
034.353	Engineering Fundamentals	3
035.250	Animal Production	3
039.250	Crop Production	3
040.350	Landscape and Biophysical Processes	3
061.239	Introduction to Environmental Economics	3
061.355	Environmental Policy	3
065.237	Principles of Ecology	3
	(001.237 or 022.237)	
065.351	Agroecology	3
065.451	Applications in Agroecology	3

065.454	Agroecology Research Project	3
065.250	Population Genetics	3
<i>Total credit hours</i>		48
Second Year		
002.277 (060.277)	Elements of Biochemistry 1	3
005.100M	Basic Statistical Analysis 1	3
005.200	Basic Statistical Analysis 2	3
035.250	Animal Production	3
039.250	Crop Production	3
061.100	Introduction to Agribusiness Management	3
065.203W	Technical Communications	3
065.237 (or 001.237 or 022.237)	Principles of Ecology	3
065.250	Population Genetics	3
	Restricted Elective	3
<i>Total credit hours</i>		30
Third Year		
001.354	Community Ecology	3
034.353	Engineering Fundamentals	3
040.350	Landscapes and Biophysical Processes	3
061.239 (018.239)	Introduction to Environmental Economics	3
065.351	Agroecology	3
	Restricted and/or Free Electives	15
<i>Total credit hours</i>		30
Fourth Year		
061.355	Environmental Policy	3
065.450	Agri-Food Systems	3
065.451	Applications in Agroecology	3
065.454	Agroecology Research Project	3
	Restricted and/or Free Electives	18
<i>Total credit hours</i>		30
Restricted Electives		
Students must take two courses (six credit hours) from each of the following three groups:		
Group 1		
001.201	Plant Structure and Function 1 (3)	
038.205*	Introductory Entomology (3)	
035.251	Anatomy and Physiology 1: Control Systems (3)	
060.210	General Microbiology A (3)	
	or	
040.412	Soil Microbiology (3)	6
Group 2		
040.306	Introduction to Agrometeorology (3)	
040.406	Physical Properties of Soils (3)	
040.453	Land Use and Environment (3)	
040.452	Soil Fertility (3)	
	or	
040.413	Soil Chemistry and Mineralogy (3)	6
Group 3		
015.129	Critical Thinking (3)	
015.261	The History and Philosophy of Science (6)	
015.275	Ethics and the Environment (3)	
015.283	Business Ethics (3)	
015.285	Philosophy of Social Science (3)	6
	Free Electives	18

NOTES:

* 038.205 Introductory Entomology is a prerequisite for most courses in entomology. Students contemplating additional entomology courses as free electives are advised to take 038.205 in second year.

5.5 Bachelor of Science (Food Science)

Chair: S. Arntfield

Office: 201 Ellis Building

Telephone: 204 474 9866

The B.Sc. degree program in Food Science, which students enter into after completing University 1, provides the academic foundation of knowledge and skills for the wide range of activities in food science and technology. The principal areas covered are food processing, chemistry, analysis and safety. The degree program is structured in course offerings and content to enhance the competence of graduating students by providing greater em-

phasis in communications, critical thinking, computer literacy and statistics which are basic requirements of a modern professional environment.

The Food Science program specifies seven required and a minimum of five restricted elective courses in Food Science. As well, students must select a minimum of six credit hours from a prescribed list of courses in critical thinking and ethics. Eighteen credit hours of free electives are available and can be selected in Food Science. This will ensure a strong academic base in Food Science and accommodate a satisfactory level of Food Science specialization.

Course programs for the current and revised B.Sc. (Food Science) degrees are listed below in separate sections.

Second Year

Course No.		Credit Hours
002.131	University 1 Chemistry: Introduction to Physical Chemistry	3
002.277 (060.277)	Elements of Biochemistry 1	3
005.100M	Basic Statistical Analysis 1	3
005.200	Basic Statistical Analysis 2	3
060.210	General Microbiology A	3
065.203W	Technical Communications	3
078.250	Food Chemistry	3
	Restricted Elective Philosophy Group 5	6
	Restricted/and or Free Electives:	3
<i>Total credit hours</i>		30

Third Year

030.214	Basic Principles of Human Nutrition	3
034.353	Engineering Fundamentals	3
078.321	Food Engineering Fundamentals	3
078.301	Food Process 1	3
078.415	Food Microbiology 1	3
078.416	Food Analysis 1	3
118.221	Fundamentals of Marketing	3
	Restricted and/or Free Electives:	9
<i>Total credit hours</i>		30

Fourth Year

078.412	Food Science Seminar	3
078.420	Quality Control in Foods	3
078.451	Food Product Development	3
	Restricted and/or Free Electives:	21
<i>Total credit hours</i>		30

Restricted Electives

Fifteen credit hours in restrictive electives must be taken from Groups 1, 2, 3 and 4 with at least 3 credit hours from each of these four groups.

Group 1: Processing

Must take at least 3 credit hours from the following:

078.401	Food Process 2 (3)	
078.452	The Packaging of Food (3)	3

Group 2: Safety

Must take at least 3 credit hours from the following:

078.428	Food Microbiology 2 (3)	
078.430	Food Toxicants (3)	
078.431	Introduction to HACCP (3)	
078.450	Food Safety and Regulations (3)	3

Group 3: Analysis

Must take at least 3 credit hours from the following:

030.427	Applied Sensory Methods (3)	
078.424	Analysis of Water and Waste (3)	
078.425	Food Analysis 2 (3)	3

Group 4: Commodities

Must take at least 3 credit hours from the following:

078.316	Frozen Dairy Products (3)	
078.317	Cheese and Fermented Milk Products (3)	
078.320	Baking Science and Technology (3)	
078.350	Processing of Animal Food Products (3)	
078.454	Functional Foods and Nutraceuticals (3)	3

Group 5: Critical Thinking and Ethics

Must take at least 6 credit hours from the following:

015.129	Critical Thinking (3)	
015.261	The History and Philosophy of Science (6)	
015.275	Ethics and the Environment (3)	
015.283	Business Ethics (3)	

5.6 Biosystems Engineering

Head: Q. Zhang

Office: 438 Engineering building

Telephone: 204 474 9819

Students in the Bachelor of Science degree in Biosystems Engineering must be admitted to the Faculty of Engineering. The Biosystems Engineering program is outlined in the Faculty of Engineering chapter of this *Calendar*.

The courses below are for students studying in the various majors in Agricultural and Food Sciences and for non-Agriculture students with a special interest in the subjects.

Course No.		Credit Hours
034.205	Metalworking Methods	3
034.208	Agricultural Survey Systems	3
034.209	Machinery for Agricultural Production	4
034.353	Engineering Fundamentals	3
034.434	Animal Production Environment	3
034.445	Radiation Processing of Food and Other Commodities	4
034.450	Water Management	3
034.451	Agricultural Waste Management	3
034.452	Crop Preservation and Handling	3

5.7 Cooperative Education Program

Cooperative education is a process of learning, which formally integrates the student's academic study with work experience in employer organizations. Work-related experience is found in industry, government and the farming profession. The work terms provide the students with practical experience, help to finance their education and provide guidance for further career specialization. All regulations governing regular Faculty of Agricultural and Food Sciences degree programs apply to the Cooperative Education Program, in addition the following variations apply:

Admission: To be considered for admission in the Cooperative Education Program, an undergraduate degree student must have a minimum GPA of 2.5, have completed at least 75 credit hour of studies by the end of the academic year of application but still need to complete 21 credit hours in their last year of academic study.

Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Education Program. Acceptance into the program is dependant upon the student receiving a job placement through the cooperative education office.

Employment Term Requirements: The Cooperative Education Program is a five year program in which 16 months are spent in two-eight month work terms with a faculty approved employer. Students are required to register in the appropriate employment term course and pay the fee prior to starting the employment term. Normally each employment term will be completed with a different employer. While on a work term, a cooperative education student is not permitted to take more than six hours of academic credit and may not take more than one course at a time.

Academic Term Requirements: Once having been accepted into the Cooperative Education Program there are three requirements for each work term completed. Failure to do any of them in a timely fashion will result in a failing grade.

- Part way through the work term, the cooperative education coordinator will contact the student for a work site evaluation. During the evaluation both the student and employer will be interviewed and the work assessed. The student will need to make him/herself available for the interview.
- Two weeks after the end of the work term, a work term report is due and must be submitted to the cooperative education coordinator. Both content and format will be marked. (Details as to format and what is required in the report can be found in "Guidelines for Cooperative Education Work Term Report" which can be obtained from the cooperative education coordinator.
- Also, two weeks after the end of the work term, a post employment review is required to be submitted to the cooperative education coordinator.

The appropriate department head, in consultation with the student's program chair, will assign each participating student a faculty advisor. The faculty advisor will be responsible for evaluating the student's work term

report and assigning the student a grade based on the report, the employer's evaluation and cooperative education coordinator's site evaluation. Grades of "Pass" or "Fail" will be assigned for each work term. Degree students successfully completing two work terms will have their "Cooperative Education Option" acknowledged on their graduation parchment.

5.8 Pre-Veterinary Program

A pre-veterinary program is offered to students who plan to take the degree Doctor of Veterinary Medicine. Pre-veterinary students whose academic standing is acceptable may be admitted each year to the Western College of Veterinary Medicine, University of Saskatchewan. Acceptance into the Western College of Veterinary Medicine from the pre-veterinary program at the University of Manitoba is normally restricted to residents of Manitoba. Students from outside Manitoba may be accepted as residents of their own province or country. Students entering the pre-veterinary program are responsible for establishing their residence status.

Western College of Veterinary Medicine, Saskatoon

Two full years of university training are required for admission comprised of 30 hours from University 1 and 30 hours in the Faculty of Agricultural and Food Sciences, during which credit must be secured in the number of courses considered a standard load in the curriculum in which they are obtained. The deadline for applications is December.

The program of Pre-Veterinary study must include one full course in each of: English*, Physics, Biochemistry, Microbiology, Mathematics or Statistics; one and a half full courses in Biology or Zoology (including genetics), Chemistry (including organic chemistry); plus electives sufficient to complete two full years. (*This requirement can also be met by taking 065.203W Technical Communications, and one half course in philosophy.)

The following program is designed to meet the above requirements within the constraints of present course offerings. Some modifications may be possible.

First Year/University 1

Course No.		Credit Hours
002.130	University 1 Chemistry: Structure and Modeling in Chemistry	3
002.132	University 1 Chemistry: An Introduction to Organic Chemistry	3
136.168M	Mathematical Science for Agricultural and Related Sciences	6
065.150	Natural Resources and Primary Agricultural Production	3
065.151	Production, Distribution and Utilization of Agricultural Products	3
071.125	Biology B	6
004.120*	Representative Literary Works (6) Or	
004.126*	Twentieth-Century Literature in English (6)	
<i>Total credit hours</i>		30

NOTE: * In place of 004.120 or 004.126, Technical Communications (065.203) may be taken in second year; and one of the following Philosophy courses: 015.129, 015.261, 015.271, 015.283, 015.285.

Second Year

002.131	University 1 Chemistry: An Introduction to Physical Chemistry	3
002.277 (060.277)	Elements of Biochemistry 1	3
002.278 (060.278)	Elements of Biochemistry 2	3
016.102	General Physics 1	3
016.103	General Physics 2	3
039.252	Genetics	3
060.210	General Microbiology A	3
	Electives (See note * above)	9
<i>Total credit hours</i>		30

5.9 Requirements For Degree Students Admitted, September, 1994 And Before

Students who entered the faculty prior to 1995, should contact the student advisor for information on fulfilling degree requirements. The student advisor is located in 160 of the Agriculture Building; Telephone: (204) 474 8269.

SECTION 6: Course Descriptions

6.1 General Agriculture

065.150 Natural Resources and Primary Agricultural Production (3-L:0-0) 3 Introduces students to natural resources and climate, primary production of crops and livestock, production and resource economics and rural society. A model of the entire agri-food system will be used to show interrelationships among disciplines, processes, etc.

065.151 Production, Distribution and Utilization of Agricultural Products (0-0:3-L) 3 Introduction to the aspects of agriculture that follow primary production and includes confined animal production and a presentation of a model of the entire agri-food system. Special emphasis on processing, marketing, transportation and food safety. Laboratory sessions will use small groups to examine problem based case studies.

065.203W Technical Communications (0-0:3-0) 3 Lectures and workshops to develop written and oral communication skills for preparing and presenting scientific and technical reports. Basic composition skills, communication graphics and job interview techniques are included. *Prerequisite:* 24 credit hours of university.

065.218 Introductory Toxicology (3) A survey of general principles underlying the effects of toxic substances on biological systems, including history, scope and applications of toxicology, the mechanisms of toxic action, and some major types of toxicants. Not to be held with 001.218, 001.219, 128.218, 128.219, 022.218, 022.219, 065.219 and the former 001.337. *Prerequisite:* 071.125(C) and 002.131 (or the former 002.128) or 002.132.

065.219 Toxicology Principles (1.5) A survey of general principles underlying the effects of toxic substances on biological systems, including the history, scope and applications of toxicology, the mechanisms of toxic action. Not to be held with 001.218, 001.219, 128.218, 128.219, 022.218, 022.219, 065.218 and the former 001.337. *Prerequisite:* 071.125(C) and 002.131 (or the former 002.128) or 002.132.

065.220 Principles of Plant and Animal Physiology for Engineers (0-0:3-2) 4 Plant and animal physiology as affected by environment for use in the design of agricultural machines, structures and food processes for biological products; models of simulation of plant and animal growth. *Prerequisite:* 071.201.

065.237 Principles of Ecology (3-L:0-0) 3 Principles of ecology at the individual, population, community, and ecosystem levels. This course is also given in the Faculty of Science as 001.237 or 022.237. It is the normal prerequisite to other courses in ecology. Not to be held with 001.228 (022.229), 001.237, 022.237. *Prerequisite:* A grade of "C" in 071.125. *Pre- or corequisite:* 005.100.

065.250 Population Genetics (0-0:3-L) 3 Principles of population genetics as they apply to plants and animals in both natural and managed systems. *Prerequisites:* A grade of "C" in 071.125 Biology; 065.237 or 001.237 (022.237).

065.303 Modern Topics in Agriculture 1 (3-0:0-0) 3 An interdisciplinary course including topical national and international issues in agriculture. The course will vary from year to year to provide material of current interest in a wide variety of subject areas. Student participation by means of seminars will be encouraged.

065.304 Modern Topics in Agriculture 2 (0-0:3-0) 3 Similar to 065.303.

065.351 Agroecology (0-0:3-L) 3 Examination of how ecological principles and processes apply to, and function in, managed ecosystems, with emphasis on agricultural ecosystems. Influence of agricultural production practices on populations and ecosystem function. Ecological concepts as tools in managing systems. Students must complete assignments towards an undergraduate research project that will be completed in 061.454. *Prerequisite:* 001.354.

065.450 Agri-Food Systems (3) A capstone course that synthesizes elements of all degree programs in the faculty. Students must have completed 90 credit hours towards a degree in the Faculty of Agricultural and Food Sciences.

065.451 Applications in Agroecology (0-0:3-0) 3 Integration of information on ecological principles, agricultural production technology and environmental and socio-economic issues through in-depth studies of issues and problems in agroecology. *Prerequisite:* 065.351.

065.452 Agriculture Cooperative Education Work Term 1 (1) Special 32-week work assignment in business, industry, government or research for cooperative education students. Requires submission of a written report covering the work completed during the eight-month professional assignment.

065.453 Agriculture Cooperative Education Work Term 2 (1) Special 32-week work assignment in business, industry, government or research for cooperative education students. Requires submission of a written report covering the work completed during the eight-month professional assignment.

065.454 Agroecology Research Project (0-0:3-0) 3 Completion of independent research project for which preliminary work was done in 065.351. Students perform research and meet regularly with supervisors beginning in September. Progress reports are required, and final results will be presented in written and verbal reports in April. *Prerequisite:* 065.351

6.2 Agribusiness and Agricultural Economics

061.100 Introduction to Agribusiness Management (3-L:3-L) 3 Introduction to management principles applied to agribusiness. Topics covered will include cooperative and corporate organizations, financial analysis, marketing and planning. All students will prepare a business plan. The one hour laboratory will develop spreadsheet skills with respect to processing information and preparing forecasts. Not to be held with the former 061.250.

061.210 Economics of World Agriculture (0-0:3-0) 3 Economic forces that determine

patterns of world agriculture: present conditions and limitations and future prospects for world-wide production and use of agricultural products.

061.212 World Agribusiness Study Tour (035 Intersession) 3 Provides an understanding of world agribusiness, including areas such as agri-marketing, agricultural trade, agri-finance, agricultural policy, risk management, and economics of the environment and resources through an international study trip. A particular region of the world will be visited each time the course is offered. Offered at the discretion of the Department of Agribusiness. *Pre-requisite:* Approval of instructor.

061.221 Transportation Principles (3-0:0-0) 3 Demand forecasting, cost analysis, regulation of carriers, role of transport in economic development, project appraisal, and transport planning. Not to be held with the former 061.351 or 018.354. Also offered as 164.221 by the Transport Institute/I.H. Asper School of Business.

061.239 Introduction to Environmental Economics (0-0:3-0) 3 Economics of management of water, air and land resources quality, and conservation. Economic implications of current issues in environmental standards, licensing criteria and pollution charges. Students may not hold credit for both 061.239 and 018.239. *Prerequisite:* 018.120.

061.251 Introduction to Agricultural and Food Marketing (0-0:3-0) 3 Economic principles and institutions involved in the Canadian agricultural and food marketing system. Farm and Agribusiness applications. Not to be held with the former 061.207. *Prerequisite:* 018.120.

061.252 Introduction to Management Sciences (3-L:0-0) 3 An introduction to management science techniques and models. Topics include linear programming, distribution problems, decision theory and queuing models. *Prerequisites:* 136.131 or 136.130 and 136.152 or 136.150 or 136.168M. *Pre-corequisite:* 005.100 or the former 005.221 or equivalent. Students may not hold credit for 027.215 Introduction to Management Sciences and/or both 061.252 or the former 061.414.

061.308 Introduction to Econometrics (3-L:0-0) 3 The application of statistical tools, especially regression analysis for estimating economic relationships and testing economic hypotheses through use of spreadsheets and data sets. Students may not hold credit for both 061.308 and the former 018.344. *Prerequisite:* 005.200 or equivalent, or 018.317. Also offered as 018.318 by the Department of Economics.

061.312 Commodity Futures Markets (3-0:0-0) 3 Theory and economic functions of commodity markets including futures and options markets. The roles of the various participants; the determination of inter-temporal prices and various aspects of hedging will be studied. *Prerequisites:* 018.120 and 005.200.

061.350 Agricultural and Food Policy (0-0:3-0) 3 Economics of market intervention; trade policy analysis, and agricultural protection, exports, subsidies, tariffs, quotas; intermediate versus final goods; currency exchange rates and agricultural trade policy; trade agreements. Not to be held with the former 061.418. *Prerequisites:* 018.245, 018.247.

061.352 Food Distribution and International Merchandising (3-L:0-0) 3 An introduction to logistics management concepts and their application to domestic and international merchandising. *Prerequisites:* 061.100 or the former 061.250, and 061.251 or 118.221.

061.353 Farm Management (0-0:3-0) 3 Management decisions and business planning as they relate to farm production, marketing and financing activities. Identifying potential markets; comparative advantage analysis; organizational form and contractual requirements; alternative marketing and production strategies; financing production and marketing activities; develop farm business plan. *Prerequisite:* 061.100, or the former 061.250.

061.354 Financial Risk Management (0-0:3-0) 3 Risk expected returns and valuation of capital; capital budgeting and dealing with risk; derivative securities and financial risk management; agricultural production and management of risk; agricultural risk management and public policy. *Prerequisites:* 005.100 and 009.110 and 061.100, or the former 061.250 or 061.251.

061.355 Environmental Policy (3-0:0-0) 3 Environmental policy development and enactment in Canada; federal and provincial review processes; socio-political aspects of policy development; chemical and pesticide licensing procedures and environmental effects monitoring; environmental policy and sustainability; case studies; discussion of various policies; ethics of development, preservation and conservation; environmental risk management. *Prerequisites:* 061.239 or 018.239.

061.356 Agribusiness Portfolio Management (3-0:0-0) 3 The application of portfolio management to agribusiness, including asset allocation, portfolio construction and analysis, and operation of investment instruments and capital markets. Includes Canadian Securities Course. *Prerequisite:* Major in Agribusiness or Accounting and Finance, with 60 credit hours, 009.110 and 018120, or permission from instructor. Recommended G.P.A. of 2.8 or higher.

061.412 Intermediate Econometrics (3-L:0-0) 3 A course in applied econometrics that explores the regression model and how it may be used to test economic theory. Special emphasis is placed on violations to the assumptions of least squares, specification error, and applying the model to production, forecasting and economic theory. Students may not hold credit for both 061.412 and the former 018.444. *Prerequisite:* Written consent of Instructor; this course assumes students have had a sound background in economic theory (e.g. micro and macro), as well as single variable calculus, linear algebra, and basic statistics. 061.308 or 018.318 is highly recommended. Also offered as 018.412 by the Department of Economics.

061.424 Agricultural Economics Special Project (1-0:1-0) 3 Students will undertake a project to analyze an applied problem and present results in a research and/or extension paper. A list of relevant readings will be assigned. Permission of the Department Head required.

061.425 Commodity Market Analysis (3-0:0-0) 3 Theory and methods of price analysis, commodity markets and the demand and supply factors that underpin seasonal,

cyclical and secular changes in commodity prices. *Prerequisites:* 018.245 or 018.270 and 061.308 or the former 018.308. Not to be held with the former 061.404.

6.3 Animal Science

NOTE: Most third- and fourth-year courses have prerequisites listed. These are recommended to provide the necessary background for the particular course. However, other courses may be acceptable with the consent of the instructor.

035.250 Animal Production (3-L:0-0) 3 Built on concepts introduced in 065.150 and 065.151, by elaborating on the basic essentials of animal production. *Prerequisites:* 065.150, 065.151.

035.251 Anatomy and Physiology 1 Control Systems (3-L:0-0) 3 Will deal with the structure, functions and interactions of the coordinating/regulatory systems in the animal body; including the nervous, muscular, cardiovascular, respiratory, renal and endocrine systems. *Corequisite:* 002.277 (060.277) or 002.236 (060.236).

035.252 Anatomy and Physiology 2 Nutrient Utilization (0-0:3-L) 3 The digestion, absorption and utilization of nutrients by farmed species. Basic characteristics of the digestive system, aspects of regulation of feed intake and rates of passage, intermediary metabolism of nutrients, growth and development, health and other factors influencing nutrient utilization. *Prerequisite:* 035.251. *Corequisite:* 002.278 (060.278) or 002.237 (060.237)

035.311 Principles of Nutritional Toxicology (3-0:0-0) 3 The science of dietary toxins and their interrelationships with nutrition. General principles of the toxicology, mode of action and metabolism of toxic chemicals that occur in foods and animal feedstuffs. *Prerequisite:* 002.132. Not offered in 2003-04.

035.350 Principles of Animal Genetics (3-0:0-0) 3 Topics discussed will include population genetics, quantitative variation, selection and mating systems with particular reference to domestic species. *Prerequisite:* 039.252.

035.351 Feeds and Feeding (3-L:0-0) 3 A detailed discussion of feedstuffs used for domestic animals, animal nutrient requirements, ration balancing, feedstuff processing and feed safety. *Prerequisite:* 035.252.

035.352 Animal Reproduction (3-L:0-0) 3 The comparative anatomy and physiology of reproduction of farmed animals will be emphasized. Focus will be on the natural synchronization of reproductive processes and the potential to regulate and improve reproductive efficiency. *Prerequisite:* 035.251.

035.353 The Animal and Its Environment (0-0:3-L) 3 Deals with how the animal is influenced by its environment to affect health, welfare and performances. Principles of farmed animal behaviour, welfare and behavioural management, health, and facility design and modification will be considered in the context of animal/environment interactions. *Corequisite:* 035.252.

035.409 Livestock Problems (3) First Term. A minor thesis on livestock problems, prepared by the student under direction. (For Animal Systems Majors only.) *Prerequisite:* Consent of department head.

035.422 Animal Science Investigations (6) Minor research on some problem in animal science. Instruction and supervision in setting up the project, in collecting and processing data, and in writing the report. (Fourth-year students in Animal Systems Major only.) *Prerequisite:* Consent of department head.

035.428 Applied Animal Genetics (0-0:3-0) 3 Application of principles of animal breeding. Modern methods, techniques, and programs for genetic improvement of cattle, sheep, and swine. *Prerequisite:* 035.350.

035.441 Grassland Agriculture: Plant, Animal and Environment (0-0:3-L) 3 Inter-relationships between the biological components of grassland agriculture as they relate to forage production on the Canadian Prairies. Topics include utilization by wild and domestic animals, plant community relationships and role of forages in multiple land use planning. This course also given in Plant Science as 039.441.

035.450 Animal Health (0-0:3-0) 3 Responses of basic animal functions to challenge by potentially pathogenic organisms, genetic or metabolic disorders, and toxicants will be discussed. Strategies for prevention and treatment will be outlined. *Prerequisite:* 035.252. Offered in 2003-04 and alternate years thereafter.

035.451 Domesticated Animal Behaviour (3-L:0-0) 3 An awareness and understanding of normal behaviours of animals will be emphasized. Relationships between behaviour, welfare and management will be explored. Emphasis will be on farmed animals but companion animals, wild animals and laboratory species will also be discussed. *Prerequisite:* 035.252 or consent of the instructor. Not offered in 2003-04 and alternate years thereafter.

035.452 Ruminant Production Systems-Meat (3-L:0-0) 3 To provide an appreciation of the industry in terms of size, complexity and relationship to the economy and give an understanding of the breeding, feeding, management and marketing strategies for modern ruminant production systems. Open only to students holding at least 60 credit hours. *Prerequisite:* 035.250.

035.453 Ruminant Production Systems-Milk (0-0:3-L) 3 Will describe the industry in terms of size, complexity and relationship to the economy and give an understanding of the breeding, feeding, management and marketing practices in a modern system for milk production. Open only to students holding at least 60 credit hours. *Prerequisite:* 035.250.

035.454 Monogastric Production Systems (3-L:0-0) 3 Describes the swine industry in terms of size, complexity and relationship to the economy and gives an understanding of the breeding, feeding, management and marketing practices in a modern production unit. Outlines other monogastric production systems of relevance to the agriculture industry. Open only to students holding at least 60 credit hours. *Prerequisite:* 035.250.

035.455 Avian Production Systems (0-0:3-L) 3 Describes the various avian systems in terms of size, complexity, and relationship to the economy and gives an understanding of the management and marketing practices in the usual poultry systems. Open only to students holding at least 60 credit hours. *Prerequisite:* 035.250.

035.456 Issues in Animal Agriculture (0-L:0-L) 3 A seminar course which will allow students in the Animal Systems program to examine issues in the animal industry area and discuss these topics in both oral and written form. The class will meet for one 3-hour period each week for both terms. (Fourth year Animal Systems majors only)

6.4 Biosystems Engineering

For course descriptions of the following courses in Biosystems Engineering, see Biosystems Engineering in the Faculty of Engineering section of this *Calendar*: 034.211, 034.258, 034.324, 034.327, 034.332, 034.355, 034.358, 034.412, 034.418, 034.424, 034.439, 034.440, 034.442, 034.446, 034.448, 034.453, 034.454, 034.455, 034.456, 034.457, 034.458.

034.205 Metalworking Methods (0-0:2-L) 3 Principles of operation of the lathe, milling machine, shaper, planer, drill, and grinding machine. Laboratory project requiring the use of the above machines. Limited practice in gas and electric welding.

034.208 Agricultural Survey Systems (2-L:0-0) 3 Survey systems and techniques applicable to agriculture. Use of level, transit and tape. Theory of errors and error adjustment. Mapping.

034.209 Machinery for Agricultural Production (3-L:0-0) 4 Farm machinery selection. Machine performance. Ownership and operating costs. Analysis of machine functions for safety and efficiency.

034.353 Engineering Fundamentals (3-L:0-0) 3 Principles of heat transfer, steam, psychometrics, fluid mechanics, material balances, electricity and refrigeration. Cannot be held for credit in the Faculty of Engineering. Not to be held with the former 034.329. *Prerequisite:* 136.168M or the former 013.129 or 013.128.

034.434 Animal Production Environment (0-0:3-L) 3 Aspects of temperature, humidity, light, space, manure and feed handling components of controlled environments for domestic animals. Not offered in 2003-04.

034.445 Radiation Processing of Food and Other Agricultural Commodities (3-2: 0-0) 4 An introduction to the scientific principles underlying the radiation processing of food and other agricultural commodities; its development within the context of societal needs and concerns. *Prerequisite:* 071.201 or 071.125 and 002.130 or the former 002.123 or the former 127. Not offered in 2003-04.

034.450 Water Management (0-0:3-0) 3 Introduction to the design of irrigation and drainage systems. Topics in irrigation include sprinklers, laterals, mainline and pumps. Drainage topics cover both the surface and subsurface systems. Analysis of precipitation and runoff. Environmental impacts of water management.

034.451 Agricultural Waste Management (3-0:0-0) 3 Characteristics of waste, design of systems for collection, storage and land application, alternate treatment/conversion systems, impacts on air, soil and water quality. *Prerequisite:* 035.353 or consent of instructor. Not offered in 2003-04.

034.452 Crop Preservation and Handling (3-0:0-0) 3 Interaction of biological and physical factors related to methods of preserving, storing, and handling cereals, oilseeds, and other agricultural crops.

6.5 Entomology

038.205 Introductory Entomology (0-0:3-L) 3 A basic course for students requiring a foundation in entomology. The anatomy, life history, identification, adaptations, and relations of insects to humans are examined along with methods of collecting and preserving insect specimens. Students may not hold credit in 038.205 and the former 038.315 and 022.349.

038.316 Veterinary and Wildlife Entomology (0-0:3-0) 3 An introduction to the insects and their relatives that affect domestic animals, pets and wildlife. Special consideration is given to life histories, insect/host interactions, evolutionary relationships, impact on host vertebrates and pest management. Offered in 2003-04 and alternate years thereafter.

038.413 Principles of Insect Control (0-0:3-0) 3 A course for students requiring a single summary course in insect control. Methods examined are chemical, cultural, mechanical, physical, biological, legal, and integrated controls. Students may not hold credit in 038.413 and 038.431.

038.425 Pesticide Toxicology (3-0:0-0) 3 Action, behaviour, and fate of pesticides in target and non-target species and in the environment. Past, present, and future chemical control agents will be discussed on the basis of chemical and biochemical knowledge. *Prerequisite:* A course in biochemistry. Not offered 2003-04.

038.428 Aquatic Entomology (3-L:0-0) Adaptations and significance of insects to aquatic habitats, with emphasis on identification. Aquatic insects as indicator species of pollution and their response to chemical pesticide application. A collection of aquatic insects is required. *Prerequisites:* 038.205; 065.237 or 022.237 or 001.237; or consent of instructor. Offered in 2003-04 and alternate years thereafter.

038.431 Insect Pests of Crops (0-0:3-L) 3 A course providing detailed information about economic entomology. Life histories, identification, damage and potential losses due to major insect pests of important Canadian crops. Emphasis is on management of a dynamic agroecosystem. *Prerequisite:* 038.205 or consent of instructor. Students may not hold credit in 038.431 and 038.413.

038.432 Pollination Biology (3-0:0-0) 3 The biology, ecology of social, semisocial and solitary insect pollinators and their ecological interactions with entomophilous plants. Offered 2003-04 and alternate years thereafter.

038.436 Principles of Pest Management (0-0:3-0) 3 Techniques of integrated pest

management of insects, weeds and plant diseases are discussed in the context of sustainable agriculture. Topics covered include population dynamics, modelling and forecasting of pest problems and the impact of crop management strategies with respect to specific crops. This course also given in Plant Science as 039.436. *Prerequisites:* 039.427 or 001.421 and *pre- or corequisites* 038.431, 039.354, or the former 039.419, or consent of instructor. Not offered 2003-04.

038.450 Insect Taxonomy and Morphology (3-L:0-0) 3 Study of insect structure combined with evolution of insect orders. Modern concepts of subspecies, species and higher taxa. Collection required (contact instructor for details in April/May of preceding year.) Students may not hold credit for 038.450 and the former 038.412. *Prerequisite:* 038.205 or consent of instructor. Offered in 2003-04 and alternate years thereafter.

038.452 Physiological Ecology of Insects (0-0:3-0) 3 The effect of environmental factors such as temperature, moisture, light and other organisms on the physiology and ecology of insects. *Prerequisite:* 038.205 or consent of instructor. Not offered 2003-04.

038.454 Pesticides and Toxicology (3-0:0-0) 3 A comprehensive examination of the impact of pesticide on organisms. Topics include: pesticide dilemma; pesticide exposure; pesticide acute and chronic toxicity in target and non-target organisms; pesticide persistence and distribution in the environment; impact of pesticides on human health; pesticide residue analysis; alternatives to pesticides. Also offered as 040.454 in Soil Science. Not to be held with 038.425 or 040.411.

6.6 Food Science

078.250 Food Chemistry (0-0:3-L) 3 The chemical components of food. Chemical problems and chemical changes which exist uniquely in foods. *Prerequisite:* 002.277 (060.277) or 002.236 (060.236).

078.301 Food Process 1 (0-0:3-L) 3 The principles of food processing and preservation are covered with emphasis on drying, evaporating, separating, thermal processing, mixing and packaging. Also, preservation by salting, smoking, microwave, radiation and chemical techniques is presented. *Corequisite:* 078.321.

078.316 Frozen Dairy Products (3-L:0-0) 3 Technology of frozen dairy products, including selection and processing of materials and handling of products. Standards and quality control programs for major dairy products will be covered. Not offered in 2003-2004. Offered in 2004-2005 and alternate years thereafter.

078.317 Cheese and Fermented Milk Products (3-L:0-0) 3 Selection and evaluation of raw materials and lactic cultures are covered. Processing, packaging and distribution of cheddar and cottage cheese, cultured milk, cream and yoghurt are studied. Offered in 2003-04 and alternate years thereafter.

078.320 Baking Science and Technology (0-0:3-0) 3 The science and technology of transforming wheat into quality baked foods. Focus will be on the biophysical and biochemical basis for the functionality of intrinsic wheat constituents, e.g. starch, gluten proteins, and extrinsic ingredients, e.g. yeast, chemical leaveners, fats, oxidants, enzymes and other improvers. Principles of product formulations and modern processing techniques used to add value to wheat as diverse foods will also be covered. *Prerequisite:* 002.277 (060.277).

078.321 Food Engineering Fundamentals (0-0:3-L) 3 Applications of engineering fundamentals to unit operations in the food industry. *Prerequisite:* 034.353.

078.350 Processing of Animal Food Products (0-0:3-0) 3 Processing of materials of animal origin will be studied with emphasis on product quality and safety. Impact of initial characteristics as well as processing technologies will be discussed in relation to nutritive value, convenience, functionality, aesthetic factors and food safety. *Prerequisite:* 002.277 (060.277) or 002.236 (060.236). Not offered in 2003-2004. Offered in 2004-2005 and alternate years thereafter.

078.401 Food Process 2 (3-L:0-0) 3 The processing of specific food groups is covered. The functions and changes in the primary chemical components (carbohydrates, proteins and lipids) of the commodities receive special consideration. New technologies including thermal/non-thermal processing, radiation, extrusion, minimal processing and other advanced processing methods will be studied. *Prerequisite:* 078.301.

078.412 Food Science Seminar (3-0:0-0) 3 Written and verbal presentations of selected topics of current interest in the food science area. Should be taken in fourth year.

078.415 Food Microbiology 1 (3-L:0-0) 3 Relationships of microorganisms to processing and spoilage of food.

078.416 Food Analysis 1 (3-L:0-0) 3 The more common basic procedures employed in the physico-chemical analysis of food products, plus functions and operations of a processing plant laboratory. *Prerequisite:* 002.132 and 078.250.

078.420 Quality Control in Foods (3-0:0-0) 3 Fundamentals of quality control and their industrial application through physical, chemical, microbiological, statistical and sensory methods will be studied. Statistical process control (SPC) will be mainly covered; required background knowledge of statistics will be reviewed briefly. *Prerequisite:* 078.301.

078.423 Food Research (0-L:0-0) or (0-0:0-L) 3 Research interests and aptitudes of students are developed through specific project assignments related to the food industry. *Prerequisite:* permission of department head required.

078.424 Analysis of Water and Wastes (3-L:0-0) 3 Introduction to the principles and application of the standard methods employed in the analysis of water and wastes in the food processing industry.

078.425 Food Analysis 2 (0-0:3-L) 3 Advanced techniques employed in the physico-chemical analysis of food products as preparation for research, development, and inspection roles in government and in industry. *Prerequisite:* 078.416.

078.428 Food Microbiology 2 (0-0:3-L) 3 In depth study of the microbiological problems encountered in different segments of the food industry, including the cereal,

confectionery, fruit, vegetables, meat, poultry, fish, dairy and beverage industries. *Prerequisite:* 078.415.

078.430 Food Toxicants (3-0:0-0) 3 An introduction to the principles of toxicology and the application of these principles to toxicological testing of food products. Food toxicants to be discussed include those of natural origin and those which are either intentional or accidental additives. *Prerequisite:* 002.277 (060.277) or 002.236 (060.236).

078.431 Introduction to HACCP (3-0:0-0) 3 This course will cover principles related to hazard analysis and critical control points (HACCP), a food safety and self-inspection system that is widely endorsed internationally by industry, consumer and regulatory groups. HACCP examines chemical, physical and biological hazards and identifies critical control points involved in producing, manufacturing and processing of food products. *Prerequisite or corequisite:* 078.415 or consent of instructor.

078.450 Food Safety and Regulations (0-0:3-0) 3 Current food safety issues; government, industry and consumers' role in organizing a safe food supply system; food laws and regulations in Canada and internationally. Preventative measures to increase food safety and sanitation will also be covered. *Prerequisite:* 078.415 or 078.430. Offered in 2003-04 and alternate years thereafter.

078.451 Food Product Development (0-0:3-0) 3 This course will allow the student to gain an understanding of the product development procedure as it relates to the food industry. Emphasis will be on application of basic knowledge of foods and food processing in designing a new product. *Prerequisites:* 118.221, 005.200 (or equivalent), 078.301. Cannot be held with 030.428.

078.452 The Packaging of Food (3-L:0-0) 3 Introduction to the physical principles and technology of packaging for the food industry with emphasis on the consequences to food stability and quality. *Prerequisite:* 078.301 or consent of instructor.

078.454 Functional Foods and Nutraceuticals (0-0:3-0) 3 This course will examine the bioactive components of functional foods and nutraceuticals, their sources, chemistry, process technology, efficacy, safety and regulation. *Prerequisite:* 002.277 or 002.236 (060.236).

6.7 Plant Science

039.250 Crop Production (0-0:3-L) 3 An introduction to the principles and practices of crop production in Canada. Topics will include physiological processes and factors affecting plant yield, plant improvement, seed production, and production of potatoes and the major cereal, oilseed, forage and special crops. *Prerequisite:* 065.150.

039.251 Fundamentals of Horticulture (3-L:0-0) 3 Principles of the culture, marketing, and utilization of fruits, vegetables, and ornamentals, their contribution to the economy and well-being of consumers, and impact of horticultural activities on the environment. *Prerequisites:* 071.125; 065.150; or consent of instructor.

039.252 Genetics (3-L:0-0) 3 Basic principles of genetics and their practical application in the areas of DNA structure and function, genome organization and genetic analysis. Laboratory sessions provide practical experience in solving genetic problems and conducting genetic investigations. Not to be held with 001.246. *Prerequisite:* a minimum grade of "C" in 071.125.

039.314 Introductory Cytogenetics (3-L:0-0) 3 Principles of cytogenetics including basic techniques, light microscopy, changes in chromosome number and structure and an introduction to molecular cytogenetics. *Prerequisite:* 039.252 or 001.246.

039.318 Greenhouse Crop Production (3-L:0-0) 3 Basic requirements of commercial greenhouse operations with emphasis on environmental parameters. General culture procedures for production of selected greenhouse crops. *Prerequisite:* 039.251, or consent of instructor. Not offered.

039.337 Environmental Horticulture (0-0:3-T) 3 Management principles involved in the production of ornamental perennial plants in the nursery and their establishment and maintenance in the urban environment, with an emphasis on arboriculture. Includes a number of tutorials to allow for guest speakers, discussions and tour. Offered in 2004-2005 and alternate years thereafter.

039.350 Plant Physiology (3-L:0-0) 3 An integrative view of major physiological processes in plants, spanning the biochemical, cellular, tissue, organ and whole plant levels of organization and addressing the effects of environmental conditions on these processes. Topics covered: photosynthesis and respiration, water relations, plant nutrition, assimilate partitioning, and regulation of growth. Not to be held with 001.301 or the former 001.317. *Prerequisites:* 071.125; 002.277 (060.277) or 002.236 (060.236); 001.201 or the former 001.230 or consent of instructor.

039.351 Cropping Systems (3-T:0-0) 3 Examination and analysis of sustainable prairie cropping systems. Emphasis will be placed on integrated systems that optimize the benefits of crop rotation, and conserve soil, water and wildlife resources. Conventional, traditional and alternative crop production systems will be discussed. Includes a limited number of tutorials to allow for field tours and guest speakers. *Prerequisite:* 039.250.

039.352 Principles of Plant Improvement (3-L:0-0) 3 Basic objectives, principles, and methods of plant genetic improvement. Traditional and modern plant breeding, genetic resources, selection, and applications of tissue culture, genetic engineering and molecular markers to plant improvement. *Prerequisite:* 039.252 or 001.246.

039.353 Horticultural Food Crops (3-L:0-0) 3 Management practices, environmental considerations, and physiological factors involved in the production, marketing, and handling of the major vegetable and fruit crops. *Pre- or corequisite:* 039.251 or consent of instructor. Offered in 2003-2004 and alternate years thereafter.

039.354 Weed Science (0-0:3-L) 3 Identification, biology and ecology of weeds of agricultural importance in western Canada, including principles of cultural, mechanical, biological and chemical control. Topics include weed interference, effects of rotational and management practices on weed species composition, herbicide selectivity and mechanism of action, and emerging control technologies. *Prerequisites:* 071.125;

065.150; or consent of instructor.

039.355 Organic Field Crop Production (0-0:3-0) 3 Management principles and practices involved in the production of organic field and forage crops with a focus on the Canadian Prairie Region. *Prerequisite:* 039.250 and 040.351 or consent of instructor.

039.427 Plant Disease Control (3-L:0-0) 3 Diseases attacking field crops and horticultural plants: recognition of symptoms, methods of prevention, alleviation, and control. *Prerequisite:* 039.250 or consent of instructor.

039.430 Grain Technology (3-0:0-0) 3 Examination of the technology of handling, storage, transportation, grading (quality control), and processing of the major Canadian grains, including cereals and oilseeds.

039.433 Intermediate Plant Genetics (3-L:0-0) 3 A study of gene behaviour as related to genetic analyses of data from plant populations; multiple allelic systems and polygenic inheritance of quantitative traits; extra-chromosomal inheritance and the significance of cytoplasmic influence. Examples will be drawn from experimental data where available. *Prerequisite:* 039.252 or 001.246.

039.436 Principles of Pest Management (0-0:3-0) 3 Techniques of integrated pest management of insects, weeds and plant diseases are discussed in the context of sustainable agriculture. Topics covered include population dynamics, modelling and forecasting of pest problems and the impact of crop management strategies with respect to specific crops. This course also given in Entomology as 038.436. *Prerequisites:* 039.427 or 001.421; and *pre- or corequisites* 038.431 and 039.354; or consent of instructor. Not offered 2003-04.

039.438 Plant Science Thesis (6) An independent research project under the supervision of a staff member. A thesis including a literature review, methods, results and discussion is required. Enrolment limited. Open only to students in their 4th year. Not to be held with 040.408. *Prerequisite:* Consent of department head.

039.441 Grassland Agriculture: Plant, Animal and Environment (0-0:3-L) 3 Inter-relationships between the biological components of grassland agriculture as they relate to forage production on the Canadian Prairies. Topics include utilization by wild and domestic animals, plant community relationships and role of forages in multiple land use planning. This course also given in Animal Science as 035.441.

039.450 Plant Genetic Engineering (0-0:3-L) 3 Genetic modification of crop plants using molecular methods; examples of genetically engineered crops; ecological, legal and social issues; use of molecular markers in plant breeding. *Prerequisites:* 002.278 (060.278) or 002.237 (60.237); 039.252 or 001.246.

039.451 Plant Metabolism (0-0:3-0) 3 An examination of plant metabolism at the molecular level covering photosynthesis, respiration, lipid and amino acid synthesis, hormone synthesis, and metabolic regulation. *Prerequisites:* 002.278 (060.278), or 002.237 (060.237); 039.350; or consent of instructor.

039.452 Crop Physiology (0-0:3-L) 3 The physiology of crop plants as it applies to production in the field. Topics include seed physiology, canopy photosynthesis, nutrient acquisition, crop growth, flowering, fruit and seed development, and determinants of crop yield. *Prerequisites:* 002.277 (060.277) or 002.236 (060.236); 039.350 or 001.201 and 001.202 or the former 001.230 (039.350 recommended).

039.453 Woody Plants in the Prairie Landscape (3-L:0-0) 3 Classification, identification, ecological characteristics, landscape characteristics and use of native and introduced woody plants found in the prairie landscape. The course will include the preparation of a landscape plan incorporating a selection of the plants studied. Offered in 2003-2004 and alternate years thereafter.

6.8 Soil Science

040.306 Introduction to Agrometeorology (3-0:0-0) 3 Basic description and discussion of properties of the atmosphere, radiation, temperature, effect of temperature on plant growth, climate and animal response, water, evapotranspiration, insect adaptation, activity in relation to climate, climatic data.

040.350 Landscapes and Biophysical Processes (3-L:0-0) 3 Soil and landscape description and interpretation; surficial geology and water; land patterns and slope morphology; hydrologic and ecosystem processes; role of soil and landscape in the functioning of terrestrial ecosystems.

040.351 Fundamentals of Soils and Landscapes (3-L:0-0) 3 Soils as part of the land ecosystem, and as structured bodies of both biotic and abiotic components that interact within landscapes. An examination of the terrestrial environment as a resource; its behaviour, limitations, fate and use.

040.406 Physical Properties of Soils (0-0:3-L) 3 Physical properties of soils and their relation to plant growth. Topics discussed include particle size distribution, soil water, soil structure, soil temperature, and soil aeration. *Prerequisite:* 040.350 or 040.351 or consent of instructor.

040.408 Soils Thesis (6) The student will prepare a thesis on a problem in soil science. Each student will give two seminars: the first will be a review of literature pertinent to his/her problem; the second, a presentation and interpretation of results of his/her research. Not to be held with 039.438. *Prerequisite:* Consent of department head.

040.409 Chemical Analysis of Soils (3-L:0-0) 3 Principles involved in the chemical analysis of soils; analytical procedures useful in the characterization of soils. *Prerequisites:* 002.132 or consent of instructor.

040.411 Agricultural Pesticides (0-0:3-0) 3 A comprehensive examination of the benefits and risks of pesticide use. Topics include: Characteristics of pesticide products and formulations used in western Canada; Behaviour of pesticides in agroecosystems and surrounding environments; Pesticide residue analysis; Pesticide environmental contamination; Alternatives to pesticides. Not to be held with 038.454 or 040.454.

040.412 Soil Microbiology (0-0:3-L) 3 Types, growth and functions of soil organisms. Cycling of soil nutrients (N,C,P,S) by soil organisms. Microbial transformation of farm wastes and agricultural chemicals and effects of agricultural chemicals on soil micro-

bial processes. *Prerequisite:* 040.350 or 040.351 or consent of instructor. Not to be held with 060.340.

040.413 Soil Chemistry and Mineralogy (0-0:3-0) 3 Composition of soil materials. Reactions of nutrients and contaminants with soil organic matter, silicate clays, oxides and other soil constituents which affect their mobility and bioavailability. *Prerequisite:* 040.350 or 040.351 or consent of instructor.

040.450 Remediation of Contaminated Land (0:0:3-L) 3 Physical, chemical and biological approaches to remediation of land including; nature of contaminants, procedures for assessing the extent of the impact, consequences to the environment, approaches to remediation and case studies of contaminant remediation. *Prerequisite:* 040.350 or 040.351 or consent of the instructor.

040.451 Soil and Water Management (3-L:0-0) 3 Topics include: capability of land for agriculture; storage, movement and use of water; saline and alkaline soils; soil conservation including erosion; sustainability of soil organic matter; effect and fate of soil amendments. *Prerequisite:* 040.350 or 040.351.

040.452 Soil Fertility (3-L:0-0) 3 Forms and behaviour of plants nutrients in soil; soil fertility evaluation and management, including fertilizer sources and practices. *Prerequisite:* 040.351 or 040.350.

040.453 Land Use and Environment (0-0:3L) 3 Biophysical land classification and management tools; land ratings; effect of land use on environment; policy and legislation effects in land management. Not to be held with 040.415 *Prerequisite:* 040.350.

040.454 Pesticides and Toxicology (3-0:0-0) 3 A comprehensive examination of the impact of pesticides on organisms. Topics include: Pesticide dilemma; Pesticide exposure; Pesticide acute and chronic toxicity in target and non-target organisms; Pesticide persistence and distribution in the environment; Impact of pesticides on human health; Pesticide residue analysis; Alternatives to pesticides. Not to be held with 038.425 or 040.411.

SECTION 7: School of Agriculture: Diploma Program

General Office: 248 Agriculture Building

Telephone: 204 474 9391

Director: M.K. Pritchard

Student Advisor: M. Brolley

7.1 Preface

The two-year Agriculture Diploma program offers a practical education for persons interested in operating a farm or working in an agricultural business. Although many diploma graduates return to family farms after graduating, an increasing number of graduates can be found working for farm supply companies, feed companies, financial institutions and grain handling companies, as well as doing technical work for various government agencies.

The Agriculture Diploma program covers a wide range of agricultural subjects, from production through to marketing and business management. Communication and leadership skills also receive considerable emphasis. The program culminates in assignments and a major project that relate directly to the student's individual farm or business interests. The program extends over two winters. Classes begin in late September and end in early April to accommodate students with obligations to plant and harvest crops.

7.2 Core Learning Objectives

Upon completion of this program, students will be expected to demonstrate proficiency in each of the following areas:

- 1. Technical knowledge and competence:** A balanced approach between principles and practices, and between proven concepts and emerging ideas and technologies will provide students with the opportunity to develop skills in diverse areas.
- 2. Critical thinking ability:** The ability to analyze information will be developed through research, problem-solving and decision-making assignments, and through exercises where students will defend their ideas and opinions.
- 3. Awareness of diverse perspectives:** The program will broaden the student's perception of the scope of the agricultural industry beyond primary production to include the many facets of agribusiness in today's world both on local and international scales.
- 4. Personal development:** The emphasis on developing both verbal and written communication skills, team-building, and career initiative allows students to meet the challenge of attaining their best, both academically and professionally.

7.3 Admission to the Diploma In Agriculture

Diploma students enter directly to the Agriculture diploma program from high school; University 1 is not required.

Applicants must either have a suitable Manitoba High School standing (or equivalent) or be recommended by a selection committee. The high school standing must include credit for English 40S or 40G; Mathematics 40S or 40G; at least one 40S or 40G Science course - normally either Biology, Chemistry or Physics.

Students without a suitable high school standing may be admitted upon the recommendation of the Diploma Selection Committee. The committee will review each application and interview the applicants. The maturity, scholastic ability and agricultural experience of the applicant will be considered.

7.4 Academic Regulations for the Diploma In Agriculture

Requirements for Graduation

To qualify for the Diploma in Agriculture a student must have attained a cumulative GPA of at least 2.00 and a minimum grade of "D" in courses totalling 93 credit hours including all those on the prescribed list. Elective courses in which failures were obtained may be substituted for and need not be repeated, except to help meet the requirements of the scholastic standards described previously.

Part-Time vs. Full-Time Status for Students

A student is considered to be equivalent to full-time if at least 60 per cent of the normal full-time course load is attempted in the academic term or session. (A normal full-time course load is usually 48-52 credit hours during the regular session.) A student will be allowed to take a partial course load with the permission of the Director of the School of Agriculture and the payment of pro-rated fees.

Transfers of Credit From Other Programs

Courses taken within the undergraduate degree programs of the Faculty of Agricultural and Food Sciences can qualify for credit towards the Agricultural Diploma program. See Academic Regulations in the Degree section. Courses taken outside the Faculty of Agricultural and Food Sciences or outside of the University of Manitoba can qualify for credit towards the Agriculture Diploma program if the course content and the student's performance are deemed appropriate by the department concerned.

Students who desire to receive such credit should contact the Student Advisor of the School of Agriculture.

Scholastic Standards

To maintain good academic standing a student must maintain a Cumulative GPA that meets or exceeds the minimum academic standards described in the table below. The standards are based on the total number of credit hours accumulated while in the Agriculture Diploma program, including courses taken during the term in question. A student who fails to meet the standard is placed on probation or on academic suspension.

Cumulative Credit Hours	Cumulative Grade Point Average	
	Probation	Suspension
0 – 17	—	1.00
18 – 24	1.80	1.60
25 – 48	1.90	1.70
Over 48	2.00	1.85

NOTES:

- Cumulative Credit Hours includes courses passed and failures not removed by supplemental exams or successful reattempts.
- When both a final and supplemental exam are written the higher grade obtained will be used to determine Grade Point Averages.
- A minimum of 18 credit hours must be attempted between successive terminations of standing. The minimum does not apply to students who graduate before completing an additional 18 credit hours.

Probational Standards and Academic Suspension Regulations

Students on probation must improve their academic performance and regain good academic standing to avoid being suspended. Specifically, after an attempt of a minimum of 18 additional credit hours, students on probation are required to equal or exceed the probation standard in order to regain good academic standing, otherwise they will be placed on academic suspension.

A student on academic suspension is not allowed to register for the subsequent term of the regular academic session (a student suspended in January may not be reinstated until the following September; a student suspended

in April may not be reinstated until the following December). Reinstatement requires the approval of the Director. Students should contact the Student Advisor for further instructions. If reinstatement is granted, all courses from the student's previous attempt will be transferred, except those with a grade of "D" or "F" from their last term (the term during which the student was placed on suspension).

Appeals

Appeals of academic assessment of students must be submitted to the general office of the Faculty of Agricultural and Food Sciences within 21 days of the date of notification of the action sent to the student.

Supplemental Exams

Any student in good academic standing (i.e., not on probation or suspension; see previous table of Scholastic Standards) is eligible to write one supplemental exam during each academic session in a course in which an "F" was received. The student must have written the final exam. The supplemental exam shall be considered as a replacement for the final exam only, not for term work. The passing grade in supplementals must be at least "C" (2.0). Students are normally required to carry a full-term program in order to be eligible. Accordingly, students who are granted incomplete or deferred status may not be eligible. When both a final and supplemental exam are written the higher grade obtained will be used to determine the final grade.

Supplementals will be held in January for courses taken in the first term and in June for courses in the second term.

Maximum Voluntary Withdrawals

The maximum allowable number of voluntary withdrawals for the Agriculture Diploma program is 32 credit hours.

Time Limits and Lapse of Credit

The normal maximum time allowed for the completion of the Agriculture Diploma is five years from the date of first registration. A candidate for a Diploma in Agriculture will not be permitted to count toward that diploma any courses taken more than five years prior to the date of awarding the diploma.

Students who desire an exemption from this maximum must apply, in writing, to the Director.

Dean's Honour Roll

Students registered in at least 36 credit hours and who obtain a sessional GPA of 3.5 or higher will be placed on the Dean's Honour roll.

Graduation with Distinction

The Diploma in Agriculture with Distinction will be awarded to Diploma students who obtain a cumulative GPA of 3.75 or better with 75 per cent of the courses taken within the Diploma in Agriculture.

7.5 Program Requirements

The core curriculum of prescribed courses, common to all students, provides a broad yet integrated education in the production, management and marketing of agricultural products. Students are taught to use this knowledge to evaluate the technical and economic feasibility of a variety of alternative agricultural practices.

Prescribed Courses for all Students in Agriculture Diploma

First Year, Fall Term

Course No.		Credit Hours
034.060	Farm Machinery	4
035.042	Animal Biology and Nutrition	4
061.044	Agricultural Economics and Marketing 1	4
061.046	Financial Management 1	4
065.041	Communication and Learning Skills	4
065.042	Introduction to Soils and Crops	4
<i>Total credit hours</i>		24

First Year, Spring Term*

039.041	Cereal and Oilseed Production Practices	4
040.042	Soil Productivity and Land Use	4
061.045	Agricultural Economics and Marketing 2	4
061.047	Financial Management 2	4
<i>Total credit hours</i>		16

*plus two courses, according to option

First Year, Both Terms (for students enrolled prior to September 2003)

065.064	Management Planning Project I	4
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First Year, Both Terms (For students starting the Diploma in Agriculture in September 2003)

065.068 Management Planning Project 1 3

Second Year* (For students enrolled prior to September 2003)

038.062 Pest Management and Farm Insects (fall term) 4

065.065 Management Planning Project 2 (fall and spring term) 4

Total credit hours 8

*plus courses, according to option

Second Year* (For students starting in September 2003)

038.062 Pest Management and Farm Insects (fall term) 4

065.069 Management Planning Project 2 (fall and spring term) 5

Total credit hours 9

*plus courses, according to option

Total credit hours for prescribed courses, common for all students 52

NOTE:

*These additional courses will consist of those required within an option plus free electives, in accordance with the four options described below:

Options

In order to accommodate a modest level of specialization, the students will be required to elect one of four options by the end of first term, first year. Each of these four options has a series of required courses. However, within each option there are also unrestricted electives available to the student who wishes to blend training available in two or more option areas to increase the degree of specialization.

Business Management Option

This option offers a more in-depth education in business management to those people who intend to manage farms or work as employees, managers and/or business owners in the agricultural service sector (agricultural lending, fertilizer, feed and chemical sales, etc.).

Prescribed Courses for Business Management Option

Course No. Credit Hours

061.068 Agribusiness Management 4

061.069 Agricultural Finance and Credit 4

061.072 Farm Business Management 4

Plus at least one of the following:

061.070 Merchandising and Sales 3

061.071 Agricultural Policy 3

061.073 Financial Risk Management 3

Plus one Biosystems Engineering course:

034.040 Farm Power 4

034.069 Water Management 4

034.070 Agricultural Buildings and Environments 4

Total prescribed credit hours, within option. 19

Plus 22 credit hours of electives, to complete 93 credit hours within the program.

Crop Management Option

This option emphasizes soil and crop management. It is designed for people who plan to manage farms where crops are the primary farm enterprise or for those who are interested in careers in industries or businesses that provide services to these types of farms (e.g. crop supply businesses).

Prescribed Courses for Crop Management Option

Course No. Credit Hours

039.077 Weed Management 4

039.078 Plant Disease Management 4

040.062 Soil Conservation and Management 4

040.063 Soil Fertility 4

Plus at least one of the following:

039.075 Forage and Pasture Management 4

039.076 Special Crops 4

039.080 Diversification With Horticultural Crops 4

Plus one Biosystems Engineering course:

034.040 Farm Power 4

034.066 Materials Handling and Electrical Controls 4

034.069 Water Management 4

Total prescribed credit hours, within option 24

Plus 17 credit hours of electives, to complete 93 credit hours in the program.

Livestock Management Option

This option emphasizes the principles of livestock production, with some degree of specialized attention to beef, dairy, swine, poultry or horse production. It is designed for people who plan to manage farms where livestock production is the primary enterprise or for those who are interested in the agricultural service industries that support livestock production (e.g. feed suppliers).

Prescribed Courses for Livestock Management Option

Course No. Credit Hours

035.060 Animal Health and Welfare 3

039.075 Forage and Pasture Management 4

Plus at least one of the following:

035.067 Beef Cattle Production and Management 4

035.068 Dairy Cattle Production and Management 4

Plus at least one of the following:

035.069 Swine Production and Management 4

035.070 Poultry Production and Management 4

035.073 Horse Production and Management 3

Plus one Biosystems Engineering course:

034.066 Materials Handling and Electrical Controls 4

034.070 Agricultural Buildings and Environments 4

Total prescribed credit hours, within option 18-19

Plus 22-23 credit hours of electives to complete 93 credit hours in the program.

General Agriculture Option

This option exposes the student to crop and livestock production, agricultural economics and agricultural engineering beyond the exposure contained in the core curriculum. It is designed for those people who intend to manage diversified farm operations and for those who desire a general education in applied agricultural science.

Prescribed Courses for General Agriculture Option

Course No. Credit Hours

At least one of the following:

035.067 Beef Cattle Production and Management 4

035.068 Dairy Cattle Production and Management 4

035.069 Swine Production and Management 4

035.070 Poultry Production and Management 4

035.073 Horse Production and Management 3

Plus at least one of the following:

039.075 Forage and Pasture Management 4

039.076 Special Crops 4

039.080 Diversification with Horticultural Crops 4

Plus at least one of the following:

040.062 Soil Conservation and Management 4

040.063 Soil Fertility 4

Plus at least one of the following:

061.068 Agribusiness Management 4

061.072 Farm Business Management 4

Plus one Biosystems Engineering course:

034.040 Farm Power 4

034.069 Water Management 4

034.070 Agricultural Buildings and Environments 4

034.066 Materials Handling and Electrical Controls 4

Total prescribed credit hours, within option 19-20

Plus 21-22 credit hours of electives, to complete 93 credit hours in the program.

Additional Courses

(includes electives and courses required within options)

034.040 Farm Power 4

034.066 Materials Handling and Electrical Controls 4

034.068 Shop Methods 4

034.069 Water Management 4

034.070 Agricultural Buildings and Environments 4

035.060 Animal Health and Welfare 3

035.067 Beef Cattle Production and Management 4

035.068 Dairy Cattle Production and Management 4

035.069 Swine Production and Management 4

035.070 Poultry Production and Management 4

035.073 Horse Production and Management 3

035.072 Special Topics in Livestock Management 3

038.061 Beekeeping 2

039.066	Plant Propagation	4
039.067	Landscape Plants	3
039.068	Landscape Design	3
039.069	Landscape Maintenance	3
039.070	Nursery Management	3
039.071	Greenhouse Crop Production	3
039.074	Commercial Fruit Production	3
039.075	Forage and Pasture Management	4
039.076	Special Crops	4
039.077	Weed Management	4
039.078	Plant Disease Management	4
039.079	Landscape Horticulture	4
039.080	Diversification with Horticultural Crops	4
039.081	Special Topics in Crop Management	3
040.062	Soil Conservation and Management	4
040.063	Soil Fertility	4
061.068	Agribusiness Management	4
061.069	Agricultural Finance and Credit	4
061.070	Merchandising and Sales	3
061.071	Agricultural Policy	3
061.072	Farm Business Management	4
061.073	Financial Risk Management	3
061.074	Special Topics in Business Management	3
065.061	Advanced Communication and Rural Leadership	3
065.063	Special Project	3
065.066	Special Topics in General Agriculture	3
065.067	Agriculture Cooperative Education Work Term	1

7.6 Cooperative Education Program

Cooperative Education is a process of learning, which formally integrates the student's academic study with work experience in employer organizations. Work-related experience is found in industry, government and the farming profession. The work term provides the students with practical experience, help to finance their education and provide guidance for further career specialization. All regulations governing regular Faculty of Agricultural and Food Sciences diploma program apply to the Cooperative Education Program; in addition the following variations apply:

Admission: To be considered for admission in the Cooperative Education Program, a first year diploma student must have a minimum GPA of 2.5, and have completed at least 47 credit hour of studies by the end of the academic year of application.

Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Education Program. Acceptance into the program is dependant upon the student receiving a job placement through the cooperative education office.

Employment Term Requirements: The Cooperative Education Program is a five and one-half month program between the first and second year with a faculty-approved employer. Students are required to register in the employment term course and pay the fee prior to starting the employment term.

Academic Term Requirements: Once having been accepted into the Cooperative Education program there are three requirements for completion of the Work Term. Failure to do any of them in a timely fashion will result in a failing grade.

- Part way through the work term, the cooperative education coordinator will contact the student for a work site evaluation. During the evaluation both the student and employer will be interviewed and the work assessed. The student will need to make him/herself available for the interview.
- Two weeks after the end of the work term, a work term report is due and must be submitted to the cooperative education coordinator. Both content and format will be marked. (Details as to format and what is required in the report can be found in "Guidelines for Cooperative Education Work Term Report" which can be obtained from the cooperative education coordinator.)
- Also, two weeks after the end of the work term, a post employment review is required to be submitted to the cooperative education coordinator.

The director of the School of Agriculture, in consultation with the student advisor, will assign each participating student a faculty advisor. The faculty

advisor will be responsible for evaluating the student's work term report and assigning the student a grade based on the report, the employer's evaluation and cooperative education coordinator's site evaluation. Grades of "Pass" or "Fail" will be assigned. Diploma students successfully completing the work term will have their "Cooperative Education Option" acknowledged on their graduation parchment.

7.7 Course Descriptions

General Agriculture

065.041 Communication and Learning Skills (4) A course designed to improve learning skills and abilities in written and oral communication. Students may not hold credit for 065.041 and the former 065.040.

065.042 Introduction to Soils and Crops (3-L) 4 Topics covered will include soil forming factors; soil characteristics, climate, nutrient supply and crop production, biology of crop plants, crop establishment and protection, harvest management, farming systems and crop rotations.

065.061 Advanced Communication and Rural Leadership (3) A course designed to improve leadership potential and understanding of the rural community. *Prerequisite:* 65.041. Not offered in 2003-04.

065.063 Special Project (3) This project allows a student to make practical application of scientific knowledge acquired during the first year and/or to intensify the study of a topic of particular interest. A satisfactory report is required to qualify for credit. Students who intend to register for this course must obtain approval from the Director before the end of their first year.

065.064 Management Planning Project 1 (L) 4 Development of an objectives-driven plan that deals with production, personnel, marketing and financial management of a farm or off-farm business. Students may not hold credit for 065.064 and the former 065.062.

065.065 Management Planning Project 2 (L) 4 Refinement of the plan developed in Management Planning Project 1 with emphasis on generating and analyzing a complete set of financial statements for a farm or off-farm business. Presentation of the management plan, in both written and verbal form. On-site visits will be used to illustrate and reinforce management principles and practices and address issues raised in class. *Prerequisite:* 65.064. Students may not hold credit for 065.065 and the former 065.062.

065.066 Special Topics in General Agriculture (3) Selected topics of current interest in General Agriculture. *Prerequisite:* Written consent of Director of the School of Agriculture.

065.067 Agriculture Cooperative Education Work Term (1) Special 22-week work assignment in business, industry, government or research for cooperative education students in the diploma program. Requires submission of a written report covering the work completed during the five and one-half month professional assignment.

065.068 Management Planning Project 1 (L) 3 Development of an objectives-driven plan that deals with production, personnel, marketing and financial management of a farm or off-farm business. Students may not hold credit for 065.068 and the former 065.064 or 065.062.

065.069 Management Planning Project 2 (1.5-L) 5 Refinement of the plan developed in Management Planning Project 1 with emphasis on generating and analyzing a complete set of financial statements for a farm or off-farm business. Presentation of the management plan, in both written and verbal form. On-site visits will be used to illustrate and reinforce management principles and practices and address issues raised in class. Students may not hold credit for 065.069 and the former 065.065 or 065.062. *Prerequisite:* 065.068

Agribusiness and Agricultural Economics

061.044 Agricultural Economics and Marketing 1 (3-L) 4 Introduction to key economic concepts and business principles and their application to Canadian agribusiness. Students may not hold credit for 061.044 and the former 061.040 or 061.041.

061.045 Agricultural Economics and Marketing 2 (3-L) 4 The application of economic analysis in the study of marketing: concepts, policy, practices and institutions. *Prerequisite:* 061.044. Students may not hold credit for 061.045 and the former 061.065.

061.046 Financial Management 1 (3-L) 4 Study of accounting principles and financial information for the preparation and presentation of financial statements to facilitate the management of farms and agricultural businesses. Students may not hold credit for 061.046 and the former 061.042.

061.047 Financial Management 2 (3-L) 4 Study of analysis of financial statements and financial information by decision makers managing the finances of farms and agricultural businesses. *Prerequisite:* 061.046. Students may not hold credit for 061.047 and the former 061.043.

061.068 Agribusiness Management (3-L) 4 The application of economic, accounting and management principles to organizing, operating and managing an agribusiness. Students may not hold credit for 061.068 and the former 061.060.

061.069 Agricultural Finance and Credit (3-L) 4 Application of financial management concepts in evaluating investment options and risk in farm and agribusiness decision-making. *Prerequisite:* 061.046. Students may not hold credit for 061.069 and the former 061.061.

061.070 Merchandising and Sales (3) Analyzing food consumption, farm input usage and marketing trends and translating these into effective selling and distribution programs. Examination of the selling function and sales management. Students may not hold credit for 061.070 and the former 061.062.

061.071 Agricultural Policy (3) Review of agriculture, international trade and food

safety policies affecting the production and distribution of agricultural commodities and food products. Students may not hold credit for 061.071 and the former 061.064.

061.072 Farm Business Management (3-L) 4 Application of decision making principles in terms of farm production, finance, and marketing. *Prerequisite:* 061.047. Students may not hold credit for 061.072 and the former 061.066.

061.073 Financial Risk Management (3) Various approaches to managing market risk will be studied. This includes forward pricing, hedging and options along with insurance, diversification and technology to manage production risk. *Prerequisites:* 061.045 and 061.047.

061.074 Special Topics in Business Management (3) Selected topics of current interest in business management. *Prerequisite:* written consent of Director of the School of Agriculture.

Animal Science

035.042 Animal Biology and Nutrition (3-L) 4 An introduction to animal structure and function. Genetics, growth and reproduction will be related to animal production. Further, the digestive systems of various livestock species will be studied and related to types of feedstuffs that each species can utilize. The general function of nutrients within animals will also be discussed. Nutrient content of feedstuffs and application to nutrient requirements will be discussed. Students may not hold credit for 035.042 and the former 035.040 or 035.041.

035.060 Animal Health and Welfare (3) This course will discuss the common livestock and poultry diseases of the prairie provinces. Emphasis will be placed on prevention through management and health programs but treatment of specific diseases will be addressed. Animal welfare as it relates to commercial animal production will be discussed. *Prerequisite:* 035.042 or equivalent.

035.067 Beef Cattle Production and Management (3-L) 4 Beef cattle industry; the types of beef cattle enterprises and factors affecting profitability of production. Application of principles of nutrition, genetics and physiology in the management of beef cattle enterprises. *Prerequisite:* 035.042 or equivalent. Students may not hold credit for 035.067 and the former 035.061.

035.068 Dairy Cattle Production and Management (3-L) 4 A study of current production practices in Canada's dairy industry with focus on nutrition, reproduction, genetics, health, replacement rearing and marketing. *Prerequisite:* 035.042 or equivalent. Students may not hold credit for 035.068 and the former 035.062.

035.069 Swine Production and Management (3-L) 4 Swine industry; the types of swine enterprises and factors affecting profitability of production. Application of principles of nutrition, genetics and physiology in the management of swine. *Prerequisite:* 035.042 or equivalent. Students may not hold credit for 035.069 and the former 035.064.

035.070 Poultry Production and Management (3-L) 4 The poultry industry; marketing system, breeding, hatchery practices, management and feeding of large scale turkey and chicken enterprises. *Prerequisite:* 035.042 or equivalent. Students may not hold credit for 035.070 and the former 035.065.

035.073 Horse Production and Management (3) Principles of horse production, including genetics and breeding, reproductive management, nutrition and health. Applications to major sections of the horse industry. *Prerequisite:* 035.042 or equivalent. Students may not hold credit for 035.073 and the former 035.066 or 035.071.

035.072 Special Topics in Livestock Management (3) Selected topics of current interest in livestock management. *Prerequisite:* written consent of Director of the School of Agriculture.

Biosystems Engineering

034.040 Farm Power (3-L) 4 Basic operating principles of electric motors and gasoline, diesel, and LPG engines with emphasis on fuels, fuel systems, ignition systems, lubrication and power transmission. Dynamometer tests for efficiency, traction, tractor testing and power cost estimating.

034.060 Farm Machinery (3-L) 4 Operating principles of basic farm implements with emphasis on seed cleaning, seeding, tillage, haying and harvest machines including their selection, adjustment, efficiency and cost of operation with respect to test data.

034.066 Materials Handling and Electrical Controls (3-L) 4 Fundamental concepts, systems approach, metering, moving, processing, storing agricultural produce, refrigeration, pumps, flumes, fans, ducts, grain drying, waste handling, dust control, electrical controls, wiring techniques.

034.068 Shop Methods (3-L) 4 Principles of operation of lathes, mills, drills, grinders and saws. Intensive instruction in the use of precision measuring tools. Laboratory project requiring the use of the above machines and tools. Students may not hold credit for 034.068 and the former 034.062.

034.069 Water Management (3-L) 4 Surveying including use of the level instrument and steel tape, agricultural drainage, dugouts and wells for farm water supply, irrigation, pump selection, the Water Rights Act. Students may not hold credit for 034.069 and the former 034.063.

034.070 Agricultural Buildings and Environments (3-L) 4 Factors that impact the practicality of farm buildings. Components of buildings, including materials and construction techniques. Techniques of maintaining building environments to facilitate production and/or storage. Students may not hold credit for 034.070 and the former 034.064 or 034.065.

Entomology

038.061 Beekeeping (2) Introduction to beekeeping that includes economics and marketing of honey and beeswax, equipment and its construction, pollen and nectar plants, pollination, management systems, diseases and pests, honey handling, package bees, wintering of bees, etc.

038.062 Pest Management and Farm Insects (3-L) 4 Characteristics, damage, and identification; insecticide use and safety; life histories and control of common Manitoba livestock, field and farmyard insects. General principles of pest management in agriculture will also be discussed. Students may not hold credit for 038.062 and the former 038.060.

Plant Science

039.041 Cereal and Oilseed Production Practices (3-L) 4 Production practices for wheat (spring and winter), barley, oats, rye, triticale, canola and flax will be discussed; tillage, seeding, fertility, pest control, harvesting, rotation and utilization. *Prerequisite:* 065.042.

039.066 Plant Propagation (4) Basic principles and practices in the propagation of plants by sexual and asexual methods. Special emphasis will be placed on regionally important horticultural crops. Equivalent course offered through the Prairie Horticulture Certificate program; contact the Director of the School of Agriculture.

039.067 Landscape Plants (3) Classification, identification and quality characteristics of woody and herbaceous plants, and their value and use in the landscape. Equivalent course offered through the Prairie Horticulture Certificate program; contact the Director of the School of Agriculture.

039.068 Landscape Design (3) A study of landscape design principles and processes including contracting, construction, and establishment of plants in the environment. Equivalent course offered through the Prairie Horticulture Certificate program; contact the Director of the School of Agriculture.

039.069 Landscape Maintenance (3) Establishment and maintenance of trees, shrubs, herbaceous plants and turf grass in the landscape environment. Equivalent course offered through the Prairie Horticulture Certificate program; contact the Director of the School of Agriculture.

039.070 Nursery Management (3) A study of nursery methods of propagation and growing as they relate to bare root, container and caliper tree production in Manitoba. Equivalent course offered through the Prairie Horticulture Certificate program; contact the Director of the School of Agriculture.

039.071 Greenhouse Crop Production (3) A study of greenhouse construction, environmental control, growth regulation and special problems relating to cut flowers, pot and foliage plants, bedding plants, vegetables and woody plants. Equivalent course offered through the Prairie Horticulture Certificate program; contact the Director of the School of Agriculture.

039.073 Commercial Vegetable Production (3) Production problems and practices, environmental considerations, and the storage and marketing of the major vegetable crops. Equivalent course offered through the Prairie Horticulture Certificate program; contact the Director of the School of Agriculture.

039.074 Commercial Fruit Production (3) Cultural steps involved in the commercial production of tree fruits and small fruits with specific reference to Manitoba conditions. Equivalent course offered through the Prairie Horticulture Certificate program; contact the Director of the School of Agriculture.

039.075 Forage and Pasture Management (3-L) 4 For forage crops and the continuum of improved and unimproved pasture land a discussion of production practices including: choice of species and cultivars of forage crops, cultural management including tillage practices, pest control, forage harvesting, grazing management and seed production. *Prerequisite:* 065.042. Students may not hold credit for 039.075 and the former 039.060.

039.076 Special Crops (3-L) 4 Production practices of special crops for Manitoba including: quality and grade, crop and cultivar selection, cultural requirements including tillage, pest control, fertility requirements, harvesting, rotation and utilization. *Prerequisite:* 065.042. Students may not hold credit for 039.076 and the former 039.061.

039.077 Weed Management (3-L) 4 General principles of pest management and pesticide use safety as they relate to weed control. Economic importance, principles of cultural, biological and chemical weed control, weed identification, introduction to herbicides and factors influencing their use and selectivity. *Prerequisite:* 065.042. Students may not hold credit for 039.077 and the former 039.062.

039.078 Plant Disease Management (3-L) 4 General principles of pest management and pesticide use safety as they relate to plant disease control. Discussion of diseases attacking field and horticultural crops including: disease symptoms, cycles, prevention and control. *Prerequisite:* 065.042. Students may not hold credit for 039.078 and the former 039.063.

039.079 Landscape Horticulture (3-L) 4 Principles of the production and use of horticultural plants in the rural and urban landscape including the establishment and value of shelterbelts. Topics include basic plant propagation, the principles of choosing and establishing ornamental trees, shrubs, herbaceous perennials, annuals, lawns, and multi-use fruit-bearing plants in the landscape, and development of a landscape plan. Students may not hold credit for 039.079 and the former 039.065.

039.080 Diversification With Horticultural Crops (3-L) 4 Principles of the uniqueness of production of horticultural crops including vegetables, fruits, herbs, spices and nutraceuticals. The potential for including these alternative crops in Prairie agriculture will be discussed. Students may not hold credit for 039.080 and the former 039.073.

039.081 Special Topics in Crop Management (3) Selected topics of current interest in Crop Management. *Prerequisite:* written consent of the Director of the School of Agriculture.

Soil Science

040.042 Soil Productivity and Land Use (3-L) 4 Soil classification systems; soils of Manitoba and their properties; soil productivity and its maintenance; soil fertility and testing, fertilizer recommendations; environmental concerns. *Prerequisite:* 065.042.

Students may not hold credit for 040.042 and the former 040.041.

040.062 Soil Conservation and Management (3-L) 4 Land capability for agriculture; storage, use of water and water use efficiency; saline and alkaline soils; soil acidity; soil erosion and conservation; tillage, cropping systems and rotations; fate of biosolids, pesticides. *Prerequisite:* 040.042. Students may not hold credit for 040.062 and the former 040.060.

040.063 Soil Fertility (3-L) 4 Soil nutrients and their behaviour; evaluation of soil fertility including soil testing for precision agriculture; crop response to fertilizers; manufacture, properties, reactions and applications of fertilizer. *Prerequisite:* 040.042. Students may not hold credit for 040.063 and the former 040.061.

Faculty of Architecture

General Office

216 Architecture 2 Building

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Website: www.arch.umanitoba.ca/uofm/faculty

Dean: David R. Witty, Ph.D., FCIP

Associate Dean: Charles Thomsen

Student Advisor: Lori Amedick

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SECTION 1: Academic Staff

Architecture

Professors Emeriti:

Graham, J., B.Arch. (Manitoba); **Sellors, R. J.**, B.Arch. M.Arch. (M.I.T.), F.R.A.I.C., M.A.I.A., A.R.I.B.A., F.R.S.A.

Professor:

Enns, H., Dip.Arch.Tech. (Red River College), B.E.S., M.Arch. (Manitoba), M.A.A., M.R.A.I.C.; **Macdonald, R.I.**, Dip.Arch.Tech. (Ryerson), B.Arch. (Manitoba), M.R.A.I.C.

Associate Professors:

Subotincic, N., B.Arch. (Carleton), M.Arch. (McGill); **Thompson, W. P.**, S.A.H.G.B., S.A.H., B.Arch. (Rhode Island School of Design), M.A., Ph.D. (Cornell)

Assistant Professors:

Aquino, E., B.Arch. (San Paulo), M.F.A. (Concordia), C.R.E.A.; **Epp, E.**, B.E.S., M.Land.Arch. (Manitoba), M.Arch. (McGill), M.R.A.I.C.; **Fuglem, T.**, B.Arch. (Carleton), M.Arch (McGill); **Harrop, P.**, Dip.Des. (Ottawa), B.Arch. (Carleton), M.Arch (McGill), M.A.A.; **West, M.**, B.Arch. (Cooper Union), M.Arch. (Carleton).

Part-time Staff:

Chon, J.S., B.Sc. Arch. Eng. (Yonsei), Grad.Dip.Housing (McGill), M.Arch. (Manitoba); **Karmer-Wolfart, C.**, B.A. (Calvin), B.Sc. Arch. (Michigan), M.Arch. (Princeton); **Monteyne, T.**, BES (Manitoba), M.Arch. (Waterloo), M.A.A.; **Syverson, D.**, B.A. (Alberta), M.Arch. (Manitoba), M.A.A.

City Planning

Professor Emeritus:

Carvalho, M., B.Arch. (Howard), M.C.P. (Pennsylvania), Ph.D. (Edinburgh), FCIP.

Professor:

Witty, D., B.A.(Hons.) (Waterloo), M.A. Urban & Reg. Plan. (Waterloo), Ph.D. (British Columbia), MRAIC, FCIP

Associate Professors:

Bridgman, R., B.A., B.Music (Toronto), M.A., Ph.D. (York), MCIP; **Skelton, I.**, B.A., M.U.P., (McGill), Ph.D. (York), MCIP; **Wight, J. B.**, M.A. (Aberdeen), M.Sc. (Alberta), Ph.D. (Aberdeen), MCIP.

Assistant Professors:

Blake S., B.E.S. (Waterloo), M.Eng., D.Eng. (Tokyo), MCIP; **van Vliet, D.**, B.A. (Fine Arts) (Saskatchewan), M.E.Des. (Calgary), Ph.D. (British Columbia), MCIP

Senior Scholar:

Rotoff, B., B.Sc. (C.E.), M.C.P. (Manitoba), MCIP

Interior Design

Professor Emeritus:

Harland, J., B.Arch. (Manitoba), M.A. (Columbia), F.P.I.D.I.M., F.I.D.E.C.

Professors:

Feduniw, L.O., B.I.D. (Manitoba), M.E.P. (Arizona), P.I.D.I.M., I.D.C., S.E.S.C., I.S.E.S.;

Associate Professors:

Chalmers, L., Dip.Int.Des. (Royal Melbourne Institute of Technology), M.Des. (South Australia), PIDIM, IDC, IDEC; **Helner, F.**, B.I.D., M.A. (Manitoba), P.I.D.I.M., I.D.C.; **Madill, R.**, B.A.(Hons.) (Manitoba), M.A. (Berkeley), M.S.A., S.C.A. (Toronto), R.S.P.; **Maruca, N.E.**, B.I.D. (Manitoba), P.I.D.I.M., I.D.C., A.C.I.D.; **Weselake, F.J.**, B.Sc.Design(Institute of Design, Chicago), Des.Man. (Domus Academy, Milan), I.D.S.A., S.E.G.D.

Assistant Professors:

Karpan, C., B.I.D., M.Ed. (Manitoba); **Miyahara, A.**, B.I.D., B.F.A. (Manitoba), P.I.D.I.M., I.D.C., I.D.E.C.; **Mallory-Hill, S.**, B.E.S.(Manitoba), M.Arch (Manitoba)

Part-time Staff:

Close, S., B.F.A. (Saskatchewan), M.A. (Carleton)

Landscape Architecture

Professor:

Thomsen, C.H., B.F.A. (Land.Arch.) (Illinois), M.Regional Plan. (Pennsylvania), M.A.L.A., F.C.S..L.A.

Associate Professors:

McLachlan, E.B., B.E.S., M.Land. Arch. (Manitoba), M.A.L.A., F.C.S. L.A.; **Perron, R. P.**, B.Sc. (Winnipeg), M.N.R.M. (Manitoba); **Tate, A.**, B.A. Dip L.D. (Manchester), M.A.L.A., C.S.L.A., P.P.L.I.

Assistant Professors:

Eaton M., B.E.S. (Manitoba), Ph.D. (Heriot Watt); **Goto S.**, B.A. (Tokyo), M.A. (Harvard), M.A. (Chiba U), Ph.D. (Chiba U); **Nuttall, D.**, B.Sc. (Simon

Fraser), M.Sc. (Western), M.Land.Arch. (Guelph), Ph.D. (Guelph); **Trottier, J.**, B.L.A. (Montreal), M.U.P. (McGill)

Part-time Staff:

Ringaert, L., B.Sc., BMR-OT, M.Sc. (Manitoba)

Senior Scholar:

Ratray, A.E., B.Arch. (Manitoba), M.L.A. (Pennsylvania), F.C.S.L.A.

SECTION 2: Introduction to the Faculty of Architecture

The Bachelor of Environmental Design, the faculty's only undergraduate degree, is the basic pre-professional degree required for graduate study in four areas of professional practice: Architecture, Interior Design, City Planning, and Landscape Architecture. All graduate programs are accredited externally.

The Environmental Design degree is multidisciplinary with a curriculum structured around a design studio sequence that provides a forum for exploring the complex relationships between humans and the environments that constitute the places and artifacts of cultural production.

The teaching of architecture began in 1913 as a four-year degree program within the Faculty of Arts. In 1920 the program became a part of the newly established Faculty of Engineering and Architecture. In 1938 a three year diploma program in interior decoration was established. In 1945 the departments of Architecture and Interior Decoration were combined in the School of Architecture and Fine Arts. In 1948 the entire school was reorganized as the School of Architecture. The professional architecture degree became a five year program; and a new four year Bachelor of Interior Design degree was also introduced. In 1949 a one year graduate program in Community Planning was established. In 1957 the Manitoba Legislature approved a grant for the construction of a building for the School of Architecture, the first in Canada to be designed exclusively for architecture education. In 1963 the school was reconstituted as the Faculty of Architecture and a two-year graduate program leading to the degree, Master of City Planning, was introduced. In 1966 the curriculum in Architecture was reorganized so that the degree, Bachelor of Environmental Studies, became the prerequisite for the professional programs in Architecture and Landscape Architecture. This was followed in 1970 with a new curriculum leading to the professional degree, Master of Architecture, and two years later with new curriculum leading to a Master of Landscape Architecture. In 1990 an admissions year of 30 credit hours of Arts and Sciences courses became a prerequisite to entry into Environmental Design. In 1998 the Bachelor of Environmental Design (B.E.D.) became the foundation undergraduate program of the faculty. This program consists of two common foundation years followed by a third year in one of the professional 'options' in Architecture, City Planning, Interior Design or Landscape Architecture. University 1 replaced the admissions year as a prerequisite for admission to the B.E.D. program.

The foundation years of the B.E.D. program provide a solid grounding in the basic knowledge and vocabulary shared by all environmental design disciplines. Students come to understand the holistic nature of environmental design and, at an early stage, begin to establish a rich and multidisciplinary dialogue with their peers. It also enables students to discover their strengths and interests relating to their third year option and beyond. The B.E.D. program is envisioned as a strong multidisciplinary undergraduate degree in its own right and provides a solid base of education for students intending to pursue careers and/or graduate studies in a wide variety of disciplines, including the faculty's master's degrees in Architecture, City Planning, Interior Design and Landscape Architecture.

SECTION 3: Admission to the Faculty of Architecture

3.1 Degree Offered

Bachelor of Environmental Design

Minimum time to graduation: Four years (University 1 plus three years).

This program is the pre-professional degree leading to graduate studies and master's degrees in Architecture, City Planning, Interior Design and Landscape Architecture.

The following is a summary of the admission requirements. Equivalent academic courses completed at recognized universities elsewhere will be considered. All admission requirements, as well as application deadline dates and forms, are included in an applicant information bulletin that is available from the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

3.2 Course Requirements

6 credit hours of courses offered by the Faculty of Arts

6 credit hours of courses offered by the Faculty of Science

6 credit hours of courses offered by either the Faculty of Arts or the Faculty of Science; or 3 credit hours of each

12 credit hours of electives

Other Requirements

Elective courses in University 1 may include Environmental Design courses 079.160, 079.166, and 079.167, all of which are on the list of approved University 1 courses.

The written English and mathematics requirement must be satisfied by the end of the April examination period of the year of application to the program.

Minimum GPA for consideration: 2.50 with no grade less than C in the required courses.

SECTION 4: Academic Regulations

4.1 Undergraduate Scholastic Standards

A cumulative Grade Point Average (GPA) of 2.0 is required as an acceptable standard of performance.

A minimum grade of 'C' is required to pass all courses offered by the departments within the faculty.

Environmental Design students must clear all conditions of first year to be eligible to register for third year subjects.

To be eligible for the degree of Bachelor of Environmental Design a student is required to complete a minimum of two full academic years of study at the University of Manitoba, including the final year.

4.2 Supplementary Regulations

Special regulations governing admission, attendance, withdrawals, examinations, grading procedures and curriculum requirements are on file in the general office of the Faculty of Architecture. The faculty reserves the right to retain temporarily or permanently any work done by students in fulfillment of course requirements.

4.3 Dean's Honour List

Students who achieve a sessional GPA of 3.5 or better, while registered in 80 per cent of a full course load will be included in the Dean's Honour List for the faculty.

SECTION 5: Program Requirements

5.1 Environmental Design

The Environmental Design degree is a multidisciplinary design program that is delivered cooperatively and collectively by the four departments of the Faculty of Architecture (Architecture, Interior Design, City Planning and Landscape Architecture). The curriculum is structured around a design studio sequence that provides opportunities for examining the complex relationships between humans and the environments that constitute the places and artifacts of cultural production. The design studio comprises the core of this exploration, which is informed and enriched through the study of theory, history, technology and communications/information technology.

The Environmental Design program consists of two foundation years for which all students in the program must register, and a third-year 'option' elected by students. Professional options include Architecture, City Planning, Interior Design and Landscape Architecture.

The two foundation years common to all undergraduate students within the faculty provides a solid grounding in the basic knowledge and vocabulary shared by all environmental design disciplines. Students come to understand the holistic nature of environmental design and, at an early stage, begin to establish a rich and multidisciplinary dialogue with their peers. The two-year period also enables students to discover their strengths and interests, and to make a determination of their preference in pursuing specific studies both in the third-year option and beyond.

The professional options will be an important curriculum link with the graduate programs. Students holding a B.E.D. degree will be eligible to apply to the graduate departments of Architecture, City Planning, Interior Design and Landscape Architecture. Applicants already possessing baccalaureate degrees may be qualified to apply directly to one of the graduate programs and should consult the Graduate Calendar.

Course No.		Credit Hours
First Year		
079.161	Theory of Design 1	3
079.162	Theory of Design 2	3
079.163	Design Studio 1	5
079.164	Design Studio 2	5
079.165	Communication and Information Technology 1	3
079.166	History of Culture, Ideas and Environment 1	3
079.167	History of Culture, Ideas and Environment 2	3
079.168	Environmental Technology	3
079.169	Construction Materials and Assemblies 1	3
079.170	Construction Materials and Assemblies 2	3
Total Credit Hours		34

Second Year		
Approved Elective		
079.261	Theory of Design 3	3
079.262	Theory of Design 4	3
079.263	Design Studio 3	5
079.264	Design Studio 4	5
079.265	Communications and Information Technology 2	3
079.266	Construction Materials and Assemblies 3	3
079.267	Environmental Controls	3
079.269	Design Since 1800	3
Total Credit Hours		34

Third Year: Architecture Option		
Approved Elective		
079.370	History of Modern Architecture	3
079.333	Canadian Architecture	3
079.356	Technology 4	3
079.357	Technology 5	3
079.347	Process, Method and Theory 1	3
079.348	Process, Method and Theory 2	3
079.368 LO1	Design Studio 5	6
079.369 LO1	Design Studio 6	6
Total Credit Hours		33

Students contemplating entry to the Architecture option should meet with the department head in Architecture prior to the end of their second year program.

Third Year: City Planning Option		
Approved Elective		
079.334	History of the City	3
079.335	Planning and Design for Shelter	3
079.347	Process, Method and Theory 1	3
079.348	Process, Method and Theory 2	3
079.368	Design Studio 5	6
079.369	Design Studio 6	6
Total Credit Hours		33

Students contemplating entry to the City Planning option should meet with the department head in City Planning prior to the end of their second year program. Approved electives should be selected to prepare students for the branch of planning they wish to develop.

Third Year: Interior Environment Option		
079.361	Sensory Technology 1	3
079.362	Sensory Technology 2	3
079.363	Sensory Technology 3	3
079.364	Design Inquiry	3
079.365	The Interior Dimension 1	3

079.366	The Interior Dimension 2	3
079.367	Digital Design Media	3
079.368 LO3	Design Studio 5	6
079.369 LO3	Design Studio 6	6
Total Credit Hours		33

Students contemplating entry to the Interior Environment option should meet with the department head in Interior Design prior to the end of their second year program.

Third Year: Landscape Architecture Option		
Approved Elective		
079.324	Plants, Landscape and Design	3
079.321	Process and Landscape Form	3
079.323	Landscape Technology	3
079.318	History of Landscape Architecture	3
079.322	Site Grading Technology	3
079.368 LO2	Design Studio 5	6
079.369 LO2	Design Studio 6	6
Total Credit Hours		33

Students contemplating entry to the Landscape Architecture option should meet with the department head in Landscape Architecture prior to the end of their second year program.

Electives
University credit courses may be taken as electives. They may come from the faculties of Arts, Sciences, Engineering, Fine Arts, Management and Agriculture or with the permission of the program Coordinator in special circumstances.

Interfaculty Option in Aging
An Option in Aging is offered by the following faculties: Architecture (Interior Design), Human Ecology, Nursing, Physical Education and Recreation Studies, Social Work and Arts. To complete the option, students need to complete each of the following requirements:

- Required courses six credit hours**
- a)051.265, 028.265, 123.265, 047.265
 - b)049.261, 057.261

Course numbers being used for the 2003-2004 session are 047.265 and 057.261.

Electives 12 credit hours
At least three credit hours of professional/discipline specific applied work on aging within the student's unit of registration; and an additional nine credit hours in aging from the participating units, including the student's own unit.

Upon completion of these credits, and submission of a declaration, a 'Comment' will be added to the student's transcript. A list of eligible courses is available in Faculty general offices.

Further information is available from the student advisor in the general office.

Supplies and Expenses
The Faculty of Architecture will introduce an Information Technology Program Fee of \$400.00 in September 2003 for all enrolling students. The Information Technology Program fee includes \$100.00 to go to a technology endowment fund. Remaining funds will be expended on current technology items of direct benefit to students.

In addition to fees and other expenses, the estimated cost of supplies and textbooks for students in Environmental Design is approximately \$3,500 per year. All field trip costs will be borne by the students.

Effective September 2002 the Environmental Design Program has implemented a mandatory computer purchase for all students entering second year.

Architecture, Landscape Architecture, City Planning, and Interior Design
For information about professional studies leading to the degrees of Master of Architecture, Master of City Planning, Master of Landscape Architecture and Master of Interior Design, please refer to the Graduate Calendar.

SECTION 6: Course Descriptions

6.1 Environmental Design

079.160 Introduction to Environmental Design (3-0:0-0) 3 An introduction to the philosophy and pragmatics of design and designing processes and methods. The focus will be on design as a creative, aesthetic and scientific endeavour, and will examine the challenges and roles of environmental designers in society. Available to non-Environmental Design students only.

079.161 Theory of Design 1 (Elements of Design and Perception) (3-0:0-0) 3 An introduction to formal theoretical issues common to the design disciplines. Emphasis is placed on identifying and locating theoretical issues in the built environment and in various modes of cultural production. *Corequisite:* 079.163.

079.162 Theory of Design 2 (Intentions in Design) (0-0:3-0) 3 An examination of formal theoretical issues common to the design disciplines. Theoretical issues are linked with design intentions and 'ways of world-making'. Emphasis is placed on exploring design activity as a conscious, methodical act embodying meaning in historical and contemporary contexts. *Prerequisite:* 079.161. *Corequisite:* 079.164.

079.163 Design Studio 1 (2-9:0-0) 5 Introduction to the principles of visual and spatial design, representation and communication; Studio work will concentrate on the development of perceptual and communication skills, exploration of design principles, concepts and criteria, and their applications in form making. *Corequisites:* 079.161 and 079.168.

079.164 Design Studio 2 (0-0:2-9) 5 Introduction to concepts of space and order in the built environment. Studio work will examine design criteria and issues at various scales, with a focus on design process, intentions and meaning. *Prerequisite:* 079.163. *Corequisite:* 079.162.

079.165 Communication and Information Technology 1 (5-3:5-3) 3 Introduction to both traditional and electronic skills, including drawing, graphics, delivery options, and internet based learning.

079.166 History of Culture, Ideas and Environment 1 (3-0:0-0) 3 A Historical survey of the western movement in architecture, interior design and urban planning considered in the setting of the physical, socio-economic, political, artistic and cultural environment.

079.167 History of Culture, Ideas and Environment 2 (0-0:3-0) 3 A Historical survey of the western movement in architecture, interior design and urban planning considered in the setting of the physical, socio-economic, political, artistic and cultural environment. *Prerequisite:* 079.166.

079.168 Environmental Technology (3-0:0-0) 3 An examination of the scientific principles embodied in the natural laws which govern the science of building, landscape and environmental design in the context of sustainable development. Factors of climate, geology and natural resource systems are introduced.

079.169 Construction Materials and Assemblies 1 (0-0:3-0) 3 An introduction to the principles and applications associated with the manufacture of construction materials and assemblies used in environmental design with an emphasis on resource impact. An introduction to the study of loading conditions, systems of forces and conditions of equilibrium for two and three dimensional structures. *Prerequisite:* 079.168.

079.170 Construction Materials & Assemblies 2 (0-0:3-L) An examination of structural and construction systems applied in a variety of building and site conditions. Introduction of the principles associated with foundation system selection and design. Masonry, timber framing structural systems and basic principles of building enclosure are reviewed through lectures, laboratory assignments and design studio projects. *Prerequisite:* 079.169. May not be held for credit with the former 079.266.

079.215 Computer-Aided Design (3) This course provides an introduction to principles of computer-aided design and computer graphics from a designer's perspective. The course includes introductory computer applications, CAD and other design related software. Available to PM L. Arch. students only.

079.261 Theory of Design 3 (3-0:0-0) 3 An introduction to human behaviour and its interrelationship with the design and shaping of the built environment; the relationship of language, culture and environmental cues to human behaviour. *Prerequisite:* 079.162 or instructor consent.

079.262 Theory of Design 4 (Tectonic Precedent) (0-0:3-0) 3 An examination of built works of environmental design from the 19th and 20th Centuries, with emphasis on examples that are representative of diverse positions on key issues in design practice. *Prerequisite:* 079.261.

079.263 Design Studio 3 (2-9:0-0) 5 Introduction to discipline-based design problems ranging in scale from townscape design to the design of private domestic environments. Studio work includes the investigation, analysis, programming and design synthesis of a multitude of factors into buildable forms that balance pragmatic requirements with poetic intentions. *Prerequisite:* 079.164.

079.264 Design Studio 4 (0-0:2-9) 5 Continuation of Design Studio 3 with discipline-based design problems at the scale of the room and of the small, free-standing building. Emphasis is placed on the understanding and resolution of architectonic issues, and on the detailed design of exterior and interior environments, both public and private. Studio work will encourage the development of design process and the application of theory. *Prerequisite:* 079.263.

079.265 Communications and Information Technology 2 (.5-3:.5-3) 3 Skill building in visual communication and information technology. Continues development of traditional and electronic communications and graphic skills. Alternate weeks will be devoted to rotating workshops offering freehand, mechanical and computer communication skills. This course normally commences with approximately 50 contact hours of workshop comprising intensive skill building sessions. Estimate cost of 2003-

04 (excluding transportation) \$400.

079.266 Construction Materials and Assemblies 3 (3-L:0-0) 3 An examination of structural and construction systems applied in a variety of building and site conditions. Introduction of the principles associated with foundation system selection and design. Masonry, timber framing structural systems and basic principles of building enclosure are reviewed through lectures, laboratory assignments and design studio projects. *Prerequisite:* 079.170.

079.267 Environmental Controls (0-0:3-L) 3 The course introduces principles and methodologies associated with acoustics, natural and artificial lighting in environmental design. These principles are examined within the context of appropriate case studies, laboratory assignments and studio projects. *Prerequisite:* 079.266.

079.269 Design Since 1800 (3-0:0-0) 3 An examination of key architectural treatises of the 19th and 20th centuries that are representative of the predominant ideals of their time and the influence they have had in the construction of the built environment. *Prerequisite:* 079.167.

079.371 Special Topics (1-3:1-3) 3 Independent study related to environmental design. Content may vary according to the interest of the community, students, profession, and the faculty. Written consent of the instructor(s) and program coordinator required.

6.2 Architecture Option

079.333 Canadian Architecture (0-0:3-0) 3 Examined in reverse chronological order beginning with the present and concluding with the arrival of European settlers in the seventeenth century. Not to be held for credit with 050.647. *Prerequisite:* 079.268 , 079.269 or consent of instructor.

079.325 Advanced Computing in Environmental Design (3) Advanced Computing in Environmental Design builds upon skills obtained in the introductory course. The advanced course provides an opportunity for students to explore detailed applications of computational technologies in design and planning. *Prerequisite:* 079.265.

079.347 Process, Method and Theory 1 (3-0:0-0) 3 Continuing studies into the principles of spatial ordering. The focus will be on the persistence of particular forms and systems of ordering through time and analysis of the elements that contribute to the perception of the built environment. *Prerequisite:* 079.347.

079.348 Process, Method and Theory 2 (0-0:3-0) 3 An examination of the roots of contemporary thought and theory in architecture, developed through a critical analysis of written treatises, significant movements and the work of prominent individuals from the 18th century to the present day. *Prerequisite:* 079.347.

079.356 Technology 4 (3-0:0-0) 3 Examination of principles and methodologies associated with structural and construction decisions in architecture. Aspects of life safety including evacuation design and fire protection to Canadian standards are explored. Economic factors in building decisions are reviewed within the context of the architectural design process. *Prerequisite:* 079.267. Boots with steel toes required for site visits.

079.357 Technology 5 (0-0:3-0) 3 Principles, environmental parameters and methodologies associated with the design of plumbing, electrical and mechanical systems in buildings. The potential of utility systems as integrated architectonic elements is examined with a combination of case studies and related studio projects. *Corequisite:* 079.369.

079.368 Design Studio 5 (6-0:0-0) 6 Studies in the principles, vocabularies and methods of approach to architectural and environmental design. Studio work with specific projects to exercise the analytical, the conceptual and the developmental stages of design. *Prerequisite:* 079.264.

079.369 Design Studio 6 (0-0:6-0) 6 Continuing studies in the principles, vocabularies and methods of approach to architectural and environmental design. Studio work with specific projects to exercise the analytical, conceptual and developmental stages of design. *Prerequisite:* 079.368.

079.370 History of Modern Architecture (3-0:0-0) 3 Introduction to key events, images and personalities of the 19th and 20th centuries shaping the ideals and the human environment. *Prerequisite:* 079.269 or consent of instructor.

6.3 Landscape Option

079.324 Plants, Landscape and Design (0-0:2-3) 3 The identification of individual, group and community behaviour in plants; investigation of physical factors affecting these phenomena. *Prerequisite:* 079.266 or consent of instructor.

079.318 History of Landscape Architecture in the 19th and 20th Centuries (0-0:3-0) 3 Introduction to the growth and development of Landscape Architecture during the past two centuries. *Prerequisite:* 079.269 or consent of instructor.

079.321 Process and Landscape Form (0-0:3-0) 3 An investigation of the relationship between natural and cultural processes and the landscape, with particular emphasis on the plains environment of Western Canada.

079.322 Site Grading Technology (3-0:0-0) 3 The study of the means and methods of shaping land form, of controlling the runoff of water, and of stabilizing earthwork structures. *Prerequisite:* 079.267.

079.323 Landscape Technology (0-0:3-0) 3 The investigation of more complex technological issues involved in the design and construction of landscape structures and earthworks. *Prerequisite:* 079.267.

079.368 Design Studio 5 (see Architecture option)

079.369 Design Studio 6 (see Architecture option)

6.4 City Planning Option

079.334 History of the City (3-0:0-0) 3 History of religious, political, cultural, technological, and aesthetic forces behind urban development and the forms that this development has taken, from the dawn of recorded history to the present day. *Prerequisite:* 079.269 or consent of instructor.

079.335 Planning and Design for Shelter (0-0:3-0)3 History of the development of housing in the western world, from the industrial revolution to the present day, and critical appraisal with respect to desirable practices in Canada. *Prerequisite:* 079.269 or consent of instructor.

079.347 Process, Method and Theory 1 (see Architecture option)

079.348 Process, Method and Theory 2 (see Architecture option)

079.368 Design Studio 5 (see Architecture option)

079.369 Design Studio 6 (see Architecture option)

6.5 Interior Environment Option

079.368 Design Studio 5 (2-9:0-0)6 Studio projects, which explore and elaborate systems of meaning in interior placemaking in the private realm; developing strategies and processes in the design of the interior environment. *Prerequisite* 079.264.

079.369 Design Studio 6 (0-0:2-9)6 Studio projects, which explore and elaborate systems of meaning in interior placemaking in the public realm; developing strategies and processes in the design of transitional interior environments. *Prerequisite* 079.368.

079.361 Sensory Technology 1 (3-0:0-0)3 The study of the interaction of light, colour, materials, construction, building systems and detailing in the design of the interior environment; responding to human and ecological considerations. *Co-requisite*

079.363.

079.362 Sensory Technology 2 (0-0:3-0)3 Further study of the interaction of light, colour, materials, construction, building systems and detailing in the design of the interior environment; responding to human and ecological considerations. *Co-requisite* 079.363.

079.363 Sensory Technology 3 (.5-3:5-3)3 Workshop, studio and site investigations which explore and extend curriculum content in Sensory Technology 1 and 2. *Co-requisites* 079.361 and 079.362.

079.364 Design Inquiry (3-0:0-0)3 Contemporary methods of inquiry relating to the design of interior environments.

079.365 The Interior Dimension 1 (3-0:0-0)3 An historical and theoretical approach to the evolution of interior environments, artifacts, and the visual/spatial statements of twentieth century design culture.

079.366 The Interior Dimension 2 (0-0:3-0)3 An extended historical and theoretical investigation of interior environments, artifacts, and visual/spatial statements of contemporary design culture. *Prerequisite:* 079.365

079.367 Digital Design Media (0-0:2-3)3 An intermediate level computer applications elective focused on design, representation and communications. Specific course content to be determined by the areas of specialization available to the faculty and department on a yearly basis. *Prerequisite* 079.265.

6.6 Interior Design

051.265 The Social Aspects of Aging (3) An examination of the social aspects of aging. Emphasis on understanding the aging process as a life transition involving adaptation through interaction with social and physical environments. Students may not hold for credit with 028.265, 123.265 or 047.265.

School of Art

General Office

203 FitzGerald Building

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Website: www.umanitoba.ca/schools/art

Director: Dale Amundson

Administrative Assistant (Student Advisor): (204) 474 9586

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SECTION 1: Academic Staff

Director Emeriti

Williams, R.E., B.A. (Carnegie), M.F.A. (Iowa).

Professors Emeriti

Eyre, I.K., B.F.A. (Manitoba); Reichert, D.K., B.F.A. (Manitoba).

Senior Scholars

Saper, A., B.F.A. (Manitoba), M.A. (Iowa); Whitehouse, D., N.D.D. (Birm. Coll. of Art).

Professors

Amundson, D.O., B.F.A. (Manitoba), M.F.A. (Arkansas); Baker, M.C., B.A. (Northwestern), M.A., Ph.D. (Wisconsin); McMillan, D.S., B.Sc., M.F.A. (Wisconsin); Pura, W.P., B.F.A.(Hons.) (Manitoba), M.F.A. (Indiana); Sakowski, R.C., B.F.A., M.F.A. (Md.Inst.).

Associate Professors

Alward, S., B.A. (Winnipeg), B.F.A.(Hons.) (Manitoba), M.F.A. (UCLA); Reeve, G.M., B.F.A. (Cranbrook), M.F.A. (Rhode Island School of Design); Werner, C.A., B.F.A. (Manitoba), M.A. (North Dakota State), M.A. (North Dakota), Ph.D. (Manitoba).

Assistant Professors

Botar, O.A.I., B.A. (Alberta), M.Sc., M.A., Ph.D. (Toronto); Bugslag, J.F.P., B.A. (Victoria), M.A. (Victoria), Ph.D. (East Anglia); Eyland, C., B.F.A. (Nova Scotia); Funnell, J.A., B.F.A. (Manitoba), M.F.A. (Cincinnati); Poruchnyk, A.A., B.F.A. (Hons.) (Manitoba), M.F.A. (Windsor); Stegges, M.A., B.F.A. (A.H.Hons.) (Manitoba), M.A. (Manitoba), Ph.D. (Leicester).

Lecturers

Howorth, E.J., B.F.A. (Manitoba), M.F.A. (North Dakota); Landin, A., B.F.A. (Calgary), M.F.A. (Washington State).

SECTION 2: Education in the Fine Arts

The objective of the School of Art is to prepare professional artists who combine technical skill with a strong background in culture, and where education of the mind is as important as training the hand. This approach is reflected in the school's degree programs. Students in the B.F.A. studio program also take courses in the humanities, social sciences, and the sciences, while students in the B.F.A. Art History program are exposed to the studio experience.

The School of Art was established in 1950 continuing much of the tradition of the Winnipeg School of Art, founded in 1913. The School of Art moved from its location in downtown Winnipeg to the Fort Garry Campus in 1965.

The School of Art is in three locations: FitzGerald Building, the Ceramics/Sculpture Building, and the Fine Arts Barn. Each contains studios and classrooms with specialized equipment. The FitzGerald Building also houses Gallery 1.1.1., storage facilities for the School of Art Permanent Collection, the FitzGerald Study Collection, graphics oriented computer labs, a video production studio, and the Art History Research and Study Centre (with access to the Internet and computer-based image study facilities).

SECTION 3: Admission to the School of Art

3.1 Degrees and Diploma offered

Bachelor of Fine Arts (Honours)

Bachelor of Fine Arts Art History (Honours)

Minimum time to graduate: Studio program requires four years with admission directly from high school; Art History program requires four years (University 1 plus three years).

Bachelor of Fine Arts

Bachelor of Fine Arts Art History

Minimum time to graduate: Studio program requires three year with admission directly from high school; Art History program requires three years (University 1 plus two years). These degrees are also called the "general" program.

Diploma in Art

Minimum time to graduate: Four years following high school graduation.

The following is a summary of the admission requirements. Equivalent academic courses completed at recognized universities elsewhere will be considered only after acceptance to the School of Art. All admission requirements, as well as application deadline dates and forms, are included in an applicant information bulletin available from the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

Acceptance Deposits will be required for the 2003-2004 Session. Please see the Registration and Fees section of this General Calendar.

3.2 Course requirements: Studio programs

Bachelor of Fine Arts (Honours), and Bachelor of Fine Arts

The normal and preferred path for admission to these studio programs is directly from high school. Applicants to these programs must submit the required portfolio or:

- a) Receive a grade of "B" or better in 054.126 Drawing for Non-Majors (may not be used for credit in any School of Art program).
- b) Receive a grade of "B" or better in the studio portion of 054.105 Introduction to Art 1B and 054.106 Introduction to Art 2B and an overall passing grade in the course.
- c) Fulfil the entrance requirements to the School of Art from University 1.

Applicants must also fulfil the entrance requirements to the University of Manitoba as outlined in the Admissions Chapter of this *Calendar*.

University 1 is an alternative entry to the studio programs, but completion within the usual time frames cannot be guaranteed because of the need to complete first-year studio requirements. The University 1 program must include one or both a) and b):

- a) 054.120 Fundamentals of Drawing, and/or
- b) 054.122 Basic Design
- c) In addition, we strongly recommend 054.103 Introduction to Art 1A and 054.104 Introduction to Art 2A.

Students who complete 24 credits or more in University 1 with a GPA of 2.0 or better and with a GPA of 2.5 (C+) or better in either 054.120 Fundamentals of Drawing, or 054.122 Basic Design, or an average GPA of 2.5 in the two courses are eligible for admission.

Admission to the School of Art is limited to an annual quota and is competitive. Overall GPA and grades in courses taken in the School of Art will be taken into consideration in the selection process for students applying from University 1, Introduction to Art 1B/2B and Drawing for Non-Majors..

Diploma in Art

Admission to this program is directly from high school; there is no admission from University 1. Applicants must submit a portfolio and satisfy high school course requirements as described in the application bulletin available from Admissions.

All studio programs in the School of Art are direct entry programs. University 1 is not a requirement for entry to either the BFA General or Diploma in Art studio programs.

3.3 Course requirements: Art History program

Bachelor of Fine Arts in Art History, and Bachelor of Fine Arts in Art History (Honours)

To be eligible for admission to the Art History programs in the School of Art, University 1 students must have completed 24 credit hours, including the 12 credit hours of required courses listed with a minimum GPA of 2.0. Students must complete any outstanding first year requirements prior to graduation. Drawing for Non-Majors, 054.126, may not be used for credit in any School of Art program.

To qualify for the Bachelor of Fine Arts in Art History General degree, a student must maintain a minimum GPA of 2.0 with a passing grade in each course. In courses required for the degree a minimum grade of C is required.

The following courses are required:

054.103 Introduction to Art 1A (3), or 054.105 Introduction to Art 1B (3) and 054.104 Introduction to Art 2A (3), or 054.106 Introduction to Art 2B (3)

English (3 credit hours at 100-level or above).

History 011.120 or Philosophy 15.120 or 15.151

Mathematics (054.102 or 136.102 or any other course that meets the University of Manitoba "M" requirements)

Students are strongly advised to take a French, German or Italian language course.

Other Requirements for Art History program

Minimum GPA required for consideration: 2.0 for the General degree program and 2.5 (in third year) for the Honours program.

In most cases, University 1 is a prerequisite for entry to the BFA in Art History General and BFA in Art History Honours programs.

Entrance requirements to the University of Manitoba are listed in the Admissions chapter of this *Calendar*.

Additional Admission Categories

Mature Students: A mature student is eligible to enter the School of Art as a student in the Diploma in Art program. A diploma student may transfer into the degree programs under certain conditions once they have completed the first year of the diploma program.

Transfer Students: A student seeking transfer to the School of Art from another faculty/school at the University of Manitoba should contact the School of Art student advisor regarding transfer of credit. Note: The maximum transferable to the B.F.A. Degree is 30 credit hours and the maximum transferable to the B.F.A. Honours Degree is 60 credit hours.

Special Students: A special student is someone who is permitted by the director of the School of Art to take courses out of interest and whose basis of admission is normally possession of a first degree. It should be noted that only art history courses may be audited. Studio courses must be taken for credit.

Visiting Students: A visiting student is allowed to take courses in the School of Art as long as they have the required letter of permission from their home university listing the specific courses for which they are being granted permission to take at this university.

SECTION 4: Academic Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the School of Art has regulations and requirements that apply specifically to its students.

4.1 Attendance

Letters of warning may be issued for unexcused absences in excess of three for a course in one term. These letters of warning will become part of students permanent records in the School of Art. Unexcused absences in excess of four for a course that meets twice a week and five for a course that meets three times a week in one term may result in debarment (suspension).

4.2 Dean's Honour List

School of Art students who achieve a Sessional GPA of 3.3 and carry at least the maximum credit hours in their program/year will be eligible for the Dean's Honour List. Students who are granted incomplete or deferred status will not be eligible.

4.3 Residence Requirement

In addition to the general University of Manitoba residence requirement, it must be noted that for the BFA General degree, BFA Honours degree, and Diploma in Art, one-half of the studio course requirements beyond the first year must be taken at this university. In any case, 054.450, 058.403, 058.406, 058.407, 058.409, 058.411, 058.414, and 058.415 must be taken at this university.

4.4 Scholastic Standards

General Scholastic Standards

A grade of "C" is the lowest acceptable grade in a prerequisite course unless otherwise stated.

If a course is repeated, the grade and hours of credit for the repeated course are substituted for those of the original attempt in the same course in calculating the Cumulative Grade Point Average.

A student placed on probation at the end of an academic year must clear the probationary status by the end of the next academic year or withdraw permanently from the School of Art.

Specific Scholastic Standards: Art History

Bachelor of Fine Arts in Art History General: A minimum adjusted GPA of 2.0 is required for entrance to the BFA in Art History General program.

To qualify for the Bachelor of Fine Arts in Art History General degree, a student must maintain a minimum GPA of 2.0 with a passing grade in each course ("D" or better). In courses which apply toward the major a minimum grade of "C" is required.

Bachelor of Fine Arts in Art History Honours: A minimum adjusted GPA of 2.5 is required for entrance to the BFA in Art History Honours program.

To continue in Art History Honours, a student must obtain a GPA of 2.5 or better in each year's work.

Art History First Class Honours: Upon completion of the requirements for an Art History Honours degree a student (whether full-time or part-time) will be awarded First Class Honours for Art History by having successfully fulfilled the following requirement: a GPA of 3.75. The Cumulative GPA of all courses taken at the second, third, and fourth year levels will be included in establishing the student's GPA.

Specific Scholastic Standards: Studio

Bachelor of Fine Arts Honours: To enter Honours, a student must have completed satisfactorily 70 hours of credit in the first two years, with a minimum Cumulative GPA of 2.5 in the Fine Arts courses.

A minimum grade of "C+" in the second year prerequisite course is required for admission to a nine credit hour (major) course. Normally a student may not use a summer session course as a prerequisite for a nine hour major.

A minimum grade of "B" in the nine credit hour (major) course is required for admission to the Bachelor of Fine Arts thesis course.

To continue in Honours, a student must maintain a Cumulative GPA as follows:

Third-year Honours	2.2
Fourth-year Honours	2.5 (2.5 to graduate)

Studio First Class Honours: Upon completion of the requirements for the BFA Honours degree, an Honours student who achieves a 3.5 Cumulative GPA in courses applicable to the last two years of the Honours program is awarded the BFA Honours Degree First Class.

Bachelor of Fine Arts General: A student must maintain a cumulative GPA above probationary level as follows:

First year	1.5
Second year	1.8
Third year	2.0 (2.0 to graduate)

Diploma in Art: A minimum grade of "C+" in the second year prerequisite course is required for admission to a nine credit hour (major) course. Normally a student may not use a summer session course as a prerequisite for a nine credit hour major course.

A minimum grade of "B" in the nine credit hour (major) course is required for admission to any fourth-year diploma workshop course.

To continue in the diploma program, a student must maintain a cumulative GPA as follows:

First Year Diploma	1.5
Second Year Diploma 1.8	
Third Year Diploma	2.2
Fourth Year Diploma	2.5 (2.5 to graduate)

4.5 Written English and Mathematics Requirement

All students are required to complete, within the first 60 credit hours of their programs, a minimum of one course of at least three credit hours with significant content in English Literature, and a minimum of one three credit hour course with significant content in Mathematics.

The English Literature requirement for all studio degree programs in the School of Art will be met through one of 004.120W, Representative Literary Works, or 004.126W, Twentieth Century Literature in English, or equivalent.

The Mathematics requirement for all studio degree programs in the School of Art can be met through 054.102M, Mathematics in Art, or any other university course designated as satisfying the mathematics requirement. Students who entered the School of Art in Regular Sessions 1997-98 and 1998-99 are exempt from the University mathematics requirement.

Refer to the chapter on General Academic Regulations and Requirements of this *Calendar* for the complete Written English and Mathematics policy.

4.6 Voluntary Withdrawal policy

Refer to the general policy on voluntary withdrawal from programs and courses in the chapter, General Academic Regulations And Requirements.

Students in the School of Art are limited to 37 credit hours of voluntary withdrawals (courses dropped after the registration revision period in their program).

4.7 Limited Access Policy

The School of Art has opted out of the limited access policy. However Art students are subject to the limited access conditions when they take courses in faculties or schools that are part of the limited access policy. The limited access policy can be found in the chapter, General Academic Regulations and Policies.

4.8 Audit Policy

Auditing of studio courses is NOT allowed; however, art history courses may be audited. See the chapter, General Academic Regulations and Requirements, for information.

SECTION 5: Program Descriptions

5.1 Bachelor of Fine Arts, Art History Programs

The Art History program at the School of Art offers students an opportunity to consider, in a cultural context, both Western and non-Western artistic traditions with an emphasis on the former from the Renaissance to the present. While all courses acknowledge methodological issues, the program also offers courses in art theory and criticism at the second- and third-year levels. Students enrolled in this program broaden their knowledge of art production with studio electives.

Art History General

A student may proceed to the Bachelor of Fine Arts in Art History General degree by completing satisfactorily the following requirements:

At least 30 and no more than 42 credits in Art History, two specified studio courses, field trips and Health Hazards in the Arts, specified history or philosophy requirement, university written English and mathematics requirement, and electives for a total of at least 91 credit hours.

Course Distribution: Art History

University 1

See Section 3, Admission to School of Art, for information on admission to the BFA in Art History General program from University 1.

Students admitted to the Art History General program who have not fulfilled the three credit university mathematics requirement must take these three credits as part of their second year electives requirement.

Course No. Credit Hours

Second Year (31 Credit Hours)

Students will select 5 of the 8 200-level courses listed below:

003.267	Greek Art and Architecture	3
003.268	Roman Art and Architecture	3
054.206	Med. To Early Renaissance Art and Arch	3
054.207	Renaissance To Baroque Art and Arch.	3
054.208	Modern to Contemporary Art	3
054.209	Art of North American Aboriginal Peoples	3
054.210	Survey of Asian Art	3
054.211	Women and Art	3

Additional Required Courses:

054.120	Fundamentals of Drawing	
	Or	
054.122	Basic Design	9
054.127	Health Hazards in the Arts	1
	Academic or Studio Electives	6
054.262	Writing about Art (strongly recommended for Art History Majors.)	3

Third Year (30 Credit Hours)

054.321	Introduction to Theory and Criticism of Art	3
054.326	Canadian Art and Arch to WWII	
	Or	
054.327	Canadian Art Since WWII	3
054.344	Field Trip	0

Studio Electives (Students must take either 9 credit hours of studio at the 100-level or 6 credit hours of studio at the 200-level)

6/9

Art History Electives

18/15

Art History (Honours)

A student may proceed to the Bachelor of Fine Arts in Art History Honours degree by completing satisfactorily the following requirements:

At least 54 and no more than 72 credits in Art History, two specified studio courses, field trips and 054.127 Health Hazards in the Arts, specified history or philosophy requirement, university written English and mathematics requirement, and electives for a total of at least 121 credit hours. A minimum GPA of 2.5 is required to enter the Art History Honours Degree program. To continue in the Art History Honours, a student must maintain a minimum GPA for 2.5 or better.

University 1

Refer to the School of Art Section 3 Admission to School of Art for specific information on admission to the BFA in Art History Honours program from University 1. Students admitted to the Art History Honours program who have not fulfilled the three credit university mathematics requirement must take these three credits as part of their second year electives requirement.

Second Year (Honours)

Same as for BFA General Art History Degree 31

Third Year (Honours)

Same as for BFA General Art History Degree 30

Fourth Year (Honours)

Art History Electives: 18 credit hours (A minimum of three fourth year courses must be taken before graduation)

Other Academic and/or Studio Electives: 12

Honours students wishing to take more than 18 credit hours of Art History may use their academic electives to do so.

Total credit hours required: 30

5.2 Bachelor of Fine Arts Studio Programs

The degree programs in the School of Art offer a selection of courses in the history, theory, and techniques of art as well as courses in the humanities, sciences, and social sciences.

These programs are designed to provide a general cultural background as well as the technical education necessary for a teacher of art or a professional creative artist in either the fine or applied fields. The content of the programs reflects the assumption that in a time of fluctuating cultural values, technical training alone is not sufficient for significant work in any branch of the arts.

Instruction in the first two years is essentially basic in nature and is concerned with the fundamental principles of design and representation. Beginning with the fine arts studio electives in second year, the student may select a program which will provide specialized study in one or more of the following: ceramics, drawing, graphic design, painting, photography, printmaking, sculpture and video.

The school reserves the right to retain temporarily or permanently any work done by students in fulfilment of course requirements.

General Studio Degree

A student may proceed to the Bachelor of Fine Arts General studio degree by completing satisfactorily 100 credit hours as outlined below:

Course No. Credit Hours

First Year (37 Credit Hours)

Students must choose one of 004.120W or 004.126W for a total of at least six credit hours:

004.120W	Representative Literary Works	
	or	
004.126W	Twentieth-Century Literature in English	6
	Elective subject(s) other than Fine Arts	6
054.103	Introduction to Art 1A	3
054.104	Introduction to Art 2A	3
054.120	Fundamentals of Drawing	9
054.122	Basic Design	9
054.127	Health Hazards in the Arts	1
054.199	Field Trip	0
	Total credit hours	37

Second Year (33 Credit Hours)

054.220	Advanced Drawing 1	9
	Elective Fine Arts studio	6
	Elective Fine Arts studio	6
	Elective History and Theory of Art	6
	Elective subject(s) other than Fine Arts	6
	Total credit hours	33

Third Year (30 or 33 Credit Hours)

054.344	Field Trip	0
	Elective Fine Arts studio	6
	Elective Fine Arts studio	6/9
	Elective History and Theory of Art	12
	Elective subject(s) other than Fine Arts	6
	Total credit hours	30 or 33

NOTES:

The three credit Mathematics requirement must be taken in either first or second year as part of the elective subject(s) other than Fine Arts requirement.

A student seeking the degree of Bachelor of Fine Arts with a view to obtaining admission to Education after obtaining their Fine Arts degree should inquire at the Faculty of Education for advice in selecting appropriate courses other than Fine Arts.

One of Sculpture 1 or Ceramics 1 must be taken as one of the elective Fine Art studios in either second or third year.

A minimum grade of "C+" in the second year prerequisite course is required for admission to a nine credit hour (major) course. Normally a student may not use a summer session course as a prerequisite for a nine credit hour major.

Honours Studio Degree

At the beginning of the second year, a student who wants to enter the honours program must make a tentative selection of a major area of study from the following: ceramics, drawing, graphic design, painting, photography, printmaking, sculpture, or video. Choice is expressed through a second-year Fine Arts studio elective, which must be a course in the intended major subject if the major is other than drawing. If the intended major is drawing, one elective must be selected from another studio area.

The third-year Fine Arts major and the thesis in the fourth year will be done as advanced work in one area of study to which the student has been introduced through a course in that area taken in the first or second year.

A minimum of 136 credit hours is required for the Bachelor of Fine Arts Honours degree.

NOTE: A student who fails to achieve the standing required for continuance in the BFA Honours program can transfer to the BFA General program.

First and Second Year

Same requirements as those listed above for the first and second years of the BFA General degree.

Third Year (Honours) (33 Credit Hours)

054.344	Field Trip	0
	Fine Arts Major course (B or better is required to register for B.F.A. Thesis)	9
	Elective Fine Arts studio (One of Sculpture 1 or Ceramics 1 must be taken as one of the elective Fine Arts studios in either the second or third years)	6
	Elective History and Theory of Art	6
	Elective subject other than Fine Arts	6
	Elective Fine Arts Studio, History and Theory of Art, or Elective subject other than Fine Arts	6
	Total credit hours	33

Fourth Year (Honours) (33 Credit Hours)

054.450	Bachelor of Fine Arts thesis	21
	Elective Fine Arts studio	6
	Elective subject other than Fine Arts studio	6
	Total credit hours	33

5.3 Diploma in Art Program

The program leading to the Diploma in Art is a four-year program, essentially technical in nature, designed to prepare students for careers as practising artists in either the fine or commercial fields. A minimum of 106 credit hours is required for the Diploma in Art Program.

For students who entered the Diploma in Art Program prior to Regular Session 2002-2003, Foundation Sculpture, 054.125, is required. For those students entering the Diploma in Art Program in Regular Session, 2002-2003, Foundation Sculpture, 054.125, is NOT required.

Course No		Credit Hours
First Year (25 Credit Hours)		
All Diploma Concentrations (25 credit hours)		
054.103	Introduction to Art 1A	3
054.104	Introduction to Art 2A	3
054.120	Fundamentals of Drawing	9
054.122	Basic Design	9
054.127	Health Hazards in the Arts	1
054.199	Field Trip	0
<i>Total credit hours</i>		25

Second Year (27 Credit Hours)		
All Diploma Concentrations (27 credit hours)		
054.220	Advanced Drawing 1	9
054.222	Painting 1	6
Students must choose two electives from the following for a total of at least 12 credit hours:		
054.221	Sculpture 1	6
054.223	Ceramics 1	6
054.227	Printmaking 1	6
054.228	Graphic Design 1	6
054.240	Photography 1	6
<i>Total credit hours</i>		27

Third and Fourth Years (27 Credit hours each year)		
27 credit hours each year for a total of 54 credit hours for both years		
Areas of Concentration		
The curriculum is organised to permit concentration in an area of study as follows:		
054.344	Field Trip: required in third year for all students	0
Ceramics		
054.333	Advanced Drawing 2	6
054.362	Ceramics 2	9
058.407	Ceramics Workshop	15
	A 300 level two dimensional studio	6
	A minimum of three elective Fine Arts courses	18
<i>Total credit hours</i>		54

Drawing		
054.227	Printmaking 1	6
054.342	Advanced Painting	6
054.363	Drawing	9
058.403	Drawing Workshop	15
	A minimum of three elective Fine Arts courses	18
<i>Total credit hours</i>		54

Graphic Design		
054.240	Photography 1	6
054.333	Advanced Drawing 2	6
054.342	Advanced Painting	6
054.366	Graphic Design 2 (Students registering in Graphic Design 2 (Major) must also enrol in 054.240 Photography 2, if not already completed)	9
058.409	Commercial Problems	15
	A minimum of two elective Fine Arts courses	12
<i>Total credit hours</i>		54

Painting		
054.333	Advanced Drawing 2	6
054.360	Painting 2	9
058.411	Painting Workshop	15
	A minimum of four elective Fine Arts courses	24
<i>Total credit hours</i>		54

Photography		
054.333	Advanced Drawing 2	6
054.349	Advanced Photography 2	9
058.415	Photography Workshop	15
	A minimum of four elective Fine Arts courses	24
<i>Total credit hours</i>		54

Printmaking		
054.333	Advanced Drawing 2	6
054.342	Advanced Painting	6
054.364	Printmaking 2	9
058.406	Printmaking Workshop	15
	A minimum of three elective Fine Arts courses	18
<i>Total credit hours</i>		54

Sculpture
Students must choose either 054.223 or 054.227 (whichever was not selected in second year) for a total of at least six credit hours:

054.223	Ceramics 1	
	or	
054.227	Printmaking 1	6
054.333	Advanced Drawing 2	6
054.365	Sculpture 2	9
058.414	Sculpture Workshop	15
	A minimum of three elective Fine Arts courses	18
<i>Total credit hours</i>		54
NOTE: Diploma students may elect courses in Art History as well as studio art courses for their elective Fine Arts courses.		

5.4 Elective Subjects and Academic Requirements

Elective Courses in History and Theory of Art

When offered, any of the following courses may be chosen when the program outline calls for an elective in History and Theory of Art.

Course No.		Credit Hours
054.206	Medieval to Early Renaissance Art and Architecture	3
054.207	Renaissance to Baroque Art and Architecture	3
054.208	Modern to Contemporary Art	3
054.209	Art of the North American Aboriginal Peoples	3
054.210	Survey of Asian Art	3
054.211	Women and Art	3
054.291	Field Studies in Art History 1	3
054.292	Field Studies in Art History 2	3
054.313	Topics in Medieval Art and Architecture	3
054.314	Topics in Renaissance and Baroque Art and Architecture	3
054.315	Topics in 18th and 19th Century Art	3
054.316	Topics in 20th Century Art	3
054.317	Contemporary Art	3
054.318	History of Photography	3
054.319	History of Ceramics	3
054.320	Art in New Media	3
054.321	Introduction to the Theory and Criticism of Art	3
054.322	Topics in Aboriginal Art	3
054.323	Chinese Art and Architecture	3
054.324	Japanese Art and Architecture	3
054.325	Topics in Art History	3
054.326	Canadian Art and Architecture to World War II	3
054.327	Canadian Art since World War II	3
054.328	Early Byzantine Art and Architecture	3
054.329	Later Byzantine Art and Architecture	3
054.343	Inuit Art	3
054.359	Islamic Art and Architecture	3
054.378	Twentieth Century American Art Until 1950	3
054.391	Field Studies in Art History 3	3
054.391	Field Studies in Art History 4	3
054.406	Seminar in Art Theory and Criticism	3
054.407	Seminar in Art History 1	3
054.408	Seminar in Art History 2	3
054.409	Seminar on Contemporary Issues in Art	3
054.471	Directed Study 1	3
054.472	Directed Study 2	3

Elective Subjects Other Than Fine Arts

All courses offered by and acceptable for credit in the Faculty of Arts, Faculty of Science, and School of Music are acceptable as academic electives in the School of Fine Arts studio programs. Students wishing to take academic electives not listed (except for service courses provided by other faculties), should contact the School of Art office.

SECTION 6: Course Descriptions

General Courses:

054.102M Mathematics in Art (3) Specific theory, structuring systems, and mathematical methods and principles used in works of art from various historical periods and contexts will be explored in relation to Euclidean and non-Euclidean geometries. Topics include 1) linear perspective; 2) shapes, patterns, balance and symmetry; 3) ratio, proportion, and harmony; and 4) order, dynamics, and chaos. The course will be one half art and one half mathematics, team-taught by faculty from the School of Art and the Department of Mathematics. Students may not hold credit for both 054.102M and 136.102M. No prerequisite.

054.127 Health Hazards in the Arts (1) Lectures on the hazards inherent in the use of common artists' materials and equipment. This course is a prerequisite for all studio courses with the exception of 054.120, 054.122, 054.125, and 054.105 and 054.106.

054.199 First Year Field Trip (0) A field trip conducted by members of faculty.

054.262 Writing About Art (3) This course is designed to give art history majors, studio majors, and other interested students studying art history the opportunity to develop their writing skills in the context of the requirements of the discipline. Its focus will be on the production of both academic and critical writing about historical and contemporary art, as well as on writing which meets the practical needs of professional artists. *Prerequisite:* 054.103 and 054.104 or 054.105 and 054.106 *Introduction to Art 1A and 2A or 1B and 2B.*

054.344 Field Trip (0) A field trip conducted by members of faculty.

Studio Courses:

NOTE: 054.120 Fundamentals of Drawing, 054.122 Basic Design and 054.127 Health Hazards in the Arts, are prerequisites to further study in studio courses.

054.120 Fundamentals of Drawing (9) Problems of representational and expressive drawing in black and white and colour. *Prerequisite* to further study in Fine Arts studio courses.

054.122 Basic Design (9) Elements and principles of design and their use in creative expression. *Prerequisite* to further study in Fine Arts studio courses.

054.125 Foundation Sculpture (9) Introductory problems in representational and expressive sculpture using various media. (For Diploma students only.)

054.126 Drawing for Non-Majors (6) A basic drawing course for students who are not enrolled in the School of Art. (A grade of "B" or better will satisfy the portfolio requirements for admission to the School of Art.) May not be used for credit in any School of Art program.

054.220 Advanced Drawing 1 (9) Creative use of drawing with emphasis on the human figure.

054.221 Sculpture 1 (6) Modelling in clay, principles of casting; introduction to other media with emphasis on the study of the human figure.

054.222 Painting 1 (6) Basic instruction in oil painting and pictorial composition.

054.223 Ceramics 1 (6) Introduction to ceramic art, including contemporary processes, techniques, and history.

054.227 Printmaking 1 (6) A first course in printmaking concentrating on one of intaglio, relief, lithography or serigraphy, introducing basic and advanced techniques applied in the development of a personal imagery. Students may not hold credit for 054.227 and either 054.255 or 054.256.

054.228 Graphic Design 1 (6) The creative use of the elements and principles of design as applied to the problems of graphic communication.

054.240 Photography 1 (6) Introduction to the camera and photographic techniques with problems in creative visual expression.

054.255 Printmaking 1A (3) An introduction to the basic techniques in one of intaglio, relief, lithography or serigraphy. Students may not hold credit for both 054.255 and 054.227. Not intended for those taking 054.227.

054.256 Printmaking 1B (3) An introduction to the basic techniques in one of the printmaking media not already taken in Printmaking 1A. Students may not hold credit for both 054.256 and 054.227. Not intended for those taking 054.227. *Prerequisite:* 054.255.

054.261 Video 1 (6) The creative use of video as an art medium.

054.268 Special Topics (3) Selected projects in Fine Art Studio of current interest, under the guidance of an instructor. *Prerequisite:* Special permission of instructor and Director.

054.333 Advanced Drawing 2 (6) Continuation of 054.220, with stress on finished drawings and experimental techniques. *Prerequisite:* 054.220.

054.337 Advanced Ceramics (6) Continuation of 054.223. *Prerequisite:* 054.223.

054.342 Advanced Painting (6) Continuation of 054.222, with increasing emphasis on painting techniques, theory, and use of expressive idioms. *Prerequisite:* 054.222.

054.345 Advanced Printmaking (6) Continuation of 054.227, with emphasis on one or more of the print processes in black and white and colour. *Prerequisite:* 054.227 or 054.255 and 054.256.

054.346 Advanced Sculpture (6) Continuation of 054.221, with emphasis on one of modelling, carving, or construction. *Prerequisite:* 054.221.

054.347 Advanced Graphic Design (6) Continuation of 054.228, with problems of greater complexity in consideration of techniques, form, and function. *Prerequisite:* 054.228.

054.348 Advanced Photography 1 (6) Continuation of 054.240, with emphasis on print quality and personal imagery. *Prerequisite:* 054.240.

054.349 Photography 2 (9) (Major course) Advanced instruction toward individual expression. *Prerequisite:* A grade of "C+" or better in 054.240.

054.360 Painting 2 (9) (Major course) Advanced instruction toward individual expression. *Prerequisite:* a grade of "C+" or better in 054.222.

054.361 Video 2 (9) (Major Course) A more intensive exploration of the creative use of video as an art medium, with an emphasis on finished works. *Prerequisite:* a grade of "C+" or better in 054.261.

054.362 Ceramics 2 (9) (Major course) Advanced instruction toward individual expression in ceramic media; a more intensive study of the properties of clays and glazes. *Prerequisite:* a grade of "C+" or better in 054.223.

054.363 Drawing (9) (Major course) Advanced instruction toward individual expres-

sion in a variety of black and white and colour media. *Prerequisite:* a grade of "C+" or better in 054.220.

054.364 Printmaking 2 (9) (Major course) Advanced instruction toward individual expression concentrating on the techniques of one of the following print processes: intaglio, relief, lithography, serigraphy. *Prerequisite:* a grade of "C+" in 054.227 or an average of "C+" in 054.255 and 054.256.

054.365 Sculpture 2 (9) (Major course) Advanced instruction toward individual expression with emphasis on one of modelling, carving, construction. *Prerequisite:* a grade of "C+" or better in 054.221.

054.366 Graphic Design 2 (9) (Major course) Advanced instruction in problems of graphic communication. Graphic Design Major students must also take 054.240. *Prerequisite:* a grade of "C+" or better in 054.228.

054.367 Special Topics (6) Projects of an unusual nature, under the guidance of an instructor. *Prerequisite:* special permission of instructor and director.

054.383 Advanced Printmaking A (3) First term of 054.345. Students may not hold credit for both 054.345 and 054.383. Not intended for those taking 054.345. *Prerequisite:* 054.227 or 054.255 and 054.256.

054.384 Advanced Printmaking B (3) Second term of 054.345. Students may not hold credit for both 054.345 and 054.384. Not intended for those taking 054.345. *Prerequisite:* 054.383.

054.389 Printmaking 2A (4.5) First term of 054.364. Students may not hold credit for both 054.364 and 054.389. *Prerequisite:* "C+" in 054.227 or an average of "C+" in 054.255 and 054.256.

054.390 Printmaking 2B (4.5) Second term of 054.364. Students may not hold credit for both 054.364 and 054.390. *Prerequisite:* 054.389.

054.445 Advanced Drawing 3 (6) Advanced individual instruction in creative drawing. *Prerequisite:* 054.333 or 054.363.

054.446 Illustration (9) Illustration problems in relation to reproduction techniques in books, periodicals, industrial publications, television, and other visual communication media.

054.450 Bachelor of Fine Arts Thesis (21) *Prerequisite:* a minimum grade of "B" in one of the following nine credit hour (Major) courses: 054.349; 054.360; 054.361; 054.362; 054.363; 054.364 or 054.389 and 054.390; 054.365; or 054.366.

054.451 Advanced Graphic Design 2 (6) Individual instruction with concentration in areas most relevant to the student's creative development. *Prerequisite:* 054.347 or 054.366.

054.452 Advanced Ceramics 2 (6) Individual instruction with concentration in the areas most relevant to the student's creative development. *Prerequisite:* 054.337 or 054.362.

054.453 Advanced Painting 2 (6) Individual instruction with concentration in the areas most relevant to the student's creative development. *Prerequisite:* 054.342 or 054.360.

054.454 Advanced Printmaking 2 (6) Individual instruction with concentration in the areas most relevant to the student's creative development. *Prerequisite:* one of 054.345, 054.364, 054.383 and 054.384, or 054.389 and 054.390.

054.455 Advanced Sculpture 2 (6) Individual instruction with concentration in the areas most relevant to the student's creative development. *Prerequisite:* 054.346 or 054.365.

054.457 Advanced Printmaking 2A (3) First term of 054.454. Students may not hold credit for both 054.454 and 054.457. *Prerequisite:* one of 054.345, 054.364, 054.383 and 054.384, or 054.389 and 054.390.

054.461 Advanced Printmaking 2B (3) Second term of 054.454. Students may not hold credit for both 054.454 and 054.461. *Prerequisite:* 054.457.

054.470 Advanced Photography 2 (6) Advanced individual instruction in creative photography. *Prerequisite:* 054.348 or 054.349.

058.403 Drawing Workshop (15) Advanced individual instruction. *Prerequisite:* a minimum grade of "B" in 054.363.

058.406 Printing Workshop (15) Advanced individual instruction. *Prerequisite:* a minimum grade of "B" in 054.364 or 054.389 and 054.390.

058.407 Ceramics Workshop (15) Advanced individual instruction. *Prerequisite:* a minimum grade of "B" in 054.362.

058.409 Commercial Problems (15) Advanced individual instruction. *Prerequisite:* a minimum grade of "B" in 054.366.

058.411 Painting Workshop (15) Advanced individual instruction. *Prerequisite:* a minimum grade of "B" in 054.360.

058.414 Sculpture Workshop (15) Advanced individual instruction. *Prerequisite:* a minimum grade of "B" in 054.365.

058.415 Photography Workshop (15) Advanced individual instruction. *Prerequisite:* a minimum grade of "B" in 054.349.

Art History Courses:

NOTE: Introduction to Art A or B (054.103/104 1A/2A or 054.105/106 1B/2B), is the prerequisite to further study in Art History courses.

054.103 Introduction to Art 1A (3) (Formerly first half of 054.124) A basic study of world art history and theory to the early Renaissance. May not be held for credit with 054.105 or the previous 054.124 or 054.130. *Prerequisite* to further study in history and theory of art.

054.104 Introduction to Art 2A (3) (Formerly second half of 054.124) A basic study of world art history and theory from the Renaissance to the present. May not be held for credit with 054.106 or the previous 054.124 or 054.130. *Prerequisite:* 054.103 or

054.105 Prerequisite to further study in history and theory of art.

054.105 Introduction to Art 1B (3) (Formerly first half of 054.130) A basic study of world art history and theory to the early Renaissance, supplemented by a two-hour laboratory in the practice and techniques of art. A combined grade of "B" or better in the laboratory of this course and that of 054.106 can be used in place of the entrance portfolio to the School of Art. This course is only open to students in faculties and schools other than the School of Art. May not be held for credit with 054.103 or the previous 054.124 or 054.130. Prerequisite to further study in the history and theory of art.

054.106 Introduction to Art 2B (3) (Formerly second half of 054.130) A basic study of world art history and theory from the Renaissance to the present, supplemented by a two-hour laboratory in the practice and techniques of art. A combined grade of "B" or better in the laboratory of this course and that of 054.105 can be used in place of the entrance portfolio to the School of Art. This course is only open to students in faculties and schools other than the School of Art. May not be held for credit with 054.104 or the previous 054.124 or 054.130. Prerequisite: 054.105. Prerequisite to further study in history and theory of art.

054.206 Medieval to Early Renaissance Art and Architecture (3) An introduction to the study of Medieval art and architecture in Europe, from the very beginnings of a specifically Christian artistic tradition to the beginning of the Renaissance. May not be held for credit with the previous 054.251 or 054.252. Prerequisite: either 6 credits from 054.103, 054.104, 054.105 or 054.106; the previous 054.124 or 054.130; or written permission of the instructor.

054.207 Renaissance to Baroque Art and Architecture (3) An introduction to the study of Renaissance art and architecture up to the Baroque in the context of the social, political and economic circumstances of this time. May not be held for credit with the previous 054.245, 054.246, 054.249, 054.250. Prerequisite: either 6 credits from 054.103, 054.104, 054.105 or 054.106; the previous 054.124 or 054.130; or written permission of the instructor.

054.208 Modern to Contemporary Art (3) This course is a study of the major movements, themes, and media of Western Art from the late 18th century to the present. May not be held for credit with the previous 054.368, 054.369. Prerequisite: either 6 credits from 054.103, 054.104, 054.105 or 054.106; the previous 054.124 or 054.130; or written permission of the instructor.

054.209 Art of the North American Aboriginal Peoples (3) (Formerly 054.373) Study of the art and artifacts of the indigenous peoples of North America (other than the Inuit). No prerequisite. May not be held for credit with the previous 054.373.

054.210 Survey of Asian Art (3) An introductory survey of the arts of India, China and Japan from prehistory to the present. May not be held for credit with the previous 054.247, 054.248. No prerequisite.

054.211 Women and Art (3) This course will examine the aesthetics, ideology and social conditions that have shaped women's relationships to the visual arts and to art history, as artists, as patrons, and as subject matter. No prerequisite.

054.291 Field Studies in Art History 1 (3) This off-campus travel course will provide students with the opportunity to study firsthand the art and architecture of a particular city or region in a broad cultural context. Course location may vary from year to year. Offered during the Summer Session only. Written permission of the instructor is required.

054.292 Field Studies in Art History 2 (3) This off-campus travel course will provide students with the opportunity to study firsthand the art and architecture of a particular city or region in a broad cultural context. Course location may vary from year to year. Offered during the Summer Session only. Written permission of the instructor is required.

054.313 Topics in Medieval Art and Architecture (3) Varying from year to year, this course will cover significant topics in Medieval art and architectural History. Depending on the topic, this course may not be held for credit with one or more of the following courses: the previous 054.251, 054.252. Prerequisite: 054.206, or written permission of the instructor.

054.314 Topics in Renaissance and Baroque Art and Architecture (3) Varying from year to year, this course will cover significant topics in Renaissance and Baroque art and architectural history. Depending on the topic, this course may not be held for credit with one or more of the following courses: the previous 054.245, 054.246, 054.249, 054.250. Prerequisite: 054.207, or written permission of the instructor.

054.315 Topics in 18th and 19th Century Art (3) Varying from year to year, this course will cover significant topics in 18th and 19th century art history. Depending on the topic, this course may not be held for credit with one or more of the following courses: the previous 054.258, 054.368, 054.369, 054.370. Prerequisite: either 054.207 or 054.208 as appropriate to the topic, or written permission of the instructor.

054.316 Topics in 20th Century Art (3) Varying from year to year, this course will cover significant topics in 20th century art history. Depending on the topic, this course may not be held for credit with one or more of the following courses: the previous 054.231, 054.259, 054.379. Prerequisite: 054.208, or written permission of the instructor.

054.317 Contemporary Art (3) This course will consider the art of the past few decades, with an emphasis on recent and contemporary developments. Prerequisite: 054.208, or written permission of the instructor.

054.318 History of Photography (3) (Formerly 054.259) The development of photography from its origins to the present. May not be held for credit with the previous 054.258 or 054.259. Prerequisite: 054.208 or written permission of the instructor.

054.319 History of Ceramics (3) This course will examine the history of ceramics, extending from prehistory in Asia to recent work in Europe, the United States and Canada. No prerequisite.

054.320 Art in New Media (3) This course will consider art produced in non-traditional media during the Modern era, i.e. since the 18th century, with emphasis on developments during the 20th century and particularly the last 40 years. Prerequisite: 054.208, or written permission of the instructor.

054.321 Introduction to The Theory and Criticism of Art (3) (Formerly 054.257) This course serves as an introduction to the theory and criticism of art. May not be held for credit with the previous 054.257, 054.340, or 054.380. Prerequisite: any second-year course or written permission of the instructor.

054.322 Topics in Aboriginal Art (3) Varying from year to year, this course will cover significant topics in the art of the North American Aboriginal peoples, including the Inuit. Prerequisite: 054.209 or 054.343, as appropriate to the topic offered, or written permission of the instructor.

054.323 Chinese Art and Architecture (3) (Formerly 054.247) A survey of the art and architecture of China beginning with the Shang-Yin Period (2000 BCE) and continuing to the present. May not be held for credit with the previous 054.247. Prerequisite: 054.210, or written permission of the instructor.

054.324 Japanese Art and Architecture (3) (Formerly 054.248) A survey of the art and architecture of Japan beginning with the Jomon Period (300 BCE to 300 CE) and continuing through the Heisei Period (1989 - present). May not be held for credit with the previous 054.248. Prerequisite: 054.210, or written permission of the instructor.

054.325 Topics in Art History (3) This course will vary from year to year depending on the needs of students and the interests and availability of instructors. May not be taken for credit if student has previously taken a course equivalent to the topic currently offered.

☛ **054.326 Canadian Art and Architecture to World War II** (3) (Formerly 054.375) A study of Canadian arts up to World War II. Prerequisite: 054.208 or written permission of the instructor.

☛ **054.327 Canadian Art since World War II** (3) (Formerly 054.376) A study of Canadian art from World War II to the present. Prerequisite: 054.208 or written permission of the instructor.

054.328 Early Byzantine Art and Architecture (3) (Formerly 054.387) A study of the origin and evolution of early Byzantine Art and Architecture. Prerequisite: either 6 credits from 054.103, 054.104, 054.105 or 054.106; the previous 054.124 or 054.130; 054.206; or written permission of the instructor.

054.329 Later Byzantine Art and Architecture (3) (Formerly 054.388) A study of later Byzantine Art and Architecture to the end of the Middle Ages. Special emphasis will be placed on the influence of Byzantine art on the modern traditions of Eastern Europe. Prerequisite: either 6 credits from 054.103, 054.104, 054.105 or 054.106; the previous 054.124 or 054.130; 054.206; 054.387; or written permission of the instructor.

☛ **054.343 Inuit Art** (3) (Formerly 054.358) The history and analysis of Inuit Art. Prerequisite: either 6 credits from 054.103, 054.104, 054.105 and 054.106; the previous 054.124 or 054.130; or written permission of the instructor.

054.359 Islamic Art and Architecture (3) (Formerly 054.371) A contextual and thematic study of Islamic art and architecture beginning in the 7th century and continuing through the present. No prerequisite.

054.378 Twentieth Century American Art Until 1950 (3) Realism, modernism, and regionalism are among the topics to be given special emphasis on this study of late 19th and 20th century American art.

054.391 Field Studies in Art History 3 (3) This off-campus travel course will provide students with the opportunity to study firsthand the art and architecture of a particular city or region in a broad cultural context. Course location may vary from year to year. Open to Art History and Studio students who have already completed their Art History requirements at the second-year level. Offered during the Summer Session only. Written permission of the instructor is required.

054.392 Field Studies in Art History 4 (3) This off-campus travel course will provide students with the opportunity to study firsthand the art and architecture of a particular city or region in a broad cultural context. Course location may vary from year to year. Open to Art History and Studio students who have already completed their Art History requirements at the second-year level. Offered during the Summer Session only. Written permission of the instructor is required.

054.406 Seminar in Art Theory and Criticism (3) (Formerly 054.380) A Seminar treating selected topics in the theory and criticism of art. Prerequisite: Either 054.321; the former 054.257, 054.340, or 054.380; or written permission of the instructor.

054.407 Seminar in Art History 1 (3) Seminar treating special topics in Art History. May not be taken for credit if the topic is the same as a topic previously offered in 054.447, 054.465, 054.466, 054.474, 054.475, 054.476, or 054.483. Prerequisite: one 300-level course in the appropriate area as defined by the instructor, or written permission of the instructor.

054.408 Seminar in Art History 2 (3) Seminar treating special topics in Art History. May not be taken for credit if the topic is the same as a topic previously offered in 054.447, 054.465, 054.466, 054.474, 054.475, 054.476, or 054.483. Prerequisite: one 300-level course in the appropriate area as defined by the instructor, or written permission of the instructor.

054.409 Seminar on Contemporary Issues in Art (3) (Formerly 054.464) A seminar treating contemporary issues in art. The topic varies from year to year. Prerequisite: One 300-level course in the appropriate area as defined by the instructor, or written permission of the instructor.

054.471 Directed Study 1 (3) Directed study in the history of art under the supervision of an instructor. Admission by consent of instructor and director.

054.472 Directed Study 2 (3) Directed study in the history of art under the supervision of an instructor. Admission by consent of instructor and director. School of Art

Faculty of Arts

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Deans Emeriti

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The names of academic staff members are published in the department and program sections later in this chapter.

SECTION 1: History of the Faculty of Arts

Although a separate Faculty of Arts was not established until 1970 (when the Faculty of Arts and Science, which was founded in 1921, was divided into two administrative units), the teaching of Arts (and Science) subjects, and the granting of Arts degrees, go back to the beginning of this university.

When the University of Manitoba was founded in 1877, it was given the following responsibilities: to set requirements for degrees, to determine which persons were to be admitted as candidates for degrees (this was done by means of entrance examinations, which were first opened to women in 1886), to administer the examinations that were to be written each spring (in either English or French), and to award degrees to successful candidates. During its early years the only undergraduate degrees actually awarded by the university were Bachelor of Arts degrees, with the first being awarded in 1880 (when the graduating class consisted of only one person, a Science student; the Bachelor of Science degree was not introduced until 1912). Originally the Bachelor of Arts program was designed to take three years; a fourth year, however, was added in 1900 (to compensate for the lack of grade 12 in most rural high schools); the five-year Honours degree in Arts was introduced in 1923.

During the 27 year period from 1877 to 1904 the University of Manitoba did not offer any instruction by academic staff appointed and paid directly by the university; the only instruction in Arts and Science subjects available during that period was that provided by the three founding colleges (St. Boniface College, St. John's College, and Manitoba College), plus Wesley College from 1888. When the colleges found it increasingly difficult to provide all the instruction needed in Science (especially at the upper level, which was required for entrance to Medicine), the university itself began to assist three of the colleges in teaching Science courses, first by providing space for lectures and laboratories (in rented rooms from 1890, and from 1901 in the first building owned by the university, the "Old Science Building" on Broadway), and then by providing (from 1900 to 1904) half the salary of the college Science teachers. In 1904, however, the university began the long process of acquiring a professorial staff of its own, with the hiring that year of six Science professors. Arts professors were first hired by the university in 1910, and by 1914 (when the decision was made to offer instruction also at the first and second year levels, and not only at the third and fourth year levels) the departments of English, History, Political Economy, French, German and Classics had all been established, with the departments of Philosophy and Psychology being added in 1920. The remaining Arts departments were established later: Slavic Studies in 1949, Judaic Studies in 1950, Geography and Icelandic in 1951, Anthropology and Sociology in 1962, Religion in 1968, Native Studies in 1974, and Linguistics in 1987.

Prior to 1931, all instruction provided by the Faculty of Arts and Science (which was established in 1921 as a separate faculty from Medicine and from Engineering and Architecture) was offered at the Broadway site in downtown Winnipeg, where the offices for faculty members were also located. But with the completion of the Arts Building (now known as the Tier Building) in 1931, and the Science Building (now called the Buller Building) in 1932, senior division courses in Arts and Science were transferred to the present Fort Garry Campus, with junior division courses continuing to be offered at the Broadway site until they were transferred to the Fort Garry Campus in 1950. Two of the Arts and Science colleges, St. John's and St. Paul's (the latter having affiliated with the university in 1931), moved to their present locations in 1958, becoming Member Colleges in

1968. (St. Boniface College remained at its original site, and retains its Affiliated College status.) The Isbister Building was completed in 1960, University College (a Constituent College) in 1964, the Fletcher Argue Building in 1967, and the Duff Roblin Building in 1969.

Faculty of Arts courses are also taught at two additional colleges with a less close relationship with the university: St. Andrew's College (which went from Associated to Affiliated College status in 1981), Canadian Mennonite Bible College (an approved teaching centre since 1963), William and Catherine Booth College (an approved teaching centre since 1992). In 1988, the Prairie Theatre Exchange school was granted approval as a teaching centre of the University of Manitoba in connection with the Theatre Studies program of the Department of English.

When grade 12 was adopted as the minimum requirement for entrance to the university in 1964, the General degree program was reduced to three years, and the Honours degree program was reduced to four years. In 1967, the major and minor system replaced the sequence system in the General degree program, and letter grades replaced numerical grades. A third undergraduate degree program, a four-year program leading to a B.A. Advanced, was introduced in 1980.

SECTION 2: Students' Code of Responsibilities

2.1 A Community of Scholars

The Faculty of Arts at the University of Manitoba defines itself as a community of scholars, all citizens of which must commit themselves to the advancement of learning, the dissemination of knowledge, and the well-being of all its members. Essential to these goals is each individual's commitment to the following values:

The affirmation of the dignity, worth, and equality of all citizens in the community;

The importance of reasoned debate and inquiry in all academic pursuits;

The practise of ethical conduct and personal integrity in all aspects of academic life.

Students who enrol in the Faculty of Arts voluntarily choose to join this community of scholars, and in doing so they accept the responsibilities as well as the benefits of living within it.

The Faculty of Arts offers its students remarkable opportunities for the acquisition of knowledge, the development of skills, and the free exchange of ideas that will shape their future lives. The scholarly community also provides a forum for extra-curricular activities, personal growth and social relationships that are equally important to one's sense of fulfilment. This should be an exciting process of discovering new goals, new points of view, and, indeed, a new and better sense of one's ideals and potential. But it is also a process of coming to recognize the value and special nature of the academic community itself.

The dynamic freedom of student life in the Faculty of Arts carries a special obligation that each individual act in such a way as to promote the well-being of other members — to accept willingly the categorical imperative of behaving in such a way that, if everyone else did the same, the good of all would prevail. This is a matter of accepting the differences of others, respecting the rights of others, and not abusing the resources that the faculty and the university put at your disposal. It is also a matter of acting honourably in all personal and academic relationships, and not tolerating through diffidence or neglect any violations of such obligations on the part of others. Our common commitment as citizens of the scholarly community will then work to enhance every individual member's experience and likelihood of success. Only with such a commitment from everyone can the Faculty of Arts fulfil its mission at the core of a public institution charged with educating the leaders of tomorrow's society. And only with such a commitment can we make wise use of the public funds for which we are accountable.

2.2 Rights and Responsibilities

As a student in the Faculty of Arts you are entitled to the use of all appropriate resources (human and other) for the successful completion of your studies. But you are also responsible for the use of those resources in a manner that is honest, fair and equitable. For example, when you enrol in a course you implicitly accept the terms of a contract whereby the profes-

sor is committed to teaching to the best of his/her ability, while you and the other students are committed to learning to the best of yours. Repeated absences, or the neglect of reading or writing assignments, are not just matters of individual concern; because they undermine the effectiveness of discussion for others as well, they are a failure to honour the academic and social contract that is implicitly a part of your membership in this community. Similarly, borrowing a book from the library is a direct commitment to honour the rules and regulations governing the circulation of such material. To damage a library book by writing in it, highlighting, or worse, is not just an act of individual vandalism; it is the wilful partial destruction of a resource that other students (and even other generations of students) have the right and the need to consult. It is to forget, in other words, that public property is not no one's property; it is everyone's property.

Similar obligations to ethical conduct are an inherent part of all the academic work you do as requirements of your program. Participation in the free exchange of ideas, upon which the scholarly community depends, obligates all members of that community to complete honesty and to adequate documentation of their intellectual debts. Plagiarism, the representing of someone else's words or ideas as your own, or any other form of academic dishonesty such as cheating, is a betrayal not just of individual honour, but of the whole basis of civilized discourse upon which all other members of the community depend.

The Manitoba Code of Human Rights guarantees everyone the right to be free of discrimination on the basis of gender or sexual orientation, age, ancestry, religion, family status, physical or mental handicap, and political beliefs. The rights and responsibilities of students thus go well beyond the classroom, library, or computer facility. Every student in the Faculty of Arts is at all times entitled to pursue his/her activities and program of study free of any social discrimination, harassment, exploitation or abuse of power on the part of others, staff or students. Consequently, every student also has a reciprocal obligation to act in a similarly ethical fashion toward all other members of the community. In order that we all be fully empowered to take advantage of the pursuit of knowledge, the development of skills and the special opportunities for personal growth offered by the faculty, there must be on everyone's part a commitment to avoid irresponsible behaviour that damages the academic potential or self-esteem of others.

2.3 Rules and Regulations

It is the intention of the Faculty of Arts to discourage any conduct that is detrimental to the welfare of the scholarly community and its individual members. In this *Undergraduate Calendar* there are many regulations governing the expectations and standards of academic work in the faculty, and there are mechanisms of appeal at the department and faculty level for those who feel that the application of these regulations has been unfair or unjust. There are also rules and regulations governing the use of university resources and facilities, and others governing the social conduct of members of the community — for example, a policy on sexual harassment and a policy banning weapons from campus. Any violations of these rules and regulations should be reported to the appropriate administrative agency or authority (e.g., the director of Libraries, the sexual harassment investigation officer or the Security Services). It must be remembered, too, that all federal, provincial and municipal laws (regarding, for example, violence, alcohol, and drugs) are enforced on campus.

There are, however, some kinds of behaviour that fall between these academic and legal concerns, which are nevertheless inappropriate in the context of an academic community. Any disruptive action or physically or verbally aggressive behaviour that serves to threaten or intimidate another member of the community (staff or student) should be immediately reported to the relevant head of department or dean. Persons who are found to have violated the rights of other individuals, or to have subverted the welfare of the academic community, will face disciplinary action, which may include expulsion from the faculty. It is important to recognize, though, that such discipline is always less effective than a common commitment to respect the rights of others.

2.4 Conclusion

The foregoing statement of responsibilities applies to all student members of the Faculty of Arts. Faculty members and support staff are governed by a number of university, Senate and faculty policies that set out similar standards of ethical and professional conduct. This code is meant to give the students in the Faculty of Arts a sense of the relation that exists between their rights and their responsibilities and how these rights and responsibilities in turn sustain the welfare of the whole academic community.

SECTION 3: Admission to the Faculty of Arts

3.1 Degrees Offered

Bachelor of Arts

Minimum time to graduation: Three years (University 1 plus two years). This degree is also called the "general" program. There is no time limit to complete the degree.

Bachelor of Arts (Advanced)

Minimum time to graduation: Four years (University 1 plus three years). There is no time limit to complete the degree.

Bachelor of Arts (Honours)

Minimum time to graduation: Four years (University 1 plus three years). There is no time limit to complete the degree.

Admission Requirements

The following is a summary of the admission requirements. All admission requirements, as well as application deadline dates and forms, are included in an application bulletin that is available from the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

A minimum of 24 credit hours of courses acceptable for credit in Arts. Depending on the academic performance on the courses acceptable for credit, students may be admitted to or transit into the Faculty in good standing or on probation.

Other requirements for all degree programs

The specific requirements for the General, Advanced and Honours degree programs are given in Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Each department and program outlines its entry and requirements in Section 8: Departments in, and Programs and Courses Offered by, the Faculty of Arts.

3.2 Admission to University 1

Commencing September 1998, most students newly admitted from high school and those who have completed less than 24 hours at another post secondary institution, will complete the first year of their degree program in University 1. In University 1 students will select courses from a wide variety of offerings in Arts, Science and other faculties and schools. After completion of a minimum number of credit hours taken in University 1, students may apply for admission to another faculty or school, or transit to Arts or Science for further study. "Transiting" means declaration of registration in the Faculty of Arts or Faculty of Science on or before the first registration after University 1. For information about University 1, see the chapter on University 1 in this *Calendar*.

The curriculum of University 1 may be completed on a full-time or part-time basis, and consists of 30 credit hours: six hours from courses offered by the Faculty of Arts; six hours of courses offered by the Faculty of Science; six hours of courses offered by either Arts or Science; and 12 hours from any faculty offering courses to University 1 students, including Arts and Science. Students will not be permitted to remain in University 1 indefinitely but, after completing 30 credit hours or more, must exit from University 1 to a faculty or school.

Students will not be academically assessed in University 1. Once a student transits to Arts, they are subject to the performance requirements as set out below under Section 4.1.3. University 1 students will be advised of their status as their program progresses.

Voluntary withdrawals accumulated in University 1 will be included in the maximum number of withdrawals allowed in the Faculty of Arts.

3.3 Admission from University 1

a) Students who have completed 30 credit hours or more of coursework and who are not admissible to other faculties or schools will be required to transfer to the Faculty of Arts or Faculty of Science.

b) Students who have completed either 24 or 27 hours of coursework may choose to transfer to the Faculty of Arts or Faculty of Science.

In either a) or b), the student will be assessed in accordance with the Minimum Performance Table (see Section 4.1.3) and will either transit to Arts in good standing or on probation depending on their performance in University 1. Students who are transited on probation from University 1 are advised to see an Arts student advisor prior to registration.

3.4 Admission as a Transfer Student

Transfer students are students who, before being admitted as regular students to the Faculty of Arts, were admitted to another faculty or school at the University of Manitoba (these are called "internal transfers") and/or some other recognized university or college (these are called "external transfers") and who received a final grade in courses acceptable for credit within the University of Manitoba's Faculty of Arts. For the University of Manitoba's general policy on external transfer students and advance standing, see the chapter on Admission to the University of Manitoba in this *Calendar*. Students who apply to transfer to the Faculty of Arts must have completed no fewer than 24 hours of university level coursework and will be assessed in accordance with the Minimum Performance Table (see Section 4.1.3). Those students who meet the minimum performance requirement will be admitted in good standing. Those students who do not meet the minimum performance requirement will be admitted on probation. Any student who has completed coursework such that there would be insufficient attempts remaining to complete the degree or meet the minimum residency requirement for the B.A. General Degree (see Section 5.4 below) will not be admitted. (Those students who are inadmissible because of insufficient attempts remaining or who are unable to satisfy the residency requirement may be considered for admission in accordance with the regulations stated in the area entitled "Two Year Suspension" in Section 5.14.) Anyone who has been placed on academic suspension by another faculty, school, or external institution will not be admissible if less than one year has elapsed since he/she had been placed on suspension. The waiting period will be increased to two years if the student has been placed on suspension more than once. For information regarding transfer credit see Sections 5.3 and 5.4 below.

3.5 Admission as a Student Seeking a Second Degree

A "second degree" student is one who is pursuing a second undergraduate degree and whose basis of admission is a first degree from a recognized university program. For information regarding possible transfer credit, if any, see Section 5.18 below.

3.6 Admission as a Visiting Student

A "visiting" student is one who is proceeding to a degree at another university or college and whose basis of admission is a Letter of Permission from the registrar or appropriate dean of his/her home institution granting permission to enrol in specific courses. Previously admitted visiting students can register in a subsequent session without applying for admission, provided they have a Letter of Permission and have not changed their home institution. Certain restrictions may be placed on the kind and number of courses in which they will be allowed to register.

3.7 Admission as a Special Student

A "special" student is someone who is not a regular student proceeding towards a degree and is permitted by the Dean of Arts to take courses out of interest. The basis of admission is normally possession of a first degree.

SECTION 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

For academic regulations related to graduate degrees, see the *Graduate Calendar* of the Faculty of Graduate Studies. For academic regulations pertaining to the following degrees, *Baccalauréat ès Arts (Latin-Philosophie)*, *Baccalauréat ès Arts (Spécialisé en français)*, and *Baccalauréat ès Arts (Spécialisé en traduction)*, which are also offered under the Faculty of Arts but with instruction available only at Collège universitaire de Saint-Boniface, see the *Annuaire* of the Collège universitaire de Saint-Boniface.

Students are encouraged, prior to reading the faculty regulations which follow, to review the chapter, General Academic Regulations and Policy, in this *Calendar*, especially as they pertain to the Letter Grade System and the way in which a student's Cumulative Grade Point Average is calculated.

It is **highly recommended** that all students entering the Faculty of Arts to pursue a degree complete six credit hours in each of five different subject fields within the first 30 credit hours, and that, if possible, they include among those courses the subject fields in which they will probably specialize because future choices may be limited by the initial choice of courses a student makes. Also, students must meet a subject field requirement to qualify for entrance to both the Advanced and Honours programs (see Section 4.2 and 4.3).

Combinations of courses for the Major, Minor and Honours programs, other than those listed, may be permitted with written consent of the department head or program coordinator and consent from dean's office, Faculty of Arts. Similarly, Honours courses may be taken by students in the General or Advanced Major programs with the written consent of the department head or program coordinator.

4.1 General (or Three-Year Major) Degree Program

4.1.1 Its General Purpose

This program is aimed at training students to evaluate information, reach conclusions, and act on these conclusions. The training is intended to result in flexibility and objectivity in problem-solving, sensitivity to the social and physical environment, breadth of learning, and an appreciation of our cultural, political, and economic milieu.

4.1.2 Entrance into the B.A. General Degree Program

1) At the point of admission or transfer to Arts all students proceeding to an undergraduate degree are automatically in the General degree program. Subsequently, students may apply in the general office for admission to either the Advanced degree program or the Honours degree program.

2) All students who have completed 30 credit hours are encouraged to declare a Major. Only one Major may be declared. (Nothing in this regulation, however, prevents students from changing their declared Major at some subsequent registration.) Students should note that for entry into a Major requiring courses from only one department, the faculty requirement is that the student must have a grade of "C" or better in the prerequisite course(s). If the student has taken other courses from that department besides the requisite course, then entry into the Major would require an average of "C" or better in all courses including only the higher grade of any course that has been repeated and excluding any failed courses.

For entry into a Major requiring courses from more than one department, the faculty requirement is that the student must have an average of "C" or better in all courses which are eligible to count towards the Major.

Students who have not declared a Major by the time 51 credit hours of coursework have been completed or registered for, will not be able to continue registration until a Major is declared.

For detailed information regarding entry requirements into Majors and specific course requirements for Majors, see the specific listing for the relevant department in Sections 8 and 9.

3) Following completion of the first five full-course-equivalents all students are encouraged to declare a Minor (though this can be changed to a different subject field at some later registration). For entry to the Minor, the prerequisite is a grade of "C" or better in the prerequisite course(s).

Students who have not declared a Minor by the time 51 credit hours of coursework have been completed or registered for, will not be able to continue registration until a Minor is declared.

4.1.3 Requirements for Continuing in the B.A. General Degree Program

1) By the time they complete ten full-course-equivalents (i.e., 60 credit hours), all students must have one full-course-equivalent (i.e., six credit hours) in five different subject fields.

2) By the time they complete ten full-course equivalents (i.e., 60 credit hours), all students must have successfully completed or be registered for at least three credit hours in a course with significant content in written English (see Section 8 below for courses marked with a "W" in the departments/areas section) and at least three credit hours in a course in mathematics chosen from any courses bearing the departmental prefix of 005 (Statistics) or 136 (Mathematics). Other courses which satisfy this requirement are designated with an "M" in the Faculty of Science section of this *Calendar*. Other courses include Psychology courses 017.226 or 017.230 or Sociology course 077.229 or Faculty of Environment (Geogra-

phy) course 053.368 or School of Art course 054.102 or School of Music course 033.323. This requirement must be satisfied by all students admitted to the Faculty of Arts since the 1997-1998 regular session.

The chapter, General Academic Regulations and Policy, in this *Calendar* contains a complete list of the courses which satisfy the written English and mathematics requirement. In addition to the designated courses listed in the *Calendar*, individual sections of courses which satisfy the written English requirement are also marked in the *Registration Guide* with a "W" after the course section.

3) When students register again after completing 10 full-course-equivalents (i.e., 60 credit hours), they will be expected to declare if they plan to graduate.

4) *Minimum Performance Level.* Once a minimum of 24 credit hours of university level coursework has been completed, the Minimum Performance Table listed below is used to:

- a) Determine a student's admission/transfer status to the Faculty of Arts and
- b) Ensure that once in the Faculty of Arts a student meets the required minimum Grade Point Average every time he/she completes a course(s).

The Minimum Performance check is carried out at the conclusion of the Regular and Summer Session if registration in courses has occurred.

To determine the required minimum Grade Point Average a student should first locate in Column 1 of the table the number that matches the total number of credit hours they have attempted where a final grade is recorded as of the date of the most recent check by the Arts general office. (Regarding what counts as an attempt, see Section 5.7 below). Having identified this line in the Table, students should calculate their Grade Point Average on the number of credit hours indicated in Column 2 on that same line (taking into account only their better performances), and then compare this with the minimum Grade Point Average required at this point in their career, which is given in Column 3 on that same line. Students who fail to achieve the required minimum Grade Point Average will be placed on probation (see Section 5.14 below). Students previously admitted/transferred to Arts on probation, and those Arts students who were last assessed on probation, who fail to meet the required minimum Grade Point Average will be placed on academic suspension for one year (see Section 5.14 below). In addition to meeting the Minimum Performance Level, students must be careful to satisfy all degree requirements within the maximum of 23 full course attempts (138 credit hours) allowed (See Section 5.7). Students who do not have sufficient attempts remaining to allow them to fulfil their graduation requirements will be placed on academic suspension (see Section 5.14 below). For information regarding how the requirement of a Minimum Performance Level would apply to a particular transfer student, consult the Faculty of Arts general office.

MINIMUM PERFORMANCE TABLE

Effective September 1998, this table applies to all students regardless of the point of admission.

Column 1 Total Number of Credit Hours Attempted at this point	Column 2 Number of Credit Hours on which the student's performances is to be assessed	Column 3 Required Minimum Grade Point Average
24	12	2.00
27	12	2.00
30	15	2.00
33	15	2.00
36	18	2.00
39	18	2.00
42	21	2.00
45	21	2.00
48	24	2.00
51	24	2.00
54	27	2.00
57	27	2.00
60	30	2.00
63	33	2.00
66	36	2.00
69	39	2.00
72	42	2.00
75	45	2.00
78	48	2.00

81	51	2.00
84	54	2.00
87	57	2.00
90	60	2.00
93	63	2.00
96	66	2.00
99	69	2.00
102	72	2.00
105	75	2.00
108	78	2.00
111	81	2.00
114	84	2.00
117	87	2.00
120	90	2.00
123	90	2.00
126	90	2.00
129	90	2.00
132	90	2.00
135	90	2.00
138	90	2.00

4.1.4 Eleven Faculty Requirements for Graduating with a B.A. General Degree

1) A student must present 15 full-course-equivalents (i.e., 90 credit hours) from among the courses acceptable for credit in the Faculty of Arts (see Section 5.2 below), with a passing grade ("D" or better) in each, and a minimum Cumulative Grade Point Average of 2.00 (i.e. "C" or better) for these 15 courses. (It should be noted that the Faculty of Arts also has a minimum performance level requirement such that this first requirement for graduating is to be met within the total number of attempts allowed, namely 23 full-course-equivalents (i.e., 138 credit hours).) At the time of graduation, however, a student may have completed more than 15 full-course-equivalents in which a passing grade was received.

The remaining ten faculty requirements for graduating should be understood as pertaining to the above 15 full-course-equivalents.

2) There must be at least one full-course-equivalent (i.e., six credit hours) completed in each of five different subject fields (as listed in Section 5.1 below). In addition, a subject field may also satisfy the requirement for a Humanity, or Social Science, or Science and at the same time satisfy the Mathematics or Written English requirement.

3) There must be at least one full-course-equivalent (i.e., six credit hours) from a subject field designated Humanities, at least one full-course-equivalent from a subject area designated Social Science, and at least one full-course-equivalent from a subject area designated Science (see Section 5.1 below).

4) Major: There must be five full-course-equivalents (i.e., 30 credit hours) which constitute a **Major** in one of the subject fields recognized for this purpose by the Faculty of Arts (see Section 5.1 below). The student must also have a Cumulative Grade Point Average of 2.00 (i.e. "C") or better in courses where a final grade is recorded and that are used toward the Major including only the higher grade of any course that has been repeated and excluding any failed course(s). A student may declare only one Major. A Major may be declared once the prerequisite has been satisfied. (For detailed information regarding which courses may be used toward a specific Major, continuation requirements, and which courses have prerequisites, etc., see the listing for the relevant department in Sections 8 and 9 below). *Students who have questions about a Major in a particular subject are strongly urged to consult an instructor in the appropriate department.*

Students who declare and complete a major in Global Political Economy **will not** be required or allowed to complete a separate field for a minor for purposes of satisfying the degree requirements.

5) Minor: There must be three full-course-equivalents (i.e., 18 credit hours) which are in some subject field that is different from that of the declared Major, and which constitute a **Minor** in one of the subject fields recognized for this purpose by the Faculty of Arts (see Section 5.1 below). A student may declare only one Minor. A Minor may be declared once the prerequisite has been satisfied. No course can be used to satisfy both the Major and the Minor requirement. (For detailed information regarding which courses may be used toward a specific Minor, or regarding any prerequisites, see the listing for the relevant department in Section 8 and 9 below.)

6) No more than ten full-course-equivalents (i.e., 60 credit hours) can be from the two subject fields used to fulfil the Major and Minor requirements. Hence, no more than seven full-course-equivalents (i.e., 42 credit hours) can be in the Major field, or no more than five full-course-equivalents (i.e., 30 credit hours) can be in the Minor field. (A student who has five full-course-equivalents in more than one subject field can declare only one of them as a Major; that is, it is not possible to declare a “Double Major.”) Similarly, a student who has three full-course-equivalents in more than one subject field can declare only one of them as a Minor (that is, it is not possible to declare a “Double Minor”). The same course may not be used to satisfy the requirements of both the Major and Minor.

7) Except for five special cases, a student’s Major and Minor cannot be from the same department. (For details on these five exceptions, see the departmental listings in Section 8 for Classics, French, Spanish and Italian, German and Slavic Studies, Native Studies, and Near Eastern and Judaic Studies.)

8) No more than seven full-course-equivalents (i.e., 42 credit hours) can be from one subject field.

9) There must be at least eight full-course-equivalents (i.e., 48 credit hours) that have been taught by the Faculty of Arts (which, for the purpose of this regulation, includes up to four full-course-equivalents (i.e., 24 credit hours) from the Department of Mathematics, School of Music or Art History courses), or which have been accepted on transfer as equivalent to courses taught by the Faculty of Arts.

10) Students admitted to the Faculty of Arts for September 2000 and thereafter must complete at least five full-course-equivalents (i.e., 30 credit hours) numbered at or above the 200 level.

11) A student must successfully complete a minimum number of full-course-equivalents that are taken and successfully completed at the University of Manitoba: either eight (i.e., 48 credit hours) taken here at various times in a student’s career, or five (i.e., 30 credit hours) taken here as the final five courses being offered towards the required 15. This is referred to as the “residency requirement” (see Section 5.4 below for details).

4.2 Advanced (or Four-Year Major) Degree Program

4.2.1 Its General Purpose

This program is intended primarily to serve students who desire a general education along with a reasonable degree of specialization in one area of study through the Major.

4.2.2 Entrance to the B.A. Advanced Degree Program

1) To enter an Advanced program, a student must complete an application form which is available in the Faculty of Arts general office and have it approved by a student advisor.

Once admitted to the Faculty of Arts it is possible to enter this program at various stages in a student’s career. The normal entrance point is upon successful completion of four full-course-equivalents (i.e., six credit hours) in each of four different subject fields with a minimum Cumulative Grade Point Average of 2.00 (i.e. “C”) on all courses acceptable for credit in the Faculty of Arts which the student has attempted up to the point of entrance.

2) Students will not be admitted to the Advanced degree program unless they have enough attempts remaining to enable them to satisfy all the graduation requirements within the maximum number of attempts; e.g., if they have failures or repeats in more than 18 credit hours or three full-course-equivalents, they would not be admissible.

3) All students are *required, upon entering* the Advanced degree program, *to declare a Major and Minor*. (Nothing in this regulation, however, prevents students from changing their declared Major or Minor **in person** in the general office). Students should note that for entry into a Major requiring courses from only one department, the faculty requirement is that the student must have a grade of “C” or better in the prerequisite course(s); in addition, if the student has taken other courses from that department besides the requisite course, then entry into the Major would require an average of “C” or better in all courses including only the higher grade of any course that has been repeated and excluding any failed course(s).

For entry into a Major requiring courses from more than one department, the faculty requirement is that the student must have an average of “C” or better in all courses which are eligible to count towards the Major.

For additional information regarding entrance into Majors (such as which courses are eligible for counting as fulfilling the Major, or where the department has a higher entrance requirement than the above faculty minimum), see the specific listing for the relevant department in Sections 8 and 9.

Students should be careful in changing declared majors as they may have insufficient attempts remaining to satisfy all degree requirements. Students must apply in-person at the Faculty of Arts general office to change their Major/Minor when in the Advanced program.

4) For entry to the minor, the prerequisite is a grade of “C” or better in the prerequisite course(s).

4.2.3 Requirements for Continuing in the B.A. Advanced Degree Program

1) By the time they complete ten full-course equivalents (i.e., 60 credit hours), all students must have successfully completed or be registered for at least three credit hours in a course with significant content in written English (see Section 8 below for courses marked with a “W” in the departments/areas section) and a minimum of a course of at least three credit hours in mathematics chosen from any courses bearing the departmental prefix of 005 (Statistics) or 136 (Mathematics). Other courses which satisfy this requirement are designated with an “M” in the Faculty of Science section of this *Calendar* and also include Psychology courses 017.226 or 017.230 or Sociology course 077.229 or Faculty of Environment (Geography) course 053.368 or School of Art course 054.102 or Music course 033.323. This requirement must be satisfied by all students admitted to the Faculty of Arts since the 1997-1998 regular session.

The chapter, General Academic Regulations and Policy, in this *Calendar*, has complete list of the courses which satisfy the written English and mathematics requirement. In addition to the designated courses listed in the *Calendar*, individual sections of courses which satisfy the written English requirement are also marked in the *Registration Guide* with a “W” after the course section.

2) When students register again after completing 15 full-course-equivalents (i.e., 90 credit hours), they will be expected to indicate when they plan to graduate. Students should have completed all requirements for the General degree by this point.

3) **Minimum Performance Level.** All students admitted to the Advanced degree program are required to maintain a minimum Cumulative Grade Point Average of 2.00 on all courses acceptable for credit in the Faculty of Arts that they attempt. This average is calculated at the end of each session in which the student is registered and is based on coursework where a final grade is recorded. Failure to maintain this minimum will result in the student being required to withdraw from the Advanced degree program. The student will automatically be placed in the General degree program where they still must fulfil all the requirements in order to receive a B.A. General. The following academic assessment will be permanently recorded on the transcript: “Required to Withdraw from the Advanced Program.”

4) All students who do not have enough attempts remaining to enable them to satisfy all the graduation requirements for a B.A. Advanced (e.g., students who have failed or repeated more than 18 credit hours of courses) will automatically be reverted to the General degree program where they still must fulfil all the requirements in order to receive the B.A. General. The following academic assessment will be permanently recorded on the transcript: “Required to Withdraw from the Advanced Program.”

4.2.4 Eleven Faculty Requirements for Graduating with a B.A. Advanced Degree

1) A student must present 20 full-course-equivalents (i.e., 120 credit hours) from among the courses acceptable for credit in the Faculty of Arts (see Section 5.2 below), with a passing grade (“D” or better) in each, and a minimum Cumulative Grade Point Average of 2.00 for these 20 courses. (It should be noted that the Faculty of Arts has a minimum performance level requirement such that this first requirement for graduating is to be met within the total number of attempts allowed, namely 23 full-course-equivalents (i.e., 138 credit hours).) At the time of graduation, however, a student may have completed more than 20 full-course-equivalents in which a passing grade was received.

The remaining ten faculty requirements for graduating should be understood as pertaining to the above 20 full-course-equivalents.

2) There must be at least one full-course-equivalent (i.e., six credit hours) completed in each of five different subject fields (as listed in Section 5.1

below). In addition, a subject field may also satisfy the requirement for a Humanity, or Social Science, or Science and at the same time satisfy the Mathematics or Written English requirement.

3) There must be at least one full-course-equivalent (i.e., six credit hours) in a Humanities subject field, at least one full-course-equivalent in a Social Science subject field, and at least one full-course-equivalent in a Science subject field (see Section 5.1 below).

4) Major: There must be at least eight full-course-equivalents (i.e., 48 credit hours) which constitute a **Major** in one of the subject fields recognized for this purpose by the Faculty of Arts (see Section 5.1 below). The student must have a cumulative Grade Point Average of 2.00 (i.e. "C") or better in courses where a final grade is recorded that are used toward the Major including only the higher grade of any course that has been repeated and excluding any failed course(s). (It should be noted that not every department offers an Advanced Major. For information on those which do, see the listings for the departments in Sections 8 and 9 below).

Note: Students either unsure about their choice of a Major, or considering a Major in a particular subject are strongly encouraged to consult an instructor in the appropriate department.

Students who declare and complete a major in Global Political Economy **will not** be required or allowed to complete a separate field for a minor for purposes of satisfying the degree requirements.

5) Minor: There must be three full-course-equivalents (i.e., 18 credit hours) which are in some field that is different from the above Major, and which constitute a **Minor** in one of the subject fields recognized for this purpose by the Faculty of Arts (see Section 5.1 below). No course can be used to satisfy both the Major and the Minor requirement. (For detailed information regarding which courses may be used toward a specific Minor, plus any prerequisites, see the listing for the relevant department in Sections 8 and 9 below.) A student having three full-course-equivalents in more than one subject field can declare only one of them as his/her Minor.

6) No more than 13 full-course-equivalents (i.e., 78 credit hours) can be from the two subject fields used to fulfil the Major and Minor requirements. Hence, no more than ten full-course-equivalents (i.e., 60 credit hours) can be in the Major field, or no more than five full-course-equivalents (i.e., 30 credit hours) can be in the Minor field.

7) Except for five special cases, a student's Major and Minor cannot be from the same department. (For details on these five exceptions, see the departmental listings, in Section 8 below, for Classics, French, Spanish and Italian, German and Slavic Studies, Native Studies, and Near Eastern and Judaic Studies.)

8) No more than ten full-course-equivalents (i.e., 60 credit hours) can be from one subject field.

9) There must be at least 11 full-course-equivalents (i.e., 66 credit hours) that have been taught by the Faculty of Arts (which, for the purpose of this regulation, includes up to six full-course-equivalents (i.e., 36 credit hours) from the Department of Mathematics, School of Music or Art History courses), or which have been accepted on transfer as equivalent to courses taught by the Faculty of Arts.

10) Students admitted to the Faculty of Arts for September 2000 and thereafter must complete at least seven full course equivalents (i.e., 42 credit hours) numbered at or above the 200 level.

11) There must be at least ten full-course-equivalents (i.e., 60 credit hours) which were taken and successfully completed at the University of Manitoba. This is referred to as the "Residency Requirement" (see Section 5.4 for details).

4.3 Honours Degree Program

Regulations applicable to students admitted to an Honours Program (Full-time or Part-time) in September 1997 and thereafter.

4.3.1 Its General Purpose

This program is designed to provide a high degree of specialization in a subject area. The entrance requirements and evaluation of performance are at a higher level than the General or Advanced programs. The Honours program is the preferred program for students seeking entrance to graduate study.

4.3.2 Entrance to the B.A. Honours Degree Program

To enter an Honours program, a student must complete an application form which is available in the Faculty of Arts general office. To be eligible for acceptance into an Honours program, students must have successfully completed one full-course-equivalent (i.e., six credit hours) in each of four different subject fields (see Section 5.1 below), with a minimum cumulative Grade Point Average of 3.0 (3.25 for entry to Psychology) on all courses acceptable for credit in Arts. In addition, students are to have a Grade Point Average of 3.0 (3.25 for entry to Psychology) or better in the course(s) in the intended Honours subject field(s).

4.3.3 Requirements for Continuing in the B.A. Honours Degree Program

1) Prior to each registration, Honours students must have their programs approved by the department, and then by the Faculty of Arts general office, and they cannot make any subsequent changes without receiving prior permission from their department and the faculty general office.

2) By the time they complete ten full-course equivalents (i.e., 60 credit hours), all students must have successfully completed or be registered for at least three credit hours in a course with significant content in written English (see Section 8 below for courses marked with a "W" in the departments/areas section) and at least three credit hours in a course in mathematics chosen from any courses bearing the departmental prefix of 005 (Statistics) or 136 (Mathematics). Other courses which satisfy this requirement are designated with an "M" in the Faculty of Science section of this *Calendar* and also include Psychology courses 017.226 or 017.230 or Sociology course 077.229, or Faculty of Environment (Geography) course 053.368 or School of Art course 054.102 or Music course 033.323. This requirement must be satisfied by all students admitted to the Faculty of Arts commencing in the 1997-1998 regular session.

The chapter, General Academic Regulations and Policy, in this *Calendar* contains a complete list of the courses which satisfy the written English and mathematics requirement. In addition to the designated courses listed in the *Calendar*, individual sections of courses which satisfy the written English requirement are also marked in the *Registration Guide* with a "W" after the course section.

3) To continue in an Honours program, the student must maintain a cumulative Grade Point Average of 3.0 (3.25 for Psychology) at each point of assessment on all courses where a final grade is recorded (as well as meet any additional departmental requirements there may be).

Students who fail to maintain the required minimum cumulative Grade Point Average are required to withdraw from the Honours program. They will be automatically placed in the General degree program and will have the following academic assessment permanently recorded on their transcript: "Required to Withdraw from the Honours Program". Such students may be eligible to apply for the Advanced degree program.

4.3.4 Four Faculty Requirements for Graduating with a B.A. Honours Degree

It should be noted that not every department has a program leading to an Honours degree. For information on those which do, and on whether they provide for both single and double Honours, please consult the specific listing for the relevant department in Section 8 below.

1) The number of full-course equivalents which a student must present (with a passing grade) in order to receive an Honours degree ranges from 18 to 20, depending on the specific requirements of the individual department. Information on the specific course requirements for the individual departments will be found in Section 8 below.

2) In order to graduate with a B.A. Honours, students must satisfy a residency requirement (see Section 5.4 below) at the University of Manitoba, and attain a minimum cumulative Grade Point Average of 3.0 on all coursework where a final grade is recorded.

3) Included among the courses presented for graduation there is to be at least one full-course equivalent completed in five different subject fields (as listed in Section 5.1 below). In addition, a subject field may also satisfy the requirement for a Humanity, or Social Science, or Science.

4) Among the courses presented for graduation there must be at least one full-course equivalent (i.e., six credit hours) in a Humanities subject field, at least one full-course-equivalent in a Social Science subject field, and at least one full-course equivalent in a Science subject field (on subject fields see Section 5.1 below).

4.4 Application to Graduate with a B.A. Degree

In order to actually receive a degree in any of the three programs leading to a B.A., students must indicate their intention to graduate by the relevant deadline date listed below. This process applies to students in each of the following three categories.

Category 1: Those students currently registered in the Faculty of Arts in either the B.A. General degree or the B.A. Advanced degree program must indicate their intention to graduate using UMREG or via the web.

Those students currently registered in the Faculty of Arts in the B.A. Honours degree program must indicate their intention to graduate at the point of registration for their last set of courses when they complete the Registration Worksheet.

Category 2: Those students currently registered in the Faculty of Arts in either the B.A. Advanced or a B.A. Honours degree program who decide to graduate with a B.A. General degree, must submit a request in writing to graduate to the General Office, Faculty of Arts. For graduation in May, the request must be received by April 30. For graduation in October, the request must be received by August 30. For graduation in February, the request must be received by November 30.

Category 3: Those students previously admitted to and registered in the Faculty of Arts who have completed **all** of the requirements for any one of the three degree programs leading to a B.A. while registered in the Faculty of Arts, but who are currently registered in another Faculty or School at the University of Manitoba (excluding Continuing Education Division) may submit a request in writing to graduate to the General Office, Faculty of Arts.

Deadline Dates to declare expected Graduation Date by Telephone:

May Graduation: January 17

October Graduation: August 1

February Graduation: September 18

Section 5: Additional Faculty Regulations and Policies

5.1 Recognized Subject Fields

5.1.1 Five-subject Field Requirement and Humanity/Social Science/Science Requirement

Faculties and Schools offer a number of courses covering a variety of subjects. To satisfy the subject field requirement for any B.A. degree a student must complete 6 credit hours in each of 5 different course subjects. For example: 6 credit hours in Psychology plus 6 credit hours in German plus 6 credit hours in Mathematics plus 6 credit hours in Music plus 6 credit hours in Biology.

Each course subject in the Faculty of Arts has been further categorized as either a Humanity or Social Science. Courses offered by the Faculty of Science will satisfy the Science requirement. Therefore a course subject may satisfy both the subject field requirement as well as the requirement for the Humanity/Social Science/Science.

Listed below are the categories of Humanities, Social Sciences, Sciences (or respective course subjects) and the course subjects that belong to each category.

Humanities

1) Course subjects taught by the Faculty of Arts that can be used towards the **Humanities** requirement: Asian Studies, Canadian Studies, Catholic Studies, Classical Studies, Drama, English, Film Studies, French, German, Greek, History, Icelandic, Italian, Latin, Native Languages, Native Studies, Near Eastern and Judaic Studies, Philosophy, Polish, Religion, Russian, Spanish, Theatre, Ukrainian, and Yiddish. In addition the following courses may be used: Women's Studies 156.153, 156.253, 156.257, 156.357, 156.359, 156.360, 156.361 and Others 099.114, 099.115, 099.264 and 099.265.

2) Course subjects offered by other units where courses can — if acceptable for credit in the Faculty of Arts — be used towards the **Humanities** requirement: Music and History of Art. (For details, see Section 9).

Social Sciences

3) Course subjects taught by the Faculty of Arts that can be used towards the **Social Science** requirement: Anthropology, Economics, Labour and Workplace Studies, Linguistics, Political Studies, Psychology, and Sociology. In addition the following courses may be used: Women's Studies 156.154, 156.250, 156.251, 156.255, 156.256, 156.351, 156.355, 156.356. Note: Geography courses completed prior to September 1, 2003 will be considered a Social Science.

Sciences

4) Course subjects taught by the Faculty of Science that can (provided it is acceptable for credit in the Faculty of Science, and is not designated as a service course for another faculty or school) be used towards the **Science** requirement: Astronomy, Biology, Botany, Chemistry, Computer Science, Mathematics, Microbiology, Physics, Statistics, and Zoology. (For details, see the Faculty of Science chapter of this *Calendar*.) Note: Environmental Science and Geological Sciences courses completed prior to September 1, 2003 will be considered a Science.

5.1.2 Major, Minor, or Honours Subject Fields

Listed below are the subject fields recognized for the purpose of satisfying the requirements of a **Major, Minor, or Honours** subject field. The letters given within the parentheses following the subject field indicate whether a General Major (GM), an Advanced Major (AM), a Minor (Mi), Single Honours (SH), or Double Honours (DH) are offered in that field.

1) Subject fields where the courses are taught by the Faculty of Arts:

Subject fields are given here in the same order in which they appear in Section 8, which should be consulted for individual courses and any prerequisites.

Anthropology (GM, AM, Mi), Asian Studies (GM, Mi), Canadian Studies (GM, Mi, SH, DH), Catholic Studies (Mi), Central and East European Studies (GM, AM, Mi, DH), Classical Studies (GM, AM, Mi), Greek (AM, Mi), Latin (AM, Mi), Drama (GM, AM), Economics (GM, AM, Mi, SH, DH), English (GM, AM, Mi, SH, DH), Film Studies (GM, AM, Mi), French (GM, Mi, SH, DH), German (GM, AM, Mi, SH, DH), Global Political Economy (GM, AM), History (GM, AM, Mi, SH, DH), Icelandic (GM, Mi, SH, DH), Labour and Workplace Studies (GM, AM, Mi), Latin American Studies (Mi), Linguistics (GM, AM, Mi), Medieval and Renaissance Studies (GM, AM, Mi), Native Studies (GM, Mi), Native Languages (Mi), Near Eastern and Judaic Studies (GM, AM, Mi), Yiddish (Mi), Philosophy (GM, AM, Mi, SH, DH), Polish (Mi), Political Studies (GM, AM, Mi, SH, DH), Psychology (GM, AM, Mi, SH, DH), Religion (GM, AM, Mi, SH, DH), Russian (GM, AM, Mi), Sociology (GM, AM, Mi, SH, DH), Criminology (GM), Theatre (Mi), Ukrainian (GM, AM, Mi), Ukrainian Canadian Heritage Studies (GM, AM, Mi), Urban Studies (Mi), and Women's Studies (GM, Mi).

2) Recognized subject fields where the courses are taught by some other Faculty or School in the University of Manitoba:

There are three such subject fields where the Major requirement can be satisfied. The Department of Mathematics offers a General Major and an Advanced Major that have been specially designed to satisfy the requirement of a Major for a Faculty of Arts student (see Section 9 below). In addition, there is also available a General Major in the History of Art, with most but not all courses being provided by the School of Art (see Section 9). Further a General and Advanced Major in Music is available (see Section 9).

There are also some additional subject fields where a Minor requirement can be fulfilled. All Minors offered by the Faculty of Science can be used as satisfying the Faculty of Arts requirement of a Minor; (for details, see the Faculty of Science chapter of this *Calendar*). In addition, certain Minors are possible from the School of Art, the School of Music, Faculty of Environment, and the I. H. Asper School of Business (Faculty of Management); (for details, see Section 9).

5.2 Courses Acceptable for Credit in the Faculty of Arts

The expression "courses acceptable for credit in the Faculty of Arts" refers to those courses (with two exceptions, on which see Section 5.4 below) which, if taken, count towards the maximum number of attempts allowed a student to fulfil his/her degree requirements (see Section 5.7 below), and which, if passed, would count towards the minimum number of successfully completed full-course-equivalents required to receive one of the three undergraduate degrees dealt with in Section 4 above.

Leaving aside the special case of courses taken at one of the Approved Teaching Centres of the University of Manitoba (see Section 5.10 below), there are four types of courses acceptable for credit in the Faculty of Arts:

5.2.1 Courses Offered by the Faculty of Arts:

Every course offered by the Faculty of Arts is regarded as acceptable for credit in the Faculty of Arts, though there are some restrictions regarding certain combinations of courses that may be counted towards a degree, and regarding whether certain courses can be counted towards a student's Major, Minor, or Honours degree. For details on these restrictions, see the graduation requirements in Section 4 above, and the specific listings for departments, in Section 8.

5.2.2 Courses Offered by the Faculty of Environment, Faculty of Science and the I.H. Asper School of Business:

All courses offered by the Faculty of Environment, Faculty of Science and the I.H. Asper School of Business are acceptable for credit in Arts with the exception of Science courses designated as service courses. For details see Section 5.3 and Section 9 as well as the Faculty of Science chapter in this *Calendar*.

5.2.3 Courses Offered by Other Faculties or Schools at the University of Manitoba

Certain courses offered by other Faculties or Schools at the University of Manitoba have been approved as acceptable for credit in Arts (see Section 9). Some of these courses may be taken prior to admission to Arts and will be included on transfer (Consult the Arts general office for details). For further details on transfer credit see Section 5.3 below.

5.2.4 Courses Offered at Other Universities and Colleges

Courses offered at other universities and colleges which are evaluated as equivalent to University of Manitoba courses which are acceptable for credit in Arts will be taken into account when determining admissibility as a transfer student and what credit can be given for previous work (see Section 5.4 below).

5.3 How Courses Taken in Another Faculty or School Within the University of Manitoba Prior to the Student's Registering in the Faculty of Arts are Taken into Account

If a student was registered in another faculty or school within the University of Manitoba prior to registering in the Faculty of Arts, all courses which are acceptable for credit in the Faculty of Arts and in which the student received a final grade will be transferred to the Faculty of Arts, and will be treated in the same way as they would have been had they been taken by a student already registered in the Faculty of Arts. That is, they will all count in determining the admission status (in good standing, on probation or not admissible); they will also count towards the maximum number of attempts, and they will all be taken into account when determining the student's Grade Point Average. In addition, they will all count towards the minimum number of full-course equivalents required for graduating, provided the student received a passing grade in each of them, and counting them would not be in conflict with some other graduation or continuing regulation (such as the residency requirement).

5.4 How Courses Taken at Other Universities are Taken into Account, and the Residency Requirement

There are two groups of courses that are taken at some other university or college and which can be used for credit in the Faculty of Arts at the University of Manitoba, namely: a) those taken by students who are already registered in the Faculty of Arts at the University of Manitoba, and b) those taken by students prior to transferring to the Faculty of Arts at the University of Manitoba.

a) Students who are already registered in the Faculty of Arts at the University of Manitoba, and who wish to take courses at some other university or college to count towards their degree here, are required to obtain a Letter of Permission from the Student Records Office prior to registering at that other institution; see the chapter, General Academic Regulations and Policy. The Letter of Permission will **not** be given to a student on probation, or to a mature student not yet declared eligible to proceed as a regular student or to a student who has not completed at least 24 hours of coursework at the University of Manitoba. Commencing September 1999 grades earned in courses at other universities are utilized in establishing the minimum

performance level, are counted as attempts and are taken into account in the cumulative hours when determining the Grade Point Average at the University of Manitoba. Grades earned at other universities will not be used in determining eligibility for awards (see Section 5.15 and 5.16 for details).

b) Completed courses acceptable for credit in the Faculty of Arts which were taken by a student registered in another university or college prior to transferring to the Faculty of Arts, will all be taken into account when determining admissibility. That is, they will all count in determining the admission status (in good standing, on probation or not admissible). If they have been taken within the ten-year period prior to registering in the Faculty of Arts they will be treated in the same way as they would have been had a Faculty of Arts student taken them after receiving a Letter of Permission.

That is, commencing September 1999 the applicable courses (credits and attempts) in both a) and b) are included on the University of Manitoba record, the external grades themselves are counted as attempts and taken into account when determining the University of Manitoba Grade Point Average as well as meeting the performance requirements, and they appear on the University of Manitoba transcript. Grades earned at other universities will not be used in determining eligibility for awards (see Section 5.15 and 5.16 for details).

Completed courses acceptable for credit in the Faculty of Arts which were taken by a student outside the ten-year period prior to admission and registration in the Faculty of Arts will be ignored for purposes of determining admissibility, advance standing or transfer credit.

Residency Requirement

As indicated in Section 4 above, each of the three undergraduate degree programs has a residency requirement which requires that a minimum number of credit hours must be taken at the University of Manitoba itself in order to qualify for one of these degrees.

1) There are two ways in which the Residency Requirement for the B.A. General may be satisfied: either by successfully completing at the University of Manitoba no fewer than eight full-course-equivalents (48 credit hours) of the required 15 (these eight may be taken at various points in the student's career); or by successfully completing at the University of Manitoba itself no fewer than five full-course equivalents (30 credit hours) of the required 15 full-course-equivalents.

2) To receive the B.A. Advanced Degree, the student must successfully complete at least ten full course-equivalents (60 credit hours) of the required 20 full-course equivalents at the University of Manitoba.

3) For students admitted to the Honours program prior to the 1997-1998 Regular Session:

Once admitted to an Honours program, students are generally expected to take all their courses at the University of Manitoba, on a full-time basis over three consecutive regular sessions; (regarding exceptions to this requirement due to special circumstances, the student should consult the Faculty of Arts general office).

4) For students admitted to the Honours program commencing in the 1997-98 regular session:

- In order to graduate with a B.A. Honours degree, students must take and successfully complete the hours of coursework offered by the University of Manitoba as noted below:

- In Honours programs requiring 108 credit hours, 48 credit hours must be from acceptable courses offered by the University of Manitoba;
- In Honours programs requiring 114 credit hours, 54 credit hours must be from acceptable courses offered by the University of Manitoba;
- In Honours programs requiring 120 credit hours, 60 credit hours must be from acceptable courses offered by the University of Manitoba.

For special residency requirements between the University of Manitoba and the Collège Universitaire de Saint-Boniface, consult the Faculty of Arts general office.

5.5 Year-of-Study Equivalents

A student's progress towards a degree is measured in terms of credit hours passed rather than years of study completed. The following table may be used to determine the year equivalent for the B.A. General and B.A. Advanced degree only.

Credit Hours Passed	Year Equivalent
fewer than 30 credit hours passed	1
31 credit hours to less than 60 credit hours passed	2
61 credit hours to less than 90 credit hours passed	3
more than 90 credit hours passed	4

5.6 Maximum Number of Courses During a Regular Session

Normally a student may attempt a maximum of 30 credit hours during a regular session (regardless of the method of registration), and a maximum of 15 credit hours in any one term within it. If, however, a student had taken no less than 24 credit hours in the previous regular session and had obtained a Grade Point Average of 2.75 (with no failures), he/she may apply at the general office to be allowed to take 33 or 36 credit hours in one regular session.

Within the maximum of 30 credit hours, a student may attempt a maximum of 18 credit hours of independent study (i.e., courses offered by correspondence study) balanced over the regular session.

5.7 Maximum Number of Courses Attempted During One's Academic Career

Students are required to complete the requirements for graduating with any degree within the maximum number of attempts which they are allowed, namely 23 full-course-equivalents (i.e., 138 credit hours). If students have attempted 23 full-course-equivalents without completing all the requirements for graduating, or have reached a point where they do not have enough attempts remaining to satisfy all the requirements for graduating, they will be placed on academic suspension (see Section 5.14 below). Any student who has applied for admission but has exhausted all 23 attempts, will not be admitted. Any student who has attempted 15 full-course-equivalents without satisfying the degree requirements for a B.A. General should consult with a student advisor in the Faculty of Arts general office prior to registering for additional courses.

Each course contained in one of the following groups will be counted towards the maximum number of attempts allowed:

- a) Courses at the University of Manitoba which are acceptable for credit in the Faculty of Arts, and in which a Faculty of Arts student registers and for which a final grade is assigned.
- b) Courses taken in another faculty or school at the University of Manitoba prior to the student's transferring to the Faculty of Arts, provided the courses are acceptable for credit in the Faculty of Arts and for which a final grade is assigned.
- c) Courses taken at another university or college prior to the student's registering in the Faculty of Arts (either as a transfer student, or in some other category but with transfer credit being granted), provided the courses were acceptable for credit in the Faculty of Arts and were taken within the ten-year period prior to registering in the Faculty of Arts, and for which a final grade has been recorded.
- d) Courses completed at another university or college by a student registered in the Faculty of Arts at the University of Manitoba, provided the courses are acceptable for credit in the Faculty of Arts and the student had received a Letter of Permission.

5.8 Maximum Number of Voluntary Withdrawals

The following regulation was effective September, 1993. Course withdrawals which occurred prior to September 1993 will not be counted.

While there is no limit on the number of course changes a student may make prior to the last date for course changes, there is a strict limit placed on the total number of times a student may voluntarily withdraw from course(s) after that date (except for health reasons and on compassionate grounds). This total consists of a maximum number of five full-course-equivalents (i.e., 30 credit hours) in the student's whole career.

When the maximum voluntary withdrawal limit is reached, no further withdrawals will be allowed. Students may recover the number of withdrawals permitted by:

- a) One full course equivalent for each successfully completed 30 credit hours of coursework

or

- b) After five years of no registrations, the number of voluntary withdrawals a student is permitted to use will be restored to 30 credit hours.

Students are responsible for initiating withdrawals, and for doing this in the required manner and by the deadline specified in the Academic Schedule. To withdraw, it is not sufficient merely to stop going to class or to notify the instructor. Rather, the student must officially withdraw from courses by the appropriate date by one of the following methods:

- Students who registered for courses by touch-tone telephone or the web must withdraw by using either method. See *Registration Guide* for details.
- Students who registered for courses in person must submit a request to withdraw to the Faculty of Arts general office, either by letter, or by appearing in person and completing a Registration Revision Form.

5.9 Prerequisite, Corequisite, and Course Availability

Prerequisite: Minimum grades of "C" are required in all courses listed as prerequisites, except as otherwise noted in the course descriptions published in each department and program section of this chapter. If a course is prerequisite for a second course, the prerequisite must be met in order to continue in the second course.

Corequisite: Minimum grades of "C" are required in all courses listed as corequisites. If a first course is a corequisite for a second course, then the first course must be taken concurrently with (or prior to) the second course.

Course availability: All courses listed in this *Calendar* are not offered every year. The course(s) being offered for the current academic session are published in the *Registration Guide* and at www.umanitoba.ca

5.10 Courses Taken at an Approved Teaching Centre

The following regulations and procedures apply to courses taken at any Approved Teaching Centre, (Prairie Theatre Exchange, and William and Catherine Booth College) which may be used towards University of Manitoba degrees:

- a) The academic programs of students at Approved Teaching Centres will be governed by the same general regulations as those that apply to students in the appropriate faculties or schools at the University of Manitoba.
- b) A student may not complete his/her studies for a full Major solely from courses offered at an Approved Teaching Centre.
- c) A maximum of 60 credit hours (equivalent to ten full courses) completed at an Approved Teaching Centre may be offered for degree credit.
- d) Within the permissible 60 credit hours, a maximum of 18 credit hours (equivalent to three full courses) may be from courses above the 100-level in any one subject field.
- e) A maximum of 24 credit hours (equivalent to four full courses) in any one subject field may be offered for degree credit.
- f) All courses taken at Approved Teaching Centres that are approved University of Manitoba courses will count as attempts if cross-registered. Students must be admitted to the University of Manitoba before attempting cross-registration.

5.11 Challenge for Credit

Some departments in the Faculty of Arts offer courses by means of challenge for credit. Since the courses offered in this manner may vary from year to year, students interested in this method of attaining credit should consult the Challenge for Credit section in the Faculty of Arts chapter of the *Registration Guide* for information. The Academic Schedule in the front of this *Calendar* contains the relevant registration deadline dates appropriate to challenge for credit. Mature students, and students on academic suspension or probation are not permitted to challenge courses for credit.

5.12 Repeating a Course

A student may repeat a previously passed course provided the student is otherwise eligible to register in the course and has sufficient attempts remaining. If you wish to repeat a course, you should be aware of the following:

- All completed courses (passed, failed or repeated) will appear on your transcript and will be used to calculate your cumulative hours and grade point average.
- All completed courses will count towards the maximum number of attempts allowed in the Faculty of Arts.
- Repeating a course will not replace or remove the original grade.
- For purposes of meeting degree requirements for graduation, the higher grade will be used in the calculation of the grade point average in the major field and in the calculation of the grade point average required for the degree.
- For purposes of meeting the Minimum Performance Level, only the higher grade will be used, but all attempts will count in the total number of credit hours upon which the Minimum Performance Level is based.
- The Limited Access policy will apply to any course being repeated. Limited Access will be in effect for the two sessions following the session in which the original course was taken.
- You may not repeat previously passed courses if your academic status is "on probation".

5.13 Statute of Limitations

Students who have not been registered at the University of Manitoba (or any other post-secondary institution) for a period of five years or longer may submit a written appeal to the dean's office to be allowed to start afresh a Faculty of Arts degree. If the appeal is granted, all courses listed on the University of Manitoba record will remain but all previous work will **not** count towards satisfying degree requirements nor affect the GPA calculation. The following notation will appear under the session of readmission:

"Having discontinued attendance at post-secondary institutions for a period of five years or more, this student has been permitted to start afresh on recommendation of the Dean. All previous credits have been forfeited."

5.14 Probation and Academic Suspension

A student in the B.A. General program will be placed on **probation** if, at the point of assessment (i.e., at the conclusion of either a regular session or a summer session), he/she fails to achieve the relevant minimum performance level (see Section 4.1.3 (4) above). The notation "On Probation" will be recorded on the transcript. [A student who is admitted to the Faculty of Arts, or transits from University 1, may be transferred on probation if he/she failed to meet the required minimum grade point average. The notation "Admitted (or Transferred) to Arts on Probation" will be recorded on the transcript.] Once on probation, a student will be allowed to register for **one** additional session (with intersession, summer evening and summer day being treated as one session for the purpose of this regulation), to enable them to achieve the required minimum Grade Point Average applicable to their **new** number of attempts. If the student succeeds in this, he/she will be allowed to continue. But if the student does not succeed, he/she will be placed on **academic suspension for one year**.

Because of the importance of the first session in which a student registers after being placed on probation, students should consult the Faculty of Arts general office to ensure that this registration is such as to make their removal from probation even a possibility.

One Year Suspension

Students who have been placed on **academic suspension for one year** are those students who had been previously placed on probation and then failed to achieve the required minimum grade point average at their next regular checkpoint. The notation, "Academic Suspension for One Year," will be permanently recorded on the transcript. However, if there are insufficient attempts remaining at this point of assessment, the student will be immediately placed on academic suspension for two years (see below for further information). Students placed on academic suspension for one year will be allowed to register in the Faculty of Arts again, but only if they first sit out a minimum of one year after the session on which they were placed on the one year suspension. During that year they will not be permitted to register in any other faculty or school at the University of Manitoba or at other post-secondary institutions. After this year of rustication has been served, the student may return and register for one additional regular session (in which they may register for a maximum of five full-course-equivalents (i.e., 30 credit hours)), or one additional summer session (in which they may register for a maximum of three full-course-equivalents (i.e., 18 credit hours)), to enable them to reach the appropriate required minimum Grade Point Average. Before registering, however, they must consult the Faculty of Arts general office to review their status and to determine if re-

instatement is even possible. If the student succeeds in attaining the required minimum Grade Point Average relevant to his/her new number of attempts, he/she will be permitted to continue. Failure to achieve this required minimum Grade Point Average again, will result in the student being placed on academic suspension for two years, on which see below.

Two Year Suspension

This group is made up of students in the B.A. General program who have been placed on academic suspension for two years because either they:

- Have failed to achieve the required minimum Grade Point Average at the next regular checkpoint following one year suspension;
- Have exhausted the number of attempts allowed without satisfying all the requirements for graduation (e.g., students who have failed or repeated more than eight full-course-equivalents); or
- Have reached a point where, although they do have some attempts remaining, they do not have enough attempts remaining to complete the requirements for graduating.

The notation, "Academic Suspension for Two Academic Years," will be permanently recorded on the transcript.

Students placed on academic suspension for two years may not register again in the Faculty of Arts unless, after a two-year waiting period, (i.e., this means no registration in credit courses at a post-secondary institution during this waiting period), they apply to the Admissions Office and are admitted once again to start afresh.

If they are re-admitted, they must start working towards their degree completely afresh, with their previous work not counting either towards satisfying degree requirements, or towards the maximum number of attempts. (This does not mean that the previous coursework will be removed from the student history or transcript.) If, however, they are ever again placed on suspension, this will be a **permanent** suspension, and they will not be allowed to register again in the Faculty of Arts.

5.15 Dean's Honour List and Graduating With Distinction or First Class Honours

Dean's Honour List

To qualify for this list a student must have completed at least four full-course equivalents (i.e., 24 credit hours) offered by the University of Manitoba during the regular session and attained a minimum Grade Point Average of 3.50 on all the work taken during the regular session. The notation "Dean's Honour List" will be included on the student's transcript.

With Distinction

Students graduating with a B.A. General degree will have their degree granted "With Distinction" if they have a minimum Cumulative Grade Point Average of 3.80 on all coursework taken at the University of Manitoba and provided a minimum of 60 credit hours of acceptable coursework is completed at the University of Manitoba.

Students graduating with a B.A. Advanced degree will have their degree granted "With Distinction" if they have a minimum Cumulative Grade Point Average of 3.80 on all coursework taken at the University of Manitoba and provided a minimum of 90 credit hours of acceptable coursework is completed at the University of Manitoba.

This distinction will be noted on the parchment and on the student's transcript.

First Class Honours

For students admitted to the Honours Program commencing in the 1997-1998 Regular Session and thereafter and who are graduating with a B.A. Honours degree will have their degree granted with "First Class Honours" if they have a minimum cumulative Grade Point Average of 3.80 and have met the following residency requirements:

- Students must have completed a minimum of 78 credit hours of acceptable coursework at the University of Manitoba in a 108 credit hour Honours program;
- Students must have completed a minimum of 84 credit hours of acceptable coursework at the University of Manitoba in a 114 credit hour Honours program;
- Students must have completed a minimum of 90 credit hours of acceptable coursework at the University of Manitoba in a 120 credit hour Honours program.

The notation "First Class Honours" will appear on both the parchment and the student's transcript.

5.16 University Gold Medal and Program Medals

Gold Medal

The Faculty of Arts will award the University Gold Medal to the student graduating with an Arts degree who:

- 1) has the highest cumulative Grade Point Average of all graduating students (with a minimum of 3.85) on all credit courses attempted at the University of Manitoba over the last two regular sessions prior to graduation (with each session consisting of a minimum 24 hours of credit completed at the University of Manitoba); and
- 2) has a minimum cumulative Grade Point Average of 3.85 which is determined on the basis of all credit courses attempted in completing the degree, including courses approved on transfer from other faculties/schools at the University of Manitoba.

Students who have 30 hours of transfer credit or less (including failed courses) from other institutions would be eligible but they must attain the minimum cumulative Grade Point Average of 3.85 on courses completed at the University of Manitoba which are acceptable for credit in Arts.

For details regarding a tie-breaking mechanism, contact the Faculty of Arts general office.

Program Medals

The Faculty of Arts will award a Program Medal to the student graduating in the General, Advanced and Honours degree program who:

- 1) has the highest cumulative Grade Point Average of all graduating students (with a minimum of 3.75) on all credit courses attempted at the University of Manitoba over the last two regular sessions prior to graduation (with each session consisting of a minimum of 24 hours of credit completed at the University of Manitoba); and
- 2) has a minimum cumulative Grade Point Average of 3.75 excluding the winner of the University Gold Medal in Arts, which is determined on the basis of all credit courses attempted in completing the degree, including courses approved on transfer from other faculties/schools at the University of Manitoba.

Students who have 30 hours of transfer credit or less (including failed courses) from other institutions are eligible but they must attain the minimum cumulative Grade Point Average of 3.75 on courses completed at the University of Manitoba which are acceptable for credit in Arts.

For details regarding a tie-breaking mechanism, contact the Faculty of Arts general office.

5.17 Evaluation of Undergraduate Student Coursework

A copy of the Faculty of Arts *Regulations for the Academic Evaluation of Student Coursework* is available to students for perusal on the front counter in the general office. This booklet includes regulations concerning the method of student evaluation, final examinations and/or term tests, final grades, etc. It should in particular be noted that there are no Supplemental Examinations in the Faculty of Arts. For information on Incompletes, Deferred Examinations, Debarment, Academic Dishonesty, etc., see the chapter General Academic Regulations and Policy in this *Calendar*.

5.18 Seeking a B.A. as a Second Degree

Once a Bachelor of Arts degree has been awarded by the University of Manitoba Senate, it cannot be revoked or "turned in" towards a higher or different degree. Students are free to apply for admission to the Faculty of Arts seeking a second degree.

Students who have completed a first degree may be admitted to the Faculty of Arts seeking a second degree.

Effective the 2002-2003 Regular Session and thereafter, students will be allowed to transfer up to 60 credit hours of acceptable coursework from their first degree toward the Bachelor of Arts second degree program provided the first degree was conferred within ten years of applying, being admitted, and registering seeking a second degree in the Faculty of Arts. The maximum of 60 credit hours includes courses taken in a qualifying program for

entry to the first degree. No transfer credit will be awarded if the first degree was conferred more than ten years prior to admission and registration in the Faculty of Arts (excluding a first degree awarded by the University of Manitoba).

Once admitted to the Faculty of Arts and to one of the three undergraduate degree programs, students must satisfy all continuation requirements (such as the minimum performance level), and all graduation requirements relevant to that degree program (as explained in Section 4 above).

No transfer credit will be awarded to students applying for a third degree.

Students may not be admitted to the Faculty of Arts or complete a Bachelor of Arts degree program while pursuing a degree in another faculty or school at the University of Manitoba.

In addition to the sixty credit hours from the first degree students will be allowed to select for transfer, those courses extra to the degree.

The combination of sixty credit hours plus those courses selected that are extra to the first degree, shall be chosen in such a way as to allow sufficient attempts to complete a second degree.

Students seeking a second degree in Arts will not be required to satisfy the mathematics or Written English requirement.

Section 6: Student Responsibilities

Every effort is made to ensure that students in the Faculty of Arts have access to sound information and individual advice and guidance. Within this context and within the framework of faculty and department requirements indicated above, students are personally responsible for course selection and conforming to regulations regarding continuation in, and graduating from, the three undergraduate programs.

Students should take special care to ensure:

That each time they register that the courses they choose meet all requirements for graduation;

- That the courses they choose meet prerequisite conditions;
- That the courses they choose are not exclusions of, or the equivalent of, other courses already taken;
- The accuracy of their registration records, including all changes; and
- That they have noted and are following all deadlines and procedures published in the *Calendar* and elsewhere.

A copy of the Policy on Disclosure and Security of Student Academic Records is available for students to read in the Faculty of Arts general office.

Section 7: Special Circumstances and Appeals of Matters Regarding Academic Regulations

Students should promptly consult the Faculty of Arts general office when special circumstances warrant consideration of exceptions to regulations. In addition, the Academic Regulations Appeals Committee meets throughout the year to consider appeals from students who request special consideration with respect to rules and regulations governing their programs of study and qualifications for graduation.

Students who intend to appeal matters concerning regulations or decisions of the faculty which may affect their registration for any session must arrange to submit a written appeal including all pertinent documentation to the secretary no later than the dates listed below:

Deadline to Submit Appeal	ARAC Meeting Date
June 30	Third week of August
October 1	Third week of November
December 1	Third week of February
April 1	Third or fourth week of May

Deadlines falling on a Saturday or Sunday will be observed on the preceding Friday.

Meeting dates are subject to change by the chair.

Appeals should be addressed to: The Secretary of the Academic Regulations Appeals Committee, c/o General Office, Faculty of Arts. Special forms are available in the general office of the faculty.

SECTION 8: Departments in, and Programs and Courses Offered by, the Faculty of Arts

8.1 Department of Anthropology

Head: Ellen Judd

General Office: 435 Fletcher Argue Building

Telephone: 204 474 9361

Website: www.umanitoba.ca/faculties/arts/anthropology/

E-mail: um-anthro@cc.umanitoba.ca

8.1.1 Academic Staff

Professor Emeritus

Townsend, J.B., B.A., Ph.D. (UCLA).

Senior Scholars

Burchard, R.E., B.S. (Minnesota), M.A., Ph.D. (Indiana); Koolage, W.W., Jr., A.B. (Dartmouth), M.A., Ph.D. (North Carolina); Shay, C.T., B.A., M.A., Ph.D. (Minnesota).

Professors

Greenfield, H.J., B.A., M.A., Ph.D. (CUNY); Judd, E.R., B.A.(Hons.) (Queen's), M.A., Ph.D. (UBC), Diploma (Beijing Language Institute and Fudan U, Shanghai); Rubenstein, H., B.A., M.A., Ph.D. (Toronto); Szathmáry, E.J.E., B.A.(Hons.), Ph.D., LL.D (Toronto); Wiest, R.E., B.A. (Tabor College), M.A., Ph.D. (Oregon).

Associate Professors

Allaire, L., B.A. (Collège-de St. Laurent), B.Sc., M.A. (Montréal), M.Phil., Ph.D. (Yale); Burke, A.M., B.A. (Ottawa), M.Sc. (Southampton), M.Phil., Ph.D. (NYU); Chodkiewicz, J-L., L-ès-L. (Sorbonne), Ph.D. (Columbia); Hoppa, R.D., B.Sc. (Toronto), M.Sc. (Sheffield/Bradford), Ph.D. (McMaster), Monks, G.G., B.A., M.A. (Victoria), Ph.D. (UBC); Pentland, D.H., B.A.(Hons.)(Manitoba), M.A., Ph.D.(Toronto); Rokala, D.A., B.A., M.A. (Colorado), Ph.D. (Minnesota); Schwimmer, B.E., B.A. (St. John's, MD), M.A. (SUNY Binghamton), Ph.D. (Stanford); Stymeist, D.H., B.A. (Wayne State), M.A., Ph.D. (Toronto).

Assistant Professors

Buddle-Crowe, K.A., B.A. (Concordia), M.A. (Western Ontario), Ph.D. (McMaster); Frohlick, S.E., B.A., M.A. (Simon Fraser), Ph.D. (York).

8.1.2 Program Information

Anthropology is a science that examines human issues from both cultural and biological perspectives. The narrowest concern of this discipline is the survival of humanity, while its broadest concerns address the conditions of

continuity and change for all human life. The department offers courses in socio-cultural anthropology or ethnology, archaeology, language and culture, and biological or physical anthropology. While academic staff of the department have research interests that range from northern climates to the tropics and from Asia to the Americas, the department is also involved in research that sheds light on Manitoba and its people.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in 076.120, or "C" or better in both 076.121 and 076.122 (or 076.152). For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in 076.120, or "C" or better in both 076.121 and 076.122 (or 076.152).

Introductory Courses

The general introductory courses (076.121, and 076.122 or 076.152, or their equivalent 076.120) present the major ideas and findings of Anthropology. It is equally appropriate for those planning to take further courses in this field and for students from other departments or faculties.

Specializations

Anthropology courses are arranged into groups or areas of study as follows:

- A: Introductory Anthropology
- B: Cultural Anthropology
- C: Physical Anthropology
- D: Archaeology
- E: Applied Anthropology

8.1.3 Anthropology, Department Code: 076			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR¹ TOTAL: 30 CREDIT HOURS			
076.121 and 076.122 (or 076.152), or 076.120	076.239; 6 credit hours in one of: Archaeology (Group D), or Physical Anthropology (Group C); 12 credit hours in Anthropology.		
ADVANCED MAJOR¹ TOTAL: 60 CREDIT HOURS			
076.121 and 076.122 (or 076.152), or 076.120	076.239	<ul style="list-style-type: none"> ● 076.347 ● one of 076.289, 076.339, 076.373, 076.395, 076.398, 076.399 	<ul style="list-style-type: none"> ● 076.485 ● 9 credit hours in Anthropology; no more than 6 credit hours may be taken from 076.483 and 076.484
Required in years two and three are six additional credit hours from each of groups B, C, and D; an additional 12 credit hours in Anthropology preferably including courses from Group E and 076.237. Students considering graduate studies should include a quantitative methods course among their non-Anthropology electives (e.g., Sociology 077.229, Statistics 005.100 and 005.200).			
MINOR¹ TOTAL: 18 CREDIT HOURS			
076.121 and 076.122 (or 076.152), or 076.120	An additional 12 credit hours in Anthropology. 076.239 is recommended for students taking a Minor because the course is fundamental to many subsequent Anthropology courses.		

NOTE:

¹ Courses 032.207 and 032.208 offered by the Department of Native Studies count for credit (Category B) towards a General Major and Advanced Major in Anthropology.

8.1.4 Anthropology Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

The letter “F” following course numbers indicates courses given in French at Collège universitaire de Saint-Boniface.

076.120 Introductory Anthropology (A) (6) [076.121 and 076.122 (or 076.152) are equivalent to 076.120] One term covers human biological evolution and the development of culture as recorded by the archaeologist. The other term deals with the major cultural patterns by which people relate to each other and to their diverse environments. Students may not hold credit for 076.120 and any of 076.121, 076.122 or 076.152.

076.120F Introduction à l'Anthropologie (A) (6) Un semestre traite de l'évolution biologique de l'humanité et des variations culturelles relevées par l'archéologie. L'autre semestre examine les principales catégories culturelles par lesquelles les humains communiquent entre eux et se relie à leurs différents milieux. L'étudiant(e) ne peut se faire créditer à la fois le 076.120 et les 076.121, 076.122 ou 076.152. Donné au Collège universitaire de Saint-Boniface.

076.121 Human Origins and Antiquity (A) (3) An introduction to physical anthropology and archaeology. Topics include: biological evolution, evolution and comparative behaviour of primates, fossil evidence for human evolution, and the emergence of human culture. Students may not hold credit for 076.121 and 076.120.

076.121F L'origine et l'antiquité de l'humanité (A) (3) Une introduction à l'anthropologie physique et à l'archéologie. Les sujets suivants seront présentés: évolution biologique, évolution et cultures des primates, fossiles démontrant la théorie de l'évolution, origine et développement de la culture humaine. L'étudiant(e) ne peut se faire créditer à la fois le 076.121 et le 076.120. Donné au Collège universitaire de Saint-Boniface.

076.122 Cultural Anthropology (A) (3) The comparative study of human societies and cultures, including language, economic and political organization, family and kinship, ritual and belief systems, cultural stability and change. Students may not hold credit for 076.122 and either 076.120 or 076.152.

076.122F Anthropologie culturelle (A) (3) Étude comparative des sociétés et des cultures humaines. Les sujets suivants seront présentés: institutions familiales, sociales, économiques et politiques, langage vocal humain, systèmes de parenté, de rites et de croyances, stabilité et changements culturels. L'étudiant(e) ne peut se faire créditer à la fois le 076.122 et les 076.120 ou 076.152. Donné au Collège universitaire de Saint-Boniface.

076.131F Introduction à la linguistique (A) (3) Le langage comme système de communication composé de sous-systèmes: phonétique, grammatical et sémantique. Illustration de la théorie au moyen d'exemples empruntés à diverses langues. Donné au Collège universitaire de Saint-Boniface.

076.152 Critical Cultural Anthropology (A) (3) An introduction to social cultural anthropology that critically examines production and exchange systems, age, gender, kinship and other social distinctions, belief systems, politics, and interactions between cultural systems. Learning and performance assessment is based upon supervised reading and essay writing. Students may not hold credit for both 076.152 and 076.120 or 076.122.

076.201F Langage et culture (B) (3) Considération générale de la nature du langage et des inter-relations entre le langage et les autres aspects de la culture. Corrélations socio-culturelles des variations linguistiques. Ethnographie de la communication. Origine et évolution du langage. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un des cours suivants: 076.120, 076.122, 076.152 ou l'autorisation écrite du professeur.

076.203F Introduction à la muséologie (B) (6) Initiation aux principes, méthodes et techniques de collection, de classification, de conservation et d'exposition d'articles et de collections de biens culturels et artistiques, d'objets familiers et d'art locaux et régionaux. Visites d'institutions; exposés de techniciens et théoriciens; préparation d'une exposition. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un des cours suivants: 076.120, 076.122, 076.152, l'ancien 076.109 ou l'autorisation écrite du professeur.

☛ **076.204 Native North America: A Sociocultural Survey** (B) (3) An ethnographic survey of the cultures of Native North American peoples. Students may not hold credit for both 076.204 and the former 076.345. *Prerequisite:* a grade of “C” or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

☛ **076.204F Les Amérindiens de l'Amérique du nord: une étude socioculturelle** (B) (3) Survol ethnographique des cultures des peuples amérindiens de l'Amérique du Nord. Une étudiante ou un étudiant ne peut se faire créditer à la fois le 076.204 et l'ancien 076.345. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un de: 076.120, 076.122, 076.152, l'ancien 076.109 ou le consentement écrite du professeur.

076.206 European Archaeology (D) (3) This course will survey the archaeological record of Europe from the earliest human occupation through the rise of early cities and complex societies. Case studies will be used to examine the social, political, economic, and technological adaptations of early human societies in the region.

076.235 Ethnology of Sub-Saharan Africa (B) (3) A survey of culture and society in

traditional and contemporary Africa. Students may not hold credit for 076.235 and the former 076.337. *Prerequisite:* a grade of “C” or better in one of: 076.120, 076.122, 076.152, 076.236, the former 076.336 or written consent of instructor.

076.235F Ethnologie de l'Afrique sous-saharienne (B) (3) Le cours est un compte rendu de la culture des sociétés traditionnelles et contemporaines de l'Afrique sous-saharienne. On ne peut se faire créditer à la fois le 076.235 et l'ancien 076.337. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un des cours suivants: 076.120, 076.122, 076.152, 076.236, l'ancien 076.336 ou l'autorisation du professeur.

076.236W Ethnohistory of Sub-Saharan Africa (B) (3) An overview of the development of African cultures, technologies and political systems from earliest times to the present. Students may not hold credit for both 076.236 and the former 076.336.

076.236F Ethnohistoire de l'Afrique sous-saharienne (B) (3) Le cours se présente sous la forme d'une vue générale du développement des cultures africaines au sud du Sahara, de leurs technologies et systèmes politiques, du paléolithique à nos jours. L'étudiant(e) ne peut se faire créditer à la fois le 076.236 et l'ancien 076.336. Donné au Collège universitaire de Saint-Boniface.

076.237 Language and Culture (B) (3) The investigation of the complex interaction of language and culture, including linguistic perspectives on prehistory, ethnosemantics, and sociocultural correlations of linguistic variation. Students may not hold credit for both 076.237 and 076.201. *Prerequisite:* a grade of “C” or better in one of: 076.120, 076.122, 076.152 or written consent of instructor.

076.238 Art, Symbols, Cultures (B) (3) Studies of the social contexts and functions of human artistic and symbolic behaviour in cross-cultural perspective. *Prerequisite:* a grade of “C” or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

076.239 Social Organization in Cross-Cultural Perspective (B) (6) Kinship, gender, class and political structures are examined to consider variations, continuities, and changes in relationships among individuals, groups and societies around the world. *Prerequisite:* a grade of “C” or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

076.239F Organisation sociale trans-culturelle: Introduction à l'ethnographie (B) (6) Ce cours porte sur le système de parenté, les distinctions de genre, les structures de stratification et d'autorité politique dans leurs divers effets sur les rapports interindividuels, les groupes et les sociétés à travers le monde. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un des cours suivants: 076.120, 076.122, 076.152, l'ancien 076.109 ou l'autorisation écrite du professeur.

076.243 Ecology, Technology and Society (B) (3) Ecological analysis of the interplay of socio-political and technological processes in different types of societies. Focus upon the ecological side-effects and selected technologies, economic mechanisms and political institutions. Students may not hold credit for both 076.243 and 076.250. May not be used for Major or Minor in Anthropology.

076.245 Ethnology of China (B) (3) Issues in the anthropological study of contemporary China will be introduced in comparative perspective. The emphasis will be on issues such as economic development, changing gender relations, population growth and migration, and the politics of culture.

076.246 Peasantry in a Changing World (B) (3) Anthropological approaches to the study of peasant societies as part of larger political economies. Attention is given to peasant economies, social and political organizations and belief systems, and their articulation with wage-labour and cash crop markets. Students may not hold credit for both 076.246 and the former 076.244. *Prerequisite:* a grade of “C” or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

076.247 Anthropology of Mass Communication (B) (3) This course focuses on media production and dissemination and on images of the world created by media. Media practices and products are addressed in relation to the formation of social relations and identities, the shaping of peoples' sense of time and space, and media's role in the construction of communities and in processes of socio-economic and cultural change. *Prerequisite:* a grade of “C” or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

076.250 Culture, Environment, and Technology (B) (3) Study of ecological systems, focussing on processes of adaptation in societies differing in organization and in views of technology. Demographic and technological changes are examined in relation to cultural, political and ideological factors. *Prerequisite:* a grade of “C” or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

076.250F Culture, milieu et technologie (B) (3) Ce cours port sur les systèmes écologiques, particulièrement sur les processus d'adaptation dans les sociétés dont l'organisation et les conceptions technologiques diffèrent entre elles. Les changements démographiques et technologiques sont analysés en fonction des facteurs culturels, philosophiques et idéologiques. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un des cours suivants: 076.120, 076.122, 076.152, l'ancien 076.109 ou l'autorisation écrite du professeur.

076.251 Anthropology of Economic Systems (B) (3) A comparative study of factors bearing upon production, exchange, and consumption of goods, practices and ideas in varying social contexts. The course also examines the articulation of economic systems in the global political economy. *Prerequisite:* a grade of “C” or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

076.253 Anthropology of Political Systems (B) (3) Analysis of political institutions and their changing nature in diverse societies and forms of society, with attention to authority, leadership, decision-making, power and its disguises, and forms of resist-

ance. *Prerequisite*: a grade of "C" or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

076.255 Culture and the Individual (B) (3) The study of the interrelations between life-cycle, psychological functioning and malfunctioning, and social and cultural institutions. Emphasis is placed on enculturation and life-cycle rituals. *Prerequisite*: a grade of "C" or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

076.256 Anthropology of Illness (B) (3) Comparative study of cultural factors involved in health/illness: concepts of disease and curing practices. *Prerequisite*: a grade of "C" or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

076.257 Urban Anthropology (B) (3) Comparison of the processes of urbanization and various forms of urbanism, with attention to archaeological evidence and the emergence of urbanism and urbanization in developing nations.

076.260 Old World Prehistory (D) (3) A survey of the archaeological evidence and cultural interpretations of Old World cultures from the beginning of the Pleistocene to the development of agriculture. *Prerequisite*: a grade of "C" or better in 076.120 or 076.121 or written consent of instructor.

076.261 Old World Civilizations (D) (3) Archaeological evidence and cultural interpretations of the origins of complex societies from the development of agriculture to the beginnings of written history in the Old World. *Prerequisite*: a grade of "C" or better in 076.120 or 076.121 or written consent of instructor.

076.262 New World Prehistory (D) (3) Archaeological evidence and cultural interpretations of those New World cultures which did not develop civilizations, from the earliest inhabitants until the period of initial European contact. *Prerequisite*: a grade of "C" or better in 076.120 or 076.121 or written consent of instructor.

076.263 New World Civilizations (D) (3) Archaeological evidence and cultural interpretations of the growth and development of complex societies in the New World from the origins of agriculture to the period of initial European contact. Emphasis will be placed on the "high cultures" of Central and South America. *Prerequisite*: a grade of "C" or better in 076.120 or 076.121 or written consent of instructor.

076.264 Manitoba Prehistory (D) (3) Archaeological evidence and culture history of prehistoric populations which inhabited the various environmental zones of Manitoba. Students may not hold credit for both 076.264 and the former 076.364. *Prerequisite*: a grade of "C" or better in 076.120 or 076.121 or written consent of instructor.

076.269 Peoples and Cultures of Contemporary Latin America (B) (3) An ethnographic survey of the cultural diversity of contemporary Latin America with selected case study examples drawn from Mexico and Central America, South America, and the Hispanic Caribbean. Case studies are selected to represent a variety of anthropological perspectives. Students may not hold credit for both 076.269 and the former 076.369. *Prerequisite*: a grade of "C" or better in one of: 076.120, 076.122, 076.152 or written consent of instructor.

076.282 Human Osteology (C) (3) An examination of normal and pathological skeletal anatomy. Quantitative methods of analysis for archaeological and forensic applications. *Prerequisite*: a grade of "C" or better in 076.120 or 076.121 or written consent of instructor.

076.283F Méthodes en ethnologie (B) (3) Panorama des méthodes de recherche utilisées en ethnologie, y compris les techniques analytiques et de recherche sur le terrain. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans un des cours suivants: 076.120, 076.122, 076.152 ou l'autorisation écrite du professeur.

076.286 Evolution and Human Diversity (C) (3) An introduction to the interacting roles of heredity, culture and environment in human families and populations. Introduces the biological bases for variation within/between human populations. *Prerequisite*: a grade of "C" or better in 076.120 or 076.121 or written consent of instructor.

076.288 Human Evolution (C) (3) Intensive study of human organic evolution within hominid primates. Consideration of the relationships of socio-cultural adaptation to human evolution. *Prerequisite*: a grade of "C" or better in 076.120 or 076.121 or written consent of instructor.

076.289 Human Population Biology (C) (3) Intensive study of the evolutionary implications of genetic variation within/between human populations in relationship to ecological and cultural variation. *Prerequisite*: a grade of "C" or better in 076.286 or written consent of instructor.

076.290 Introduction to Archaeological Research (D) (3) A general introduction to the principles of archaeology and the materials, analyses, and interpretations encountered in archaeological study. *Prerequisite*: a grade of "C" or better in 076.120 or 076.121 or written consent of instructor.

076.291 Historical Archaeology (D) (3) An archaeological survey of the early post-European period in North America. Case studies will emphasize selected regions, time periods, and topics that may include: the western Canadian fur trade; European colonialism in North America; international colonialism. *Prerequisite*: a grade of "C" or better in 076.120 or 076.121 or written consent of instructor.

076.293 Archaeology of a Selected Area (D) (3) Detailed examination of the archaeology of a geographical area that is of current interest to faculty and students. The areas will rotate annually and will include but not be limited to the Caribbean, Europe, the Northwest Coast, Canada, the Arctic and the sub-Arctic. Students may not hold credit for both 076.293 and the former 076.393. *Prerequisite*: a grade of "C" or better in 076.120 or 076.121 or written consent of instructor.

076.298 Anthropological Perspectives on Contemporary Mexico (B) (3) An introduction to the history, cultural diversity, and contemporary social and economic complexity of Mexico. The lectures will be complemented by visits to museums and places of historical interest in Morelia and other localities of Michoacan. Only offered in Morelia, Mexico as part of the Term in Mexico option. *Prerequisite*: written consent

of the coordinator for Latin American Studies.

076.299 Prehispanic Cultures of Mexico (D) (3) This course will examine the archaeology of Mexico with special focus on Purhepecha and the Western culture area. An analysis of the changing social, political and economic structures of these societies will be complemented by a consideration of aesthetic, philosophical and religious aspects. Visits to archaeological sites will complement the lectures and readings for this course. Only offered in Morelia, Mexico as part of the Term in Mexico option. *Prerequisite*: written consent of the coordinator for Latin American Studies.

076.321 Culture Change (B) (3) Theories and case studies of culture change. Includes treatment of industrialization, urbanization, and social movements with an emphasis on developing countries. *Prerequisite*: a grade of "C" or better in one of: 076.120, 076.122, or 076.152.

076.321F Evolution de la culture (B) (3) Étude théorique et pratique des changements qui s'opèrent dans une culture. Nous étudierons tout spécialement l'industrialisation, l'urbanisation et les différents mouvements sociaux. Nous insisterons sur l'évolution dans les pays en voie de développement. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans un des cours suivants: 076.120, 076.122, ou le 076.152.

076.332 Women in Cross-Cultural Perspective (B) (3) Critical perspectives on the role of women cross-culturally, with ethnographic reference to non-Western societies and cultures. *Prerequisite*: a grade of "C" or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

076.332F Femmes, sociétés et cultures (B) (3) Étude critique des rôles de la femme selon une approche interculturelle à partir d'analyses ethnographiques des sociétés et des cultures africaines, amérindiennes et asiatiques. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans un des cours suivants: 076.120, 076.122, 076.152, l'ancien 076.109 ou l'autorisation écrite du professeur.

076.338 Anthropology and Contemporary Social Issues (B) (3) Anthropological perspectives on poverty, social accountability, colonialism, racism, education, ecological degradation and violence. *Prerequisite*: a grade of "C" or better in 076.239 or written consent of instructor.

076.338F Problèmes sociaux contemporains et l'anthropologie (B) (3) Nous étudions la pauvreté, la responsabilité sociale, le colonialisme, le racisme, l'éducation, la dégradation de l'écologie et la violence du point de vue anthropologique. Donné au Collège universitaire de Saint-Boniface. *Préalable*: 076.239 ou l'autorisation écrite du professeur.

076.339 Methods in Ethnology (B) (3) A survey of ethnological research methods, including both field and analytical techniques. *Prerequisite*: a grade of "C" or better in 076.239 or written consent of instructor.

076.346 Native North American Ethnology (B) (3) An ethnographic and theoretical study of selected Native North American societies and their changes after contact. Students may not hold credit for both 076.346 and the former 076.359. *Prerequisite*: a grade of "C" or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

076.346F Ethnologie des Amérindiens de l'Amérique du Nord (B) (3) Études ethnographiques et ethnologiques de quelques sociétés amérindiennes de l'Amérique du Nord. On étudiera aussi les changements survenus depuis les premiers contacts. L'étudiant(e) ne peut se faire créditer à la fois le 076.346 et l'ancien 076.387. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans un des cours suivants: 076.120, 076.122, 076.152, l'ancien 076.109 ou l'autorisation écrite du professeur.

076.347 History of Anthropology (B) (3) A temporal survey of the development of major paradigms and theoretical movements in anthropological thought and method. Students may not hold credit for both 076.347 and the former 076.320. *Prerequisite*: a grade of "C" or better in 076.239 or written consent of instructor.

076.350 Peoples of the Arctic (B) (3) Ethnographic survey of the aboriginal peoples of the circumpolar regions of Asia, North America, and Greenland. Attention will be given to the aboriginal and post-contact situations among such peoples. *Prerequisite*: a grade of "C" or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

076.350F Peuples de l'Arctique (B) (3) Étude ethnographique des peuples autochtones des régions circumpolaires d'Asie, d'Amérique du Nord et du Groënland, avec une attention spéciale portée aux situations causées par différents contacts culturels. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans un des cours suivants: 076.120, 076.122, 076.152, l'ancien 076.109 ou l'autorisation écrite du professeur.

076.353F Peuples d'Amérique du Sud (B) (6) Étude de certaines cultures sudaméricaines, notamment celles des Andes, de l'Amazonie et de la Patagonie. Seront analysées les premières civilisations de même que l'adaptation des autochtones à la société contemporaine. Donné au Collège universitaire de Saint-Boniface.

076.355 Canadian Subcultures (B) (3) An anthropological study of dimensions of community, ethnicity, and social class in Canadian society.

076.355F Sous-cultures canadiennes (B) (3) Étude anthropologique de la communauté, de l'ethnicité et du statut social dans la société canadienne. Donné au Collège universitaire de Saint-Boniface.

076.368 Anthropological Perspectives on Current Issues in Latin America (B) (3) This course focuses on anthropological treatment of current Latin American issues such as civil war, interventionism, and refugees; population growth, urbanization, migration and poverty; class relations; agrarian structure, and rural proletarianization; agribusiness, nutrition and health; genocide and ethnocide; and the international drug trade. *Prerequisite*: a grade of "C" or better in one of: 076.120, 076.122, 076.152, the former 076.366 or written consent of instructor.

076.372 Demography of Past Populations (C) (3) This course provides students with

a basic understanding of demographic methods and techniques applied in analysis of long term changes in the demographic patterns of anthropological populations. *Prerequisite:* a grade of "C" or better in 076.120 or 076.121 or written consent of instructor.

076.373 Forensic Anthropology (C) (3) This course provides the theory, methods, and techniques for forensic identification of human skeletal remains, including estimation of sex, age-at-death, stature, population affinities and features of personal biology. The laboratory component of this course, where students work with actual human skeletal remains, is a major component. *Prerequisite:* a grade of "C" or better in 076.282.

076.374 Human Growth and Variation (C) (3) An examination of variation in human body form and composition in the context of normal growth and development viewed in an evolutionary perspective. *Prerequisite:* a grade of "C" or better in 076.286 or written consent of instructor.

076.375 Anthropological Perspectives on Globalization and the World-System (B) (3) An anthropological perspective on the modern world-system and the expansion of capitalism into peripheral areas of the world; the transformation of indigenous societies and cultures; the rise of ethnic conflict, protest and resistance; and a comparative examination of selected global and transnational processes. *Prerequisite:* a grade of "C" or better in 076.239 or written consent of instructor.

076.381 Anthropology of Belief Systems (B) (3) A comparative study of belief systems, rituals, and ceremonies in non-Western and Western societies and cultures. Students may not hold credit for both 076.381 and the former 076.258. *Prerequisite:* a grade of "C" or better in one of: 076.120, 076.122, 076.152, the former 076.109 or written consent of instructor.

076.381F Anthropologie des systèmes de croyances (B) (3) Étude comparative des systèmes de croyances, de rites sacrés et de cérémonies dans les sociétés et les cultures du monde. L'étudiant(e) ne peut se faire créditer à la fois le 076.381 et l'ancien 076.258. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un des cours suivants: 076.120, 076.122, 076.152, l'ancien 076.109 ou l'autorisation écrite du professeur.

076.391 Archaeological Field Training (D,E) (6) Theory and practical field experience in the investigation of archaeological sites from the formulation of research designs through data analysis in the field. Offered in alternate summers. See Anthropology department for details. *Prerequisite:* a grade of "C" or better in 076.290 and written consent of instructor.

076.395 Artifact Analysis (D) (3) Analytic and interpretive methods for treating archaeologically recovered materials such as lithics, ceramics and other artifacts are addressed through lectures, demonstrations and other laboratory exercises. *Prerequisite:* a grade of "C" or better in 076.290 or written consent of instructor.

076.396 Cultural Resource Management (D,E) (3) A survey of the concepts, methods, and techniques used in the management of cultural, especially archaeological, heritage resources. The roles of public agencies, private contractors, and heritage legislation in Canadian CRM are reviewed. *Prerequisite:* a grade of "C" or better in 076.120 or 076.121 or written consent of instructor.

076.397 Ethnography of a Selected Region (B) (3) An ethnographic survey of the culture(s) of a selected geographical area currently of interest to faculty and students. The areas to be studied may differ from year to year. *Prerequisite:* a grade of "C" or better in one of: 076.120, 076.122, 076.152 or written consent of instructor.

076.398 Botanical Analysis in Archaeology (D) (3) Analytic and interpretive methods for treating archaeologically recovered plant remains and soils are addressed through lectures, demonstrations, and laboratory exercises. *Prerequisite:* a grade of "C" or better in 076.290 or written consent of instructor.

076.399 Faunal Analysis in Archaeology (D) (3) Analytic and interpretive methods of treating archaeologically recovered faunal remains are addressed through lectures, demonstrations, and laboratory exercises. *Prerequisite:* a grade of "C" or better in 076.290 or written consent of instructor.

076.475 The Anthropology of Aging (C) (3) This course provides an in-depth examination of the biological foundations of human aging and senescence in the context of evolutionary theories of longevity. *Prerequisite:* written consent of instructor or department head.

076.476 Practicum in Archaeology (D) (3) This course is designed to provide advanced undergraduate students in archaeology with individualized practical experience in different aspects of archaeology by working with professional archaeologists. *Prerequisite:* a grade of "C" or better in 076.290 or written consent of instructor.

076.477 Seminar in Contemporary North American Native Cultures (B) (3) The anthropological study of contemporary Native communities in the United States and Canada. Topics will focus on particular sub-systems such as religion, economy, medical care, social structure or political organization. Students may not hold credit for both 076.477 and the former 076.482. *Prerequisite:* written consent of instructor or department head.

076.478 Selected Topics in Cultural Anthropology (B) (3) *Prerequisite:* written consent of instructor or department head.

076.479 Selected Topics in Archaeology (D,E) (3) *Prerequisite:* written consent of instructor or department head.

076.480 Seminar in Applied Anthropology (B,E) (6) A review of the history of applied anthropology and investigation of major case studies, research methodologies, intervention strategies, and substantive areas of application. *Prerequisite:* written consent of instructor or department head.

076.481 Seminar in Medical Anthropology (B,C,E) (6) A topical or case-study approach to method, theory and research as utilized in the field of Medical Anthropology. *Prerequisite:* written consent of instructor or department head.

076.483 Advanced Reading and Research (B,C,D) (3) *Prerequisite:* written consent of instructor and department head.

076.484 Advanced Independent Work (B,C,D) (6) *Prerequisite:* written consent of instructor and department head.

076.485 Advanced Seminar in Anthropological Theory (B) (3) An analysis of the process of theory formation in the social sciences in general and in cultural (social) anthropology in particular. The theoretical content of various contemporary "schools" in anthropology is critically analyzed. *Prerequisite:* a grade of "C" or better in 076.347 or the former 076.320 or written consent of instructor or department head.

076.486 Selected Topics in Biological Anthropology (C,E) (3) Topics in biological anthropology which will vary depending on the needs of students and the interest of the instructor. *Prerequisite:* written consent of instructor or department head.

8.2 Arts Cooperative Option Program

Coordinator:

Program Office:

Telephone:

Subject to the final approval of the Council on Post-Secondary Education, this program will be available to students beginning in the 2003-2004 Regular Session.

8.2.1 Program Information

The Arts Cooperative Option is an approach to education in which academic study is complemented and enriched with practical work experience. A student alternates periods of attendance in university with periods of employment in industry or government. The work terms provide students with practical experience, help to finance their education and provide guidance for further career specialization. The work terms are comprised of a minimum of three four-month terms.

Admission

Applicants must:

be registered in either the Advanced degree program or Honours degree program

have completed a minimum of 60 credit hours

have a minimum grade point average of 3.00

have a personal interview with the co-op coordinator and be able to receive a job placement (Student may seek employment on their own, but must consult with the co-op coordinator before doing so.)

Registration

Once the above admission requirements have been satisfied and a job placement has been secured the student is accepted into the cooperative option, and then registers in the cooperative work term in course 099.391 Arts Cooperative Option 1. During the first cooperative work term, students do not attend class.

At the end of the first cooperative work term, students then resume their studies for one term. This is then followed by registration in the second cooperative work term in course 099.392 Arts Cooperative Option 2. During the second cooperative work term, students do not attend class.

At the end of the second cooperative work term, students resume their studies for one term. This is then followed by registration in the third cooperative work term in course 099.393 Arts Cooperative Option 3. During the third cooperative work term, students do not attend class.

Following each cooperative work term, the student must provide a report to the cooperative coordinator who will evaluate it. Guidelines for preparing a report will be available from the cooperative coordinator. Following the third cooperative work term, students return to complete degree requirements.

Continuation

In order to remain in the cooperative option, a student must maintain the minimum cumulative grade point average of the program (Advanced or Honours) and must obtain a grade of "pass" for each co-op work term report. Failure to maintain these conditions will result in removal from the cooperative option.

8.2.2 Arts Cooperative Option Courses

099.391 Arts Cooperative Option 1(0) Work assignments in business, industry or government for students admitted to the Arts Cooperative Option. Required submission of a written report covering the work completed during the work term. Graded pass/fail. *Prerequisite:* written consent of the Arts Cooperative Option Coordinator and the Faculty of Arts.

099.392 Arts Cooperative Option 2(0) Work assignments in business, industry or government for students admitted to the Arts Cooperative Option. Required submission of a written report covering the work completed during the work term. Graded pass/fail. *Prerequisite:* written consent of the Arts Cooperative Option Coordinator and the Faculty of Arts.

tion of a written report covering the work completed during the work term. Graded pass/fail. *Prerequisite:* written consent of the Arts Cooperative Option Coordinator and the Faculty of Arts.

099.393 Arts Cooperative Option 3(0) Work assignments in business, industry or government for students admitted to the Arts Cooperative Option. Required submission of a written report covering the work completed during the work term. Graded pass/fail. *Prerequisite:* written consent of the Arts Cooperative Option Coordinator and the Faculty of Arts.

8.3 Asian Studies Centre

Acting Director: Terence Russell

Centre Office: 327 Fletcher Argue Building

Telephone: 204 474 9516

Website: www.umanitoba.ca/faculties/arts/asian_studies/

E-mail: asian_studies@umanitoba.ca

8.3.1 Academic Staff

Associate Professor

Russell, T., B.A., M.A. (UBC), Ph.D. (A.N.U.).

Assistant Professor

Lee, W., B.A. (Victoria), M.A. (Carleton), Ph.D. (McGill).

Instructor

Song, E.X., B.A., M.A. (Wuhan), M.A. (York), Ph.D. (Manitoba).

8.3.2 Program Information

Asia is home to approximately 60 per cent of the world's population. Asian nations are emerging as major economic powers while their populations are asserting their own cultural and historical identities. With this comes an expectation that Western nations will take an interest not only in the economic potential of the continent but also in its rich cultural heritage. The Asian Studies Centre was established in 1990 to stimulate and organize teaching and research on Asia. Faculty attached to the centre offer in-

struction in the languages and culture of China, India and Japan. As well, specialists in other departments offer Asia-related courses that can be used for a Major or Minor in Asian Studies.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in 011.141 (150.141 [the former 099.141]) or "C" or better in both 011.142 (150.142 [the former 099.142]) and 011.143 (150.143 [the former 099.143]). For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in 011.141 (150.141 [the former 099.141]) or "C" or better in both 011.142 (150.142 [the former 099.142]) and 011.143 (150.143 [the former 099.143]).

8.3.3 Asian Studies, Program Code: 150 [formerly (099A)]

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
150.141 (011.141) or both 150.142 (011.142) and 150.143 (011.143)	<ul style="list-style-type: none"> 6 credit hours in one of the language courses numbered at the 100 level from List A 150.207 or 150.211 or 150.262 & 150.263 6 credit hours in courses numbered at the 200 level from List A 	6 credit hours from courses in List A numbered above the 200 level (Students may substitute up to 6 credit hours in Asian language courses numbered at the 200 level.)	
Students who wish to concentrate heavily on languages may take an Asian language course numbered at the 100 level in University 1. Students with matriculation in an Asian language may do an Asian language course numbered at the 200 level in Year 2 and are encouraged to take a language course numbered at the 300 level language in Year 3.			
MINOR TOTAL: 18 CREDIT HOURS			
150.141 (011.141) or both 150.142 (011.142) and 150.143 (011.143)	12 credit hours chosen from List A		

List A Courses Acceptable for Asian Studies Credit Course No.

Faculty of Arts

Anthropology

076.245 Ethnology of China

Asian Studies - Asian Languages

150.176 Introduction to Chinese (Mandarin)

150.177 Introduction to Japanese

150.178 Basic Sanskrit

150.179 Basic Hindi-Urdu

150.234 Special Studies in Epic and Pauranic Sanskrit 1

150.235 Special Studies in Epic and Pauranic Sanskrit 2

150.236 Mandarin Comprehension

150.276 Intermediate Chinese (Mandarin)

150.277 Intermediate Japanese

150.278 Intermediate Sanskrit

Credit Hours

150.279	Intermediate Hindi-Urdu	6
150.366	Advanced Mandarin Comprehension	6
150.376	Advanced Chinese (Mandarin)	6
150.377	Advanced Japanese	6
150.379	Advanced Hindi-Urdu	6
Asian Studies - Other Asian courses		
150.141	Asian Civilizations (Same as 011.141)	6
150.142	Asian Civilizations to 1500 (Same as 011.142)	3
150.143	Asian Civilizations from 1500 (Same as 011.143)	3
150.207	South Asian Civilization	6
150.211	East Asian Civilization	6
150.257	History, Culture and Society in Chinese Film	3
150.258	Women in Chinese Film	3
150.262	Japanese Civilization	3
150.263	Chinese Civilization	3
150.266	Modern Chinese Literature in Translation	6
150.267	Modern Japanese Literature in Translation	3
150.348	Selected Topics in Asian Studies 1	3

150.349	Selected Topics in Asian Studies 2	3
150.360	Japanese Popular Culture	3
History		
011.141	Asian Civilizations (Same as 150.141)	6
011.142	Asian Civilizations to 1500 (Same as 150.142)	3
011.143	Asian Civilizations from 1500 (Same as 150.143)	3
011.205	South Asia Since 1947	3
011.213	Emergence of Modern South Asia: 1757-1947	3
011.241	History of India (B)	6
011.265	Modern China and Japan	6
011.309	Studies in Asian History	3
011.358	Topics in Recent World History 1 (M) [Acceptable for credit only when the topic is Asia related]	3
011.396	China, 1911 to the Present	3
011.398	Nationalism on the Indian Sub-Continent in the Twentieth Century	3
011.420	Modern South Asia: Colonialism, Nationalism, and Modernization	3
011.494	Revolutionary China: A Century of Upheaval, 1870 to Present	6
Political Studies		
019.202	Asian Politics	6
Religion		
020.132	Introduction to World Religions Introduction aux religion du monde	6
020.254	Modern Movements in World Religions	6
020.257	Indian Religious Art and Architecture	3
020.266	Religions of Indian Origin	6
020.270	Religions of China and Japan	6
020.374	Studies in Asian Religions	6
020.375	Topics in Indian Religious Art and Architecture	3
020.441	Masters of Spiritual Life	6
020.445	Topics in Comparative Religion	6
Sociology		
077.369	Sociology of the Developing Societies	3
School of Art		
054.210	Survey of Asian Art	3
054.323	Chinese Art and Architecture	3
054.324	Japanese Art and Architecture	3
054.359	Islamic Art and Architecture	3
Faculty of Environment		
Geography		
053.249	Geography of Modern China	3
053.359	Geography of Developing Countries	6

8.3.4 Asian Studies Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

150.141W Asian Civilizations (B) (6) A study of major themes in the history and culture of China and Japan, the Indian subcontinent, and Southeast Asia, from ancient times to the contemporary period. Students may not hold credit for both 150.141 and 150.142 (the former 099.142) or 150.143 (the former 099.143). Also offered as History 011.141. Students may not hold credit for both 150.141 and 011.141.

150.142W Asian Civilizations to 1500 (B) (3) A study of major themes in the history and culture of China and Japan, the Indian subcontinent and Southeast Asia from ancient times to around 1500. Students may not hold credit for both 150.142 and 150.141 (the former 099.141). Also offered as History 011.142. Students may not hold credit for both 150.142 and 011.142.

150.143W Asian Civilization from 1500 (B) (3) A study of major themes in the history and culture of China and Japan, the Indian subcontinent and Southeast Asia in modern times. Students may not hold credit for both 150.143 and 150.141 (the former 099.141). Also offered as History 011.143. Students may not hold credit for both 150.143 and 011.143.

150.176 Introduction to Chinese (Mandarin) (6) An introduction to modern vernacular (Mandarin) Chinese in spoken and written form. Grounding in pronunciation, basic grammar, vocabulary, and some written characters. This course is for students with no previous knowledge of Chinese. Students with a knowledge of Chinese characters, regardless of dialect, may not normally enrol. Students may not hold credit for both 150.176 and the former 099.091. Not open to students who have previously obtained credit for the former 099.101, the former 099.201, or 150.236 (the former 099.236), 150.276, 150.376, or who have obtained Grade 12 Chinese in Canada or abroad. *Prerequisite:* written consent of instructor.

150.177 Introduction to Japanese (6) An introduction for non-Japanese speakers to Hiragana, Katakana, and some Kanji. Students will be taught pronunciation, grammar, vocabulary, and about 250 written characters. Students may not hold credit for both 150.177 and the former 099.092. Not open to students who previously obtained

credit for the former 099.102, the former 099.212, or 150.277, 150.377. Students who have obtained Grade 12 Japanese in Canada or abroad must obtain written consent of instructor.

150.178 Basic Sanskrit (6) Students will first learn the Devanagari script then proceed to reading, writing, conversation, grammar and vocabulary. Students may not hold credit for both 150.178 and the former 099.093. Not open to students who previously obtained credit for the former 099.103 or 150.278.

150.179 Basic Hindi-Urdu (6) Training in conversation, reading and writing of modern standard Hindi and some elements of Urdu. Students will learn to read and write the Devanagari script, and learn the basic grammar of the language. Students may not hold credit for both 150.179 and the former 099.094. Not open to students who have previously obtained credit for the former 099.104 or the former 099.214 or 150.279 or 150.379.

150.207W South Asian Civilization (6) An interdisciplinary study of the Indian subcontinent from the ancient to the contemporary period, focusing on geographic, religious, historic, sociological and political developments. Students may not hold credit for both 150.207 and the former 099.207.

150.211W East Asian Civilization (6) An interdisciplinary study of China and Japan from the ancient to the contemporary period, focusing on geographic, religious, historic, sociological and political developments. Students may not hold credit for both 150.211 and 150.262 or 150.263 or the former 099.211.

150.234 Special Studies in Epic and Pauranic Sanskrit 1 (3) Readings in *Mahabharata*, *Ramayana*, *Bhagavadgita*, *Puranas*, *Upanisads*, or the *Kathasaritsagara*. Specific readings vary from year to year depending on the needs of the students. Students may not hold credit for both 150.234 and the former 099.234. *Prerequisite:* written consent of instructor.

150.235 Special Studies in Epic and Pauranic Sanskrit 2 (3) Readings in *Mahabharata*, *Ramayana*, *Bhagavadgita*, *Puranas*, *Upanisads*, or the *Kathasaritsagara*. Specific readings vary from year to year depending on the needs of the students. Students may not hold credit for both 150.235 and the former 099.235. *Prerequisite:* written consent of instructor.

150.236 Mandarin Comprehension (6) For students with a reading and speaking knowledge of a Chinese dialect other than standard Mandarin. Students will learn the fundamentals of Mandarin phonetics and usage, then proceed to increase their fluency in directed conversation sessions using modern Chinese literature as the major subject of discussion. Not open to students who have previously obtained credit in 150.176 (the former 099.091), 150.276 (the former 099.101), or 150.376 (the former 099.201). Students may not hold credit for both 150.236 and the former 099.236. *Prerequisite:* written consent of instructor.

150.257 History, Culture, and Society in Chinese Film (3) This course will focus on the presentation of various aspects of twentieth century Chinese culture through the medium of film. Films will be selected largely from those recently produced in China, Taiwan, and Hong Kong, with some attention to recent North American movies by ethnic Chinese directors.

150.258 Women in Chinese Film (3) This course will focus on the cinematic presentation of women in Chinese films. Films will be selected largely from those produced recently in China, Taiwan, and Hong Kong, as well as in North America by ethnic Chinese directors. The intention is to review how the image of women as reflected in Chinese cinema has changed with time, place, and modern technology.

150.262 Japanese Civilization (3) An interdisciplinary study of Japanese civilization from earliest times to the Meiji Restoration. All aspects of traditional Japanese culture will be examined, including geography, religion, philosophy, history, sociology, economics and politics. The nature of Japanese cultural identity will be taken as a unifying theme. Students may not hold credit for 150.262 and 150.211 (the former 099.211).

150.263 Chinese Civilization (3) An interdisciplinary study of Chinese civilization from earliest times to the Opium War. All aspects of traditional Chinese culture will be examined, including geography, religion, philosophy, history, sociology, economics, and politics. A central unifying theme will be the examination of Chinese cultural identity. Students may not hold credit for 150.263 and 150.211 (the former 099.211).

150.266 Modern Chinese Literature in Translation (6) A study of 20th century Chinese literature including prose, poetry and drama. Selected works of authors from the Peoples Republic of China, Taiwan, and overseas communities. Lectures and texts in English. Students may not hold credit for both 150.266 and the former 099.266.

150.267 Modern Japanese Literature in Translation (3) This course is intended as an introduction to Japanese Literature from the Meiji era (1868-1912) to the present day. Although some attention will be paid to poetry, the emphasis will be on short stories and the novel.

150.276 Intermediate Chinese (Mandarin) (6) Continues the introduction of basic vocabulary, grammatical structures, and written characters. Emphasis will be given to the development of aural/oral skills. Students may not hold credit for both 150.276 and the former 099.101. Not open to students who have previously obtained credit for the former 099.201 or 150.376. *Prerequisite:* a grade of "C" or better in 150.176 or the former 099.091 or written consent of instructor.

150.277 Intermediate Japanese (6) For students who have taken Japanese 150.177 (the former 099.092). Continues the introduction of basic vocabulary, grammatical structures and more written characters. Greater emphasis will be given to the development of aural/oral skills. Students may not hold credit for both 150.277 and the former 099.102. Not open to students who have previously obtained credit in 150.377 or the former 099.212. *Prerequisite:* a grade of "C" or better in 150.177 or the former 099.092 or written consent of instructor.

150.278 Intermediate Sanskrit (6) Advanced grammar, vocabulary, and syntax in order to enable the student to read epic and pauranic materials. Students may not hold credit for

both 150.278 and the former 099.103. *Prerequisite:* a grade of “C” or better in 150.178 or the former 099.093 or written consent of instructor.

150.279 Intermediate Hindi-Urdu (6) Training in more complex conversation techniques, including narration, persuasion and argumentation. Further readings in Hindi; reading and writing in the Urdu script; reading of 20th-century Hindi and Urdu literature. Students may not hold credit for both 150.279 and the former 099.104. Not open to students who have previously obtained credit for 150.379 or the former 099.214. *Prerequisite:* a grade of “C” or better in 150.179 or the former 099.094 or written consent of instructor.

150.348 Selected Topics in Asian Studies 1 (3) An intensive study of specially selected authors or themes in Asian Studies. The particular subject will vary year to year. Students may not hold credit for both 150.348 and the former 099.348. *Prerequisite:* written consent of Asian Studies coordinator.

150.349 Selected Topics in Asian Studies 2 (3) An intensive study of specially selected authors or themes in Asian Studies. The particular subject will vary year to year. Students may not hold credit for both 150.349 and the former 099.349. *Prerequisite:* written consent of Asian Studies coordinator.

150.360 Japanese Popular Culture (3) This course examines various examples of popular culture in contemporary Japan, including popular literature, film, television, popular music, and leisure activities. Attention will also be paid to popular culture theory and methods of analysis. *Prerequisite:* a grade of “C” or better in 150.262 or written consent of instructor.

150.366 Advanced Mandarin Comprehension (6) A further level of training intended for students who have completed 150.236 Mandarin Comprehension (6). There will

be further training in oral/aural proficiency while at the same time emphasis will be placed on written expression. Basic English/Chinese translation skills will also be introduced. *Prerequisite:* a grade of “C” or better in 150.236 (the former 099.236), or 150.376 (the former 099.201) or written consent of instructor.

150.376 Advanced Chinese (Mandarin) (6) This course is for those who have taken Intermediate Chinese or who have obtained basic language skills in Mandarin Chinese elsewhere. A balanced approach to reading, writing, and aural/oral skills will be employed. Students will use advanced prepared texts and will also be introduced to selected examples of contemporary Chinese literature. Students may not hold credit for both 150.376 and the former 099.201. Not open to students who previously obtained credit for 150.236 (the former 099.236) or 150.366. *Prerequisite:* a grade of “C” or better in 150.276 or the former 099.101 or written consent of instructor.

150.377 Advanced Japanese (6) This course is designed for those who have taken 150.277 (the former 099.102) Intermediate Japanese or have basic linguistic skills in Japanese and wish to improve their ability in the Japanese language previously acquired. Students may not hold credit for both 150.377 and the former 099.212. *Prerequisite:* a grade of “C” or better in 150.277 or the former 099.102, or written consent of instructor.

150.379 Advanced Hindi-Urdu (6) Students read texts that are in accordance with their interests and abilities. Class discussion is held exclusively in Hindi-Urdu. Students may not hold credit for both 150.379 and the former 099.214. *Prerequisite:* a grade of “C” or better in 150.279 (the former 099.104) or written consent of instructor.

8.4 Canadian Studies Program ✨

Program coordinator: Kathryn A. Young

Program Office: 315 St. John’s College

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Website: www.umanitoba.ca/faculties/arts/canadian_studies/

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8.4.1 Program Information

This is an inter-disciplinary program that is a comprehensive and focused approach to the study of Canada. Students will examine Canadian politics, economics, society and culture within a national and international context. A knowledge of French is an asset but it is not required. Students in the program have access to the Canadian Studies Reading and Resource Room at St. John’s College.

The ✨ symbol placed with the course number identifies courses throughout this Calendar that may be used toward partial fulfilment of the requirements for Canadian Studies.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of “C” or better in a full course (or equivalent) from the list of approved courses in Canadian Studies. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluded failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of “C” or better in a full course (or equivalent) from the list of approved courses in Canadian Studies.

Honours Program

For entry to the Honours Program, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Single Honours

Single Honours will consist of:

1) 54 credit hours from the list of approved courses in Canadian Studies, to be taken in the three Honours years, of which a maximum of 24 credit hours and minimum of 12 credit hours must be taken in any one department. At least 24 credit hours must be taken in courses designated as Honours courses. One of these may be a 400-level interdisciplinary Honours seminar in Canadian Studies.

2) The minimum total credit hours that students must hold in order to complete an Honours program in Canadian Studies are 30 in Year 1; 30 in Year 2; 24 in Year 3; and 24 in Year 4.

Double Honours

Double Honours shall consist of:

1) 36 credit hours in one of the participating departments, not necessarily courses in the Canadian field, selected in accordance with the regulations of that department.

2) 36 credit hours chosen from the list of approved courses in Canadian Studies. At least 18 credit hours from the 36 must be Honours courses. One of these may be a 400-level interdisciplinary seminar in Canadian Studies.

3) The minimum total credit hours that students must hold in order to complete a Double Honours program in Canadian Studies are 30 in Year 1; 30 in Year 2; 24 in Year 3; and 24 in Year 4.

A reading knowledge of French, while not absolutely required, is recommended. Students should note that, for certain specific Honours courses in the Canadian field, a reading knowledge of French is, in fact, a prerequisite.

Each of the participating departments is represented by at least one member on the Canadian Studies Program Committee. The initial student advisor for the program is the committee as a whole or any one of its members. Students who are interested in Canadian Studies may obtain further information from the Canadian Studies Program Coordinator. Students should consult the appropriate department upon entering the program regarding prerequisites for specific courses.

8.4.2 ✨ Canadian Studies, Program Code: 151 [formerly 099C]

UNIVERSITY 1

YEAR 2

YEAR 3

YEAR 4

MAJOR¹ TOTAL: 30 CREDIT HOURS

6 credit hours in courses numbered at the 100 or 200 level from the list of approved courses in Canadian Studies

24 credit hours from the list of approved courses in Canadian Studies, of which at least 6 credit hours must be numbered at the 300 level

MINOR² TOTAL: 18 CREDIT HOURS

6 credit hours in courses numbered at the 100 or 200 level from the list of approved courses in Canadian Studies

12 credit hours from the list of approved courses in Canadian Studies

HONOURS SINGLE

6 credit hours in courses numbered at the 100 or 200 level from the list of approved courses in Canadian Studies

18 credit hours from the list of approved courses in Canadian Studies, plus 12 credit hours in options (6 credit hours are required in three subject fields)

18 credit hours from the list of approved courses in Canadian Studies, of which at least 6 hours must be in an Honours course, plus 6 credit hours in options

18 credit hours from the list of approved Honours courses in Canadian Studies plus 6 credit hours in options

HONOURS DOUBLE

6 credit hours in courses numbered at the 100 or 200 level from the list of approved courses in Canadian Studies

12 credit hours from the list of approved courses in Canadian Studies, 12 credit hours in other Honours field, plus 6 credit hours in options

12 credit hours in approved courses in Canadian Studies, 12 credit hours in other Honours field

12 credit hours in approved courses in Canadian Studies, at least 12 credit hours in other Honours field

NOTES:

¹ A Major consists of 30 credit hours, chosen from the list of approved courses in Canadian Studies, of which 6 credit hours must be taken from courses numbered at the 300 level and 12 credit hours, but no more, must be taken in one department on the list. A maximum of 12 credit hours in courses numbered at the 100 level may be used toward the 30 credit hour major.

² A Minor consists of 18 credit hours including at least 6 credit hours from each of two departments, chosen from the list of approved courses in Canadian Studies. A maximum of 6 credit hours in courses numbered at the 100 level may be used toward the 18 credit hour minor.

List of Approved Courses in Canadian Studies

In the following list of approved courses the designation (H) indicates an Honours course. Courses designated (CUSB) are offered in French at Collège universitaire de Saint-Boniface.

* In the list below indicates courses no longer offered.

Faculty of Arts**Canadian Studies**

151.113W Introduction to Canadian Studies 6

151.373 Canadian Identity in the 20th Century: An Interdisciplinary Approach 3

151.441 Seminar in Canadian Studies (H) 6

Anthropology

076.204 Native North America: A Sociocultural Survey (B) 3

076.204F Les Amérindiens de l'Amérique du Nord: Étude socioculturelle (B) (CUSB) 3

076.264 Manitoba Prehistory 3

076.346 Native North American Ethnology (B) 3

076.346F Ethnologie des Amérindiens de l'Amérique du Nord (B) (CUSB) 3

076.350 Peoples of the Arctic (B) 3

076.350F Peuples de l'Arctique (B) (CUSB) 3

076.355 Canadian Subcultures 3

076.355F Sous-cultures canadiennes (CUSB) 3

076.391 Archaeological Field Training (D,E) 6

Economics

018.121 Introduction to Canadian Economic Issues and Policies 3

018.121F Introduction aux politiques et aux problèmes économiques canadiens (CUSB) 3

018.228 Social Welfare and Human Resources 6

018.231 Canadian Economic Problems 6

018.231F Les problèmes économiques du Canada (CUSB) 6

018.235 Community Economic Development 3

018.236 Women in the Canadian Economy 6

018.330 Canadian Economic History 6

018.330F Histoire économique du Canada (CUSB) 6

018.351 Industrial Relations 6

018.352* Introductory Regional Economics 3

018.353* Intermediate Regional Economics 3

018.357* Health Economics 3

018.360* Workshop in the Economy of Canada 6

018.369 Economic Issues of Health Policy 3

018.372 Urban and Regional Economics and Policies 3

English

004.227* Canadian Literature 6

004.275* Canadian Literature (H) 6

004.288 Canadian Literature to 1967 3

004.289 Canadian Literature after 1967 3

004.377* Canadian Poetry 6

004.378* The Canadian Novel 6

004.388 Studies in Canadian Literature (also offered at CUSB) 6

Film Studies

152.243 The Canadian Film 3

Français (CUSB)

144.283F L'individu et le pays (CUSB) 3

144.288F Civilisation canadienne-française (CUSB) 3

144.353F Le théâtre québécois (CUSB) 3

144.354F Le théâtre de l'Ouest (CUSB) 3

144.383F L'époque de la contestation (CUSB) 3

144.384F La révolution tranquille et le roman (CUSB) 3

144.385F Le théâtre de l'Ouest: poésie, nouvelles (CUSB) 3

144.386F Le théâtre de l'Ouest: romans (CUSB) 3

144.483F Littérature de l'Acadie et des Cajuns (CUSB) 3

French, Spanish and Italian

044.247* French-Canadian Literature in Translation 6

044.270 Poésie et théâtre canadiens-français (B) 3

044.314 Roman canadien-français (B) 3

044.348* Littérature canadienne-française (H) 3

044.353* Littérature canadienne-française (B) 3

044.385 Civilisation canadienne-française (C) 3

History

011.133* History of Canada from 1534 (C) 6

011.133F* Histoire du Canada (CUSB) 6

011.139W History of Colonial Canada: 1500-1885 (C) 3

011.140W History of the Canadian Nation Since 1867 (C) 3

011.144W History of Canada (C) 6

011.144F Histoire du Canada (CUSB) 6

011.219F Histoire économique et sociale canadienne du XIXe siècle (CUSB) 6

011.228 Aboriginal History of Canada (C,S) 6

011.254* North American Indian (A,C,S) 6

011.295W Early Canada: from the Earliest Settlement to 1867 (C) 6

011.295F Les origines du Canada: depuis la première colonie jusqu'en 1867 (CUSB) 6

011.296W The New Dominion: 1867 to 1921 (C) 6

011.296F Le nouveau Dominion: de 1867 à 1921 (CUSB) 6

011.297W Modern Canada: 1921 to the Present (C) 6

011.297F Le Canada moderne: de 1921 à nos jours (CUSB) 6

011.305 Canada since 1945 (C) 6

011.322 The History of Canadian-American Relations (A,C) 6

011.324* Protestantism and the Development of the Canadian Community, 1749-1970 (C,S) 6

011.325 Canada and the World, 1867 to the Present (C) 6

011.369 History of Northern Canada (C) 6

011.372F Histoire du Manitoba (C) (CUSB) 6

011.373 A History of Western Canada (C) 6

011.378 Studies in Canadian History 1 (C) 3

011.378F	Études choisies en histoire du Canada 1 (CUSB)	3	019.206	Urban and Local Politics	6
011.379	Studies in Canadian History 2 (C)	3	019.207	Introduction to Canadian Government	6
011.379F	Études choisies en histoire du Canada 2 (CUSB)	3	019.207F	Introduction au système gouvernemental canadien	6
011.391	The Ukrainians in Canada (C,S)	3	019.256	Issues of Canadian Politics	6
011.406	Gender History in Canada (C) (H)	6	019.256F	Questions d'actualité en politique Canadienne (CUSB)	6
011.428	Topics in the Cultural History of Canada (C)	6	019.257	Introduction to Public Administration	6
011.434	Introduction to Archival Science (G)	6	019.257F	Initiation à l'administration publique (CUSB)	6
011.438*	Intellectual History of Canada (C) (H)	3	019.266	Human Rights and Civil Liberties	6
011.439	The History of White Attitudes and Policies towards Native Peoples in North America (H)	6	019.286	Canadian Political Parties	6
011.449*	The New Canada, 1867-96 (S) (H)	6	019.310	Gender and Politics in Canada	3
011.470	Canada, 1896 to the Present (C) (H)	6	019.356	Canadian Foreign Policy	6
011.472	History of Manitoba (C) (H)	6	019.356F	Politique étrangère canadienne (CUSB)	6
011.489	Canadian Social History (C,S) (H)	6	019.366	Quebec and the Canadian Political System (H)	3
011.490	The Hudson's Bay Company and British North America (C) (H)	6	019.368	Canadian Defense Policy	3
011.495	History of Quebec (C) (H)	6	019.386	Canadian Federalism (H)	3
Icelandic			019.396	Canadian Politics (H)	6
012.223	Contemporary Icelandic-Canadian Literature	3	019.466	The State in the Economy (H)	6
012.230	Icelandic-Canadian Literature (H)	6	019.476	Manitoba Politics and Voting Behaviour	6
012.346	Laura Goodman Salverson	3	019.486	The Canadian Policy Process (H)	6
012.444	The Icelanders in Canada (H)	3	019.487	Government and Public Sector Unionism (H)	6
012.445*	Stephan G. Stephansson (H)	3	020.241	Religion in Canada (C)	6
Labour and Workplace Studies			020.241F	Les religions au Canada (CUSB)	6
153.351	Industrial Relations	6	020.259	Religion and Social Issues (C)	3
Native Studies			020.259F	La religion et les problèmes sociaux (CUSB)	3
032.090*	Introductory Cree	6	020.272*	Dimensions of Religiosity in Contemporary Canadian Literature	6
032.091*	Introductory Ojibway	6	Slavic Studies		
032.120W	The Native Peoples of Canada	6	052.242	Ukrainian Canadian Literature	3
032.121*	Intermediate Ojibway	6	052.243	Ukrainian Canadian Folklore	3
032.122W	The Native Peoples of Canada, Part 1	3	Sociology		
032.124	The Native Peoples of Canada, Part 2	3	077.232	Canadian Society and Culture	3
032.125	Introductory Cree 1	3	077.232F	La société Canadienne et sa culture (CUSB)	3
032.126	Introductory Cree 2	3	077.237	Ethnic Relations/Rapports ethniques (CUSB)	3
032.127	Introductory Ojibway 1	3	077.253	Sociologie du Manitoba (CUSB)	6
032.128	Introductory Ojibway 2	3	077.261	Sociology of Criminal Justice and Corrections	3
032.130*	Intermediate Cree	6	077.262	The Sociology of Aging	3
032.202	The Métis of Canada	3	077.347	Political Sociology/Sociologie Politique (CUSB)	3
032.204	Native Peoples of the Northern Plains	3	077.370	Sociology of Law	3
032.205*	Coastal Indians of Canada	3	Ukrainian Canadian Heritage Studies		
032.206	The Native Peoples of the Eastern Woodlands	3	155.310	The Ukrainian Arts in Canada	3
032.207	The Native Peoples of the Subarctic	3	School of Art		
032.208	Inuit Society and Culture	3	054.326	Canadian Art and Architecture to World War II	3
032.220*	Native Societies and the Political Process	3	054.327	Canadian Art Since World War II	3
032.222	Native Societies and the Political Process	3	054.343	Inuit Art	3
032.225	Intermediate Cree	6	054.358*	Inuit Culture and Art	3
032.227	Intermediate Ojibway	6	054.375*	Canadian Art 1	3
032.230	Cree Literature	3	054.376*	Canadian Art 2	3
032.232	Structure of the Cree Language	3	Faculty of Environment		
032.241	Canadian Native Literature	3	Geography		
032.245	Images of Indians in North American Society	3	053.245	The Making of the Prairie Landscape (A)	6
032.300	Selected Topics	3	053.257	Geography of Canada (A)	3
032.321*	The Native Identity	6	053.343F	Géographie du Canada (CUSB)	3
032.323*	Native Peoples and the Law 2	3	053.348	Canadian Problems	3
032.324	Native Medicine and Health	3	053.348F	Particularités de la géographie du Canada (CUSB)	3
032.325*	Native Peoples and the Law 1	6	053.369*	Historical Geography of Indian Peoples in the Canadian Fur Trade	6
032.327	The Métis Nation	3	053.370	Canada: The Making of the Human Landscape (A)	6
032.328	Aboriginal Peoples and the Canadian Justice System	3	053.370F	Canada: évolution de l'écoumène (CUSB)	6
032.330	Native Language Planning and Development	3	053.378*	Historical Geography of Canadian Indians (A)	6
032.331	Canadian Law and Aboriginal Peoples	3	053.470*	Historical Geography of the Ojibway Indians (H)	3
032.332	Aboriginal Organizations	3			
032.334	Circumpolar Cultures	3			
032.373*	Art of the North American Native Peoples	3			
032.420	First Nations Government	3			
032.421	Seminar in Contemporary and Historical Métis Issues	3			
032.422	Environment, Economy and Aboriginal People	3			
032.423	Traditional Knowledge and Native Studies Research	3			
032.424	Arctic Lifestyles	3			
032.425	Topics on Aboriginal Identities	3			
032.426	Sacred Lands and Sacred Spaces of Indigenous Peoples	3			
Political Studies					
019.156*	Introduction to Canadian Government	6			
019.156F*	Introduction au système gouvernemental Canadienne (CUSB)	6			

For course descriptions, see departmental listings.

NOTE: Courses annotated by appearing in the various departmental course listings, may be used toward partial fulfilment of the requirements for Canadian Studies.

8.4.3 Canadian Studies Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

★ **151.113W Introduction to Canadian Studies** (6) This course will introduce students to an interdisciplinary study of Canadian themes and issues from early exploration to the present. The emergence of Canada as a nation will be studied within the context of four themes: the aboriginal past; the land; political and economic structures; art and culture. As a first-year course in Canadian Studies students will be en-

couraged to develop their writing, research and library skills. Students may not hold credit for both 151.113 and the former 099.113.

★ **151.373 Canadian Identity in the 20th Century: An Interdisciplinary Approach** (3) A interdisciplinary lecture/seminar (art, economics, history, literature) course which will explore Canadian Identity in the 20th Century. Themes to be studied include the Aboriginal past, French/British colonization, Land/regions and Ethnic diver-

sity. Prerequisite: a grade of “C” or better in 151.113 (the former 099.113) or six credit hours from the list of approved courses in Canadian Studies or written consent of instructor.

★ **151.441 Seminar in Canadian Studies** (6) A seminar course whose content may vary from year to year. Students may not hold credit for both 151.441 and the former 099.441. Prerequisite: written consent of instructor.

8.5 Catholic Studies Program

Program Coordinator: David Creamer

Program Office: 118 St. Paul’s College

Telephone: 204 474 9165

Website: www.umanitoba.ca/faculties/arts/catholic_studies/

E-mail: creamers@ms.umanitoba.ca

8.5.1 Program Information

The story of the Roman Catholic Church and its members, and the story of their interactions with history, the arts and sciences, human thinking and belief – all these together, in the dynamism and richness of their interplay,

form the substance of the human culture which is Catholicism. That culture is the subject matter of Catholic Studies.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Minor Program

For entry to the Minor, the prerequisite is a grade of “C” or better in 160.119 and a grade of “C” or better in at least three credit hours from the List of Approved Courses in Catholic Studies.

8.5.2 Catholic Studies, Program Code: 160

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
MINOR TOTAL: 18 CREDIT HOURS			
160.119 and at least 3 credit hours from the List of Approved Courses in Catholic Studies	<ul style="list-style-type: none"> 020.387 9 credit hours from the List of Approved Courses in Catholic Studies 		

List of Approved Courses in Catholic Studies

Faculty of Arts

Catholic Studies

160.119W	Introduction to Catholic Studies	3
History		
011.218W	The History of Catholicism to 1540 (S)	3
011.299W	The History of Catholicism since 1540 (G,M,S)	3
011.482	The Crusades (D)	6
Philosophy		
015.232	Thomas Aquinas and Medieval Philosophy	6
015.278	Thomas Aquinas	3

Religion

020.284	The Second Vatican Council (A)	3
020.285	Contemporary Issues in Roman Catholicism (A)	3
020.387	The Thought of Bernard Lonergan (A)	3

8.5.3 Catholic Studies Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

160.119W Introduction to Catholic Studies (3) An initiation into diversity, richness, and significance of Roman Catholicism in its many different forms and expressions, seeking to highlight the resources and techniques available for pursuing an interdisciplinary study of Catholicism as a field of intellectual inquiry.

8.6 Central and East European Studies Program

Program Coordinator: Myroslav Shkandrij

Program Office: 327 Fletcher Argue

Telephone: 204 474 6605

Website: www.umanitoba.ca/faculties/arts/central_and_east_european/

E-mail: shkandr@cc.umanitoba.ca

8.6.1 Program Information

The disintegration of the former Soviet Union and its satellite countries has altered the social, political, and economic environment of central and eastern Europe. The transition from an environment dominated by Communist political and economic structures continues to reshape Europe. This program offers an array of courses from five departments. It explores past and present issues in the region.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of “C” or better in both six credit hours of Russian, German, Polish, or Ukrainian and six credit hours from either List A or List B below. For students who have taken ad-

ditional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of “C” or better in both six credit hours of Russian, German, Polish, or Ukrainian and six credit hours from either List A or List B below.

Honours Program (Double Honours Only)

For entry to the Honours program, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

This program is only available to students registered in the Honours program in Economics, History or Political Studies.

Courses used toward the Major, Minor or Honours may not also be used toward a Major, Minor or Honours in the department in which they are offered.

8.6.2 Central and East European Studies, Program Code: 099S

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
6 credit hours in language from courses numbered at the 100 or 200 level in Russian, German, Ukrainian or Polish, plus 6 credit hours from List A		18 credit hours from List B below, of which at least 6 credit hours must be taken from each of 2 different departments	
ADVANCED MAJOR TOTAL: 48 CREDIT HOURS			
6 credit hours in language from courses numbered at the 100 or 200 level in Russian, German, Ukrainian or Polish, plus 6 credit hours from List A		36 credit hours from List B below, of which at least 12 credit hours must be taken from each of two different departments	
MINOR TOTAL: 18 CREDIT HOURS			
6 credit hours in language from courses numbered at the 100 or 200 level in Russian, German, Ukrainian or Polish, plus 6 credit hours from List A		6 credit hours from List B below	
HONOURS DOUBLE¹			
6 credit hours in language from courses numbered at the 100 level ² in Russian, German, Ukrainian, Polish, plus 18 credit hours from List A	<ul style="list-style-type: none"> ● either 052.272 or 052.281³ ● 6 credit hours from the following, Economics: 018.227 or 018.232; History: 011.249, 011.255, 011.266, 011.268; Political Studies: 019.242; Slavic Studies: 052.228, 052.229, 052.267, 052.268 ● 12 credit hours in other Honours field ● 6 credit hours in options 	<ul style="list-style-type: none"> ● either 052.393 or both 052.395 and 052.396³ ● 6 credit hours from the following, Geography: 053.379 or 053.360; History: 011.303; Political Studies: 019.312; Slavic Studies: 052.367 ● minimum of 12 credit hours in other Honours field 	<ul style="list-style-type: none"> ● 12 credit hours from the following, Economics: 018.445; History: 011.430; Political Studies: 019.481 ● minimum of 12 hours of credit in other Honours field
NOTES:			
¹ The double Honours program is only available to students registered in the Honours program in Economics, History, or Political Studies.			
² Students should note that while the majority of students begin language instruction with courses numbered at the 100 level, in exceptional circumstances and with the approval of the committee, students may begin language instruction with courses numbered at the 200 level.			
³ Students who begin with 6 hours of courses numbered beyond the 100 level in Russian or Ukrainian may take either 6 or 12 credit hours in Russian or Ukrainian or 6 or 12 credit hours in another language approved by the committee.			

List A**Faculty of Arts**

Economics

018.120 Principles of Economics 6

History

011.120 An Introduction to the History of Western Civilization 6
or011.135 An Introduction to the History of Western Civilization to 1500 3
and

011.136 An Introduction to the History of Western Civilization from 1500 3

Political Studies

019.150 Introduction to Politics 6
or

019.204 Introduction to International Relations 6

Faculty of Environment

Geography

053.120 Introductory Geography 6
or053.128 Introduction to Physical Geography 3
and

053.129 Introduction to Human Geography 3

List B**Faculty of Arts**

Economics

018.227 European Economic History 6

018.251 The Economy of Ukraine 3

018.445 Comparative Economic Systems 6
German and Slavic Studies

052.228 Russian Culture 1 3

052.229 Russian Culture 2 3

052.267 Ukrainian Civilization 1 3

052.268 Ukrainian Civilization 2 3

052.275 Contemporary Russian Literature and Film 3

052.367 Contemporary Ukrainian Literature 3

History

011.249 History of Russia 6

011.255 History of Ukraine 6

011.266 A History of Socialism from the French Revolution to the Present 3

011.284 A History of Russia to 1917 3

011.303 Issues in Ukrainian History 3

011.318 Modern Russian: The Soviet Era and Beyond 6

011.430 Problems in Modern Russian and Soviet History 6

Political Studies

019.292 Government, Politics and Society in Ukraine 6

019.312 East European Political Systems 6

019.481 Seminar in Marxist-Leninist and Contemporary Marxist Political Theory 6

Faculty of Environment
 Geography
 053.360 Geography of Ukraine 3
 053.379 Geography of Russia 6

Students are advised to consult the respective departmental *Calendar* entries for specific information on prerequisites and restrictions.

8.7 Department of Classics

Acting Head: David Howorth
General Office: 367 University College
Telephone: 204 474 9502
Website: www.umanitoba.ca/faculties/arts/classics/
E-mail: classics@umanitoba.ca

8.7.1 Academic Staff

Professor Emeritus

Berry, E.G., B.A.(Hons.), M.A. (Queen's), Ph.D. (Chicago), F.R.S.C.

Associate Professors

Egan, R.B., B.A. (Assumption), M.A. (Western Ontario), Ph.D. (Southern California); **Stirling, L.M.,** B.A.(Hons.) (Alberta), M.A., M.A., Ph.D. (Michigan).

Assistant Professors

Howorth, D., B.A., M.A. (Oxford); **Lawall, M.,** B.A. (William and Mary), M.A., Ph.D. (Michigan).

8.7.2 Program Information

Classics programs focus on the languages, literature and material cultures of ancient Greece and Rome. The two cultures are considered for their formative role at the beginnings of western civilization and for their continuing influence on modern civilization. Although courses, and entire programs, are available to students without any Latin or Greek, those intending to pursue specialist studies in any field of classical studies are urged to begin study of the languages as early as possible. The department, through academic staff members with expertise in art history and archaeology, offers a variety of opportunities for travel courses and fieldwork overseas.

The Department of Classics offers Major and Minor programs in Classical Studies, Greek, and Latin.

8.7.3 Classical Studies

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in the first six credit hours in Classics or the first six credit hours from the list of approved courses offered by other departments as noted below. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in both 003.127 and 003.128, or written permission of the department head.

Minor

A Minor in Classical Studies consists of 003.127 and 003.128, plus 12 credit hours in Classical Studies. Within the 12 credit hours a student may include up to six credit hours in Latin or Greek and may substitute up to nine credit hours from the approved list of courses offered by other departments below.

8.7.4 Classical Studies, Program Code: 003C			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
003.127 and 003.128	24 credit hours in Classical Studies (Within the 24 credit hours, a student may include up to 12 credit hours in Latin or Greek courses and may substitute up to 15 credit hours from the approved list of courses offered by other departments as noted below.)		
ADVANCED MAJOR TOTAL: 48 CREDIT HOURS			
003.127 and 003.128	42 credit hours in Classical Studies (Within the 42 credit hours, a student may include up to 18 credit hours in Latin or Greek courses and may substitute up to 21 credit hours from the approved list of courses offered by other departments as noted below.)		
MINOR TOTAL: 18 CREDIT HOURS			
003.127 and 003.128	12 credit hours in Classical Studies (Within the 12 credit hours, a student may include up to 6 credit hours in Latin or Greek courses and may substitute up to 9 credit hours from the approved list of courses offered by other departments as noted below.)		

List A: Approved List of Courses Offered by Other Departments Acceptable for Credit in a Major/Minor in Classical Studies

History		
011.206	The Emergence of the Medieval World (D)	3
011.207	The Early and High Middle Ages, 800-1300 A.D. (D)	3
011.264*	History of the Byzantine Empire	6
011.327	Roman Law in Medieval Europe (D)	3
011.474	The Golden Age of Byzantium (D)	6
011.484	The Early Middle Ages	6
Philosophy		
015.265	Plato	3
015.266	Aristotle	3
Religion		
020.255	History of Early Christian Thought	3

020.364 Religion in the Hellenistic World 3
 * No longer offered.
 For course descriptions, consult the appropriate department section.

8.7.5 Greek

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in both 003.101 and 003.102, or written consent of the department head. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in both 003.101 and 003.102, or written consent of the department head.

8.7.6 Greek, Program Code: 003G			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
ADVANCED MAJOR TOTAL: 48 CREDIT HOURS			
003.101 and 003.102		003.131, 003.277 plus 36 credit hours in Greek	
MINOR TOTAL: 18 CREDIT HOURS			
003.101 and 003.102		003.131 plus 9 credit hours in Greek	

8.7.7 Latin

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in both 003.108 and 003.109, or written consent of the department head. For students who have taken additional courses toward the major, then a mini-

imum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in both 003.108 and 003.109, or written consent of the department head.

8.7.8 Latin, Program Code: 003L			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
ADVANCED MAJOR TOTAL: 48 CREDIT HOURS			
003.108 and 003.109		003.132, 003.276 plus 36 credit hours in Latin	
MINOR TOTAL: 18 CREDIT HOURS			
003.108 and 003.109		003.132 plus 9 credit hours in Latin	

8.7.9 Classics Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

Classical Studies

003.127 Introduction to Ancient Greek Culture (3) Ancient archaeological and literary evidence (in English translation) is the basis for a survey of the major social, political, religious, intellectual, artistic and literary institutions and achievements of the Greeks from the Bronze Age to the early Roman Imperial Period. The Greeks are studied in the context of the Ancient Mediterranean world but also with reference to their continuing contributions to world civilization. Students may not hold credit for both 003.127 and the former 003.124.

003.128 Introduction to Ancient Roman Culture (3) Ancient archaeological and literary evidence (in English translation) is the basis for a survey of the major social, political, religious, intellectual, artistic and literary institutions and achievements of the Romans, from the period of the monarchy to onset of the Middle Ages. The Romans are studied in the context of Ancient Mediterranean world but also with reference to their continuing contributions to world civilization. Students may not hold credit for both 003.128 and the former 003.124.

003.246 Field Studies in Greek Archaeology and History (6) Offered as part of the Summer Evening Session, the course consists of three weeks of on-campus study followed by three weeks of travel to major sites and museums. *Prerequisite:* none, but one or more of 003.127, 003.128, 003.260, 003.267 or the former 003.124 is recommended.

003.249 Field Studies in Roman Archaeology and History (6) Offered as part of the Summer Evening Session, the course consists of three weeks of on-campus study followed by three weeks of travel to major sites and museums. *Prerequisite:* none, but one or more of 003.127, 003.128, 003.261, 003.268 or the former 003.124 is recommended.

003.252 Greek and Roman Mythology (3) A survey of Greek and Roman myths of creation and the gods with attention to the nature and definition of myth; Greek and Roman legends; the connections of mythology with religious beliefs and cults, and with the literature and arts of Western civilization. Students may not hold credit for both 003.252 and the former 003.367.

003.260W Greek History (6) A study of Mycenaean civilization, the Greek city-state and the political, social, and economic life of the Greek people. The Athenian empire, the Alexandrian age, and the Hellenistic kingdoms will also be considered.

003.261W Roman History (6) A study of the beginning of Rome, the organization of the Republic and Empire; Roman social and economic development; Rome's decline and fall; the results of the dominance of Rome.

003.267 Greek Art and Archaeology (3) A survey, illustrated with slides, of the Minoan, Mycenaean, and classical Greek civilizations. The relevant archaeological sites and artistic works will be studied.

003.268 Roman Art and Archaeology (3) A survey, illustrated with slides, of the civilization and art of the Roman world. The Etruscan civilization and archaeological

sites of Hellenistic Greece as they influence the art of Republican and Imperial Rome will be studied.

003.271 Greek and Latin Elements in English (3) A systematic study of the contribution of the classical languages to modern English, including the vocabulary of the sciences. The course is intended as a practical means of enhancing English vocabulary while it also emphasizes that the linguistic contributions are a reflection of the broad historical and cultural influences of classical antiquity on the modern world.

003.361 Greek Literature in Translation (3) Study in English of selected works of such major figures in Greek literature as Homer, Aeschylus, Sophocles, Euripides, Aristophanes, Herodotus, Thucydides, and Plato: discussion of their influence on the arts and literature of the world. Students may not hold credit for both 003.361 and the former 003.269.

003.362 Latin Literature in Translation (3) Study in English of selected works of such major figures in Latin literature as Vergil, Ovid, Terence, Livy, Cicero, Horace and Seneca: discussion of their influence on the arts and literature of the world. Students may not hold credit for both 003.362 and the former 003.270.

003.365 Religion in Ancient Greece (3) The religious beliefs and practices of the Greeks from the prehistoric period through the beginnings of the Hellenistic period as related to their political, social, intellectual, and domestic institutions; based on the study of both literary and archaeological evidence.

003.366 Religion in Ancient Rome (3) The religious beliefs and practices of the Romans from earliest times until the reign of Constantine as related to their political, social, intellectual, and domestic institutions; based on the study of both literary and archaeological evidence from Italy and the rest of the Roman world.

003.368 Studies in a Classical Literary Genre 1 (3) The content of this course will vary, being devoted each time to a particular type of Greek and Roman literature such as epic, tragedy, comedy, satire, rhetoric, the novel, historical writings, scientific writing, etc. Lectures and discussions of the literature and its influence will be based on readings in English translation.

003.369 Studies in a Classical Literary Genre 2 (3) The content of this course will vary, being devoted each time to a particular type of Greek and Roman literature such as epic, tragedy, comedy, satire, rhetoric, the novel, historical writings, scientific writing, etc. Lectures and discussions of the literature and its influence will be based on readings in English translation.

003.370 Studies in a Classical Literary Genre 3 (3) The content of this course will vary, being devoted each time to a particular type of Greek and Roman literature such as epic, tragedy, comedy, satire, rhetoric, the novel, historical writings, scientific writing, etc. Lectures and discussions of the literature and its influence will be based on readings in English translation.

003.371 Aspects of Classical Culture 1 (3) The content of this course will vary, being devoted each time to the investigation of a special area of Classical civilization such as athletics, technology, the erotic, the occult, cuisine, law, medicine, architecture, education. Lectures and discussions will be based on the study of both archaeological and literary evidence.

003.372 Aspects of Classical Culture 2 (3) The content of this course will vary, being

devoted each time to the investigation of a special area of Classical civilization such as athletics, technology, the erotic, the occult, cuisine, law, medicine, architecture, education. Lectures and discussions will be based on the study of both archaeological and literary evidence.

003.373 Aspects of Classical Culture 3 (3) The content of this course will vary, being devoted each time to the investigation of a special area of Classical civilization such as athletics, technology, the erotic, the occult, cuisine, law, medicine, architecture, education. Lectures and discussions will be based on the study of both archaeological and literary evidence.

Greek

003.101 Introduction to the Reading of Ancient Greek 1 (3) Readings in Ancient Greek poetry and prose with related exercises in grammar and composition intended to prepare students to read Classical and Hellenistic Greek. Students may not hold credit for both 003.101 and any of the former 003.094, 003.095 or 003.104.

003.102 Introduction to the Reading of Ancient Greek 2 (3) Further readings in Ancient Greek poetry and prose with related exercises in grammar and composition intended to prepare students to read Classical and Hellenistic Greek. Students may not hold credit for both 003.102 and 003.103 or any of the former 003.094, 003.095 or 003.104. *Prerequisite:* a grade of "C" or better in 003.101.

003.103 New Testament Greek (6) The grammar and syntax of New Testament Greek. Normally taught only in the Approved Teaching Centres. May be used for credit towards the Major or Minor in Greek only with written consent of department head. Students may not hold credit for 003.103 and 003.101 or 003.102 or any of the former 003.094, 003.095 or 003.104

003.106 Introductory Modern Greek 1 (3) A practical introduction to the written and spoken language for those with little or no knowledge of Modern Greek. Personal instruction in script, vocabulary, aural comprehension, pronunciation and syntax is supplemented with the use of audio recording in the laboratory or via other media such as the internet. Not for credit towards the major or minor in Classical Studies.

003.107 Introductory Modern Greek 2 (3) The continuation of 003.106 with further personal instruction in vocabulary, aural comprehension, pronunciation and syntax supplemented with the use of audio recordings in the laboratory or via other media such as the internet. *Prerequisite:* a grade of "C" or better in 003.106 or written consent of department head. Not for credit towards the major or minor in Classical Studies.

003.131 Intermediate Readings in Ancient Greek (3) Further readings in Ancient Greek poetry and prose with related exercises in grammar and composition intended to advance the student's skill at reading Classical and Hellenistic Greek. *Prerequisite:* a grade of "C" or better in 003.103, or 003.101 and 003.102, or the former 003.094, 003.095 or 003.104.

003.133 The Acts of the Apostles (3) The complete Book of Acts is read in Greek with attention to related textual, linguistic and historical matters. Students may not hold credit for both 003.133 and the former 003.126. *Prerequisite:* a grade of "C" or better in 003.101 and 003.102, or 003.131, or any of the former 003.094 or 003.104, or written consent of department head.

003.206 Intermediate Modern Greek 1 (3) Continued study and practice in oral and written communication in Modern Greek. Course work includes conversation, prose composition and reading of selected texts from Greek literary works and popular media. *Prerequisite:* a grade of "C" or better in 003.107 or written consent of department head. Not for credit towards a major or minor in Classical Studies.

003.207 Intermediate Modern Greek 2 (3) Continued study and practice in oral and written communication in Modern Greek. Course work includes conversation, prose composition and reading of selected texts from Greek literary works and popular media. *Prerequisite:* a grade of "C" or better in 003.206 or written consent of department head. Not for credit towards a major or minor in Classical Studies.

003.273 Readings on Heroic and Mythological Themes (3) Selected readings from the works of Homer, Herodotus and Sophocles. *Prerequisite:* a grade of "C" or better in 003.131.

003.275 Readings on the Intellectual Life of Classical Athens (3) Selected readings from texts by Euripides, Thucydides and Plato. *Prerequisite:* a grade of "C" or better in 003.131.

003.277 Greek Prose Composition and Sight Translation (3) Assignments in writing Greek prose and practise in the techniques for effective reading of prose and poetry at sight. *Prerequisite:* a grade of "C" or better in 003.131.

003.279 History of the Greek Language (3) A survey of the language from its Indo-European pre-history to the modern era. The phonological, morphological and lexical aspects of the language are investigated in the light of Greek literary and inscriptional documents and some comparative evidence from cognate languages. *Prerequisite:* a grade of "C" or better in 003.131 or a working knowledge of Modern Greek and written consent of the department head.

003.281 Prose Writings of the Hellenistic and Greco-Roman Periods (3) Reading of selected literary and historical documents relating to Judaism and early Christianity. *Prerequisite:* a grade of "C" or better in 003.131 or 003.133.

003.375 Homer (3) At least three complete books of the *Iliad* or *Odyssey* are read with attention to compositional technique and metre. *Prerequisite:* a grade of "C" or better in 003.273 or 003.275.

003.377 Greek Poetry of the Archaic Period (3) Reading of selections from Hesiod, the Homeric Hymns and such lyric poets as Sappho, Alcaeus, Anacreon, Pindar and Bacchylides. *Prerequisite:* a grade of "C" or better in 003.273 or 003.275.

003.379 The Greek Tragedians (3) Readings of at least two tragedies from among those of Aeschylus, Sophocles or Euripides. *Prerequisite:* a grade of "C" or better in 003.273 or 003.275.

003.381 Aristophanes (3) Readings of at least two complete comedies. *Prerequisite:* a grade of "C" or better in 003.273 or 003.275.

003.383 The Greek Historians (3) Selected readings from the works of Herodotus and Thucydides and/or the historical works of Xenophon. *Prerequisite:* a grade of "C" or better in 003.273 or 003.275.

003.385 Plato (3) Readings of two of the shorter dialogues or of selections from several dialogues. *Prerequisite:* a grade of "C" or better in 003.273 or 003.275.

003.387 The Attic Orators (3) Readings from the works of such orators as Isocrates, Lysias and Demosthenes. *Prerequisite:* a grade of "C" or better in 003.273 or 003.275.

003.389 Advanced Studies in Prose Literature of the Classical Period (6) Reading in a particular genre such as philosophy, history, or rhetoric with substantial reading in secondary critical or interpretive literature. *Prerequisite:* written consent of department head.

003.391 Advanced Studies in Greek Poetry (6) Reading in a particular genre such as epic, tragedy, comedy, lyric or epigram with substantial reading in secondary critical and interpretive literature. *Prerequisite:* written consent of department head.

Latin

003.108 Introduction to the Reading of Latin 1 (3) Readings in Latin poetry and prose with related exercises in grammar and composition intended to prepare students to read Classical and Medieval Latin. Students may not hold credit for both 003.108 and any of the former 003.096 or 003.105.

003.109 Introduction to the Reading of Latin 2 (3) Further readings in Latin poetry and prose with related exercises in grammar and composition intended to prepare students to read Classical and Medieval Latin. Students may not hold credit for both 003.109 and any of the former 003.096 or 003.105. *Prerequisite:* a grade of "C" or better in 003.108.

003.132 Intermediate Readings in Latin (3) Further readings in Latin prose and poetry with related exercises in grammar and syntax as continued preparation for the reading of Classical and Medieval Latin. *Prerequisite:* a grade of "C" or better in 003.108 and 003.109, or any of the former 003.096 or 003.105.

003.272 Selected Readings in Republican and Augustan Poetry (3) Readings from among the comedies of Plautus and Terence, the shorter poems of Catullus, and the *Metamorphoses* of Ovid. *Prerequisite:* a grade of "C" or better in 003.132.

003.274 Selected Readings in Republican and Augustan Prose (3) Readings from among the works of Livy and Caesar and the letters and philosophical writings of Cicero. *Prerequisite:* a grade of "C" or better in 003.132.

003.276 Latin Prose Composition and Sight Translation (3) Assignments in writing Latin prose and practice in the techniques for effective reading of poetry and prose at sight. *Prerequisite:* a grade of "C" or better in 003.132.

003.278 History of the Latin Language (3) A survey of the language from its Indo-European pre-history to its position as the matrix of the Romance languages. Phonological, morphological and lexical aspects of the language are investigated in the light of Latin documents and some comparative evidence from cognate languages. *Prerequisite:* a grade of "C" or better in 003.132.

003.280 Readings in Medieval or Renaissance Latin (3) Selections of prose and poetry written after the beginning of the fourth century after Christ. *Prerequisite:* a grade of "C" or better in 003.132.

003.374 Roman Comedy (3) Reading of at least two plays from among the comedies of Plautus and Terence. *Prerequisite:* a grade of "C" or better in 003.272 or 003.274.

003.376 Orations of Cicero (3) Reading of at least two complete speeches from among the political and forensic works of Cicero. *Prerequisite:* a grade of "C" or better in 003.272 or 003.274.

003.378 Roman Satire (3) Reading of selected Satires of Horace and Juvenal and of excerpts from the *Apocolocyntosis* of Seneca and the *Satyricon* of Petronius. *Prerequisite:* a grade of "C" or better in 003.272 or 003.274.

003.380 Lyric and Elegiac Poetry of the Augustan Age (3) Selected *Odes* and *Epodes* of Horace and amatory elegies of Propertius, Ovid and Tibullus. *Prerequisite:* a grade of "C" or better in 003.272 or 003.274.

003.382 Vergil's Aeneid (3) Reading of at least three books of the *Aeneid*. *Prerequisite:* a grade of "C" or better in 003.272 or 003.274.

003.384 Vergil's Eclogues and Georgics (3) Reading of the *Eclogues* in their entirety and at least two books of the *Georgics*. *Prerequisite:* a grade of "C" or better in 003.272 or 003.274.

003.386 The Roman Historians (3) Reading of selected passages from the works of Livy, Caesar, Sallust and Tacitus. *Prerequisite:* a grade of "C" or better in 003.272 or 003.274.

003.388 Poetry of the Silver Age (3) Reading of one or two tragedies of Seneca with selections from the works of Martial, Statius or Lucan. *Prerequisite:* a grade of "C" or better in 003.272 or 003.274.

003.390 Advanced Studies in Republican or Augustan Poetry (6) Reading in a particular genre such as epic, lyric, comedy or elegy with substantial reading in secondary critical or interpretive literature. *Prerequisite:* written consent of department head.

003.392 Advanced Studies in Latin Prose Literature (6) Reading in a particular genre such as philosophy, history, or rhetoric with substantial reading in secondary critical or interpretive literature. *Prerequisite:* written consent of department head.

8.8 Cross-Disciplinary Programs

The Faculty of Arts offers the following Cross-Disciplinary programs. For course descriptions and prerequisites, refer to departmental sections in this Calendar.

Arts Cooperative Option	See Section 8.2
Asian Studies (150) [Formerly (099A)]	See Section 8.3
Canadian Studies (151) [Formerly (099C)]	See Section 8.4
Catholic Studies (160)	See Section 8.5
Central and East European Studies (099S)	See Section 8.6
Drama (Major) (099D)	See Section 8.9
Film Studies (152) [Formerly (099F)]	See Section 8.12

Global Political Economy (157)	See Section 8.16
History of Art (054A)	See Section 9.3
Labour and Workplace Studies (153) [Formerly (099B)]	See Section 8.20
Latin American Studies (Minor) (099L)	See Section 8.21
Medieval and Renaissance Studies (099M)	See Section 8.23
Theatre (Minor) (154) [Formerly (099T)]	See Section 8.31
Ukrainian Canadian Heritage Studies (155) [Formerly (099K)]	See Section 8.32
Urban Studies (Minor) (099U)	See Section 8.33
Women's Studies (156) (Formerly (099W))	See Section 8.34

8.9 Drama Program

Program Chair: Chris Johnson

General Office: 367 University College

Telephone: 474 204 9581

Website: www.umanitoba.ca/faculties/arts/english/theatre/

E-mail: theatre@umanitoba.ca

8.9.1 Program Information

This program is comprised of theatre courses and courses in English and film studies. The Majors in Drama are valuable for further studies at the academic, practical, or professional training level.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the General Major, the prerequisite is a grade of "C" or better in 154.122 (the former 099.122). For entry to the Advanced Major, the pre-

requisite is a grade of "C" or better in 154.122 (the former 099.122) and a grade of "C" or better in 004.120 or 004.126 or both 004.131 and 004.134. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 is required in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

It is not possible to have a Major in Drama and Minor in Theatre.

Courses used towards the Major in Drama may not be used for a Minor in the other areas (English or Film Studies) and that no more than 6 credit hours numbered at the 100 level in addition to 154.122, may be credited towards a Drama Major.

8.9.2 Drama, Program Code: 099D

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
154.122	<ul style="list-style-type: none"> 154.216; 154.247 plus 6 credit hours from 154.215, 154.217, 154.218, 154.249 6 credit hours from 154.248, 154.260, 154.261, 154.346, 154.347, 154.361, 154.362, 154.363, 154.364 3 additional credit hours from Theatre courses listed below and/or from List A 		
ADVANCED MAJOR TOTAL: 54 CREDIT HOURS			
154.122; 004.120 or 004.126 or both 004.131 and 004.134	<ul style="list-style-type: none"> 154.216; 154.247 and 004.296 plus 6 credit hours from 154.215, 154.217, 154.218, 154.249 12 credit hours from 004.297, 154.248, 154.260, 154.261, 154.346, 154.347, 154.361, 154.362, 154.363, 154.364 12 additional credit hours from Theatre courses listed below and/or from List A 		

List of Specified Courses for Drama Major (General and Advanced)

Theatre		
154.122	Introduction to Theatre	6
154.215	Theatrical Techniques: Onstage	6
154.216	Theatrical Techniques: Backstage	6
154.217	Specialized Practical Training 1	3
154.218	Specialized Practical Training 2	3
154.247	Fundamentals of Dramatic Analysis	3
154.248	Theatre History	3
154.249	Specialized Practical Training 3	3
154.260	Special Studies 1	3
154.261	Special Studies 2	3
154.346	Theory of Drama and Performance	3
154.347	Text and Performance	3
154.361	Special Studies 3	3
154.362	Special Studies 4	3
154.363	Theatre Practicum 1	3
154.364	Theatre Practicum 2	6

List A

English		
004.120	Representative Literary Works	6
004.126	Twentieth-Century Literature in English	6
004.227*	Canadian Literature	6
004.235*	American Literature of the Twentieth Century	6
004.238*	Practical Criticism	6
004.244*	Twentieth-Century British Literature	6
004.250*	Poetry and Prose of the Sixteenth Century	3
004.251*	Elizabethan and Jacobean Drama	3
004.276	Introductory Creative Writing	3
004.296	Drama 1	3
004.297	Drama 2	3
004.310	Studies in Shakespeare	6
004.322*	Shakespeare 1 (Introductory Topics)	3
004.323*	Shakespeare 2 (Advanced Topics)	3
004.332*	Shakespeare	6
004.333*	Drama	6

004.350	Creative Writing [not available for credit with 004.276]	6	152.240	The American Film to 1950	3
004.353	Forms of Discourse	6	152.241	The American Film from 1950	3
004.359*	Fourteenth-Century Literature	3	152.242	Realism and Film	3
004.379	Advanced Creative Writing [not available for credit with 004.276]	6	152.243	The Canadian Film	3
			152.246	Film Genres	3
004.xxx	English Department Special Studies courses approved in advance by the chair of the Theatre Committee.		152.325	Selected Topics in Film 1	3
			152.326	Selected Topics in Film 2	3
			152.340	The Director's Cinema 1	3
			152.341	The Director's Cinema 2	3
			152.342	Film Theory	3
			152.343	Screenwriting	3
			152.344	Filmmaking	3
			152.345	The Animated Film	3
			099.121*	The Art of the Film	6
			099.224*	Studies in the Experimental Cinema	6
			099.226*	Studies in the International Cinema	6
			099.227*	The American Film	6
			099.231*	The Documentary and Canadian Film	6
			099.232*	Film Genres	6
			099.320*	Studies in the Director's Cinema	6
			099.328*	The Theory and History of Narrative Film	6

* Indicates courses no longer offered.

The content of English "Studies" courses varies from year to year; when the proportion of dramatic literature studied is acceptably high, that offering of the course may be used for credit toward a Drama Major; this is frequently the case with 004.311 Studies in Renaissance Literature, and 004.326 Studies in the Restoration and Eighteenth Century.

Film Studies

152.129	The Art of the Film 1	3			
152.130	The Art of the Film 2	3			
152.228	Film and Literature	6			
152.230	The Popular Film	3			
152.233	Film and Contemporary Thought	3			
152.237	Experimental Cinema	3			
152.238	The International Cinema 1	3			
152.239	The International Cinema 2	3			

8.10 Department of Economics

Head: Wayne Simpson

General Office: 501 Fletcher Argue Building

Telephone: 204 474 9207

Website: www.umanitoba.ca/faculties/arts/economics/

E-mail: economics@umanitoba.ca

8.10.1 Academic Staff

Professors Emeriti

Barber, C. L., B.A. (Saskatchewan), M.A. (Clark), Ph.D. (Minnesota);

Bellan, R.C., B.A. (Manitoba), M.A. (Toronto), Ph.D. (Columbia).

Senior Scholars

Gonick, C. W., Ph.D. (Berkeley); **Gray**, J.A., B.S.F. (UBC), M.Sc.(Econ.) (London), Ph.D. (Michigan); **Laureyssens**, J., M.A. (Brussels), Ph.D. (Ghent); **Rempel**, H., B.Comm. (Manitoba), M.A. (Ohio), Ph.D. (Wisconsin).

Professors

Cameron, N.E., B.A. (Queen's), M.A. (Western Ontario), Ph.D. (Michigan); **Chernomas**, R., B.A. (Bridgeport), M.A., Ph.D. (New School of Social Research); **Dean**, J.M., B.Comm. (St. Mary's), M.A. (Dalhousie), Ph.D.(VPI); **Hum**, D., B.Sc.(Hons.) (Mount Allison), M.A. (Oxford), Ph.D. (Toronto); **Lobdell**, R.A., B.A. (Kansas), M.A. (Wisconsin), Ph.D. (McGill); **Loxley**, J., B.A.(Hons.), Ph.D. (Leeds); **Phillips**, P.A., M.A. (Saskatchewan), Ph.D. (London); **Simpson**, W., Ph.D. (London); **Waterman**, A.M.C., M.A. (Cambridge), B.Th. (St. John's), Ph.D. (Australia National).

Associate Professors

Cameron, B.J., B.A. (Michigan), M.A. (Manitoba), Ph.D. (Michigan); **Chuchman**, G., B.A., M.A. (Manitoba), Ph.D. (Western Ontario); **Dennis**, K.G., B.Comm., M.A. (Manitoba), D.Phil.(Oxford); **Dhruvarajan**, P. S., B.Sc. (Mysore), M.A. (Chicago), Ph.D. (Northwestern); **Lipnowski**, I.F., M.A. (Manitoba), Ph.D. (London); **Mason**, G.C., Ph.D. (UBC); **Nicolaou**, C.A., B.A.(Hons.) (Athens), Ph.D. (Manitoba); **Sepehri**, A., B.A. (National University of Iran), M.A., Ph.D. (Alberta); **Vorst**, J. I., Ph.D.(Equiv.) (Netherlands School of Economics).

Assistant Professors

Baragar, F., B.A. (Winnipeg), M.A. (Manitoba), Ph.D. (Utah); **Brown**, L., B.A. (Alberta), M.A. (Carleton), Ph.D. (Queen's); **Guard**, J., B.A. (Western Ontario), M.E.S. (York), Ph.D. (Toronto); **Hudson**, I., M.A. (Carleton), Ph.D. (Manitoba); **Kornienko**, T., M.S. (Moscow), M.A., Ph.D. (Pittsburg); **Troutt**, E., B.S. (Cornell), M.A., Ph.D. (Wisconsin-Madison).

Adjunct Professor

Blonquist, A.G., Civilekonom (Stockholm), Ph.D. (Princeton).

8.10.2 Program Information

The economy is important to all Canadians, and economics is the field of study that helps us understand our world: wages and employment, eco-

nomie growth, productivity, wealth and poverty, government budgets and taxation, resource exploitation, business practices, inflation, recession, regional economic differences. In economics we study the history and current reality of these issues. We learn the principles and techniques necessary to gain a sound understanding of the choices and problems facing us during our lifetime.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the General or Advanced Major, the prerequisite is a grade of "C" or better in either 018.120 or both 018.121 and 018.122. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in either 018.120 or both 018.121 and 018.122.

Honours Program

For entry to the Honours program, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

It is recommended that students complete 018.280, 018.380, and 018.381 before attempting 018.443, 018.445, or 018.481.

Where it appears appropriate, a senior Honours student may be allowed to substitute a graduate course for an undergraduate course in Economics.

Honours students are advised to select their ancillary options from the following disciplines: Geography, History, Mathematics, Political Studies, Statistics, Sociology and Philosophy. However, other fields may be selected to satisfy study or career interests.

Preparation for Graduate Studies

Honours students contemplating graduate work should normally seek to obtain a good background in both mathematics and statistics. For mathematics, it is strongly recommended that they take 018.253 Introduction to Mathematical Economics and seriously consider 018.373 Topics in Mathematical Economics. For a good statistics background, 005.100 Basic Statistical Analysis 1, 005.200 Basic Statistical Analysis 2, 018.412 Intermediate Econometrics and 018.413 Seminar in Econometrics are highly desirable. Such students are also advised to include at least one course

in economic history in their program. These, or equivalents, are required of doctoral candidates at the University of Manitoba.

Other

No student may hold credit for more than six credit hours from the following: 018.245(3), 018.246(3), 018.270(3), 018.370(3). No student may hold credit for more than six credit hours from the following: 018.247(3), 018.248(3), 018.280(3), 018.380(3).

Combinations of courses for the Major, Minor and Honours programs, other than those listed below, may be permitted by written consent of the department head. Similarly, Honours courses may be taken by students in the General or Advanced Major programs with the written consent of the in-

structor and the department head; an average grade of "B" in all Economics courses is normally required before such consent may be given.

Students may offer the cross-listed courses 061.239 Introductory Environmental Economics (same as 018.239), 061.308 Introduction to Econometrics (same as 018.318), and 061.412 Intermediate Econometrics (same as 018.412) toward any of the above programs.

For information regarding the Canadian Studies program, see Section 8.3; for the Central and East European Studies program, see Section 8.4.

8.10.3 Economics, Department Code: 018			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR^{1,2} TOTAL: 30 CREDIT HOURS			
018.120 or both 018.121 and 018.122 ⁸	<ul style="list-style-type: none"> Two of: 018.245², 018.246², 018.247², 018.248² An additional 18 credit hours in Economics, of which at least 6 hours must be from courses numbered at the 300 level 		
ADVANCED MAJOR¹ TOTAL: 48 CREDIT HOURS			
018.120 or both 018.121 and 018.122 ⁸	<ul style="list-style-type: none"> 018.245^{3,4}, 018.246^{3,4}, 018.247^{3,4}, 018.248^{3,4}, 018.317⁴, 018.318⁴ 018.482⁴ or 018.483⁴ An additional 18 credit hours in Economics 		
MINOR TOTAL: 18 CREDIT HOURS			
018.120 or both 018.121 and 018.122 ⁸	An additional 12 credit hours in Economics		
HONOURS SINGLE⁵			
018.120 or both 018.121 and 018.122 ⁸	<ul style="list-style-type: none"> 54 credit hours in Economics courses, to include the following: <ul style="list-style-type: none"> 018.270, 018.280, 018.370, 018.380, 018.381, 018.441 One of the following combinations: 018.317 and 018.318; 018.412 and 018.413; 005.100 and 005.200⁷ A further 27 credit hours in Economics, of which: no more than 6 additional hours can be from courses numbered at the 200 level (other than 018.253); and at least 6 additional hours must be from courses numbered at the 400 level 6 credit hours from the following Mathematics courses: 136.130, 136.131, 136.150, 136.151, 136.152, 136.169, 136.170, 136.171 24 credit hours in ancillary options 		
HONOURS DOUBLE⁶			
018.120 or both 018.121 and 018.122 ⁸	<ul style="list-style-type: none"> 36 credit hours in Economics courses, to include the following: <ul style="list-style-type: none"> 018.270, 018.280, 018.370 One of the following combinations: 018.317 and 018.318; 018.412 and 018.413; 005.100 and 005.200⁷ A further 21 credit hours in Economics, of which: no more than 6 additional hours can be from courses numbered at the 200 level (other than 018.253); and at least 6 hours must be from courses numbered at the 400 level At least 36 credit hours in other Honours field At least 6 credit hours in ancillary options 		

NOTES:

¹ For the purposes of satisfying program requirements in the Major, Advanced Major and Minor programs, and of satisfying course prerequisites, Honours courses are acceptable as substitutes for general courses according to the following schedule: 018.270 for 018.245; 018.370 for 018.246; 018.280 for 018.247; 018.380 for 018.248. For each pair, students may hold credit for only one course.

² In cases where students have been granted three hours of unallocated transfer credit in Economics at the 100 level, and have achieved additional credits in Economics from The University of Manitoba, and wish to declare Economics as a General Major without having full credit in 018.120, then the Years 2-3 requirement for a Major in Economics will be 018.245 and 018.247, plus an additional 18 credit hours in Economics of which at least 6 hours must be at the 300 level.

³ Students in the Advanced Major are urged to take 018.245, 018.246, 018.247 and 018.248 in Year 2, but must take at least two of these courses in Year 2.

⁴ Course 018.482 or 018.483 may not be taken until the final year of the program and only after students have successfully completed 018.317 and 018.318, plus all of the following: 018.245, 018.246, 018.247, 018.248. A grade of "C" or better in each course is required.

⁵ To meet a minimum required background in mathematics, Single Honours students must complete 6 credit hours in Mathematics in Year 2 (or Year 3 with departmental approval). Students contemplating entering the Single Honours Program in Economics are advised to take the Mathematics requirement in their first year of studies. Students contemplating graduate work in Economics should refer to the notes above "Preparation for Graduate Studies".

⁶ Students contemplating Double Honours in Economics and Mathematics are advised to consult the Department of Economics for specific details.

⁷ Statistics 005.100 and 005.200 are acceptable in place of 018.317 and 018.318 or in place of 018.412 and 018.413 but will not count toward the 54 hours of Economics required for Single Honours or toward the 36 hours of Economics required by the Double Honours program. Students contemplating graduate work in Economics should refer to the notes above "Preparation for Graduate Studies".

⁸ A maximum of 6 credit hours at the 100 level may be used towards a Major, Minor or Honours Program.

8.10.4 Economics Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

The letter “F” following course numbers indicates courses given in French at Collège universitaire de Saint-Boniface.

General Courses

018.120 Principles of Economics (6) A study of the principles of economics and some of their applications. Students may not hold credit for both 018.120 and either 018.121 or 018.122.

018.120F Introduction aux sciences économiques (6) Étude des principes d'économie et quelques-unes de leurs applications. L'étudiant(e) ne peut se faire créditer à la fois le 018.120 et le 018.121 ou le 018.122. Donné au Collège universitaire de Saint-Boniface.

✳️ **018.121 Introduction to Canadian Economic Issues and Policies** (3) A survey of some major principles underlying, and influences acting upon the Canadian economy and its regions. Students may not hold credit for both 018.121 and 018.120.

✳️ **018.121F Introduction aux politiques et aux problèmes économiques canadiens** (3) Une étude de principes majeurs qui sous-tendent et de certains facteurs qui influencent l'économie canadienne et de ses régions. L'étudiant(e) ne peut se faire créditer à la fois le 018.121 et le 018.120. Donné au Collège universitaire de Saint-Boniface.

018.122 Introduction to Global and Environmental Economic Issues and Policies (3) A survey of some major principles and policies characterizing the world economy and the environment. Students may not hold credit for both 018.122 and 018.120.

018.122F Introduction aux politiques et aux problèmes économiques mondiaux (3) Une étude de principes majeurs qui marquent l'économie mondiale et l'environnement. L'étudiant(e) ne peut se faire créditer à la fois le 018.122 et le 018.120. Donné au Collège universitaire de Saint-Boniface.

018.227W European Economic History (6) A study of the economic aspects of the evolution of Europe from the Middle Ages to the present, with emphasis on the development of modern economic institutions. *Prerequisite:* none.

018.227F Histoire économique de l'Europe (6) Étude des aspects économiques de l'évolution de l'Europe, du Moyen-Âge à nos jours. L'accent sera mis sur le développement des institutions économiques modernes. Donné au Collège universitaire de Saint-Boniface. *Préalable:* aucun.

✳️ **018.228 Social Welfare and Human Resources** (6) Economic and social dimensions of poverty and inequality: income, wealth, housing, health, education, welfare. Problems and policies in Canada and abroad. *Prerequisite:* a grade of “C” or better in 018.120 or both 018.121 and 018.122.

✳️ **018.231 Canadian Economic Problems** (6) Application of economic theory to a broad range of problems such as agriculture, trade, foreign ownership, regional disparities, competition policy, education. *Prerequisite:* a grade of “C” or better in 018.120 or both 018.121 and 018.122.

✳️ **018.231F Les problèmes économiques du Canada** (6) Application de la théorie économique aux problèmes actuels du Canada: les disparités régionales, l'agriculture, l'échange, la pratique concurrentielle, la propriété étrangère et l'éducation, etc. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 018.120 ou dans tous les deux 018.121 et 018.122.

✳️ **018.235 Community Economic Development** (3) A study of the economic development problems of northern and native communities in Manitoba. *Prerequisite:* none.

✳️ **018.236 Women in the Canadian Economy** (6) This course explores the changing role of women in the production of goods and services in Canada, with comparisons with selected other countries. It evaluates these changes and assesses government policy in this area. *Prerequisite:* none.

018.239 Introduction to Environmental Economics (3) The economics of management of water, air and land resource quality, and the economics of conservation. The economic implications of environmental standards, licensing, criteria and pollution charges will be illustrated by current issues. Students may not hold credit for both 018.239 and 061.239. *Prerequisite:* a grade of “C” or better in 018.120 or both 018.121 and 018.122 or written consent of instructor.

018.240 Introduction to Energy Economics (3) A study of the economic relationships in energy production, consumption, demand and supply, pricing and conservation, energy policy and the development of new and renewable energy sources. *Prerequisite:* a grade of “C” or better in 018.120 or both 018.121 and 018.122.

018.241 The Manitoba Economy (3) Application of economic theory to the historical development and present structure of the provincial economy. *Prerequisite:* none.

018.242 Economics of the Labour Process and Labour Relations (6) Theoretical approaches to the labour process, the formation and reproduction of the labour force, the structure of the labour market, labour institutions and the economy. Applications to Canadian and alternative economic systems. Students may not hold credit for both 018.242 and 153.242. *Prerequisite:* a grade of “C” or better in 018.120, or both 018.121 and 018.122, or both 153.127 (the former 099.127) and 153.128 (the former 099.128).

018.245 Microeconomic Theory and Its Applications 1 (3) Theories of consumer demand, production, cost, factor demand and market structure, with attention to institutional and historical framework, and with policy applications. Students may not hold credit for both 018.245 and 018.270. *Prerequisite:* a grade of “C” or better in 018.120, or both 018.121 and 018.122, or written consent of department head.

018.245F Théorie microéconomique et ses applications 1 (3) Théorie de la demande

du consommateur, de la production et des coûts, de la demande des facteurs de production et de la structure des marchés dans une perspective historique et institutionnelle. L'étudiant(e) ne peut se faire créditer à la fois le cours 018.245 et le cours 018.270. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 018.120 ou tous les deux le 018.121 et le 018.122 ou l'autorisation écrite du département.

018.246 Microeconomic Theory and Its Applications 2 (3) Theories of factor markets and distribution, general equilibrium, welfare economics, social choice, and market failure, as well as other special topics, with attention to institutional and historical framework and with policy applications. Students may not hold credit for both 018.246 and 018.370. *Prerequisite:* a grade of “C” or better in 018.245 (or 018.270).

018.246F Théorie microéconomique et ses applications 2 (3) Théorie du marché des facteurs de production, de la distribution et de l'équilibre général, économie du bien-être et faillite des marchés, dans une perspective historique et institutionnelle. L'étudiant(e) ne peut se faire créditer à la fois le cours 018.246 et le cours 018.370. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 018.245 (ou le 018.270).

018.247 Macroeconomic Theory and Its Applications 1 (3) A study of the fluctuations in national income, output, employment, money and prices, and of stabilization policy, within the framework of standard macroeconomic models of a closed economy, with attention to institutional and historical framework. Students may not hold credit for both 018.247 and 018.280. *Prerequisite:* a grade of “C” or better in 018.120, or both 018.121 and 018.122, or written consent of department head.

018.247F Théorie macroéconomique et ses applications 1 (3) Étude des fluctuations dans le revenu national, la production, l'emploi, la monnaie et les prix ainsi qu'étude des politiques de stabilisation, dans une perspective historique et institutionnelle. L'analyse s'effectue à partir d'un modèle macroéconomique d'une économie fermée. L'étudiant(e) ne peut se faire créditer à la fois le cours 018.247 et le cours 018.280. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans 018.120 ou tous les deux le 018.121 et le 018.122 ou l'autorisation écrite du département.

018.248 Macroeconomic Theory and Its Applications 2 (3) Theories of national income, employment, inflation, balance of payments, stabilization policy and economic growth within the framework of macroeconomic models of an open economy and with attention to institutional and historical framework. Students may not hold credit for both 018.248 and 018.380. *Prerequisite:* a grade of “C” or better in 018.247 (or 018.280).

018.248F Théorie macroéconomique et ses applications 2 (3) Théorie du revenu national, de l'emploi, de l'inflation, de la balance des paiements. Politiques de stabilisation et croissance économique. L'analyse s'effectue à partir d'un modèle macroéconomique d'une économie ouverte dans une perspective historique et institutionnelle. L'étudiant(e) ne peut se faire créditer à la fois le cours 018.248 et le cours 018.380. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 018.248 (ou 018.280).

018.249 Economic Accounting (3) Examination of accounting concepts and relationships underlying stock and flow accounts at the household, firm, government and national levels; reconciliation of stock and flow accounts at these levels. *Prerequisite:* a grade of “C” or better in 018.120 or both 018.121 and 018.122.

018.250 Labour and Technology (3) Examination of the relationship between technological changes and levels of employment, organization/quality of work and division of labour. Same as Labour and Workplace Studies 153.245 Labour and Technology (3). Students may not hold credit for both 018.250 and 153.245 (the former 099.245). *Prerequisite:* a grade of “C” or better in 018.120, or both 018.121 and 018.122, or 153.127 (the former 099.127) and 153.128 (the former 099.128), or written consent of the department head.

018.251 The Economy of Ukraine (3) A study of the Ukrainian economy in Eastern Europe: socioeconomic history, state and structure of the Ukrainian economy within the former Soviet Union, prospects and problems of economic restructuring. *Prerequisite:* none.

018.252 Economics of Sports and Leisure (3) Economic analysis of current issues in professional and amateur sports, and leisure. *Prerequisite:* none.

018.253 Introduction to Mathematical Economics (3) Introduction to mathematical methods used in economic analysis, including comparative-static analysis and optimization. *Prerequisite:* a grade of “C” or better in 136.150.

018.254 Political Economy 1: Production and Distribution (3) A study of the theories, institutions, policies and relations of power in national and global economic society with reference to the production of market and non-market goods and services and the distribution of necessary and surplus output. Particular attention will be given to the role of the state in the regulation of markets and the distribution of surplus. *Prerequisite:* a grade of “C” or better in 018.120 or both 018.121 and 018.122.

018.255 Political Economy 2: Economic Growth and Fluctuations in a Global Economic Environment (3) A study of the theories, institutions, policies and relations of power in national and global economic society with reference to economic growth, international trade and finance, economic fluctuations, inflation and unemployment. Particular attention will be given to the role of the state in the regulations of macroeconomic activity. *Prerequisite:* a grade of “C” or better in 018.120 or both 018.121 and 018.122.

018.256 Corporations in the Global Economy (3) A study of the nature of the corporate form of business enterprise, its history, behaviour and performance, and the economic policy issues arising out of its prominence in today's global economy. Students may not hold credit for both 018.256 and 018.261 when titled Corporations in the Global Economy or 018.262 Special Topics in Economics when titled Introduction to the World's Economies. *Prerequisite:* a grade of “C” or better in 018.120 or both 018.121 and 018.122.

018.258 Economics of the European Union (3) A brief overview of the history of European unification from the Second World War to the Economic and Monetary Union. Performance and policies in the areas of labour markets, social welfare and cohesion, agriculture, environment, competition, public finance, monetary integration, and trade relations with non-Members. Students may not hold credit for 018.258 and either of 018.261 when titled European Union, or the former 018.358. *Prerequisite:* none.

018.261 Special Topics in Economics (3) This course will vary from year to year depending on the needs of students and the interests and availability of instructors. *Prerequisite:* a grade of "C" or better in 018.120 or both 018.121 and 018.122 or written consent of instructor.

018.262 Special Topics in Economics (6) This course will vary from year to year depending on the needs of students and the interests and availability of instructors. *Prerequisite:* a grade of "C" or better in 018.120 or both 018.121 and 018.122 or written consent of instructor.

018.263 An Introduction to the World's Economies (6) An examination of the world's economies from a broad-based economics perspective (including economic theories, institutional perspectives and historical evidence) to explain the development and limits of the world's changing and differing economies, and economic growth patterns in the light of the private business sector, labour relations and the role of the state. Students may not hold credit for both 018.263 and the former 018.243 or 018.262 Special Topics in Economics when titled Introduction to the World's Economies. *Prerequisite:* a grade of "C" or better in 018.120 or both 018.121 and 018.122.

018.317 Introduction to Quantitative Methods in Economics (3) Quantification of economic models; organization and presentation of economic data; probability; statistical estimation and testing of hypotheses with economic applications; simple regression. Students may not hold credit for both 018.317 and the former 018.344. *Prerequisite:* a grade of "C" or better in 018.120, or both 018.121 and 018.122, or written consent of instructor.

018.318 Introduction to Econometrics (3) The application of statistical tools, especially regression analysis for estimating economic relationship and testing economic hypotheses. Students may not hold credit for both 018.318 and the former 018.344. Also offered as 061.308 by Agricultural Economics. Students may not hold credit for both 018.318 and 061.308. *Prerequisite:* a grade of "C" or better in 018.317 or written consent of department head.

✦ **018.330 Canadian Economic History** (6) A study of Canada's economic growth with emphasis on the influence of Europe and the United States. *Prerequisite:* none.

✦ **018.330F Histoire économique du Canada** (6) Étude de la croissance économique du Canada en soulignant l'influence de l'Europe et des États-Unis. Donné au Collège universitaire de Saint-Boniface. *Préalable:* aucun.

018.336 Labour Economics (6) The labour force, labour markets, wage theories and wage determination, theories of employment, social insurance. *Prerequisite:* a grade of "C" or better in one of the following (combination of) courses: 018.245 (or 018.270) and one of 018.246 (or 018.370), 018.247 (or 018.280), 018.248 (or 018.380); 027.316 or 018.242 (or 153.242) is recommended.

018.337 Public Finance (6) The economic theory of public expenditure, taxation, intergovernmental fiscal relations, and allocative and redistributive effects of government policies. *Prerequisite:* a grade of "C" or better in 018.245 (or 018.270).

018.339 Development Economics (6) Processes and problems of development policies to accelerate change. Economic relations between developed and developing regions. *Prerequisite:* a grade of "C" or better in any two of: 018.245 (or 018.270), 018.246 (or 018.370), 018.247 (or 018.280), 018.248 (or 018.380).

018.342 Industrial Organization (6) Theory of the firm. The structure, conduct, and performance of industries with special reference to Canada. Public policy. *Prerequisite:* a grade of "C" or better in 018.245 (or 018.270).

✦ **018.351 Industrial Relations** (6) A study of comparative employer-employee relationships in Canada and other selected countries as affected by market forces, social traditions, and government action. Students may not hold credit for both 018.351 and 153.351. *Prerequisite:* a grade of "C" or better in one of the following: 018.120; 018.121 and 018.122; 153.127 (the former 099.127) and 153.128 (the former 099.128).

018.361 Special Studies (3) This reading course will vary from year to year depending on the needs of students and the interests of instructors. *Prerequisite:* written consent of instructor.

018.362 Special Studies (6) This reading course will vary from year to year depending on the needs of students and the interests of instructors. *Prerequisite:* written consent of instructor.

018.364 Economics of the Financial System (3) Flows of funds through the financial system; savings and investment and asset choices of households and firms; intermediation by financial institutions; arbitrage between and within countries, government financial policy, with special reference to Canada. Students may not hold credit for both 018.364 and 009.346. *Prerequisite:* a grade of "C" or better in one of: 018.245, 018.246, 018.270, 018.370.

018.364F L'économie et le système financier (3) Les flux des fonds prêtables et le système financier. L'épargne et l'investissement: l'offre et la demande d'actifs financiers des ménages et des entreprises. Théorie bancaire et intermédiaires financiers. L'arbitrage parmi les marchés financiers et les pays; politiques gouvernementales avec attention particulière au contexte canadien. L'étudiant(e) ne peut se faire créditer à la fois le 018.364 et le 009.346. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un des cours suivants: 018.245, 018.246, 018.270, 018.370.

018.365 Monetary Macroeconomics and Policy (3) Demand for and supply of mon-

ey; term structure of interest rates; tools of central banking; design and conduct of monetary policy. *Prerequisite:* a grade of "C" or better in one of 018.247, 018.248, 018.280, 018.380.

018.365F Théorie et politique monétaires (3) La demande et l'offre de monnaie. La structure des taux d'intérêts. Les outils de la politique monétaire. La gestion monétaire par la banque centrale et le gouvernement. Donné au Collège universitaire de Saint-Boniface. *Préalables:* une note minimale de C dans un des suivants: 018.247, 018.248, 018.280, 018.380.

018.366 Economic Ideas and Social Institutions (6) A study of the nature and development of economic ideas: how they influence and are influenced by changing material and intellectual conditions and how they interact with evolving institutions in society. *Prerequisite:* a grade of "C" or better in 018.120 or both 018.121 and 018.122.

018.366F La pensée économique et les institutions sociales (6) L'évolution de la pensée économique dans son interaction avec l'évolution des institutions sociales et les conditions matérielles et intellectuelles des diverses époques. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 018.120 ou tous les deux le 018.121 et le 018.122 ou l'autorisation écrite du professeur.

018.367 International Trade (3) A study of the theory of international trade and modern trade issues including the effect of economic integration on growth, distribution, national policy and the environment. *Prerequisite:* a grade of "C" or better in 018.245 (or 018.270); 018.246 is recommended.

018.368 International Finance (3) A study of the theory of international financial markets and issues in open economy macroeconomics focusing on the balance of payments, exchange rates and the effects of international financial integration on national economies. *Prerequisite:* a grade of "C" or better in one of 018.247 (or 018.280); 018.248 is recommended.

✦ **018.369 Economic Issues of Health Policy** (3) The structure, functioning and financing of the Canadian health care delivery system and the demand for health care in Canada. *Prerequisite:* a grade of "C" or better in 018.120 or both 018.121 and 018.122.

018.371 Sustainable Development: Issues and Policy (3) An examination of the theory and practice of economic sustainability, ecological sustainability, and social sustainability, with emphasis on analysing current issues and designing policies to achieve sustainable development. *Prerequisite:* a grade of "C" or better in 018.120 or both 018.121 and 018.122.

✦ **018.372 Urban and Regional Economics and Policies** (3) An introduction to the study of the determinants of the spatial distribution of economic activity among urban centres and regions. Particular attention will be paid to such contemporary Canadian problems as regional disparities, urban and environmental decay, and urban renewal, and the policy issues involved in dealing with these problems. *Prerequisite:* a grade of "C" or better in 018.120, or both 018.121 and 018.122, or 153.127 (the former 099.127).

018.373 Topics in Mathematical Economics (3) Mathematical methods used in economic analysis. Topics will vary from year to year depending on the interests of instructors and students. *Prerequisite:* a grade of "C" or better in 018.253 or written consent of instructor.

018.482 Workshop on Canadian Economic Policy (6) In depth examination of policy issues on selected topics such as unemployment, inflation, international trade, transfer payments, health care, the environment. A major research paper will be expected of all students. Students may not hold credit for more than one of 018.482, 018.483, or the former 018.360. *Prerequisite:* formal declaration of an Advanced Major in Economics or Honours Economics program; a grade of "C" or better in each of 018.317 and 018.318 (or the former 018.344) and a grade of "C" or better in all of the following courses: 018.245 (or 018.270); 018.246 (or 018.370); 018.247 (or 018.280); 018.248 (or 018.380).

018.483 Economics Field Placement (6) An educationally directed field experience in an economics-related area. Options include government, non-governmental agency, private industry, community-based projects. Students will work under supervision on a non-paid basis for the equivalent of one day per week and will write an essay based on this experience, relating theory and practice. Students may not hold credit for more than one of 018.483 or 018.482, or the former 018.360. *Prerequisite:* formal declaration of an Advanced Major in Economics or Honours Economics program; a grade of "C" or better in each of 018.317 and 018.318 (or the former 018.344) and in all of the following courses 018.245 (or 018.270); 018.246 (or 018.370); 018.247 (or 018.280); 018.248 (or 018.380).

Honours Courses

018.270 Microeconomic Analysis 1 (3) An introduction to the principles and techniques of microeconomic analysis including consumer theory, income and substitution effects, production, cost, and general equilibrium. Students may not hold credit for both 018.270 and 018.245 or 018.246. *Prerequisite:* written consent of department head.

018.280 Macroeconomic Analysis 1 (3) An introduction to the study of fluctuations in national income, employment and prices, and of stabilization policy in open and closed economies. Students may not hold credit for both 018.280 and 018.247 or 018.248. *Prerequisite:* written consent of department head.

018.343 Population Theory and Demographic Methods (6) Concepts and theories of population and the nature and use of demographic measures, particularly as these relate to the performance of the economy. *Prerequisite:* written consent of department head.

018.370 Microeconomic Analysis 2 (3) An intensive study of the principles and techniques of microeconomic analysis including consumer theory, theory of the firm, market structures, factor markets and externalities. Students may not hold credit for

both 018.370 and 018.245 or 018.246. *Prerequisite:* written consent of department head.

018.380 Macroeconomic Analysis 2 (3) An intensive study of the mainstream approaches to explaining output and inflation, including their mathematical structure and empirical implications. Students may not hold credit for both 018.380 and 018.247 or 018.248. *Prerequisite:* written consent of department head.

018.381 Alternative Approaches to Macroeconomic Analysis (3) A survey of Post-Keynesian, Cambridge, Marxian, and institutionalist approaches to macroeconomic fluctuations, contrasting their theoretical and policy frameworks with those of mainstream macroeconomics. *Prerequisite:* written consent of department head.

018.412 Intermediate Econometrics (3) A course in applied econometrics that explores the regression model and how it may be used to test economic theory. Special emphasis is placed on violations of the assumptions of least squares, specification error, and applying the model to production, forecasting and economic theory. This course assumes students have had a sound background in economic theory (i.e. micro and macro), as well as single-variable calculus, linear algebra and basic statistics. Students may not hold credit for both 018.412 and the former 018.444. Also offered as 061.412 by Agricultural Economics. Students may not hold credit for both 018.412 and 061.412. *Prerequisite:* written consent of department head.

018.413 Seminar in Econometrics (3) This course explores econometrics to estimate limited dependent variable models, dynamic economic relationships, time series, and feedback processes that use simultaneous equation systems. The emphasis is on applying econometrics to a range of problems in micro- and macroeconomics. Students may not hold credit for both 018.413 and the former 018.444. *Prerequisite:* a grade of "C" or better in 018.412 and written consent of department head.

018.441 History of Economic Thought (6) The history of economic theory; the evolution of its main concepts, the people who developed them, and the environment in which they worked. *Prerequisite:* written consent of department head.

018.443 Theories of Economic Development (6) A study of theories, problems, and policies of economic growth and development both for advanced and underdeveloped countries. *Prerequisite:* written consent of department head; 018.280 and 018.380 are/is recommended but not required.

018.445 Comparative Economic Systems (6) A comparative analysis of traditional, market, and command economies. *Prerequisite:* written consent of department head; 018.280 and 018.380 are/is recommended but not required.

018.447 Natural Resource Economics (6) The application of economic theory to the study of natural resource development and resource problems. Emphasis is on the implications for resource management and policy. *Prerequisite:* written consent of department head.

018.449 Special Studies (3) This readings course will vary from year to year depending on the needs of students and the interests of instructors. *Prerequisite:* written consent of instructor.

018.450 Special Studies (6) This readings course will vary from year to year depending on the needs of students and interests of instructors. *Prerequisite:* written consent of instructor.

018.451 Economy and State in the Modern Period: Western Europe and North America (6) The evolution of the capitalist economies of Western Europe and North America from the late 19th century with specific attention to the changing economic role of the state. *Prerequisite:* written consent of department head; 018.227 or 018.330 are recommended but not required.

018.470 Classical and Neoclassical General Equilibrium Theory (3) Development of simple linear general equilibrium models of production and exchange. The course will stress the assumptions responsible for the different forms and the differing results of the classical (Smith, Ricardo, Marx) and neoclassical models (Walras). *Prerequisite:* written consent of department head.

018.471 Topics in Microeconomics of Uncertainty and Optimization Over Time (3) An introduction to the study of microeconomic theories and models dealing with problems of uncertainty, incomplete and asymmetric information, strategic behaviour, interest, capital theory and optimization over time. *Prerequisite:* written consent of department head.

018.481 Stabilization Policy (3) Analysis of the actual and optimal behaviour of governments in designing rules for the conduct of monetary, fiscal, and other stabilization policies. *Prerequisite:* written consent of department head.

8.11 Department of English

Acting Head: David Arnason

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Telephone: 204 474 9678

Website: www.umanitoba.ca/faculties/arts/english/

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8.11.1 Academic Staff

Distinguished Professor Emeritus

Kroetsch, R.P., B.A. (Alberta), M.A. (Middlebury), Ph.D. (Iowa), F.R.S.C.

Professors Emeriti

Saunders, D.B., B.A., M.A. (Manitoba), M.Litt.(Oxford), L.L.D. (UBC); **Shields, C.**, B.A. (Hanover), M.A. (Ottawa), D.U. (Honorary)(Ottawa); **Teunissen, J. J.**, B.A.(Hons.), M.A. (Saskatchewan), Ph.D. (Roch.).

Senior Scholars

Amabile, G.N., A.B. (Amherst), M.A. (Minnesota), Ph.D. (Connecticut); **Hoople, R. P.**, B.A., M.A. (Syracuse), Ph.D. (Minnesota); **Weil, H.S.**, B.A. (Tulane), M.A., Ph.D. (Stanford); **Weil, J.R.**, B.A. (Middlebury), M.A., Ph.D. (Stanford).

Professors

Arnason, D.E., B.A., Cert.Ed., M.A. (Manitoba), Ph.D. (New Brunswick); **Cooley, D.O.**, B.Ed., B.A.(Hons.), M.A. (Saskatchewan), Ph.D. (Roch.); **de Toro, F.**, B.A., M.A. (Carleton), Ph.D. (Toronto), (Montreal); **Finnegan, R.E.**, B.A. (St. Peter's), M.A., Ph.D. (Notre Dame); **Johnson, C.G.**, B.A., M.A.(UBC), Ph.D. (Leeds); **O'Kell, R.P.**, B.A.(Hons.) (Carleton), A.M., Cert.Vict.Studies, Ph.D. (Indiana); **Snyder, W.S.**, B.A.O., M.A. (Idaho), Ph.D. (Florida); **Toles, G.E.**, B.A. (New York), M.A., Ph.D. (Virginia); **Walz, E.P.**, B.A. (St. John Fisher), M.A. (Indiana), Ph.D. (Massachusetts); **Williams, D.L.**, B.A.(Hons.) (Saskatchewan), M.A., Ph.D. (Massachusetts).

Associate Professors

Lenoski, D. S., B.A.(Hons.), M.A. (Manitoba), Ph.D. (Queen's); **Ogden, J.T.**, A.B. (Princeton), M.A.T. (Johns Hopkins), Ph.D. (Illinois); **Perkins, P.**, B.A. (Utah); M.A., Ph.D. (Dalhousie); **Rempel, W.J.**, B.A. (UBC), Ph.D. (Texas); **Young, A.D.**, B.A., M.A. (Manitoba), M.A., Ph.D. (Cornell).

Assistant Professors

Austin-Smith, B.L., B.A. (Acadia), M.A. (Victoria), Ph.D. (Manitoba); **Calder, A.C.**, B.A. (Saskatchewan), M.A., Ph.D. (Western Ontario); **Cariou, W.**, B.A.(Hons.) (Saskatchewan), M.A., Ph.D. (Toronto); **Clark, G.**, B.A. (UBC), M.A., Ph.D. (Chicago); **Groome, M.**, B.A., M.A., Ph.D. (McGill); **Kerr, W.R.**, B.A. (Saskatchewan), M.A. (Toronto), Ph.D. (Alberta); **Libin,**

M.I., B.A. (Calgary), M.A. (Toronto), Ph.D. (Manitoba); **Medoro, B.A.**(Toronto), M.A. (Queen's), B.Ed. (Western Ontario), Ph.D. (Queen's); **Muller, A.**, B.A. (Calgary), M.A. (Alberta), Ph.D. (McGill); **Owens, J.**, B.A., M.A., Ph.D. (Manitoba); **Warne, V.K.**, B.A., M.A., Ph.D. (Queen's).

Instructor II

Ogden, K.E.C., A.B. (Bryn Mawr), M.A.T. (John Hopkins).

8.11.2 Program Information

English literature connects us in vital ways to times, places, and cultures, including our own; engages us in important moral and social questions; encourages us to reflect upon the capacities of the human mind and imagination; invites us to probe connections between language, form, structure, and meaning; and entertains, surprises, shocks, and moves us. Our program promotes the study of English from this wide range of perspectives in its offerings of courses in contemporary and historical literature and in creative writing.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in 004.120 or 004.126 or a grade of "C" or better in both 004.131 and 004.134. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in 004.120 or 004.126 or a grade of "C" or better in both 004.131 and 004.134.

Honours Program

For entry to the Honours Program see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A. A grade of "B" or better is required in 004.120 or 004.126 or a grade of "B" or better in both 004.131 and 004.134; 004.120 is strongly recommended. Students may also be admitted to Honours in English in the third year of undergraduate study, in con-

sultation with the department. Honours students must have their programs approved by the department each year.

Honours courses are also open to students who have been accepted into a pre-M.A. program and to students who have obtained the written consent of the department head.

Honours students who revert to a general program in English must meet the Literature Prior to the Twentieth Century requirement for a Major or Minor, and they should consult the associate department head before continuing.

Students taking Single Honours should, if possible, take at least 12 credit hours in one of the following languages: French, German, Greek, Icelandic, Italian, Latin, Russian, Spanish.

Study Resources

All students taking English should own a writing handbook and a good dictionary such as *Webster's New Collegiate*, *Funk and Wagnall's Standard College*, *The Concise Oxford*, *The Gage Canadian*, or *The New World*. Students will also find useful *The MLA Handbook* and M.H. Abrams, *A Glossary of Literary Terms*.

8.11.3 English, Department Code: 004			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR^{1,2,3} TOTAL: 30 CREDIT HOURS			
004.120 or 004.126 or both 004.131 and 004.134	24 credit hours in general courses to include at least 9 credit hours of Literature Prior to the Twentieth Century.		
ADVANCED MAJOR^{1,2,3} TOTAL: 48 CREDIT HOURS			
004.120 or 004.126 or both 004.131 and 004.134	42 credit hours in general courses ⁴ to include at least 15 credit hours of Literature Prior to the Twentieth Century.		
MINOR^{1,3} TOTAL: 18 CREDIT HOURS			
004.120 or 004.126 or both 004.131 and 004.134	12 credit hours in general courses to include at least 6 credit hours of Literature Prior to the Twentieth Century.		
HONOURS SINGLE^{1,5}			
004.120 or 004.126 or both 004.131 and 004.134	<ul style="list-style-type: none"> ● 004.253, 004.254 (in Year 2) ● 24 credit hours of Literature Prior to the Twentieth Century, of which 12 credit hours is to be in literature prior to 1700 selected from the following English courses: 004.206, 004.210, 004.215, 004.305, 004.306, 004.310, 004.311, 004.315, 004.316⁶ ● 6 credit hours in Canadian literature, selected from the following English courses: 004.288, 004.289, 004.388⁶ ● 12 credit hours in other literature after 1900, selected from the following English courses: 004.285, 004.287, 004.283, 004.284, 004.391, 004.392⁶ ● 9 credit hours in Honours seminars (400 level)⁷ in Years 3 and 4. Honours seminars that are double-numbered with a graduate course will be limited to fourth-year Honours students. ● 9 credit hours in other English courses ● 24 credit hours in ancillary options 		
HONOURS DOUBLE^{1,3}			
004.120 or 004.126 or both 004.131 and 004.134	<ul style="list-style-type: none"> ● 004.253, 004.254 (in Year 2) ● 18 credit hours of Literature Prior to the Twentieth Century ● 6 credit hours in other English courses ● 6 credit hours in Honours seminars (400 level)⁷. Honours seminars that are double-numbered with a graduate course will be limited to fourth-year Honours students. ● 36 credit hours in second honours field ● 6 credit hours in ancillary options 		

NOTES:

¹ See "(B) Introductory Courses" below for restrictions on the number of courses numbered at the 100 level that may be taken for credit.

² Students may offer up to 6 credit hours in Film Studies courses, with the exception of 152.129 (or the former 099.129) and 152.130 (or the former 099.130), toward both the 3-year and the 4-year Major in English. Any Film Studies course so applied may not also be offered toward a Minor in Film Studies.

³ Film Studies course 152.228 may be used as an English course to satisfy the English course requirements. If it is used as such, it may not also be applied to a minor in Film Studies or as an ancillary option in Honours.

⁴ Credit in 004.200 may be offered toward the 48 hours in general courses required for a Major (Advanced).

⁵ Film and Theatre courses, other than Introductory (100 level), may be used for credit towards an Honours programme (Single).

⁶ Certain courses that vary in content from year to year, such as Honours seminars and Special Topics courses, may also satisfy this requirement, as determined by the Department.

⁷ Registration in any course numbered at the 400 level requires an average of 3.00 or better in previous English courses. For courses at the 400 level, students must attain a grade of "B" or better.

Types of Courses

A – Preliminary Courses

These courses are not designed to teach English as a second language.

For students who need help with basic writing skills, the Department of English offers two half courses: 004.093 English Composition and 004.094 Writing About Literature. These courses are limited in size. Both 004.093 and 004.094 are acceptable for credit towards a degree in Arts or Science, but they may not be counted for credit in the 48 hours for a Major (Advanced), the 30 hours for a Major (General), or the 18 hours for a Minor.

Either or both will, however, be included in the total number of hours a student is allowed to take in the combined Major and Minor. There is no prerequisite for entry into 004.093 or 004.094, and these courses are not required for admission to subsequent English courses.

B – Introductory Courses

A grade of "C" or better in 004.120 or 004.126 or a grade of "C" or better in both 004.131 and 004.134 is normally required for entry to a Major or Minor program in English and is the normal prerequisite for any English course beyond the introductory level. For admission to Honours courses or

the Honours program see Honours Program above. Up to 12 hours of courses at the 100 level may be taken for credit but students may offer only 6 hours of courses numbered at the 100 level for credit in the minimum number of hours required for a three-year Major or a Minor in English. If 9 or 12 hours are taken, however, they will be included in the total number of hours a student is allowed to take in the combined Major and Minor. In the four-year Major only, a student may offer 6, 9 or 12 hours of courses numbered at the 100 level courses for credit in the minimum number of hours required.

C – Literature Prior to the Twentieth Century

Students declaring a four-year Major in English must take at least 15 credit hours from the courses listed below. Students declaring a three-year Major in English must take at least 9 credit hours from the list. Students declaring a Minor in English must take at least 6 credit hours from the list. These courses are open to any student who has completed 004.120 or 004.126 or both 004.131 and 004.134, with a grade of “C” or better or who has written consent of the department head.

Courses chosen from this list will be deemed to satisfy the previous “Special List” requirement for students in progress towards a degree with previously declared Majors or Minors in English.

Course	Credit Hours
Classics (Classical Studies)	
003.269* Greek Literature in Translation	3
003.270* Latin Literature in Translation	3
003.361 Greek Literature in Translation	3
003.362 Latin Literature in Translation	3
English	
004.206 Medieval Literature	3
004.210 English Literature of the Sixteenth Century	3
004.215 English Literature of the Seventeenth Century	3
004.226 English Literature of the Restoration and Eighteenth Century	3
004.228 Literature of the Romantic Period	3
004.229 Literature of the Victorian Period	3
004.253 A History of Critical Theory	3
004.286 American Literature to 1900	3
004.305 Studies in Old English	6
004.306 Studies in Middle English	6
004.307 Studies in Chaucer	6
004.310 Studies in Shakespeare	6
004.311 Studies in Renaissance Literature	6
004.315 Studies in Seventeenth-Century Literature	6
004.316 Studies in Milton	6
004.326 Studies in the Restoration and Eighteenth-Century Literature	6
004.328 Studies in the Romantics	6
004.329 Studies in the Victorians	6
Icelandic	
012.332 Old Norse Mythology	3
012.333 Icelandic Sagas in Translation	3

* Indicates course no longer offered.

D – Other General Courses

These courses are open to any student who has completed 004.120 or 004.126 with a grade of “C” or better, or who has completed both 004.131 and 004.134 with a grade of “C” or better, or who has written consent of the department head. Students may take courses numbered at the 200 level or the 300 level in either second or third year.

8.11.4 English Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

The letter “F” following course numbers indicates courses given in French at Collège universitaire de Saint-Boniface.

General Courses

A – Preliminary Courses

004.093W English Composition (3) Designed to help students write better essays. Course focuses on effective expression; sentence, paragraph, and essay construction; and the writing process. A great deal of writing is required; instructors address the par-

ticular needs of individual students. Students may not enter English courses numbered above the 100 level directly from this course. This course is not designed to teach English as a second language.

004.094W Writing About Literature (3) Designed to supplement and to complement 004.093, the course may be taken by itself. The course focuses on writing about literature through the study of the short story and poetry. Students may not normally enter English courses numbered above the 100 level directly from this course. This course is not designed to teach English as a second language.

004.106F Anglais langue seconde I (3) Révision et approfondissement de la grammaire anglaise. Élargissement du vocabulaire propre à la langue soutenue et sensibilisation aux pièges posés par les gallicismes d’ordre lexical et syntaxique. Étude des principes fondamentaux de rédaction: style, organisation et argumentation. Étude pratique de l’anglais parlé dans diverses situations. Expressions idiomatiques. Amélioration de la prononciation. Apprentissage des principes de base et exercices pratiques d’art oratoire en anglais. On ne peut se faire créditer le 004.106 et l’ancien 004.104. *Préalable:* Réussite du test de classement. Ce test est assorti d’un seuil minimum et d’un seuil maximum afin d’exclure les étudiants et étudiantes don’t la connaissance de l’anglais est trop faible ou trop forte aux fins du cours. Donné au Collège universitaire de Saint-Boniface.

004.107F Anglais langue seconde II (3) Suite du 004.106. Révision et approfondissement de la grammaire anglaise. Élargissement du vocabulaire propre à la langue soutenue et sensibilisation aux pièges posés par les gallicismes d’ordre lexical et syntaxique. Étude des principes fondamentaux de rédaction: style, organisation et argumentation. Étude pratique de l’anglais parlé dans diverses situations. Expressions idiomatiques. Amélioration de la prononciation. Apprentissage des principes de base et exercices pratiques d’art oratoire en anglais. On ne peut se faire créditer le 004.107 et l’ancien 004.105. *Préalable:* une note minimale de C dans le 004.106 ou l’ancien 004.104 ou la recommandation du Service de perfectionnement linguistique. Donné au Collège universitaire de Saint-Boniface.

B – Introductory Courses

004.120W Representative Literary Works (6) An introduction to the study of literature, with emphasis on the development of reading and writing skills. Poetry, prose and drama from various historical periods. Texts for each section will be announced. Students may not hold credit for both 004.120 and the former 004.124. English 40S or the former English 300 are strongly recommended, but English 40G or the former 301 or 305 will also be accepted. Also given at Collège universitaire de Saint-Boniface

004.126W Twentieth-Century Literature in English (6) An introduction to the study of literature, with emphasis on the development of reading and writing skills. Poetry, prose and drama from Canada, Britain, the United States and other countries. Texts for each section will be announced. English 40S or the former English 300 are strongly recommended, but English 40G or the former 301 or 305 will also be accepted. Also given at Collège universitaire de Saint-Boniface

004.131W Literary Topics 1 (3) Topics relating to literature and culture will vary yearly. See the *Registration Guide* for a list of current topics and the Department of English Course List for a brief description of each section. English 40S or the former English 300 are strongly recommended, but English 40G or the former 301 or 305 will also be accepted.

004.134W Introduction to Literary Analysis (3) This course is intended to prepare students who have completed 4.131 or the former 4.132 for further study in English. It will provide them with the additional reading and writing skills and experience required for successful study in upper-level courses. *Prerequisite:* a grade of “C” or better in 004.131 or the former 004.132.

C – Literature Prior to the Twentieth Century

004.206 Medieval Literature (3) A selection of English poetry, prose and drama of the middle ages, including Chaucer. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.210 English Literature of the Sixteenth Century (3) A selection of poetry, prose works, and drama, from the 16th century, including at least one Shakespearean play. Also given at Collège universitaire de Saint-Boniface. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.215 English Literature of the Seventeenth Century (3) A selection of poetry and prose from the 17th century, including Milton. Also given at Collège universitaire de Saint-Boniface. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.226 English Literature of the Restoration and Eighteenth Century (3) A selection of poetry, prose, prose-fiction and drama from the Restoration period and 18th century. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.228 Literature of the Romantic Period (3) A selection of poetry, prose and prose-fiction from the Romantic period. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.229 Literature of the Victorian Period (3) A selection of poetry, prose and prose-fiction from the Victorian period. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.253 A History of Critical Theory (3) A history of literary criticism from Plato and Aristotle to the early 20th century. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.286 American Literature to 1900 (3) A selection of American literature up to 1900. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

NOTE: The content of the following 300-level Group C “Studies” courses will vary from year to year. See the Department of English Handbook for detailed course descriptions.

004.305 Studies in Old English (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.306 Studies in Middle English (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.307 Studies in Chaucer (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.310 Studies in Shakespeare (6) Also given at Collège universitaire de Saint-Boniface. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.311 Studies in Renaissance Literature (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.315 Studies in Seventeenth-Century Literature (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.316 Studies in Milton (6) Also given at Collège universitaire de Saint-Boniface. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.326 Studies in the Restoration and Eighteenth Century (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.328 Studies in the Romantics (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.329 Studies in the Victorians (6) Also given at Collège universitaire de Saint-Boniface. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

D – Other General Courses

004.200W Intermediate Writing and Research (6) Designed to teach students how to read, write, and research at the university level, this course stresses effective expository writing, prose reading, and research skills. There is no prerequisite for this course. Also given at Collège universitaire de Saint-Boniface. **NOTE:** Credit in 004.200 is acceptable toward a degree in Arts or Science, but does not satisfy the humanities requirement in the Faculty of Arts. It may not be offered for credit in the 30 hours for a Major (General) or the 18 hours for a Minor but may be offered for credit in the 48 hours for the Major (Advanced).

004.219 Special Topics (3) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.247 English Language (3) An introduction to modern English sounds and sentences and to the historical development of the English language. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.254 Contemporary Critical Theory (3) A survey of contemporary critical theory. The different techniques will be applied to a selection of creative texts. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.255 Critical Practise (3) An introduction to the critical idioms and methods for the analysis of literary texts. Students may not hold credit for both 004.255 and 004.280. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.260 Writing and Gender (3) The literary representation of gender, the influence of the author’s gender on writing, and other issues of gender in literature. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.276 Introductory Creative Writing (3) Offers students the chance to explore the basic forms of creative writing - poetry, fiction, and drama - whether or not they have made previous formal attempts to write in these forms. A sample of the student’s writing is not required for admission to this course. The format is seminar and workshop and will include, as needed, lectures on the fundamentals of creative writing. Students may not register concurrently for 004.276 or any of 004.350 or 004.379. Not open to students who have previously obtained credit for any of 004.350 or 004.379. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.283 Literature of Africa and/or the Caribbean (3) This course will explore the literatures of Africa and the Caribbean by writers from Nigeria, South Africa, Kenya, Zimbabwe, Grenada, Jamaica, and/or Trinidad. We will also examine the theories often associated with postcolonialism — theories of marginality, power, alterity, ethnicity, race, locality, space, the subaltern, mimicry, hybridity, nationalism, diaspora, class, migration, multiculturalism, minority discourse, resistance, and historical revisionism — in a comparative context. Accordingly, we will be reading both fictional and theoretical works. The central objective of this course is to offer an overview of some contemporary world literature written in English. Students will also be encouraged to examine the texts from a variety of complimentary literary perspectives including new historicism, feminism, and Marxism. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.284 Literature of Australia, New Zealand, and/or South Asia (3) This course will explore the literatures of Australia, New Zealand, the Pacific Islands, Singapore, India, Pakistan, and/or Bangladesh. We will also examine the theories often associated with postcolonialism — theories of marginality, power, alterity, ethnicity, race, locality, space, the subaltern, mimicry, hybridity, nationalism, diaspora, class, migration, multiculturalism, minority discourse, resistance, and historical revisionism — in a comparative context. Accordingly, we will be reading both fictional and theoretical works. The central objective of this course is to offer an overview of some contemporary world literature written in English. Students will also be encouraged to examine the texts from a variety of complimentary literary perspectives including new historicism, feminism, and Marxism. *Prerequisite:* a grade of “C” or better in 004.120

or 004.126 or both 004.131 and 004.134.

004.285 British Literature of the Twentieth Century (3) A selection of British literature since 1900. Also given at Collège universitaire de Saint-Boniface. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.287 American Literature of the Twentieth Century (3) A selection of American literature since 1900. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

★ **004.288 Canadian Literature to 1967** (3) A selection of Canadian literature in English during the first hundred years of Confederation. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

★ **004.289 Canadian Literature after 1967** (3) A selection of Canadian literature since 1967. Students may not hold credit for 004.289 and the former 004.227. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.290 Genre (3) Selections in literature of a particular genre. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.293 International Literature (3) Literature of Canada, the United States, and/or Britain in the contexts of world literature. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.294 Short Fiction 1 (3) Representative writers. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.295 Short Fiction 2 (3) Advanced study of selected topics. 004.294 is recommended as preparation for this course. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.296 Drama 1 (3) An introduction to dramatic forms and conventions. Also given at Collège universitaire de Saint-Boniface. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.297 Drama 2 (3) Advanced study of selected topics. 004.296 is recommended as preparation for this course. Also given at Collège universitaire de Saint-Boniface. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.298 Poetry 1 (3) Introduction to poetic language and forms. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.299 Poetry 2 (3) Advanced study of selected topics. 004.298 is recommended as preparation for this course. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

NOTE: The content of the following 300-level Group D courses will vary from year to year. See the Department of English Handbook for detailed course descriptions.

004.319 Studies in Special Topics (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.350 Creative Writing (6) Classroom hours will be arranged. Students may concentrate on poetry or on prose alone. Enrolment will be limited to allow for the particular interests of students. Written consent of the instructor, based on a sample of the student’s work, must be obtained before registration. Samples of writing (with name, address, and telephone number) are to be submitted to the department general office not later than July 31. Students may offer only one of 004.350 and 004.379 for credit for a Major.

NOTE: Students may offer only one of 004.350 and 004.379 for credit for a Major. If both courses are taken, however, they will be included in the total number of hours that a student has in the Major.

004.353 Forms of Discourse (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.360 Studies in Writing and Gender (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.366 Special Studies (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.367 Studies in the Novel (6) Also given at Collège universitaire de Saint-Boniface. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.379 Advanced Creative Writing (6) An intensive workshop among other students at a high level of talent. The instructor will work closely with each student through individual conferences. Students will normally have taken 004.350 (or 004.375) as a prerequisite to this course; however, standing in either does not automatically guarantee admission to 004.379. Written consent of the instructor, based on a sample of the student’s work, must be obtained before registration. Samples of writing (with name, address and telephone number) are to be submitted at the department general office no later than July 31. Students may offer only one of 004.379 and 004.350 for credit for a Major.

NOTE: Students may offer only one of 004.350 and 004.379 for credit for a Major. If both courses are taken, however, they will be included in the total number of hours that a student has in the Major.

004.380 Special Studies 1 (3) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.387 Studies in American Literature (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

★ **004.388 Studies in Canadian Literature** (6) Also given at Collège universitaire de Saint-Boniface. *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.390 Studies in Genre (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.391 Studies in Modern Literature (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.392 Studies in Post-Modernism (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

004.393 Studies in International Literature (6) *Prerequisite:* a grade of “C” or better in 004.120 or 004.126 or both 004.131 and 004.134.

Honours Courses

004.280 Principles and Methods of Literary Analysis (6) An introduction to the critical idioms and methods available for the analysis of literary texts. Selected texts will be used to teach the art of close reading and to illustrate a variety of critical approaches to literature. *Prerequisite:* written consent of department head.

004.463 Honours Seminar 1 (3) This course may vary from year to year depending on the needs and interests of instructors and students. *Prerequisite:* written consent of department head.

004.464 Honours Seminar 2 (3) This course may vary from year to year depending on the needs and interests of instructors and students. *Prerequisite:* written consent of department head.

004.465 Honours Seminar 3 (3) This course may vary from year to year depending on the needs and interests of instructors and students. *Prerequisite:* written consent of department head

004.466 Honours Seminar 4 (3) This course may vary from year to year depending on the needs and interests of instructors and students. *Prerequisite:* written consent of department head.

004.477 Honours Seminar 1 (6) This course may vary from year to year depending on the needs and interests of instructors and students. *Prerequisite:* written consent of department head.

004.478 Honours Seminar 2 (6) This course may vary from year to year depending on the needs and interests of instructors and students. *Prerequisite:* written consent of department head.

004.479 Honours Seminar 3 (6) This course may vary from year to year depending on the needs and interests of instructors and students. *Prerequisite:* written consent of department head.

004.480 Honours Seminar 4 (6) This course may vary from year to year depending on the needs and interests of instructors and students. *Prerequisite:* written consent of department head.

8.12 Film Studies Program

Chair: George Toles

Program Office: 367 University College

Telephone: 204 474 9581

Website: www.umanitoba.ca/faculties/arts/english/film/

E-mail: filmstudies@umanitoba.ca

8.12.1 Academic Staff

Professors

Toles, G.E., B.A. (New York), M.A., Ph.D. (Virginia); **Walz, E.P.,** B.A. (St. John Fisher), M.A. (Indiana), Ph.D. (Massachusetts).

Associate Professor

Snyder, W.S., B.A.O., M.A. (Idaho), Ph.D. (Florida).

Assistant Professor

Austin-Smith, B.L., B.A. (Acadia), M.A. (Victoria), Ph.D. (Manitoba).

8.12.2 Program Information

Film is the most important popular culture art form of the 20th century. Our knowledge and perception of the modern world is shaped by film or its related media — video and television. Film is a social, cultural, and historical document that in addition to being worthwhile for study as an artistic me-

dium, also shares issues with philosophy, sociology, political studies, and other disciplines. Instructors include people who have made and written about films, who are well prepared to discuss film history, film as cultural artifacts and the connections between film and other disciplines.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of “C” or better in both 152.129 and 152.130. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of “C” or better in both 152.129 and 152.130.

8.12.3 Film Studies, Program Code: 152 [Formerly (099F)]			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
152.129 and 152.130	24 credit hours in Film Studies courses, including 152.342		
ADVANCED MAJOR TOTAL: 60 CREDIT HOURS			
152.129 and 152.130	<ul style="list-style-type: none"> ● 42 credit hours in Film Studies including 152.342 and an additional 6 credit hours in courses numbered at the 300 level ● 12 credit hours from List A and B of which at least 6 credit hours must be from List A 		
MINOR TOTAL: 18 CREDIT HOURS			
152.129 and 152.130	12 credit hours in Film Studies courses		

List A

Faculty of Arts

Classics

003.269* Greek Literature in Translation 3

003.270* Latin Literature in Translation 3

003.361 Greek Literature in Translation 3

003.362 Latin Literature in Translation 3

003.368 Studies in a Classical Literary Genre 1 3

003.369 Studies in a Classical Literary Genre 2 3

003.370 Studies in a Classical Literary Genre 3 3

English

004.120 Representative Literary Works 6

004.126 Twentieth-Century Literature in English 6

004.227* Canadian Literature 6

004.285 British Literature of the Twentieth Century 3

004.286 American Literature to 1900 3

004.287 American Literature of the Twentieth Century 3

004.288 Canadian Literature to 1967 3

004.289 Canadian Literature after 1967 3

004.296 Drama 1 3

004.297 Drama 2 3

004.310 Studies in Shakespeare 6

004.350 Creative Writing 6

004.367 Studies in the Novel 6

004.379 Advanced Creative Writing 6

004.388 Studies in Canadian Literature 6

004.391 Studies in Modern Literature 6

French, Spanish and Italian

044.240* Le roman du 19e siècle (B) 3

044.241* Littérature du 18e siècle (B) 3

044.242* Le théâtre du 20e siècle (B) 3

044.243* Civilisation française (B) 3

044.350 Littérature du 17e siècle (B) 3

044.351* Roman du 20e siècle (B) 3

044.352*	Poésie des 19e et 20e siècles (B)	3
044.353*	Littérature canadienne-française (B)	3
044.358	Travail indépendant (A, B)	3
German and Slavic Studies (German)		
008.223	A Survey of German Culture	6
008.237	Modern German Literature in Translation	6
008.459	Nineteenth-Century German Prose	3
008.460	Twentieth-Century German Drama	3
German and Slavic Studies (Polish)		
052.232	An Outline of Polish Literature	6
German and Slavic Studies (Ukrainian)		
052.242	Ukrainian Canadian Literature	3
052.366*	Ukrainian Literature in the West	3
052.367	Contemporary Ukrainian Literature	3
Near Eastern and Judaic Studies		
055.221	Modern Hebrew Literature	6

List B

Faculty of Arts

Theatre

154.122	Introduction to Theatre	6
154.215	Theatrical Techniques: Onstage	6
154.247	Fundamentals of Dramatic Analysis	3
154.248	Theatre History	3
154.346	Theory of Drama and Performance	3
154.347	Text and Performance	3
099.206*	History of the Theatre	6
099.321*	Contemporary Theatre Forms	6

School of Art

054.103	Introduction to Art 1A	3
054.104	Introduction to Art 2A	3
054.105	Introduction to Art 1B	3
054.106	Introduction to Art 2B	3
054.124*	Introduction to Art A	6
054.130*	Introduction to Art B	6
054.368*	Modern Art 1	3
054.369*	Modern Art 2	3
054.370*	Modern Art 3	3

*Indicates course no longer offered.

8.12.4 Film Studies Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

152.129 The Art of the Film 1 (3) The study of film as an art form, entertainment and document. Students may not hold credit for both 152.129 and the former 099.129.

152.130 The Art of the Film 2 (3) Representative works of the world's cinema discussed in the context of the historical development of film narrative. Students may not hold credit for both 152.130 and the former 099.130. *Prerequisite:* a grade of "C" or better in 152.129 (the former 099.129) or written consent of instructor.

152.228 Film and Literature (6) The interrelationships between literature and film through an analysis of significant films, novels, poems and plays. Special attention to adaptations of Shakespeare, modern drama, the 19th century novel, the modern novel, and popular fiction. Students may not hold credit for both 152.228 and the former 099.228. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.230 The Popular Film (3) Current trends in film as a form of culture. Emphasis on recently released films as mirrors of existing social myths and values. Students may not hold credit for both 152.230 and the former 099.230. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.233 Film and Contemporary Thought (3) Recent films viewed in the light of current intellectual developments. Screenings are complemented by readings in contemporary political theory, philosophy, art, psychology, critical theory, etc. Students may not hold credit for both 152.233 and the former 099.233. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.237 Experimental Cinema (3) Formal innovations in avant-garde and underground films and videos, their significance and influence on the feature film industry. Students may not hold credit for both 152.237 and the former 099.237.

152.238 The International Cinema 1 (3) An examination of major works of international cinema, focusing upon the contributions of individual countries, or relevant global issues. Students may not hold credit for both 152.238 and the former 099.238. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.239 The International Cinema 2 (3) An examination of major works of international cinema, focusing upon the contributions of individual countries, or relevant global issues. Students may not hold credit for both 152.239 and the former 099.239. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.240 The American Film to 1950 (3) The aesthetic development of the American Film from the early days until the beginning of television. Students may not hold credit for both 152.240 and the former 099.240. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.241 The American Film from 1950 (3) An examination of the Hollywood film from the decline of the studio system. Students may not hold credit for both 152.241 and the former 099.241. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.242 Realism and Film (3) Theories and forms of the non-fiction film as an art form, an information carrier and a propaganda tool. Students may not hold credit for both 152.242 and the former 099.242.

★ **152.243 The Canadian Film** (3) The development of the film industry in Canada in its varied forms, with emphasis upon key films, regional differences and Manitoba contributions. Students may not hold credit for both 152.243 and the former 099.243.

152.246 Film Genres (3) An examination of a major cinematic genre (e.g. the gangster film, the western, the musical) with emphasis upon the permanence and evolution of generic conventions and the ability of filmmakers to register personal visions within these conventions. Students may not hold credit for both 152.246 and the former 099.246. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.325 Special Topics in Film 1 (3) An intensive examination of selected topics in film. Contents of the course will vary according to the needs and interests of students and faculty. Students may not hold credit for both 152.325 and the former 099.325. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.326 Special Topics in Film 2 (3) An intensive examination of selected topics in film. Contents of the course will vary according to the needs and interests of students and faculty. Students may not hold credit for both 152.326 and the former 099.326. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.340 The Director's Cinema 1 (3) An intensive critical look at the career of one or two major filmmakers. Students may not hold credit for both 152.340 and the former 099.340. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.341 The Director's Cinema 2 (3) An intensive critical look at the career of one or two major filmmakers. Students may not hold credit for both 152.341 and the former 099.341. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.342 Film Theory (3) A survey of Film Theory from its beginnings to the present: Eisenstein to André Bazin to Christian Metz and others (film theories, not reviewers). Students may not hold credit for both 152.342 and the former 099.342. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.343 Screenwriting (3) An introduction to the techniques and procedures of screenwriting. Students will be expected to complete a screenplay. Students may not hold credit for both 152.343 and the former 099.343 or Screenwriting as previously offered under the title of Special Topics. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.344 Filmmaking (3) Basic 16mm filmmaking equipment is used to understand the rudiments of cinematography, editing, and lighting. Students will make two films and edit some pre-shot footage. Students may not hold credit for both 152.344 and the former 099.344 or Filmmaking previously offered under the title of Special Topics. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.345 The Animated Film (3) The art of animation from early cel and puppet films to computer animation and current experimentation. Special attention is given to the "Golden Age of Animation" and to Canada's continuing contribution. Students may not hold credit for both 152.345 and the former 099.345. *Prerequisite:* a grade of "C" or better in both 152.129 (the former 099.129) and 152.130 (the former 099.130) or written consent of instructor.

152.365 Advanced Filmmaking (3) This course is for students who have taken 152.344 (the former 099.344) Basic Filmmaking and offers an opportunity to pursue longer, more technically ambitious work. Students are required to shoot one (1) 10 minute 16mm film; transfer that film to video; edit and soundtrack it. *Prerequisite:* a grade of "C+" or better in 152.344 (the former 099.344) and written consent of instructor.

8.13 Department of French, Spanish and Italian

Head: Alan MacDonell

General Office: 430 Fletcher Argue Building

Telephone: 204 474 9313

Website: www.umanitoba.ca/faculties/arts/french_spanish_and_italian/

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8.13.1 Academic Staff

Distinguished Professor

Fortier, P., B.A.(Hons.) (Toronto), D.E.S. (Strasbourg), M.A., Ph.D. (Wisconsin).

Professor Emeritus

Jensen, C.A. E., B.A.(Hons.) (Western Ontario), M.A. (Toronto), Ph.D. (Chicago), Officier Ordre Palmes Acad.

Senior Scholars

Annandale, E.T., B.A.(Hons.) (Manitoba), Ph.D. (London); **Balcaen, H.L.**, B.A., Cert. Ed., M.A. (Manitoba); **Gordon, A.L.**, M.A.(Hons.) (Aberdeen), Docteur de l'Université (Paris), Chevalier Ordre Palmes Acad.; **Gordon, D.K.**, B.A., M.A., Ph.D. (Toronto); **Joubert, A.**, L.ès-L., D.E.S. (Sorbonne), C.A.P.E.S.philos. (Chevalier Ordre Palmes Acad.); **Marantz, E.G.**, B.A.(Hons.) (Manitoba), Docteur de l'Université (Paris); **Martínez, A.**, Lic. Phil. (Angelicum, Rome), Lic.Fil.y Let., Dr.Fil.y Let. (Madrid); **Norell, D.**, B.Comm., B.A., M.A., Ph.D. (Manitoba); **Padgett, G.**, B.A.(Hons.), M.A. (Nottingham), Docteur de l'Université (Paris); **Strong, I.R.**, B.A.(Hons.), M.A., Ph.D. (Toronto).

Professor

Boutin, F., B.A. (Ottawa), B.ED.(Montreal), M.A. (NYS), Ph.D. (Ohio State).

Associate Professors

Allen, J., B.A. (SUNY Buffalo), M.A. (Syracuse), Ph.D.(Michigan); **Clark, P.F.**, B.A.(Hons.) (Toronto), M.A., Ph.D. (Western Ontario); **Renée, L.**, B.A., M.A., Ph.D. (Manitoba).

Assistant Professors

Cartmill, C., B.A. (Toronto), M.A., Ph.D. (Queen's); **Fernandez, E.**, Lic. (Oviedo), M.A. (Calgary), Ph.D. (Princeton); **La Charité, C.**, B.A. (Hons.)(McGill), M.A., D.E.A., Ph.D (Sorbonne); **Laporte, D.**, B.A., M.A., Ph.D. (Laval); **MacDonell, A.**, B.A. (Lakehead), M.A., Ph.D. (Manitoba).

Lecturer

Povoledo, C., (Maturita Classica), Diploma AILCIS (Perugia).

Instructors

Osborne, A., B.A., B.Ed., M.A. (Manitoba); **Reitano, C.**, B.A. (Hons.), M.A. (Carleton), B.Ed. (Western Ontario).

8.13.2 Program Information

Romance languages — French, Spanish and Italian, are descendants of Latin and are the most widely spoken of the Romance languages. The department offers language instruction and a rich variety of literature courses, with a particular emphasis on French Canadian literature. French language instruction also includes courses in translation.

8.13.3 French

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in 044.119 or 044.120; students with a grade of "B" or better in 044.125 who have taken and passed a special written test may also declare a Major as well as take any courses numbered at the 200 level. Only one of 044.119, 044.120, 044.125 may be used for credit in the 30 hour Major but all will be included in the degree. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in 044.119 or 044.120. Students with a grade of "B" or better in 044.125 who take and pass a special written test may also declare a Minor as well as take 200-level courses. Only one of 044.119, 044.120, 044.125 may be used for credit in the 18 hour Minor but all will be included in the degree.

Honours Program

For entry to the Honours program, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

French, Spanish and Italian, Department Code: 044		
8.13.4 French, Program Code: 044F		
UNIVERSITY 1	YEAR 2	YEAR 3
GENERAL MAJOR TOTAL: 30 CREDIT HOURS		
044.119 or 044.120	12 credit hours from courses numbered at the 200 level of which at least 3 credit hours must be language and 3 credit hours must be literature	12 credit hours from courses numbered at the 300 level of which at least 3 credit hours must be language and 3 credit hours must be literature
ADVANCED MAJOR TOTAL: 48 CREDIT HOURS		
044.119 or 044.120	<ul style="list-style-type: none"> ● 18 credit hours of French courses numbered at the 200 level, including at least 3 credit hours in language and 3 credit hours in literature ● 18 credit hours of French courses numbered at the 300 level, including at least 3 credit hours in language and 3 credit hours in literature ● 6 credit hours of French courses numbered at the 400 level, including at least 3 credit hours in language and 3 credit hours in literature 	
MINOR¹ TOTAL: 18 CREDIT HOURS		
044.119 or 044.120	3 credit hours in a language course numbered at the 200 level and 3 credit hours in a literature course numbered at the 200 level	3 credit hours in a language course numbered at the 300 level and 3 credit hours in a literature course numbered at the 300 level

HONOURS SINGLE¹

044.119 or 044.120	<ul style="list-style-type: none">● 044.266, 044.287, 044.291● 044.270 or 044.314● 044.274 or 044.316● 3 credit hours of French language or civilization courses numbered at the 200 or 300 level● 12 credit hours of ancillary options	<ul style="list-style-type: none">● 044.310, 044.350, 044.387, 044.391● One of 044.268, 044.272, 044.276, 044.312● 3 credit hours of French language or civilization courses numbered at the 200 or 300 level● 6 credit hours of ancillary options	<ul style="list-style-type: none">● 044.440, 044.460, 044.462, 044.464, 044.471, 044.473● 6 credit hours of ancillary options
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HONOURS DOUBLE¹

044.119 or 044.120	<ul style="list-style-type: none">● 044.266● 044.287 or 044.291● 3 credit hours of French language or civilization courses numbered at the 200 or 300 level● 3 credit hours of French literature courses numbered at the 200 or 300 level● 12 credit hours from second Honours field● 6 credit hours of ancillary options	<ul style="list-style-type: none">● 044.310 or 044.350● 044.387 or 044.391● 3 credit hours of French language or civilization courses numbered at the 200 or 300 level● 3 credit hours of French literature courses numbered at the 200 or 300 level● 12 credit hours from second Honours field	Option 1 <ul style="list-style-type: none">● 044.471● 044.473● 6 credit hours of French literature courses at the 400 level● 12 credit hours from second Honours field Option 2 ² <ul style="list-style-type: none">● 044.471 or 044.473● 9 credit hours of French literature courses at the 400 level● 12 credit hours from second Honours field
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NOTES:

¹ Students in Year 2 will normally take courses numbered at the 200 level and students in Year 3 will normally take courses numbered at the 300 level.

² Option 2 is recommended for students intending to proceed to graduate studies in French at this university.

The three areas of study are identified in the course listing with the following letters in brackets after the course title:

- A: French Language
B: French Literature
C: French Civilization

NOTE: Civilization courses 044.281 and 044.385 may be counted as either French language or literature credits, but not both.

The language of instruction in all French courses except 044.115 and 044.120 is French. In courses 044.115 and 044.120, at the discretion of the instructor, English may be used to clarify difficult points of grammar and critical analysis of literature.

With written permission of the department head, students registered on the Fort Garry campus may take courses in French language and literature at Collège universitaire de Saint-Boniface.

For information regarding Canadian Studies, see Section 8.3.

8.13.5 French Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

For courses offered at Collège universitaire de Saint-Boniface, see Section 8.13.12.

General Courses

044.115 Introductory French (6) A study of the fundamental structures of French, with oral and written practise. For students with no prior knowledge of French, or who have studied French up to and including Senior 3 level or its equivalent. Students with Senior 4 French may not normally take the course. Not open to students who have previously obtained credit in 044.119, 044.120 or 044.125. Not for credit in French Major or Minor. Students may not hold credit for both 044.115 and the former 044.092.

044.119 Français (6) Un cours comportant des éléments de langue, de linguistique et de littérature destiné aux étudiants issus des écoles françaises ou aux étudiants de la filière immersion. Students may not hold credit for both 044.119 and 044.120. *Prerequisite:* Senior Matriculation French or written consent of department head.

044.120 French 1 (6) Language study and practise in the classroom and language laboratory, and readings in French and French-Canadian culture. Students may not hold credit for both 044.120 and 044.119. *Prerequisite:* Senior Matriculation French or "C" or better in 044.115 (the former 044.092).

044.125 Français oral 1 (6) For students whose mother tongue is not French, and who wish to improve their understanding, fluency and correctness in spoken French. Regular attendance is obligatory. Direct access to 044.261; access to other 200-level courses of Major or Minor program upon successful completion of a special written

test. Not open to students from Français or Immersion high school programs. *Prerequisite:* French 40S, 40G, or the former French 300 or 301 or "B" or better in 044.115 (the former 044.092), or "C" or better in 044.120; or a brief interview and written consent of department head.

044.261 Français oral 2 (A) (3) Ce cours vise à l'amélioration de la compréhension du français parlé ainsi qu'au développement de la facilité et de la correction de l'expression orale. Une attention particulière sera vouée au développement du vocabulaire ainsi qu'à la maîtrise des structures grammaticales. Le cours n'a pas été conçu pour les étudiants qui sont déjà bilingues. *Prerequisite:* a grade of "B" or better in 044.125, or written consent of department head.

044.262 Grammaire et lexique (A) (3) Révision intensive de la grammaire et enrichissement du vocabulaire. *Prerequisite:* Exactly a "C" in 044.119 or exactly a "C" or "C+" in 044.120, or written consent of department head.

044.263 Special Studies (A) (3) The content of this course will vary from year to year depending on the needs and interests of instructors and students. *Prerequisite:* a grade of "C" or better in 044.119, "C+" or better in 044.120, or "C" or better in 044.262, or written consent of department head.

044.264 Special Studies (B) (3) The content of this course will vary from year to year depending on the needs and interests of instructors and students. *Prerequisite:* a grade of "C" or better in 044.119, or "C+" or better in 044.120, or "C" or better in 044.262, or written consent of department head.

044.266 Analyses textuelles (A) (3) A partir de textes courts en prose et en vers, l'étudiant(e) apprendra à reconnaître les moyens linguistiques et stylistiques dont dispose l'auteur pour créer l'expressivité de son texte. *Prerequisite:* a grade of "C" or better in 044.119, or "C+" or better in 044.120, or "C" or better in 044.262, or written consent of department head.

044.268 Littérature féminine française (B) (3) Une étude de textes écrits par des femmes et analysés selon la perspective des théories féministes contemporaines. *Prerequisite:* a grade of "C" or better in 044.119, or "C+" or better in 044.120, or "C" or better in 044.262, or written consent of department head.

★ **044.270 Poésie et théâtre canadiens-français** (B) (3) Introduction à la poésie et au théâtre canadiens-français. Parmi les poètes se trouveront Nelligan, Saint-Denis Garneau et Anne Hébert. Sur la liste des dramaturges figureront Michel Tremblay, Marcel Dubé et Gratien Gélinas. *Prerequisite:* a grade of "C" or better in 044.119, or "C+" or better in 044.120, or "C" or better in 044.262, or written consent of department head.

044.272 Roman français du vingtième siècle (B) (3) Ce cours est destiné à initier l'étudiant(e) au roman français du vingtième siècle. Les romanciers étudiés seront choisis parmi les plus connus, tels que Proust, Gide, Colette, Mauriac, Cocteau, Camus, Robbe-Grillet, Duras, Cardinal et Yourcenar. *Prerequisite:* a grade of "C" or better in 044.119, or "C+" or better in 044.120, or "C" or better in 044.262, or written consent of department head.

044.274 Théâtre et poésie du dix-neuvième siècle (B) (3) Initiation aux poètes et aux dramaturges représentatifs des mouvements romantique, symboliste et réaliste. Parmi les auteurs choisis figureront Hugo, Vigny, Musset, Baudelaire, Rimbaud, Scribe, Dumas fils, Rostand. *Prerequisite:* a grade of "C" or better in 044.119, or "C+" or better in 044.120, or "C" or better in 044.262, or written consent of department head.

044.276 Le théâtre français du vingtième siècle (B) (3) Une étude des tendances les plus diverses et les plus marquantes du théâtre français moderne. *Prerequisite:* a grade of "C" or better in 044.119, or "C+" or better in 044.120, or "C" or better in 044.262, or written consent of department head.

044.281 Civilisation française moderne (A, B, C) (3) Ce cours a pour objet l'étude de la civilisation française au plus tôt depuis le XVII^e siècle, au plus tard depuis la Révolution. Il portera sur les transformations connues par la France dans ses structures politiques, sociales et ses modes de vie. Il s'attachera simultanément au mouvement des idées et à la création artistique dans les domaines de l'architecture, de la sculpture, de la peinture et de la musique. *Prerequisite:* a grade of "C" or better in 044.119, or "C+" or better in 044.120, or "C" or better in 044.262, or written consent of department head.

044.285 Phonétique française (A) (3) Étude des principaux aspects de la phonétique française. L'alphabet phonétique international et la transcription phonétique. Exercices pratiques au laboratoire de langues. *Prerequisite:* a grade of "C" or better in 044.119, or "C+" or better in 044.120, or "C" or better in 044.262, or written consent of department head.

044.287 Stylistique comparée 1 (A) (3) Initiation à la stylistique comparée du français et de l'anglais. Ce cours comporte des exercices de traduction et d'analyse de traductions. *Prerequisite:* a grade of "C" or better in 044.119, or "C+" or better in 044.120, or "C" or better in 044.262, or written consent of department head.

044.291 Expression écrite 1 (A) (3) Une étude des techniques de composition libre. Le cours comportera notamment une révision de la phrase complexe et une analyse d'éléments de rhétorique particulièrement utiles pour la rédaction en français. *Prerequisite:* a grade of "C" or better in 044.119, or "C+" or better in 044.120, "C" or better in 044.262, or written consent of department head.

044.310 Littérature française du dix-huitième siècle (B) (3) Après une introduction portant sur le dix-huitième siècle en France, on étudiera quelques-uns des grands auteurs et dramaturges de ce siècle, tels Montesquieu, Voltaire, Prévost, Marivaux, Beaumarchais et Rousseau. *Prerequisite:* a grade of "B" or better in any 200-level French course or written consent of department head. 044.261 may not be used as a prerequisite.

044.312 Poésie française du vingtième siècle (B) (3) Ce cours offre une vue panoramique de l'évolution de la poésie française du vingtième siècle. Au programme seront des oeuvres d'Apollinaire, Breton, Ponge, Michaux, Jacotet, etc. *Prerequisite:* a grade of "B" or better in any 200-level French course or written consent of department head. 044.261 may not be used as a prerequisite.

✦ **044.314 Roman canadien-français** (B) (3) Ce cours est destiné à initier l'étudiant(e) au roman canadien-français. Parmi les auteurs étudiés se trouveront Hubert Aquin, Marie-Claire Blais, Roch Carrier. Un accent particulier sera mis sur l'interprétation historique. *Prerequisite:* a grade of "B" or better in any 200-level French course or written consent of department head. 044.261 may not be used as a prerequisite.

044.316 Roman et nouvelle français du dix-neuvième siècle (B) (3) Étude des principaux romanciers romantiques, réalistes et naturalistes: un choix de Chateaubriand, Constant, Balzac, Sand, Flaubert, Zola, Maupassant. *Prerequisite:* a grade of "B" or better in any 200-level French course or written consent of department head. 044.261 may not be used as a prerequisite.

044.335 Français oral 3 (A) (3) Ce cours vise au perfectionnement de la facilité d'expression, de la correction et de la compréhension du français oral. Le professeur se servira de certains aspects de la culture canadienne-française, et dans une moindre mesure de la culture française, pour stimuler la conversation. *Prerequisite:* a grade of "B" or better in 044.261 or written consent of department head.

044.350 Littérature du 17^e siècle (B) (3) Ce cours constitue une analyse d'ouvrages marquants tirés du domaine de la littérature française classique. *Prerequisite:* a grade of "B" or better in any 200-level French course or written consent of department head. 044.261 may not be used as a prerequisite.

044.358 Travail indépendant (A, B) (3) Ce demi-cours s'étendra sur toute la durée des deux trimestres. Chaque étudiant sera placé sous la direction d'un professeur qui l'assistera dans l'établissement d'un programme de lectures relatif à un domaine d'intérêt particulier pour l'étudiant en question. A la fin du cours l'étudiant présentera un mémoire à son directeur. Not available for credit towards a Major or Minor in French. *Prerequisite:* written consent of department head.

044.381 Français commercial (A) (3) Étude intensive du français commercial. On aura recours à divers documents commerciaux. Les différences entre le vocabulaire commercial de l'Europe et celui du Canada seront prises en considération. *Prerequisite:* a grade of "B" or better in any 200-level French course, or written consent of department head. 044.261 may not be used as a prerequisite.

044.383 Special Studies (A) (3) The content of this course will vary from year to year depending on the needs and interests of instructors and students. *Prerequisite:* a grade of "C" or better in any 200-level French course; 044.261 may not be used as a prerequisite.

044.384 Special Studies (B) (3) The content of this course will vary from year to year depending on the needs and interests of instructors and students. *Prerequisite:* a grade of "C" or better in any 200-level French course; 044.261 may not be used as a prerequisite.

✦ **044.385 Civilisation canadienne-française** (A, B, C) (3) Aspects du développement de la culture du Canada français. Éléments de la vie politique, sociale et artistique des Québécois et des francophones hors Québec surtout au 20^e siècle. *Prerequisite:* a grade of "B" or better in any 200-level French course or written consent of department head.

044.386 Études sur Beauvoir (B) (3) Le but de ce cours est d'étudier l'oeuvre et la pensée de Simone de Beauvoir dont l'importance dans les études féministes continue d'être très marquée. Un choix de textes sera effectué parmi ses essais philosophiques,

ses romans et son autobiographie. *Prerequisite:* a grade of "B" or better in any 200-level French course or written consent of department head. 044.261 may not be used as a prerequisite.

044.387 Stylistique comparée 2 (A) (3) Étude approfondie des principes et techniques de la traduction accompagnée d'exercices et d'analyses de traductions d'un niveau élevé. *Prerequisite:* a grade of "C" or better in 044.287 and a grade of "B" or better in any other 200-level French course, or written consent of department head. 044.261 may not be used as a prerequisite.

044.389 Français du travail et des loisirs (A) (3) Initiation au vocabulaire spécialisé (éducation, gouvernement, etc.) et à la correspondance commerciale. Ce cours a pour but d'initier l'étudiant(e) au langage du monde des affaires, du commerce, de l'industrie et de la fonction publique. *Prerequisite:* a grade of "B" or better in any 200-level French course or written consent of department head. 044.261 may not be used as a prerequisite.

044.391 Expression écrite 2 (A) (3) Ce cours est une étude des techniques de composition libre à un niveau avancé. Il comportera notamment des exercices avec la phrase complexe et l'étude et la pratique d'un certain nombre de genres de français écrit. *Prerequisite:* a grade of "C" or better in 044.291, and a grade of "B" or better in any other 200-level French course, or written consent of department head. 044.261 may not be used as a prerequisite.

Honours Courses

044.440 Littérature de la Renaissance (3) Poésie des grands rhétoriciens jusqu'à la Pléiade; prose de Rabelais, Marguerite de Navarre et Montaigne. *Prerequisite:* written consent of department head.

044.460 Langue et littérature médiévales (3) Une introduction à la littérature médiévale du IX^e jusqu'au XIV^e siècle. L'étudiant(e) gagnera une connaissance de l'ancien français et de la culture médiévale en lisant des textes littéraires et historiques. On apprendra aussi un peu de la philologie historique en étudiant les changements principaux entre le latin et le français moderne. *Prerequisite:* written consent of department head.

044.462 Pratiques et théories critiques (3) Ce cours est destiné à initier l'étudiant(e) à l'analyse critique de textes littéraires. Le choix des pratiques et des théories critiques dépendra de l'instructeur. *Prerequisite:* written consent of department head.

044.464 Séminaire: Littérature française du vingtième siècle (3) Le but de ce cours est d'offrir à l'étudiant(e) une introduction à certaines oeuvres littéraires complexes, mais essentielles, de ce siècle, dans les différents ordres de la poésie, du théâtre et du roman. Elles pourraient être prises à des auteurs comme Claudel, Valéry, Saint-John Perse, Antonin Artaud, Proust, Gide, Sartre, Yourcenar. *Prerequisite:* written consent of department head.

044.471 Séminaire de langue (3) L'objet de ce cours est d'affermir la maîtrise du français chez l'étudiant(e) par des études de grammaire approfondie, une approche méthodique des problèmes majeurs de rhétorique et de la stylistique, ainsi que par une pratique régulière de l'expression orale destinée à en assurer l'aisance et la correction. *Prerequisite:* written consent of department head.

044.473 Traduction (3) Une formation dans la traduction d'extraits tirés d'oeuvres de prosateurs anglais et français. Seront également traduits des textes de nature technique traitant de l'actualité politique, sociale, économique, juridique, etc. *Prerequisite:* written consent of department head.

8.13.6 Spanish

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in 044.118 (the former 044.090) or "C" or better in both 044.126 and 044.127. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

It is recommended that students who wish to Major in Spanish take the introductory course in the Summer Session prior to entering the fall program, or take 044.126 and 044.127 in the Summer Session prior to their entry into the second year. This will allow for a wider variety of course selections in the final two years.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in 044.118 (the former 044.090) or "C" or better in both 044.126 and 044.127.

Other

Students entering the university with prior knowledge of Spanish may be allowed 'prerequisite standing' in course 044.118 by the Spanish section of the department. Special permission is required to enter a higher numbered course.

All Spanish courses except 044.118 are taught in Spanish.

For information regarding the Minor program in Latin American Studies, see Section 8.20.

8.13.7 Spanish, Program Code: 044S			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR (OPTION 1) TOTAL: 30 CREDIT HOURS			
044.118	044.126, 044.127 ¹	<ul style="list-style-type: none"> ● 044.255 ● 9 credit hours from Spanish courses numbered at the 200 level² ● 6 credit hours from Spanish courses numbered at the 300 level 	
GENERAL MAJOR (OPTION 2) TOTAL: 30 CREDIT HOURS			
044.126 AND 044.127 ¹	<ul style="list-style-type: none"> ● 044.255 ● 9 credit hours from Spanish courses numbered at the 200 level² 	12 credit hours from Spanish courses numbered at the 300 level	
ADVANCED MAJOR (OPTION 1) TOTAL: 48 CREDIT HOURS			
044.118	044.126 and 044.127 ¹	<ul style="list-style-type: none"> ● 044.255 ● 9 credit hours from Spanish courses numbered at the 200 level² ● two of 044.324, 044.325, 044.365, 044.369 	<ul style="list-style-type: none"> ● 044.328, 044.329 ● 12 credit hours from 044.323, 044.326, 044.327, 044.367, 044.368, 044.371, 044.372
ADVANCED MAJOR (OPTION 2) TOTAL: 51 CREDIT HOURS			
044.126 and 044.127 ¹	<ul style="list-style-type: none"> ● 044.255 ● 9 credit hours from Spanish courses numbered at the 200 level² 	<ul style="list-style-type: none"> ● 044.328, 044.329 ● two of 044.324, 044.325, 044.365, 044.369 	044.323, 044.326, 044.327, 044.367, 044.368, 044.371, 044.372
MINOR (OPTION 1) TOTAL: 18 CREDIT HOURS			
044.118	044.126 and 044.127 ¹	6 credit hours from Spanish courses numbered at the 200 level ²	
MINOR (OPTION 2) TOTAL: 18 CREDIT HOURS			
044.126 and 044.127 ¹	6 credit hours from Spanish courses numbered at the 200 level ²	6 credit hours from Spanish courses numbered at the 300 level	

NOTES:

¹ Course 044.127 is not open to students with native oral fluency in Spanish. Such students may enter Spanish courses numbered at the 200 level and the Major/Minor programs with a grade of "C" or better in 044.126. Such Major/Minor students will take an extra Spanish course numbered at the 200 level instead of 044.127.

² Course 044.256 is not open to students with native oral fluency in Spanish.

8.13.8 Spanish Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

General Courses

044.118 Introductory Spanish (6) A course designed for those with little or no previous knowledge of Spanish. The course includes grammar, reading and oral practise, with language laboratory exercises. An oral approach is utilized. The student is given glimpses of cultural aspects of Spain and Spanish America. Students with Grade 12 Spanish may not normally take the course for credit. Not open to students who have previously obtained credit in 044.126. Students may not hold credit for both 044.118 and the former 044.090.

044.126 Intermediate Spanish Language Review (3) Intensive language review for students who have completed 044.118 (the former 044.090) or who have been granted prerequisite standing in 044.118. Language study and practise in the classroom and language laboratory. *Prerequisite:* a grade of "C" or better in 044.118 (the former 044.090), Senior 4 Spanish, or written consent of department head.

044.127 Spanish Oral 1 (3) For students who do not have native oral fluency in Spanish and who wish to improve their understanding and correctness in spoken Spanish. Intensive oral practise in the classroom and language laboratory at the intermediate level discussing contemporary issues and topics relating to Hispanic current events, politics and culture. Students may not hold credit for both 044.127 and 122.127. *Prerequisite:* a grade of "C" or better in 044.126 or written consent of department head.

044.220 Spanish American Culture and Civilization (3) A picture of the geographical, political, economic, social, artistic and cultural forces in Latin America. Essays, cultural readings, newspaper articles, magazines and films are utilized to enhance awareness and to stimulate discussion. *Prerequisite:* a grade of "C" or better in 044.126 or 044.127, or written consent of department head.

044.251 Survey of Spanish Civilization (3) A study of the history of Spanish culture with special stress on its non-literary arts, and selected aspects of Spanish life. *Prerequisite:* a grade of "C" or better in 044.126 or 044.127, or written consent of department head.

044.252 Introduction to Spanish Literature (3) This course will consist of an introduction to Spanish literary characteristics and the study of selected works from the Major historical periods and genres. *Prerequisite:* a grade of "C" or better in 044.126 or 044.127, or written consent of department head.

044.253 Spanish American Literature 1 (3) Spanish American Literature from Colonial Times to Modernism. The chronicles, lyric poetry, and age of rebellion, romanticism, modernism, are studied through selections from the works of Major figures. *Prerequisite:* a grade of "C" or better in 044.126 or 044.127, or written consent of department head.

044.254 Spanish American Literature 2 (3) Spanish American Literature from Realism to Post-vanguardism. Realism, the novel of the Mexican revolution, post-modernist to post-vanguardist poetry, the contemporary narrative, are studied through selections from the works of Major figures. *Prerequisite:* a grade of "C" or better in 044.126 or 044.127, or written consent of department head.

044.255 Advanced Spanish Composition (3) Designed to enhance the student's ability in writing Spanish. Emphasis on advanced grammatical concepts and clarity of expression. *Prerequisite:* a grade of "C" or better in 044.126 or written consent of department head.

044.256 Advanced Spanish Conversation (3) Designed to enhance the student's conversational skills. Intensive oral practise as well as written exercises based on contemporary issues. Not open to students with native oral fluency. *Prerequisite:* a grade of "C" or better in 044.126 and 044.127, or written consent of department head.

044.257 Special Studies (3) The content of this course is variable, depending on the needs and interests of students and instructors. A tutorial form is used. *Prerequisite:* a grade of "C" or better in any 100-level Spanish course or written consent of department head.

- 044.322 Contemporary Spanish Cinema** (3) A survey of Contemporary Spain through its cinema and other cultural manifestations. All the class readings, class lectures, movies and examinations are in Spanish. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.
- 044.323 Spanish American Fiction Since 1950** (3) Study of selected novels and short stories. Includes the psychological and suprarrealistic novels and short stories of magic realism. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.
- 044.324 Twentieth-Century Spanish Novel** (3) A study of selected novels by authors from the generation of '98 to present times, including Unamuno, Pio Baroja, Cela, Ana Maria Matute, Carmen Laforet, etc. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.
- 044.325 Realism in Spanish American Fiction** (3) Study of selected novels and short stories from the first half of the twentieth century. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.
- 044.326 Twentieth-Century Theatre and Poetry in Spanish America** (3) The philosophical theatre and the theatre of the absurd. Vanguardist to post-vanguardist poetry. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.
- 044.327 Special Studies** (3) The content of this course is variable, depending on the needs and interests of students and instructors. A tutorial format is used. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.
- 044.328 Spanish Phonetics and Syntax** (3) This course includes applied Spanish phonetics and a thorough study of advanced Spanish syntax and grammar. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.
- 044.329 The Art of Translation** (3) A course on the basic techniques of translation and a study of specialized vocabulary related to the professions. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.
- 044.365 Twentieth-Century Spanish Drama and Poetry** (3) A study of some of the major Spanish dramatists and poets of the twentieth century including Antonio Machado, Juan Ramon Jiménez, Benavente, García Lorca, and the generation of '27. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.
- 044.367 Poetry and Novel of the Golden Age** (3) This course will concentrate on ma-

ior poets and novelists of the sixteenth and seventeenth centuries such as Garcilaso de la Vega, Fray Luis de Leon, S. Juan de la Cruz, Lope de Vega, Gongora, and Cervantes. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.

044.368 Drama of the Golden Age (3) A study of representative works by the principal dramatists of the Spanish classical period, such as Lope de Vega, Tirso de Molina, Vélez de Guervara, and Calderon de la Barca. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.

044.369 Nineteenth-Century Theatre and Poetry in Spanish America (3) A consideration of "costumbrista", historical and psychological plays, and of the poetry of romanticism and modernism through the study of selected works. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.

044.371 Nineteenth-Century Spanish Poetry and Drama (3) A study of Spanish poetry and drama from the romantic period to Echegaray. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.

044.372 Nineteenth-Century Spanish Novel (3) A study of the evolution of the Spanish novel from the Romantic period to the age of Realism and Naturalism. *Prerequisite:* a grade of "C" or better in any 200-level Spanish course or written consent of department head.

8.13.9 Italian

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in 044.108 (the former 044.091).

Other

All Italian courses except 044.108 are taught in Italian.

Travel/study courses in Italian may be offered in the Summer Session; see department for information.

8.13.10 Italian (044)			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
MINOR TOTAL: 18 CREDIT HOURS			
044.108	044.208	044.333	

8.13.11 Italian Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

General Courses

044.108 Introductory Italian (6) An introduction to the Italian language for students with little or no knowledge of Italian. The course emphasizes the learning and practise of vocabulary, grammar and the development of both written and spoken Italian. A language laboratory will help students practise and improve their oral Italian. Not open to students who have previously obtained credit in 044.208 or the former 044.123. Students may not hold credit for both 044.108 and the former 044.091.

044.208 Intermediate Italian (6) This course consists of a thorough review of grammatical structures for students with previous knowledge of Italian. Readings of a number of twentieth-century Italian authors are used as a basis for discussion. Language study and practise is emphasized in the classroom and in the language laboratory. Students may not hold credit for both 044.208 and the former 044.123. *Prerequisite:* 044.108 or the former 044.091 or written consent of department head.

044.333 Advanced Italian (6) A selection of important works of 20th-century literature will be studied with special emphasis on neo-realism and its impact on contemporary Italian culture. Part of the course will be devoted to reviewing problems of grammar, vocabulary and syntax. Composition and conversation are an integral part of this course, which will be taught wholly in Italian. Selections from authors and articles dealing with present-day issues are used as a basis for discussion in Italian. Selections will include writings by Silone, Buzzati, Calvino, Pirandello, Pavese and Sciascia. Students may not hold credit for both 044.333 or the former 044.260. *Prerequisite:* a grade of "C" or better in 044.208 or the former 044.123 or written consent of department head.

8.13.12 Cours donnés au Collège universitaire de Saint-Boniface: Français

NOTE: With written permission of the head of the Department of French, Spanish and Italian at the University of Manitoba, students registered on the Fort Garry campus may take courses in French language and literature offered at Collège universitaire de Saint-Boniface.

144.100F Grammaire de l'écrit (6) Perfectionnement du français par l'entremise d'activités de compréhension et de production de textes divers menant à une étude ap-

profondie de la grammaire, à l'enrichissement du vocabulaire et à un aperçu de la stylistique interne. Développement d'habitudes de travail telles que l'utilisation des outils de rédaction et l'autocorrection. Mise en pratique des notions apprises dans le cours et activités orales dans le cadre du laboratoire obligatoire. On ne peut se faire créditer le 144.100 et l'ancien 144.093. Donné au Collège universitaire de Saint-Boniface.

144.102F L'art de parler (3) Correction et amélioration du français parlé (structures de phrases, aspects grammaticaux d'erreurs courantes). Distinction entre la langue parlée et la langue écrite. Prise de conscience des différents registres de la langue en fonction des différentes situations de communication. Apprentissage des techniques de l'expression orale: exposé, débat, discours. Donné au Collège universitaire de Saint-Boniface.

144.107F Lectures dirigées (3) Lecture et analyse de divers textes d'actualité, accompagnées d'exercices de compréhension et de rédaction. Donné au Collège universitaire de Saint-Boniface.

144.109F Rédaction universitaire (3) Initiation aux méthodes de travail universitaire: les techniques du résumé, du compte rendu et de la dissertation. Donné au Collège universitaire de Saint-Boniface.

144.111F Grammaire et laboratoire (3) Approfondissement des notions de la grammaire. Une attention particulière sera accordée à l'analyse de la phrase. Donné au Collège universitaire de Saint-Boniface.

144.252F Atelier de théâtre (3) Étude de diverses disciplines théâtrales: le jeu, la scénographie, la technique, la mise en scène, l'administration d'une production. Mise en pratique de ces éléments dans une production théâtrale. Donné au Collège universitaire de Saint-Boniface. *Préalable:* autorisation du écrite professeur.

144.253F Introduction au théâtre 1 (3) Étude de plusieurs oeuvres, des principaux aspects techniques et de diverses théories dramatiques - du théâtre grec au théâtre du XIXe siècle. Donné au Collège universitaire de Saint-Boniface. *Préalables:* une note minimale de C dans le 144.109 et un cours choisi parmi les suivants: 144.102, 144.107 ou 144.111.

144.254F Introduction au théâtre 2 (3) Étude de plusieurs oeuvres, des principaux aspects techniques et de diverses théories dramatiques. Donné au Collège universitaire de Saint-Boniface. *Préalables:* une note minimale de C dans le 144.109 et un cours choisi parmi les suivants: 144.102, 144.107 ou 144.111.

144.263F Poésie et chanson dans la littérature française (3) Étude des étapes de la poésie française ainsi que des liens qu'elle a eues avec la chanson à travers les âges. Une attention particulière sera accordée aux époques où les deux formes sont étroitement liées ou inséparables. Donné au Collège universitaire de Saint-Boniface. *Préalables:* une note minimale de C dans le 144.109 et un cours choisi parmi les suivants:

144.102, 144.107 ou 144.111.

144.264F Le discours amoureux dans la littérature française (3) Étude des diverses formes du discours amoureux et de ses stratégies rhétoriques et linguistiques dans la littérature romanesque française. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.109 et un cours choisi parmi les suivants: 144.102, 144.107 ou 144.111.

144.265F La nature dans la littérature française (3) Étude de diverses attitudes et réflexions associées à l'idée de nature. Un parcours historique qui tiendra compte de l'évolution des thèmes, permettra de suivre la filiation du discours ininterrompu sur les rapports, réels ou mythiques, que l'homme entretient avec la nature. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.109 et un cours choisi parmi les suivants: 144.102, 144.107 ou 144.111.

144.266F La fantaisie dans la littérature française (3) Aperçu historique des diverses formes que la fantaisie a prises dans la littérature française du XVIe au XVIIIe siècles. Étude approfondie des courants fantaisistes qui ont animé les oeuvres littéraires aux XIXe et XXe siècles. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.109 et un cours choisi parmi les suivants: 144.102, 144.107 ou 144.111.

144.268F Civilisation française (3) Étude des éléments représentatifs du peuple français: grands courants de pensée, mouvements de l'histoire, évolution de la société et de la mentalité. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.109 et un des 144.102, 144.107 ou 144.111.

✳ **144.283F L'individu et le pays** (3) Un aperçu général de la production littéraire au Canada français depuis ses origines à nos jours, d'après une étude de textes ayant comme thème: l'individu et le pays. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.109 et un des 144.102, 144.107 ou 144.111.

144.284F La quête du bonheur (3) Un aperçu général de la production littéraire au Canada français depuis ses origines à nos jours, d'après une étude de textes ayant comme thèmes la quête du bonheur. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.109 et un des 144.102, 144.107 ou 144.111.

144.285F Le folklore et la littérature orale (3) Une étude des moeurs et coutumes au Canada français: une attention particulière sera accordée aux proverbes, récits et chansons traditionnels. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.109 et un des 144.102, 144.107 ou 144.111.

144.286F L'influence de la littérature orale (3) Ce cours proposera l'étude de la littérature orale fixée (contes, légendes, mythes) ainsi que de textes modernes du XXe siècle (romans, poésie, nouvelles), produits au Canada français qui illustrent les influences certaines de cette littérature orale. En étudiant les contes, légendes et mythes, venant surtout du Canada, l'étudiant(e) verra comment cette source peut nourrir la veine inspiratrice d'un auteur. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.109 et un des 144.102, 144.107 ou 144.111.

✳ **144.288F Civilisation canadienne-française** (3) Étude des éléments représentatifs du peuple canadien-français: grands courants de pensées, mouvements de l'histoire, évolution de la société et de la mentalité. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.109 et un des 144.102, 144.107 ou 144.111.

144.291F Procédés d'écriture (3) Étude des diverses formes de la communication: non verbale, verbale, orale, écrite. Une attention particulière sera accordée au contexte de la communication: registres de langue, ambiguïtés de langage et polysémie de l'expression. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.109 et un des 144.102, 144.107 ou 144.111. Note: le 144.111 est fortement recommandé.

144.292F Cours de phonétique française (3) Étude approfondie du système phonétique et de la transcription phonétique de la langue française. Exercices systématiques portant sur l'articulation, l'accent, l'intonation, le rythme, la pause, la liaison et l'élimination. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.111.

144.293F Initiation à la linguistique (3) Dégagement des instruments linguistiques nécessaires à la compréhension des mécanismes de la langue française. Description des structures internes pour que l'étudiant(e) puisse prendre connaissance de ses éléments constitutifs. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.111.

144.294F Structures du français contemporain (3) Étude systématique de la syntaxe du français dans la perspective de la linguistique générative et transformationnelle. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.111.

144.299F Création de textes variés (3) Pratique des divers procédés d'écriture présentés au 144.291. Rédaction de textes argumentatifs, incitatifs, expressifs, narratifs, descriptifs. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.291.

✳ **144.353F Le théâtre québécois** (3) Aperçu historique et étude de théâtre québécois de Lescaobot à Tremblay. Étude des oeuvres de Gratien Gélinas, Marcel Dubé, Michel Tremblay, etc. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200.

✳ **144.354F Le théâtre de l'Ouest** (3) Étude d'oeuvres d'auteurs franco-manitobains, tels que Auger, Dorge, Ferland, etc. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200.

144.363F Les romanciers du XXe siècle (3) Étude de romans ayant le plus marqué le paysage littéraire du XXe siècle. Auteurs tels que: Gide, Colette, Sartre, de Beauvoir, Duras. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3

crédits) avec une note minimale de C de niveau 200.

144.364F Le rire dans la littérature française (3) Étude du développement de la veine comique à travers la littérature française, de son origine au Moyen-Age jusqu'aux temps modernes en passant par ses manifestations au cours des différents siècles. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de littérature de niveau 200.

144.365F Littérature et vision tragique du monde (3) Étude du développement de la veine tragique à travers la littérature française, de son origine au Moyen-Age jusqu'aux temps modernes en passant par ses manifestations au cours des différents siècles. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de littérature de niveau 200.

144.366F L'esprit de la révolution française (3) Le maintien des formes classiques qui atteignent, au début du XVIIIe siècle, un summum d'élégance et de raffinement et l'apparition, d'une part, des idées nouvelles qui entraîneront la chute de l'ancien régime et, d'autre part, d'une sensibilité annonciatrice d'un âge nouveau. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200.

144.367F Étude de poésie (3) Étude des formes poétiques de la Renaissance (Marot, poètes de la Pléiade, poètes baroques), du Romantisme (Lamartine, Musset, Vigny, Hugo), du Parnasse (Gautier) et du début du Symbolisme (Baudelaire). Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200.

144.368F Thèmes romantiques (3) Les origines et les caractéristiques du Romantisme. Sa persistance et ses déboires à travers les grands mouvements littéraires du XIXe siècle - Réalisme, Naturalisme, Parnasse et Symbolisme. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200.

144.373F Initiation aux littératures francophones (3) Introduction générale portant sur l'ensemble de la production littéraire dans les pays francophones autres que le Canada français et la France. Étude des contextes socio-historiques qui ont favorisé l'épanouissement de cette littérature. Étude de thèmes majeurs, de structures et d'esthétiques particulières retrouvées dans une sélection d'oeuvres choisies. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200 ou 300.

✳ **144.383F L'époque de la contestation** (3) Étude approfondie de la société québécoise et des signes précurseurs de cet éclatement qui eut lieu au début des années 60 appelé la Révolution tranquille. Une attention particulière sera accordée à la poésie, la chanson, les nouvelles et aux essais produits pendant cette période de revendication populaire. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200.

✳ **144.384F La révolution tranquille et le roman** (3) Étude approfondie de la genèse du roman et à l'explosion des nouvelles formes de littérature depuis la Révolution tranquille au Québec. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200.

✳ **144.385F Littérature de l'Ouest: poésie, nouvelles** (3) Une étude de la poésie et des nouvelles produites dans l'Ouest francophone du Canada depuis le siècle dernier: l'étudiant(e) pourra apprécier l'évolution des styles et des thèmes par l'analyse de textes choisis. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200.

✳ **144.386F Littérature de l'Ouest: roman** (3) Une étude des romans produits dans l'Ouest francophone du Canada depuis le siècle dernier. L'étudiant(e) suivra l'évolution du genre romanesque de style et d'inspiration classique et traditionnelle jusqu'à l'expression moderne et post-moderne des écrivains franco-canadiens de l'Ouest. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200.

144.391F Procédés et analyses stylistiques (3) Étude détaillée de la structure des textes et des procédés stylistiques mis en oeuvre par des écrivains et des journalistes. Une place importante sera accordée à la presse, à la publicité et aux réalités sociales les plus proches des étudiants. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.291.

144.393F Lexicologie et lexicographie (3) Objectifs de la lexicologie; étude des unités lexicales dans le cadre de la théorie linguistique; analyses lexicales à partir de textes choisis. Problèmes théoriques et pratiques de la lexicographie. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.293.

144.394F Syntaxe du français contemporain (3) Étude des modèles fonctionnel, distributionnel et transformationnel de la syntaxe. Approfondissement du modèle transformationnel par l'analyse des transformations binaires. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.294.

144.395F Évolution de la langue (3) Place du français dans le tableau des grandes familles de langues. Origines de la langue française et sa naissance. Les dialectes de l'ancien français. Étude de quelques textes illustrant l'évolution du français du Moyen-Age au XVIIe siècle. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.291 ou 144.293.

144.399F Création littéraire: conte et nouvelle (3) Création de contes, de nouvelles et d'autres textes fictifs à partir d'une étude détaillée des genres narratifs. Une partie du cours sera consacrée à l'étude des divers types de phrase et des contextes où ils pourraient être employés. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.291.

144.401F Sociocritique (3) Initiation aux méthodes critiques du XXe siècle se fondant sur les principes de la sociologie moderne. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.291 et un cours (3 crédits) de littérature de niveau 200, 300 ou 400.

- 144.402F Critique féministe** (3) Étude de différents courants de la critique féministe, en rapport avec les théories de la critique littéraire moderne. Problématique d'une écriture au féminin et d'une lecture féministe d'oeuvres littéraires, françaises et québécoises. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.291 et un cours (3 crédits) de littérature de niveau 200, 300 ou 400.
- 144.403F Psychocritique** (3) Initiation aux méthodes critiques du XXe siècle se fondant sur les principes de la psychologie et de la psychanalyse. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.291 et un cours (3 crédits) de littérature de niveau 200, 300 ou 400.
- 144.406F La femme dans la littérature** (3) Ce cours portera sur le rôle de la femme dans la littérature. La littérature française et la littérature canadienne-française serviront de principaux modèles. Le cours touchera trois aspects différents concernant le rôle des femmes dans la littérature: les auteurs féminins, l'image de la femme dans des oeuvres écrites par des auteurs masculins et la question d'une typologie féminine. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200 ou 300.
- 144.407F Sujets particuliers** (3) Le contenu de ce cours variera d'année en année selon les besoins des étudiant(e)s et, selon la spécialité du professeur. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200 ou 300.
- 144.408F Littérature et cinéma** (3) Étude d'oeuvres littéraires et de leur réalisation cinématographique conduisant à un examen de problèmes de l'adaptation à l'écran d'une oeuvre littéraire ainsi qu'à une comparaison des techniques d'expression des deux arts et à une réflexion sur la création dans les deux langages spécifiques, le langage textuel et le langage visuel. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200 ou 300.
- 144.428F Adaptation publicitaire** (3) Initiation à l'adaptation et à la traduction de textes publicitaires. Apprentissage des méthodes de modulation intralinguistique et interlinguistique de l'énoncé publicitaire en fonction de facteurs linguistiques, affectifs et sociaux. Donné au Collège universitaire de Saint-Boniface.
- 144.455F L'âge d'or du théâtre français** (3) Étude thématique, dramatique et esthétique de six pièces représentatives de l'école classique du théâtre français (XVIIe siècle). Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200 ou 300.
- 144.456F Le théâtre français du XVIIIe siècle** (3) Étude du renouveau des formes dramatiques dans quelques oeuvres du théâtre français du XVIIIe siècle. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200 ou 300.
- 144.459F Création littéraire: théâtre** (3) Étude des procédés d'écriture d'une pièce de théâtre. Ateliers d'écriture, débouchant sur la création d'une pièce. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.291 et un cours (3 crédits) de théâtre de niveau 200 ou 300.
- 144.463F Métamorphoses du roman** (3) Les origines du roman et la correspondance entre les différentes structures romanesques et les structures sociales sous l'Ancien Régime. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200 ou 300.
- 144.464F Réalisme et engagement** (3) Les rapports du roman avec la société de l'histoire au XIXe et XXe siècles. Étude de la peinture de la société dans le roman. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200 ou 300.
- 144.465F Poésie féminine** (3) Étude de la poésie au féminin, des origines à nos jours. Interrogation sur une spécificité de l'écriture féminine à travers les âges, au delà des courants idéologiques de l'époque à laquelle appartiennent les auteurs. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200 ou 300.
- 144.466F Nouveaux visages du roman** (3) Étude détaillée de quelques oeuvres romanesques produites depuis le début des années 1980 (romans de Le Clézio, Perce, Duras, Sarraute, etc.). Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200 ou 300.
- 144.473F Littérature africaine** (3) Une introduction à la littérature des pays africains francophones. Études de textes qui ont marqué le XXe siècle, avec une accentuation sur les productions après l'ère des indépendances. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.373.
- 144.474F Littérature maghrébine** (3) Étude d'une sélection d'oeuvres francophones choisies et écrites par les auteurs connus des pays maghrébins. Certains aspects particuliers à cette littérature seront abordés: histoire, culture, thèmes, structures, langue, technique et style. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.373.
- 144.475F Littérature antillaise** (3) Introduction générale à la littérature antillaise avec une mise en situation historique et socio-culturelle. Étude des thèmes majeurs, des particularités stylistiques dans quelques oeuvres choisies parmi les plus représentatives des tendances littéraires des XIXe et XXe siècles. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.373.
- ✳️ **144.483F Littérature de l'Acadie et des Cajuns** (3) Introduction portant sur l'ensemble de la littérature acadienne et cajune (de la Louisiane) avec une mise en contexte géographique, historique et socio-culturelle. Étude thématique stylistique et formelle de quelques oeuvres représentatives des tendances littéraires des XIXe et XXe siècles. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir suivi un cours (3 crédits) de niveau 200 ou 300.
- 144.484F Le roman du terroir** (3) Aperçu général de l'histoire de la littérature canadienne-française depuis la fin du XIXe siècle jusqu'en 1945. Études d'oeuvres représentatives de chacune des périodes considérées (roman d'aventures, roman du terroir, roman régionaliste, etc.). Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200 ou 300.
- 144.485F Du classicisme à l'exotisme** (3) Une initiation à la poésie et à la chanson canadienne-française depuis leurs origines jusqu'à la Deuxième Guerre mondiale. Une attention particulière sera accordée à l'étude de l'évolution des styles et des thèmes du classicisme vers l'exotisme. Donné au Collège universitaire de Saint-Boniface. *Préalable*: un cours (3 crédits) avec une note minimale de C de niveau 200 ou 300.
- 144.492F Les parlers régionaux** (3) À travers des documents audio-visuels et écrits, étude des principales caractéristiques phonétiques, syntaxiques, morphologiques, sémantiques et lexicales de certaines variantes régionales du français (ex. de France, d'Afrique, des Antilles, d'Amérique du Nord). Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans 144.291 et 144.293.
- 144.493F La langue dans la littérature** (3) Étude détaillée de textes littéraires allant du XVIIIe au XXe siècle et visant l'appréciation des différents styles et l'initiation aux différentes méthodes d'analyse de textes. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.291 ou 144.293.
- 144.497F Sociolinguistique** (3) Initiation aux rapports que l'on peut établir entre la langue et la société, aux domaines d'étude et aux méthodes de la sociolinguistique. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 144.293.
- 144.498F Création littéraire: roman** (3) Mise en pratique des techniques de création romanesque (composition, narration, description, portrait, etc.) pour réalisation d'un roman. Cette pratique fera suite à l'étude détaillée de quelques types de romans (roman policier, roman d'amour, d'aventure, etc.). Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans 144.291 et 144.391 et un cours (3 crédits) de littérature de niveau 200 ou 300.
- 144.499F Création littéraire: poésie** (3) Mise en pratique de techniques de création poétique (étude des rythmes, des images, des sonorités, etc.) pour la réalisation d'oeuvres poétiques originales. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 144.291 et un cours (3 crédits) de poésie de niveau 200 ou 300.

Cours donnés au Collège universitaire de Saint-Boniface: Traduction

NOTE: Les cours de traduction (sauf le 122.207 et le 122.402) sont exclusivement réservés aux étudiants ayant subi avec succès l'examen d'admission en traduction.

Students planning to register in either the Certificate or the Honours program in translation should consult the Collège universitaire de Saint-Boniface for the details pertaining to the course requirements and the regulations governing the programs.

Students completing degrees on the main campus, but planning to register for any of the following courses, must have prior written approval from the head, Department of French, Spanish and Italian.

122.118F Introduction à l'espagnol (6) Ce cours est destiné aux étudiants et étudiantes n'ayant aucune connaissance de l'espagnol ou n'en ayant qu'une connaissance, minime. L'accent sera mis sur le vocabulaire, la grammaire et l'acquisition d'aptitudes orales et écrites au moyen d'exercices divers et de pratique au laboratoire. Les activités de laboratoire alterneront avec des sessions de conversation en groupes. La participation active de l'étudiante ou de l'étudiant est une exigence du cours. On ne peut se faire créditer à la fois le 122.118 et le 044.118 ou les anciens 044.090 ou 122.090. Les étudiants et les étudiantes dont l'espagnol est la langue maternelle et ceux qui possèdent déjà les crédits du cours d'espagnol de secondaire 4 ou l'équivalent ne peuvent s'inscrire à ce cours. Donné au Collège universitaire de Saint-Boniface.

122.126F Espagnol intermédiaire (3) Révision intensive de la grammaire et du vocabulaire étudiés en 122.118 (044.118) et les anciens 044.090 et le 122.090 ou en Espagnol 40S. Pratique et perfectionnement des connaissances en classe et au laboratoire. On ne peut se faire créditer le 122.126 et le 044.126. Donné au Collège universitaire de Saint-Boniface. *Préalable*: au moins C dans le 122.118 (044.118) ou les anciens 122.090 ou (044.090) ou l'équivalent en Espagnol 40S, ou l'autorisation écrite du professeur.

122.127F Espagnol oral 1 (3) Ce cours s'adresse aux étudiants de niveau intermédiaire qui ne parlent pas couramment l'espagnol et souhaitent perfectionner leurs compétences orales (compréhension, correction grammaticale). Pratique intensive de la langue parlée en classe et au laboratoire de langue à partir de thèmes de discussion contemporains et de sujets d'actualité, de politique et de culture, en rapport avec le monde hispanique. On ne peut se faire créditer le 122.127 et le 044.127. Donné au Collège universitaire de Saint-Boniface. *Préalable*: au moins C dans le 122.126 (044.126) ou l'autorisation écrite du professeur.

122.207F Grammaire normative (6) Dans le cadre d'une révision approfondie de la grammaire, l'étudiant apprendra à maîtriser les particularités orthographiques du français. On étudiera les formes et les fonctions des parties du discours en insistant sur le verbe et ses conjugaisons ainsi que sur les règles d'accord et de concordance à l'intérieur de la phrase simple et de la phrase complexe. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir réussi l'examen d'admission aux programmes de traduction ou avoir obtenu la note B à l'issue des cours 144.109 et 144.111.

122.210F Analyse et résumé de textes 1 (3) Apprentissage des techniques d'analyse et de résumé de textes pragmatiques français de façon à développer l'aptitude interprétative (extraction du sens) et les capacités expressives (reformulation) chez l'étudiant(e). Les textes, écrits ou audiovisuels, touchent à l'actualité et aux divers domaines avec lesquels le traducteur sera appelé à se familiariser. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir réussi l'examen d'admission ou obtenu B+ au 144.111, ou bien avoir reçu l'autorisation écrite du professeur ou de la professeure.

122.211F Informatique et traduction (3) Introduction à l'usage des ordinateurs en traduction: banques de données terminologiques, dictionnaires électroniques, traduc-

tion assistée par ordinateur. Introduction à la traduction automatique. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir réussi l'examen d'admission ou obtenu l'autorisation écrite du professeur ou de la professeure.

122.215F Introduction à la traduction (3) Introduction à l'histoire de la traduction et au rôle que celle-ci a joué aux diverses époques. Réflexion sur la responsabilité du traducteur vis-à-vis de ceux qu'il traduit (auteurs, représentants politiques, etc.) et de ses lecteurs. Méthodes et théories en traduction. Initiation à la traductologie. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir réussi l'examen d'admission ou obtenu l'autorisation écrite du professeur ou de la professeure.

122.230F Culture générale (3) Cours autodidactique pluridisciplinaire. L'étudiant(e) établit son corpus à partir d'une liste de lecture et en accord avec le(la) responsable de son programme d'étude. Donné au Collège universitaire de Saint-Boniface.

122.236F Cours d'espagnol commercial (3) Initiation au vocabulaire commercial et aux techniques d'écriture dans le domaine des affaires. L'accent sera mis sur la composition appliquée au domaine commercial: rédaction de lettres, comptes rendus d'activités ou de réunions, etc. Donné au Collège universitaire de Saint-Boniface. *Préalable*: C en 122.126 (ou en 044.126) ou l'autorisation écrite du professeur.

122.257 El español a través del cine hispanoamericano (3) Ce cours vise à familiariser les étudiants avec les cultures espagnole et latino-américaine à partir d'oeuvres cinématographiques issues de ces cultures. L'accent sera mis sur la discussion et l'expression orale. Donné au Collège universitaire de Saint-Boniface. *Préalable*: au moins C dans le 122.127 (044.127) ou l'autorisation écrite du professeur.

122.301F Lexicologie comparée (3) Étude des domaines abordés par la lexicologie et comparaison des structures lexicosémantiques de l'anglais et du français dans l'optique de la traduction. Ce cours abordera entre autres des notions telles que la contextualisation; la cooccurrence; les interférences linguistiques (anglicismes, gallicismes, faux amis); et la modulation lexicale en traduction. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir réussi l'examen d'admission ou obtenu l'autorisation du professeur ou de la professeure.

122.305F Syntaxe comparée (3) Étude contrastive des structures syntaxiques de l'anglais et du français dans l'optique de la traduction. Apprentissage des techniques de transfert et particulièrement de la transposition syntaxique à l'aide de nombreux exercices pratiques. Correction des problèmes des syntaxe provenant d'interférences linguistiques; calques, mauvais emplois des prépositions, des temps, etc. L'étudiant ou l'étudiante ne peut se faire créditer le 122.305 et le 044.463. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir réussi l'examen d'admission ou obtenu l'autorisation du professeur ou de la professeure.

122.310F Analyse et résumé de textes 2 (3) Pratique des techniques d'analyse et de résumé à partir de textes français ou anglais. La reformulation en français sera l'occasion d'un exercice intellectuel proche de la traduction. Les recherches documentaires viseront non seulement à l'amélioration des connaissances générales mais aussi à l'établissement de glossaires. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.210.

122.311F Laboratoire 1 (3) Ce cours a pour but de donner la possibilité aux étudiants de pratiquer leur futur métier dans des conditions semblables à ce qu'elles seront dans un bureau de traduction (qualité du produit fini, présentation, échéances, etc.) tout en étant guidés par leur professeur qui jouera ici le rôle de réviseur. Les textes pourront être des articles susceptibles d'être utiles aux professeurs de diverses matières au CUSB. Le laboratoire s'étendra sur toute l'année, à raison de 3 heures par semaine. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans les 122.210 et 122.310.

122.312F Lexicographie comparée (3) Étude contrastive de dictionnaires unilingues et bilingues anglais/français. Lecture de manuels de lexicographie et comparaison de divers dictionnaires unilingues et bilingues. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir réussi l'examen d'admission ou obtenu l'autorisation écrite du professeur ou de la professeure.

122.313F Terminologie bilingue et documentation (3) Initiation aux diverses méthodes d'acquisition de la documentation permettant une application à la traduction: utilisation des encyclopédies, des ouvrages et des revues spécialisées à des fins terminologiques. Apprentissage de l'utilisation des banques de données et établissement de fiches terminologiques. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans 122.210 et 122.310 ou l'autorisation écrite du professeur ou de la professeure.

122.314F Rédaction professionnelle comparée 1 (3) Étude comparative de documents professionnels anglais et français afin de mettre en lumière les différences qui peuvent exister dans les méthodes de présentation ou d'expression en anglais et en français. L'étudiant(e) devra ensuite produire des textes professionnels variés (lettres, procès-verbaux, curriculum vitae, etc.). Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans les 122.210 et 122.310 ou l'autorisation écrite du professeur ou de la professeure.

122.326F Traduction générale (anglais-français) (3) Mise en pratique des principes de traduction introduits dans le cours 122.215 (Introduction à la traduction) auquel il fait suite. Les textes à traduire seront de nature générale et porteront sur divers domaines de l'actualité et de la vie professionnelle. On ne peut se faire créditer le 122.326 et l'ancien 122.316. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.215.

122.327F General Translation (French-English) (3) Apprendre et appliquer les règles de base de la traduction vers l'anglais de textes français d'intérêt général. Par une approche analytique du sens, découvrir les principaux aspects du maniement du langage pour pouvoir saisir les idées d'un message et leur articulation, et les reformuler en exploitant les ressources de l'anglais. ne peut se faire créditer le 122.327 et l'ancien 122.317. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans au moins un des cours suivants: le 004.200, le 122.210, le 122.215.

122.330F Culture générale 2 (3) Cours autodidactique pluridisciplinaire. L'étudiant(e) établit son corpus à partir d'une liste de lecture et en accord avec le(la) responsable de son programme d'étude. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.230.

122.346F Littérature et civilisation d'Amérique latine (3) Initiation aux grands auteurs d'Amérique latine, ainsi qu'aux caractères spécifiques des sociétés latino-américaines: valeurs, pratiques, culturelles mais aussi politiques, commerciales et professionnelles. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.126 ou 044.126.

122.356F Cours avancé d'espagnol professionnel (3) Dans ce cours, l'accent sera mis sur la pratique de la traduction de l'espagnol au français et du français à l'espagnol à partir de textes pragmatiques à caractère professionnel. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.236.

122.401F Atelier de traduction professionnelle (3) Travaux pratiques de traduction en atelier où la simulation des conditions réelles de travail devra permettre à l'étudiant(e) d'améliorer sa productivité sous le rapport du temps et de la qualité. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.326 ou l'autorisation écrite du professeur ou de la professeure.

122.402F L'analyse du discours (6) Le discours étant défini comme tout ce qui se dit ou s'écrit, on en étudiera la structure et le fonctionnement à la fois dans la langue et dans la société. En particulier, on verra comment la communication se fonde sur l'interaction entre les actes d'énonciation, les propriétés d'un texte et les conditions de sa réception. Ce cours est ouvert aux étudiants et aux étudiantes des autres programmes sur autorisation écrite du représentant ou de la représentante du secteur de traduction. Donné au Collège universitaire de Saint-Boniface.

122.405F Révision (3) Conçu dans une optique didactique, ce cours doit permettre à l'étudiant en traduction de vérifier et d'améliorer la qualité de son travail. Par une série d'exercices comparatifs et raisonnés, il apprendra à développer ses facultés analytiques, son sens critique et son habileté à manier la langue d'arrivée. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.326 ou l'autorisation écrite du professeur ou de la professeure.

122.406F Terminologie appliquée (3) Travaux pratiques destinés à renforcer l'efficacité et la qualité des recherches documentaires et terminologiques exigées de l'étudiant(e) par la traduction de textes spécialisés. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.313.

122.407F Mémoire de traduction (3) Travail indépendant, s'étendant sur deux semestres ou plus, sous la direction d'un professeur. L'étudiant ou l'étudiante devra démontrer qu'il est capable de mener une recherche documentaire et terminologique à des fins traductionnelles. Pour ce faire, il ou elle réalisera une traduction commentée d'un texte d'au moins 3000 mots répondant aux exigences de la profession. La traduction sera nécessairement accompagnée d'une analyse textuelle et d'un lexique élaboré à partir du texte à traduire. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 122.326 ou le 122.327 et le 122.313.

122.411F Laboratoire 2 (3) Ce cours est semblable au 122.311, se donne en même temps et selon des modalités semblables. Laboratoire II vise à donner une deuxième année de pratique aux étudiants inscrits dans l'un des cours de traduction spécialisée. Les étudiants en Laboratoire II auront à traduire les textes qui présentent le plus de difficultés. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.311.

122.414F Rédaction professionnelle comparée 2 (3) Étude comparative de documents professionnels anglais et français. Rédaction, en français, de documents professionnels tels que rapports, documents journalistiques ou juridiques. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.314.

122.423F Translation in the Social Sciences (3) Révision et pratique des principes de la traduction à partir de textes français appartenant au domaine des sciences sociales. Etablissement de dossiers documentaires et de fiches terminologiques bilingues. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.327.

122.424F Legal Translation (3) Révision et pratique des principes de la traduction vers à partir de textes français appartenant au domaine juridique. Etablissement de dossiers documentaires et de fiches terminologiques dans ces domaines. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.327.

122.425F Literary Translation (3) Révision et pratique des principes de la traduction à partir de textes littéraires français. Analyse du style et des modes d'expression et recherche d'équivalences en langue d'arrivée. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.327.

122.426F Initiation à l'interprétation (3) Étant donné la croissance constante de la demande dans le domaine de l'interprétation, les étudiants auront avantage à suivre ce cours qui leur permettra de se familiariser avec la traduction orale. Dans ce cours, l'accent sera mis sur la qualité de l'expression orale, tant en anglais qu'en français, les interprètes travaillant en effet toujours dans les deux sens. Donné au Collège universitaire de Saint-Boniface. *Préalables*: une note minimale de C dans le 122.326 et le 122.327.

122.427F Scientific and Technical Translation (3) Révision et application des principes de la traduction vers l'anglais à partir de textes appartenant aux domaines scientifiques et techniques. Etablissement de dossiers documentaires et terminologiques dans ces domaines. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.327.

122.428F Adaptation Publicitaire (3) Initiation à l'adaptation et à la traduction de textes publicitaires. Apprentissage des méthodes de modulation intralinguistique et interlinguistique de l'énoncé publicitaire en fonction de facteurs linguistiques, affectifs et sociaux. Donné au Collège universitaire de Saint-Boniface.

122.436F Traduction spécialisée (anglais-français) (3) Révision et application des principes de la traduction vers le français de textes pragmatiques anglais appartenant à divers domaines de spécialisation. On ne peut se faire créditer le 122.436 et l'ancien 122.417. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.326.

122.437F Specialized Translation (French-English) (3) Réviser et appliquer les principes de la traduction vers l'anglais de textes pragmatiques français appartenant à divers domaines de spécialisation. On ne peut se faire créditer le 122.437 et l'ancien 122.417. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.327.

122.438F Traduction en sciences sociales (anglais-français) (3) Au XX^e siècle, les sciences sociales ont pris une importance de plus en plus marquée, créant ce faisant un langage qui leur est propre et tient compte de méthodes de recherche et d'analyse bien définies. L'étudiant(e) se familiarisera donc, dans ce cours, avec le langage des sciences sociales tant en anglais qu'en français, et il y aura recours chaque fois que le texte de départ l'exigera tout en enrichissant sa culture générale. On ne peut se faire créditer le 122.438 et l'ancien 122.418. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.326.

122.439F Traduction juridique (anglais-français) (3) Révision et application des principes de la traduction vers le français de textes juridiques anglais appartenant à divers aspects du droit: textes législatifs, règlements, textes de jurisprudence, de doctrine, contrats. On ne peut se faire créditer le 122.439 et l'ancien 122.419. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.326.

122.440F Traduction littéraire (anglais-français) (3) Application des principes de la traduction vers le français à des textes littéraires. Analyse des procédés stylistiques anglais et recherche d'équivalences en français. Pratique de la rédaction expressive. On ne peut se faire créditer le 122.440 et l'ancien 122.420. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.326.

122.441F Traduction scientifique et technique (anglais-français) (3) Révision et application des principes de la traduction vers le français à partir de textes appartenant aux domaines scientifiques et techniques. Établissement de dossiers documentaires et terminologiques dans ces domaines. On ne peut se faire créditer le 122.441 et l'ancien 122.421. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.326.

122.442F Traduction commerciale et économique (anglais-français) (3) Révision et application des principes de la traduction vers le français de textes pragmatiques spécialisés dans les domaines du commerce et de l'économie. Établissement de lexiques bilingues et enrichissement des connaissances de l'étudiant(e) dans ce domaine de spécialisation. Pratique de rédaction en style commercial. On ne peut se faire créditer le 122.442 et l'ancien 122.422. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.326.

122.450F Initiation à la localisation (3) La localisation est l'adaptation de logiciels pour qu'ils soient utilisables par des publics très variés. Cette adaptation étant aussi linguistique, le rôle du traducteur est essentiel dans l'équipe de localisation, mais très technique. Dans ce cours, les étudiants apprendront donc à utiliser divers outils informatiques indispensables à cette activité. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 122.211 ou l'autorisation du professeur ou de la professeure.

8.14 Department of Geography

Acting Head: Richard K. Baydack
General Office: 211 Isbister Building
Telephone: 204 474 9081

Notice

Effective September 1, 2003 the Faculty of Arts will no longer offer Bachelor of Arts Major and Honours degree programs in Geography.

Those Arts students who declared a General Major, Advanced Major, Honours field or a Minor in Geography prior to September 1, 2003 will be permitted to complete their degree program in Arts. Arts students will have until April 1, 2008 to complete the degree.

Students may also choose to transfer to the new Faculty of Environment to complete their degree but should consult with the dean's office, Faculty of Environment regarding procedures and degree requirements. For Geography course listings, refer to the Faculty of Environment chapter in this *Calendar*.

8.14.1 Academic Staff

For a complete listing of academic staff see the entry for the Department of Geography in the Faculty of Environment chapter in this *Calendar*.

8.14.2 Program Information (for continuing students only)

Geography examines environments created on the earth's surface by nature and by humans. There are four broad categories of courses in the discipline: Physical geography is concerned with physical features on and over the globe; human geography examines the nature of cultural features or the products of human activity; regional geography attempts to achieve a synthesis of physical and human geography; and techniques in geography focus on analytic methods.

For continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

8.14.3 Geography, Department Code: 053

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
053.120 or 053.128 and 053.129	12 credit hours in Geography courses numbered at the 200 level ¹ Year 2 and 3 courses should include at least 12 credit hours of systematic courses and at least 6 credit hours must be one or more area studies courses (see below).	12 credit hours in Geography courses numbered at the 300 level ¹	
ADVANCED MAJOR TOTAL: 54 CREDIT HOURS			
053.120 or 053.128 and 053.129	<ul style="list-style-type: none"> ● 053.222 ● 053.253 ● 9 credit hours in Geography courses numbered at the 200 or 300 level¹ Year 2, 3 and 4 courses should include at least 12 credit hours of systematic courses and at least 6 credit hours must be one or more area studies courses (see below).	<ul style="list-style-type: none"> ● 053.368 ● 6 credit hours in Geography courses numbered at the 300 level¹ 	<ul style="list-style-type: none"> ● 12 credit hours in Geography courses numbered at the 400 level ● 6 additional credit hours in Geography
MINOR TOTAL: 18 CREDIT HOURS			
053.120 or 053.128 and 053.129	6 credit hours in Geography courses numbered at the 200 level	6 credit hours in Geography courses numbered at the 300 level	

HONOURS

<p>053.120 or 053.128 and 053.129</p> <ul style="list-style-type: none"> ● 053.222 ● 053.253 ● 9 additional credit hours in Geography courses numbered at the 200 or 300 level ● 12 credit hours in ancillary options² 	<ul style="list-style-type: none"> ● 053.368 ● 18 credit hours in Geography courses numbered at the 200 or 300 level of which at least 6 hours must be systematic and 6 hours must be area studies ● 6 credit hours in ancillary options² 	<ul style="list-style-type: none"> ● 053.466 ● 12 credit hours in Geography courses numbered at the 400 level Geography ● 6 credit hours in ancillary options²
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NOTES:

¹ Students wishing to transfer from the General Major to the Advanced Major are permitted to take either 053.222 or 053.253 in either third or fourth year.

² Ancillary options are chosen in consultation with the department head.

Other

Where the following notes refer to Majors, they apply to both General and Advanced Majors.

1) Courses numbered at the 200 and 300 level are arranged into the following groups Systematics (PS, HS and TS), and Area Studies (A) as follows:

Physical Geography (PS)

053.244	Geography of Natural Hazards	6
053.254	Weather and Climate	3
053.254F	Météorologie et climatologie	3
053.255	Geomorphology	3
053.255F	Géomorphologie	3
053.262	Geography of Environmental Changes	3
053.341F	Géographie de l'eau	3
053.344	Applied Climatology	6
053.358	Landforms	6
053.361	Climatic Change	6
053.362	Geographical Hydrology	6
053.363	Climatology	6

Human Geography (HS)

053.221	Economic Geography	6
053.221F	Géographie économique	6
053.241	Geography of Tourism and Recreation	6
053.243	Political Geography	6
053.248	Population Geography	6
053.248F	Géographie de la Population	6
053.252	Geography of Natural Resources	3
053.263	Geography of Culture and Environment	3
053.264	Geography of Culture and Inequality	3
053.265F	Géographie politique 1	3
053.266F	Géographie politique 2	3
053.342F	L'eau, enjeu géostratégique	3
053.346	Urban Geography	6
053.351	Agricultural Geography	6
053.352	Energy and Society	6
053.353	An Introduction to Land-Resource Management	6
053.354	Regional Development Planning Theory and Practise	6
053.371	Population and the Third World	3
053.372	Refugees, Displacees, Exiles	3
053.380	Geography of Transportation Development	3
053.382F	Les territoires de la Francophonie mondiale	3
053.383F	L'espace Francophone panaméricain	3
053.384F	Les espaces Francophones de l'Afrique, de l'Asie et de l'Océanie	3

Techniques (TS)

053.222	Introductory Cartography and Map Interpretation	6
053.222F	Introduction à la cartographie et analyse de la carte numérique	6
053.253	Introduction to Scientific Geographic Research	3
053.368	Research Methods in Geography	6
053.373	Geographic Information Systems	3
053.374	Field Studies in Geography	6

053.375	Field Studies in Geography	3
Area Studies (Regional) (A)		
053.235	Latin America	6
053.245	The Making of the Prairie Landscape	6
053.246	Geography of Africa	6
053.249	Geography of Modern China	3
053.256	Geography of North America	6
053.257	Geography of Canada	3
053.258	Geography of the United States	3
053.343F	Géographie du Canada	3
053.348	Canadian Problems	3
053.348F	Particularités de la géographie du Canada	3
053.350	A Geography of Europe	6
053.350F	Géographie de l'Europe	6
053.359	Geography of Developing Countries	6
053.359F	Géographie des pays en voie de développement	6
053.360	Geography of Ukraine	3
053.370F	Canada: évolution de l'écoumène	6
053.370	Canada: The Making of the Human Landscape	6
053.374	Field Studies in Geography	6
053.375	Field Studies in Geography	3
053.379	Geography of Russia	6
053.382F	Les territoires de la Francophonie mondiale	3
053.383F	L'espace Francophone panaméricain	3
053.384F	Les espaces Francophones de l'Afrique, de l'Asie et de l'Océanie	3

2) Majors may specialize in Physical, Human or Applied Geography but it is not compulsory for them to do so.

3) Majors wishing to specialize in Physical Geography should take at least three options (18 credit hours) from courses designated 'PS.'

4) Majors wishing to specialize in Human Geography should take at least three options (18 credit hours) from courses designated 'HS.'

5) Majors wishing to specialize in Applied Geography should include 200-level courses from 053.221, 053.222, 053.241, 053.244, 053.248, 053.251, 053.252, 053.253 and 053.262; and 300-level courses from 053.344, 053.346, 053.348, 053.351, 053.352, 053.353, 053.354, 053.358, 053.362, 053.363, 053.368, 053.371, 053.372 and 053.380.

Honours in Geography may be taken in combination with the program of Central and East European Studies (see Section 8.5), Cross-disciplinary Minor programs are available using 053.346 (Urban Studies program) and 053.359 (Asian Studies program) and 053.235 (Latin American Studies program). In addition, courses 053.245, 053.348 and 053.370 may be used in combination with the Honours, Major, and Minor programs in Canadian Studies.

8.14.4 Geography Course Descriptions

For Geography course descriptions, refer to the Faculty of Environment chapter in this *Calendar*.

8.15 Department of German and Slavic Studies

Acting Head: Myroslav Shkandrij

General Office: 327 Fletcher Argue Building

Telephone: 204 474 9370

Website: www.umanitoba.ca/faculties/arts/german_and_slavic/

E-mail: german_slavic@umanitoba.ca

8.15.1 Academic Staff

Professors Emeriti

Doerksen, V., M.A. (Manitoba), Ph.D. (Zurich); **Glendinning**, R.J., Dr.Phil. (Freiburg).

Senior Scholar

Rozumnyj, J., Ph.D. (Ottawa).

Professor

Shkandrij, M., M.A., Ph.D. (Toronto).

Associate Professors

Aponiuk, N., M.A., Ph.D. (Toronto).

Assistant Professors

Heberger, A., M.A. (Mannheim), M.A., Ph.D. (Waterloo); **Nazarenko**, T., M.A., Kandidat Fil. Nauk (Kyiv State), Ph.D. (Alberta); **Peterson**, C., M.A., Ph.D. (Kiel).

Senior Instructor

Finlay, R., M.A. (Manitoba).

8.15.2 Program Information

This department's program covers two European cultural and language groups. German is the official language of five European countries and an understanding of German language and culture is essential to any understanding of European history. Courses are offered in German language, literature and culture. In Slavic studies the department offers language

courses in Russian, Ukrainian and Polish — the three largest Slavic language groups. The Slavic countries of eastern Europe exert an important influence on international affairs. In Canada, immigration from both German and Slavic language groups has contributed greatly to the country's cultural mosaic.

8.15.3 German Program

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Advanced Major Program

The Advanced Major Program in German is not currently offered.

General Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in one of 008.111 (the former 008.090), 008.112 (the former 008.091), 008.210 (the former 008.120), or 008.211 (the former 008.123). For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate, including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in one of 008.111 (the former 008.090), 008.112 (the former 008.091), 008.210 (the former 008.120), or 008.211 (the former 008.123).

Honours Program

The Honours Program in German is not currently offered.

8.15.4 German, Department Code: 008			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR (OPTION 1) TOTAL: 30 CREDIT HOURS			
008.111	008.210 ¹	18 credit hours in German	
GENERAL MAJOR (OPTION 2) TOTAL: 30 CREDIT HOURS			
008.112	008.210 or 008.211 ¹	18 credit hours in German	
GENERAL MAJOR (OPTION 3) TOTAL: 30 CREDIT HOURS			
008.210 or 008.211 ¹	<ul style="list-style-type: none"> ● 12 credit hours in German courses numbered at the 200 level ● 12 credit hours in German courses numbered at the 300 level 		
ADVANCED MAJOR (OPTION 1) [NOT CURRENTLY OFFERED] TOTAL: 48 CREDIT HOURS			
008.111	008.210 ¹	<ul style="list-style-type: none"> ● 12 credit hours in German courses numbered at the 200 level ● 6 credit hours in German courses numbered at the 300 level 	18 credit hours in German courses numbered at the 300 or 400 level, including at least one of: 008.454, 008.462, 008.463
ADVANCED MAJOR (OPTION 2) [NOT CURRENTLY OFFERED] TOTAL: 48 CREDIT HOURS			
008.112	008.210 or 008.211 ¹	<ul style="list-style-type: none"> ● 12 credit hours in German courses numbered at the 200 level ● 6 credit hours in German courses numbered at the 300 level 	18 credit hours in German courses numbered at the 300 or 400 level, including at least one of: 008.454, 008.462, 008.463
ADVANCED MAJOR (OPTION 3) [NOT CURRENTLY OFFERED] TOTAL: 48 CREDIT HOURS			
008.210 or 008.211 ¹	<ul style="list-style-type: none"> ● 12 credit hours in German courses numbered at the 200 level ● 12 credit hours in German courses numbered at the 300 level 		
MINOR (OPTION 1) TOTAL: 18 CREDIT HOURS			
008.111	008.210 ¹	6 credit hours in German	
MINOR (OPTION 2) TOTAL: 18 CREDIT HOURS			
008.112	008.210 or 008.211 ¹	6 credit hours in German	

MINOR (OPTION 3) TOTAL: 18 CREDIT HOURS

008.210 or 008.211¹ 12 credit hours in German

HONOURS SINGLE [NOT CURRENTLY OFFERED]

008.210 or 008.211 ¹	● 12 credit hours in German courses numbered at the 200 level	● 18 credit hours in German courses numbered at the 300 level	● 18 credit hours in German courses numbered at the 400 level ²
	● 18 credit hours in ancillary options	● 12 credit hours in ancillary options	● 6 hours of credit in ancillary options

HONOURS DOUBLE [NOT CURRENTLY OFFERED]

008.210 or 008.211 ¹	● 12 credit hours in German courses numbered at the 200 level	● 12 credit hours in German courses numbered at the 300 level	● 12 credit hours in German courses
	● 12 credit hours in other honours field	● 12 credit hours in other honours field	● 12 credit hours in other honours field
	● 6 credit hours in ancillary options		

SPECIAL COURSES

008.124, 008.223, 008.237 (No knowledge of the German language is required. May not be used for Major, Minor or Honours credit in German).

NOTES:¹ Students with sufficient ability in German, but without Grade 12 standing, may be granted written permission by the department head to enter 008.210 or 008.211.² Students enrolled in the fourth year of the Honours program may be permitted to substitute up to 6 credit hours of graduate level courses.

8.15.5 German Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

The letter "F" following course numbers indicates courses given in French at Collège universitaire de Saint-Boniface.

General Courses

008.111 Elementary German (6) Four hours language and literature, plus language laboratory work. Students may not hold credit for both 008.111 and 008.112 or the former 008.090 or the former 008.091. Not open to students who have previously obtained credit for 008.210 (the former 008.120).

008.112 Beginning German (6) Three hours of lectures, plus one hour each of language lab and conversation per week. The course is intended for students with little or no previous knowledge of German. Basic grammar is included, but emphasis is placed on the development of broad reading and speaking skills. Satisfactory completion of this course enables students to proceed to 008.210 (the former 008.120) or 008.211 (the former 008.123). Students may not hold credit for both 008.112 and 008.111 or the former 008.091 or the former 008.090. Students with Grade 12 German or its equivalent may not normally take the course for credit. Not open to students who have previously obtained credit for 008.210 (the former 008.120) or 008.211 (the former 008.123).

008.112F Introduction à l'Allemand (6) Trois heures de cours plus une heure de laboratoire de langue et une heure de conversation par semaine. Le cours est destiné aux étudiants et aux étudiantes n'ayant aucune connaissance de l'allemand ou n'en ayant qu'une connaissance minime. Le cours comportera une initiation à la grammaire fondamentale mais l'accent sera mis sur le développement d'aptitudes à la lecture et à la conversation. La réussite à ce cours permet à l'étudiant(e) d'entrer dans les cours d'allemand 008.210 (l'ancien 008.120) ou 008.211 (l'ancien 008.123). Les étudiants ne peuvent pas cumuler les crédits des cours 008.112 et 008.111 ou l'ancien 008.091 ou l'ancien 008.090. Les étudiants qui possèdent déjà les crédits du cours d'allemand de secondaire 4 ou l'équivalent ne peuvent s'inscrire à ce cours. Les étudiants qui auraient déjà obtenu des crédits pour le 008.210 (l'ancien 008.120) ou 008.211 (l'ancien 008.123) ne peuvent pas s'inscrire à ce cours. Donné au Collège universitaire de Saint-Boniface.

008.210 Intermediate German (6) Three hours of lectures and one hour of conversation class per week. Grammar review, exercises, development of practical oral skills, conversation and modern usage. Introduction to German poetry and prose. Students may not hold credit for both 008.210 and 008.211 or the former 008.120 or the former 008.123. *Prerequisite:* German 40S, or a grade of "C" or better in 008.111 (the former 008.090) or 008.112 (the former 008.091), or written consent of department head.

008.210F Allemand intermédiaire (6) Trois heures de cours et une heure de conversation par semaine. Révision de la grammaire, exercices, développement de l'expression orale et conversation. Introduction à la poésie et à la prose allemandes. Les étudiants ne peuvent pas cumuler les crédits pour le 008.210 et le 008.211 ou l'ancien 008.120 ou l'ancien 008.123. Donné au Collège universitaire de Saint-Boniface. *Préalable:* Allemand de 12^e année, une note de "C" ou plus dans le 008.111 (l'ancien 008.090) ou 008.112 (l'ancien 008.091), ou l'autorisation écrite du professeur.

008.211 Continuing German: Grammar, Exercises, Selected Texts (6) Three hours of lectures and one hour of language lab work per week. A study of German grammar extending beyond that of course 008.112, but again emphasizing the development of reading and speaking skills. Like 008.210 this course enables students to take 200 level courses. Students may not hold credit for both 008.211 and 008.210 or the former 008.123 or the former 008.120. *Prerequisite:* a grade of "C" or better in 008.112 (the former 008.091) or written consent of department head.

008.245 German Literature in the 20th Century (6) Study of the modern and contem-

porary German literature, focusing on important literary trends, and historical events, and including authors such as Thomas Mann, Kafka, Brecht, Böll and Grass; advanced language practise. *Prerequisite:* a grade of "C" or better in 008.210 (the former 008.120) or 008.211 (the former 008.123).

008.320 Deutsche Sprachpraxis 1 (6) Modern German usage through conversation, translation (English-German) and practical exercises; study of contemporary fictional and non-fictional texts. Emphasis on vocabulary and basic structural and stylistic problems. Students may not hold credit for both 008.320 and 008.321 or the former 008.225 or 008.226. *Prerequisite:* a grade of "C" or better in 008.210 (the former 008.120) or 008.211 (the former 008.123).

008.320F Deutsche sprachpraxis 1 (6) Approfondissement, au moyen d'exercices pratiques, de la conversation et de la traduction (français - allemand), de l'allemand parlé et écrit, à l'aide de textes variés. L'accent sera mis sur l'étude du vocabulaire et des particularités de structure et de style. L'étudiant ne peut pas se faire créditer à la fois le 008.320 et le 008.321 ou les anciens 008.225 ou 008.226. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 008.210 (l'ancien 008.120) ou le 008.211 (l'ancien 008.123).

008.321 Business German (6) Exercises in oral and written German and translation designed to improve the student's vocabulary and ability to understand the language of economics and commerce. A review of grammar is included, but the main emphasis of the course is on the development of practical language skills. Students may not hold credit for both 008.321 and 008.320 or the former 008.225 or the former 008.226. *Prerequisite:* a grade of "C" or better in 008.210 (the former 008.120) or 008.211 (the former 008.123) or written consent of department head.

008.321F Cours d'allemand commercial (6) Initiation, au moyen d'exercices oraux et écrits, au vocabulaire commercial et aux techniques d'écriture dans le domaine des affaires. Une révision de la grammaire allemande est prévue mais l'accent sera mis sur la composition et la conversation appliquées au domaine commercial. L'étudiant(e) ne peut se faire créditer à la fois le 008.321 et le 008.320 ou l'ancien 008.225 ou l'ancien 008.226. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de "C" dans le 008.210 (l'ancien 008.120), ou 008.211 (l'ancien 008.123) ou l'approbation écrite du professeur ou de la professeure.

008.337 Deutsche Sprachpraxis 2 (6) Advanced modern German usage through translation (English-German), practical exercises and free composition; study of fictional and non-fictional texts. Emphasis on stylistic and semantic problems, idiomatic expressions and essay writing. *Prerequisite:* a grade of "C" or better in 008.320 (the former 008.225).

008.351 German Romanticism (3) Study of selected poetry, fairy tales, and Novellen by authors such as Novalis, E.T.A. Hoffmann, and Eichendorff. *Prerequisite:* a grade of "C" or better in 008.245 or the former 008.240.

008.352 German Literature in the 19th Century (6) Study of German literature after the Romantic period including works of authors such as Heine, Büchner, Mörike, Keller, Storm, Hauptmann, and Fontane; advanced language practise. *Prerequisite:* a grade of "C" or better in 008.245 or the former 008.240.

008.357 German Literature in the 18th Century (6) A study of selected texts of the Enlightenment and Classical periods, including works by Lessing, Schiller, Goethe and others; advanced language practise. *Prerequisite:* a grade of "C" or better in 008.245 or the former 008.240 or 008.224.

008.360F Sujets particuliers (3) Le contenu de ce cours peut varier selon les besoins et les intérêts des étudiants et du professeur. Donné au Collège universitaire de Saint-Boniface. *Préalable:* l'autorisation écrite du professeur.

Honours Courses

Honours courses are not currently offered.

Special Courses

008.124 German for Reading Knowledge (6) A course designed to develop reading skills. Concentrates on texts of a general nature from the Humanities, Natural and So-

cial Sciences. Introduction to grammar, translation practise (German to English only). May not be used for Major, Minor, or Honours credit in German.

008.223 A Survey of German Culture (6) Language of instruction: English. This course deals with major aspects of German culture from the early Middle Ages to the present. May not be used for Major, Minor, or Honours credit in German.

008.237 Modern German Literature in Translation (6) A study of selected works of modern authors such as Brecht, Dürrenmatt, Kafka, Hesse and Grass. No knowledge of the German language required. May not be used for Major, Minor, or Honours credit in German.

8.15.6 Slavic Studies - General Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

The following courses may be used in more than one Slavic Studies program listed below.

052.224 East European Literature 1 (3) Influential authors and works by Jewish, Polish, Russian, Ukrainian and other authors in English translation up to and including the nineteenth century.

052.225 East European Literature 2 (3) Celebrated and influential works of Jewish, Polish, Russian, Ukrainian and other literatures that describe the East European experience in English translation from the late nineteenth century to the present.

052.392 Gogol (3) A study of the author's major fiction and his influence on Russian and Ukrainian cultures and identity politics.

8.15.7 Program Information: Slavic Studies - Russian

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in six credit hours from 052.130 (or 052.133), 052.281 (or 052.282) (the former 052.262). For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in six credit hours from 052.130 (or 052.133), 052.281 (or 052.282) (the former 052.262).

8.15.8 Russian, Program Code: 052R			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL RUSSIAN MAJOR TOTAL: 30 CREDIT HOURS			
6 credit hours from 052.130, 052.133, 052.281 or 052.282	24 credit hours in Russian courses of which at least 6 hours must be in language courses numbered at the 300 level and 6 hours in literature courses numbered at the 300 level		
ADVANCED RUSSIAN MAJOR [NOT CURRENTLY OFFERED] TOTAL: 48 CREDIT HOURS			
6 credit hours from 052.130, 052.133, 052.281 or 052.282	42 credit hours in Russian courses of which 12 hours must be in language		
RUSSIAN MINOR TOTAL: 18 CREDIT HOURS			
6 credit hours from 052.130, 052.133, 052.281 or 052.282	12 credit hours in Russian courses or courses selected from List A below		
NOTES:			
The following courses count as language courses: 052.130, 052.133, 052.263, 052.281, 052.282, 052.381, 052.382, 052.393.			
The following courses count as literature courses: 052.224, 052.225, 052.228, 052.229, 052.235, 052.261, 052.274, 052.275, 052.276, 052.358, 052.377, 052.378, 052.379, 052.390, 052.392, 052.398.			

List A: Approved Courses for Russian

The following courses offered by other departments are approved for credit in the Russian Minor.

History

011.249	History of Russia (E)	6
011.266	History of the Soviet Union (E)	3
011.284	A History of Russia to 1917 (E)	3
011.318	Modern Russia: The Soviet Era and Beyond (E)	6
011.347	Histoire de la Russie moderne (E) (CUSB)	6

8.15.9 Slavic Studies - Russian Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

General Courses

052.130 Introductory Russian (6) Basic grammar, conversation and reading with emphasis on communication skills. Cultural content is introduced through a range of audio-visual materials. Not open to native speakers and students with high school Russian 41G credit. Students may not hold credit for both 052.130 and 052.133.

052.133 Introductory Russian 2 (3) The second term of 052.130 Introductory Russian. Intended for students who have already a knowledge of the alphabet and the sound system, as well as elementary comprehension, communication and writing skills equivalent to those that would be achieved in the first term of 052.130. Students may not hold credit for both 052.133 and 052.130. *Prerequisite:* successful completion of a placement test administered by the department.

052.228W Russian Culture 1 (3) A survey of the Russian cultural heritage from the pre-Christian era to the end of the nineteenth century. Mythology, the arts and literature. Lectures in English. Readings are available in both English translation and in the original. Students may not hold credit for both 052.228 and the former 052.265.

052.229W Russian Culture 2 (3) Russian culture from the end of the 19th century to the present day. Major developments in Russian art, film and literature. Readings are available in both English translation and in the original. Students may not hold credit for both 052.229 and the former 052.266.

052.235W Russian Women's Writing from the 1950s to the Present Day (3) Greko-

va, Klimova, Palei, Petrushevskaya, Sadur, Tokareva, Tolstaya, Vasilenko and others. Lectures in English. Readings in English or in the original.

052.261W Russian Literature: Medieval to Modern (6) A survey of Russian Literature from the Middle Ages to the present. Representative authors and works selected from each period. Lectures in English. Readings in the original or in English.

052.263 Russian Language Seminar Abroad (3) The study of Russian language, literature and culture at an intensive language school in Eastern Europe. Designed for students aiming at near-native fluency. *Prerequisite:* a grade of "C" or better in 052.130 and written consent of department head.

052.274 Literature and Revolution (3) Responses to the 1917 Revolution, focusing on writers of the twenties. Mayakovsky, Kollontai, Babel, Olesha, Zamyatin, Pilnyak, Bulgakov. References to art, cinema and cultural politics of the period. Lectures in English. Students may not hold credit for both 052.274 and the former 052.374.

052.275W Contemporary Russian Literature and Film (3) A survey of contemporary Russian literature and films since 1970. Erofeev, Iskander, Makanin, Peleev, Petrushevskaya, Tolstaya, Voznesensky, Vysotsky and others. Films directed by Bykov, Milchalkov, Tarkovsky. The interrelationship between literature and films. Lectures in English. Readings in English or in the original. Films in Russian with English subtitles. Students may not hold for credit both 052.275 and the former 052.375.

052.276 The Silver Age of Russian Literature (3) Chekhov, Symbolists, Decadents and Futurists. Reference to the theatre and art of the period. Lectures in English. Readings in the original or in English. Students may not hold credit for both 052.276 and the former 052.376.

052.281 Intermediate Russian (6) Grammar review, conversation, translation and reading of selected texts. Development of communication skills through practical exercises. Cultural content is introduced through use of audio-visual and internet materials. Students may not hold credit for both 052.281 and 052.282 or the former 052.262. *Prerequisite:* a grade "C" or better in 052.130 or 052.133 or Russian 41G or written consent of department head.

052.282 Intermediate Russian 2 (3) The second term of 052.281 Intermediate Russian. Intended for students who already have basic comprehension, communication and writing skills equivalent to those that would be achieved in the first term of 052.281. Students may not hold credit for both 052.282 and 052.281 or the former 052.262. *Prerequisite:* successful completion of a placement test administered by the department.

052.358 Russian Poetry (3) A study of major Russian poetry of the 19th and 20th cen-

turies, including works by Pushkin, Lermontov, Tiutchev, Fet, Block, Mayakovsky, Akhmatova, Esenin, Evtushenko, Vinokurov, Kazakova. Lectures and readings in Russian. *Prerequisite:* a grade of "C" or better in one of: 052.393, 052.394 or the former 052.380, or written consent of department head.

052.377W Tolstoy (3) A study of the novelist that focuses on the development of the aesthetic views and intellectual biography. Representative works from his early, middle and late period will be selected for analysis. Lectures in English. Readings in the original or in English.

052.378 Dostoevsky (3) A study that focuses on the writer's art, in particular on his development of the polyphonic novel. Lectures in English. Readings in the original or in English.

052.379 Special Studies (3) The content of this course will vary from year to year, depending on the needs and interests of instructors and students. A description of the course is available in advance at the department office. *Prerequisite:* written consent of department head.

052.381 Readings in Russian 1 (3) Advanced Russian language study through readings and analysis of literary texts. *Prerequisite:* a grade of "C" or better in one of: 052.281, 052.282, 052.393, 052.394, or the former 052.262 or 052.380, or written consent of department head.

052.382 Readings in Russian 2 (3) Advanced Russian language study through readings and analysis of non-fictional texts, both of a general nature and specialized, depending on the needs of students. *Prerequisite:* a grade of "C" or better in one of: 052.281, 052.282, 052.393, 052.394, or the former 052.262 or 052.380, or written consent of department head.

052.390 Tolstoy's War and Peace (3) This writer's art, view of history and human nature. References to film versions. Lectures in English. Readings in the original or in English.

052.393 Advanced Russian (6) Advanced composition, translation, reading and study of selected literary and other texts. Development of overall communication skills. Students may not hold credit for both 052.393 and 052.394 or the former 052.380. *Prerequisite:* a grade "C" or better in 052.281 or 052.282 or written consent of department head.

052.394 Advanced Russian 2 (3) The second term of 052.393 Advanced Russian. Intended for students who already have intermediate level comprehension, communication and writing skills equivalent to those that would be achieved in the first term

of 052.393. Students may not hold credit for both 052.394 and 052.393 or the former 052.380. *Prerequisite:* successful completion of a placement test administered by the department.

052.398W Women and Russian Literature (3) A study of the literature produced by Russian women writers in the nineteenth and early twentieth centuries, including an examination of key issues raised in works by writers such as Bunina, Durova, Volkonskaia, Pavlova, Guro, Gippius, Forsh, Akhmatova, Tsvetaeva, and Chukovskaia. Lectures in English. Readings in the original and/or in English.

8.15.10 Program Information: Slavic Studies - Ukrainian

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Advanced Major Program

The Advanced Major is not currently offered.

General Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in six credit hours from 052.131 (or 052.132), 052.272 (or 052.273) (the former 052.264). For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in six credit hours from 052.131 (or 052.132), 052.272 (or 052.273) (the former 052.264).

8.15.11 Ukrainian, Program Code: 052U

UNIVERSITY 1

YEAR 2

YEAR 3

YEAR 4

GENERAL UKRAINIAN MAJOR TOTAL: 30 CREDIT HOURS

6 credit hours from 052.131, 052.132, 052.272 or 052.273

24 credit hours in Ukrainian courses or courses selected from List A below of which at least 6 credit hours must be in language courses numbered at the 300 level and 6 credit hours in literature courses numbered at the 300 level

ADVANCED UKRAINIAN MAJOR [NOT CURRENTLY OFFERED] TOTAL: 48 CREDIT HOURS

6 credit hours from 052.131, 052.132, 052.272 or 052.273

42 credit hours in Ukrainian courses of which 12 credit hours must be in language

UKRAINIAN MINOR TOTAL: 18 CREDIT HOURS

6 credit hours from 052.131, 052.132, 052.272 or 052.273

12 credit hours in Ukrainian courses or courses selected from List A below of which at least 3 credit hours must be in literature

NOTES:

The following courses count as language courses: 052.123, 052.127, 052.131, 052.132, 052.223, 052.272, 052.273, 052.370, 052.386, 052.387, 052.395, 052.396.

The following courses count as literature courses: 052.224, 052.225, 052.242, 052.243, 052.251, 052.252, 052.255, 052.259, 052.267, 052.268, 052.271, 052.367, 052.384, 052.385, 052.388, 052.391, 052.392, 052.397.

List A: Approved Courses for Ukrainian

The following courses offered by other departments are approved for credit in the Ukrainian Major/Minor.

History

011.255	History of Ukraine (E)	6
011.303	Issues in Ukrainian History (E)	3

8.15.12 Slavic Studies - Ukrainian Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

General Courses

052.123 Language Seminar in Ukraine 1 (3) The study of language, literature and culture at an intensive language school in Ukraine. The course is designed for students aiming at near-native fluency. *Prerequisite:* a grade of "C" or better in 052.131 or its equivalent and written consent of department head.

052.127 Conversational Ukrainian (6) Readings, dialogues, speeches, dictations, etc., designed to help the student achieve oral fluency and correct pronunciation. Regular attendance is obligatory. May not be used for Major or Minor credit in Ukrainian. Not open to students who have previously obtained credit for the former 052.264 or 052.383. *Prerequisite:* a grade of "C" or better in 052.131 or written consent of department head.

052.131 Introductory Ukrainian (6) Basic grammar, conversation, composition and reading. Emphasis is placed on communication skills. Cultural content is introduced through a range of audio-visual materials. Not open to native speakers and students with Ukrainian 40S credit. Students may not hold credit for both 052.131 and 052.132.

052.132 Introductory Ukrainian 2 (3) This course is the second term of 052.131 Introductory Ukrainian, and is intended for students who already have a knowledge of the alphabet and the sound system and elementary oral comprehension and reading, writing, and speaking skills equivalent to those that would be achieved in the first term of 052.131. Students may not hold credit for both 052.132 and 052.131. *Prerequisite:* successful completion of a placement test administered by the department.

052.223 Language Seminar in Ukraine 2 (3) The study of language, literature and culture at an intensive language school in Ukraine. The course is designed for students who wish to attain near-native fluency. *Prerequisite:* a grade of "C" or better in the former 052.264 or its equivalent and written consent of department head.

★**052.242 Ukrainian Canadian Literature** (3) A study of Ukrainian Canadian poetry, drama, fiction, and literary criticism and their relationship to letters in Ukraine. Emphasis will be placed on the representative works of Ewach, Danylchuk, Kiriak, Luho-vy, and others. May not be used for Major or Minor credit in Ukrainian. *Prerequisite:* a grade of "C" or better in the former 052.264 or written consent of department head.

★**052.243 Ukrainian Canadian Folklore** (3) A survey of folk songs, stories, legends, beliefs, customs, traditions, and nomenclature of Ukrainian Canadians in relationship to folklore in Ukraine. May not be used for Major or Minor credit in Ukrainian. *Prerequisite:* a grade of "C" or better in the former 052.264 or written consent of department head.

052.251 Ukrainian Mythology (3) An introduction to Ukrainian folk and classical mythology and beliefs, from pre-history to recent times. Readings in the original and in English. *Prerequisite:* a grade of “C” or better in the former 052.264 or written consent of department head.

052.252 Ukrainian Rites and Rituals (3) A study of rites and rituals connected with the winter, spring, summer and autumn cycles; family and community festivities, from pre-historic to the present. Readings in the original and/or in English.

052.255W Introduction to Ukrainian Literature (6) A survey course designed to acquaint students with the development of Ukrainian literature and with major writers. Lectures in English. Readings in the original or in English.

052.259 Ukrainian Literature and Film (3) An examination of the relationship between Ukrainian cinematography and literature. Students read literary works which have inspired films and analyze the unique formal qualities of each. The course considers the stylistic influence of film on literature and vice versa; the relationship between writer and director, especially in the case where they are one and the same person. Readings in the original and/or in English. Films in Ukrainian with English subtitles or plot summaries.

052.267W Ukrainian Civilization 1 (3) A survey that examines the Ukrainian cultural heritage from the pre-Christian era, through medieval times and the baroque to the end of the 19th century. Issues in mythology, religion, the arts and literature are discussed. Lectures in English. Readings are available in both English translation and in the original.

052.268W Ukrainian Civilization 2 (3) Ukrainian culture from the end of the nineteenth century to the present day. Major trends in Ukrainian thought, art, film and literature. Lectures in English. Readings are available in both English translation and in the original.

052.271 Ukrainian Literature of the 16th to 18th Centuries (3) Religious polemics, art and ideology in the writings of the period. Students may not hold credit for both 052.271 and the former 052.371.

052.272 Intermediate Ukrainian (6) Grammar review, conversation, translation and reading of selected texts. Development of communication skills through practical exercises. Cultural content is introduced through audio-visual materials. Students may not hold credit for both 052.272 and 052.273 or the former 052.264. *Prerequisite:* a grade of “C” or better in 052.131 or 052.132, or Ukrainian 40S, or written consent of department head.

052.273 Intermediate Ukrainian 2 (3) This course is the second term of 052.272 Intermediate Ukrainian, and is intended for students who already have basic oral comprehension and reading, writing, and speaking skills equivalent to those that would be achieved in the first term of 052.272. Students may not hold credit for both 052.273 and 052.272 or the former 052.264. *Prerequisite:* successful completion of a placement test administered by the department.

052.367 Contemporary Ukrainian Literature (3) A study of poetry, prose, drama and essays from the 1960s to the present. Lectures in English. Readings in the original or in English. *Prerequisite:* a grade of “C” or better in 052.255 or written consent of department head.

052.370 Church Slavic: Ukrainian Version (3) Basic grammar, vocabulary and pronunciation; reading, translation and analysis of selected old Church Slavic texts. May not be used for Major or Minor credit in Ukrainian. *Prerequisite:* a grade of “C” or better in the former 052.383 or written consent of department head.

052.384 Ukrainian Novel (3) A study of representative novels of the 19th and 20th centuries. The course begins with the Romantic period and ends with contemporary writing. Lectures in English. Readings in the original or in English. *Prerequisite:* a grade of “C” or better in 052.255 or written consent of department head.

052.385 Ukrainian Short Story (3) A study of representative short stories which begins with the ethnographic concerns of early 19th-century writers and ends with the formal experimentation of contemporaries. Lectures in English. Readings in the original and in English. *Prerequisite:* a grade of “C” or better in 052.255 or written consent of department head.

052.386 Readings in Ukrainian 1 (3) Advanced Ukrainian language study through readings and analysis of literary texts. *Prerequisite:* a grade of “C” or better in the former 052.383.

052.387 Readings in Ukrainian 2 (3) Advanced Ukrainian language study through readings and analysis of non-fictional texts, both of a general nature and specialized, depending on the needs of students. *Prerequisite:* a grade of “C” or better in the former 052.383.

052.388 Special Studies (3) The content of this course will vary from year to year, depending on the needs and interests of instructors and students. A description of the course is available in advance at the department office. *Prerequisite:* written consent of department head.

052.391W Shevchenko (3) A study of the greatest works, focussing on the writer’s intellectual and artistic development. References to his art and the imperial context. Lectures in English. Readings in the original and/or in English.

052.395 Advanced Ukrainian 1 (3) Advanced composition, translation, readings and study of selected literary and other texts. Development of oral and comprehension skills through study of contemporary film, television and other audio-visual materials. Students may not hold credit for both 052.395 and the former 052.383. *Prerequisite:* a grade of “C” or better in 052.272 or 052.273 or the former 052.264 or written consent of department head.

052.396 Advanced Ukrainian 2 (3) A continuation of 052.395 Advanced Ukrainian 1. Continued work in advanced composition, translation, readings and study of selected literary and other texts. Continued development of oral and comprehension skills through study of contemporary film, television and other audio-visual materials. Students may not hold credit for both 052.396 and the former 052.383. *Prerequisite:* a grade of “C” or better in 052.395 or written consent of department head.

052.397W Women and Ukrainian Literature (3) A study of the literature produced by Ukrainian women writers in the nineteenth and early twentieth centuries, including an examination of key issues raised in works by writers such as Vovchok, Pchilka, Kobrynska, Ianovska, Kobylanska, Iaroshynska, and Ukrainka. Lectures in English. Readings in the original and/or in English.

8.15.13 Program Information: Slavic Studies - Polish

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Minor Program

For entry to the Minor, the prerequisite is a grade of “C” or better in 052.189.

8.15.14 Polish, Program Code: 052P			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
POLISH MINOR¹ TOTAL: 18 CREDIT HOURS			
052.189	052.289	052.232 or 052.389	
NOTES:			
¹ Students entering university with a knowledge of Polish, but without Grade 12 standing, may be granted written permission by the department head to enter 052.289.			

8.15.15 Slavic Studies - Polish Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

General Courses

052.189 Introductory Polish (6) Basic grammar, conversation, composition, readings, language laboratory sessions.

052.232 An Outline of Polish Literature (6) A study of selected works from major literary periods and genres, including contemporary literature and film screenings of some literary works. All readings and lectures in English.

052.253 Polish Civilization (6) A survey of Polish civilization from its beginnings to the present. All readings and lectures in English.

052.269 Polish Language and Culture (6) Offered as part of the Summer Session, this course is a study experience in Poland. The program features practical language training and an exploration of the Polish culture. *Prerequisite:* written consent of instructor.

052.289 Intermediate Polish (6) Grammar review, composition, translation, readings of selected prose and poetry. Students may not hold credit for 052.289 and the former 052.122. *Prerequisite:* a grade of “C” or better in 052.189 or written consent of department head.

052.389 Advanced Polish (6) Syntax, advanced composition, readings and study of selected prose and poetry. Students may not hold credit for both 052.389 and the former 052.260. *Prerequisite:* a grade of “C” or better in 052.289 or written consent of department head.

8.16 Global Political Economy Program

Program Coordinator: Rodney Kueneman

Program Office: 302 Isbister Building

Telephone: 204 474 9260

Website: www.umanitoba.ca/faculties/arts/gpe/

E-mail: kuenemn@cc.umanitoba.ca

8.16.1 Program Information

The departments of Anthropology, Economics, History, Political Studies and Sociology collaborate in a Major and Advanced Major that explores change in social, economic, political and international relations that have re-shaped and continue to re-shape the world. The public and private sectors, as well as non-governmental agencies, must understand the global

forces that affect their international relationships as well as those that affect their internal ability to respond to restructuring forces around them.

For entry to the Major, the prerequisite is a grade of "C" or better in any 12 credit hours from the following: 018.120 (or 018.121 and 018.122); 077.120; 019.150; (no more than 6 credit hours from) 011.137, 011.138, 011.150, 011.238, 011.272.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Note: Students who declare and complete a major will not be required or allowed to complete a separate field for a minor for purposes of satisfying degree requirements.

8.16.2 Global Political Economy, Program Code: 157

UNIVERSITY 1

YEAR 2

YEAR 3

YEAR 4

GENERAL MAJOR TOTAL: 60 CREDIT HOURS

- Anthropology: 076.239; 076.332
- Economics: 018.120 or 018.121 and 018.122; 018.254; 018.255; 018.263
- History: 12 credit hours from: 011.137, 011.138, 011.150, 011.238, 011.272
- Political Studies: 019.150; 019.253
- Sociology: 077.120; 077.347 or 077.369

ADVANCED MAJOR TOTAL: 78 CREDIT HOURS

- Anthropology: 076.239; 076.332; 076.375
- Economics: 018.120 or 018.121 and 018.122; 018.254; 018.255; 018.263
- Global Political Economy: 157.270; 157.470
- History: 12 credit hours from: 011.137, 011.138, 011.150, 011.238, 011.272
- Political Studies: 019.150; 019.383
- Sociology: 077.120; 077.229; 077.347 or 077.369

List of Courses for Global Political Economy

See the departmental *Calendar* section for full course descriptions.

Anthropology

076.239 Social Organization in Cross-Cultural Perspective (B) 6

076.332 Women in Cross-Cultural Perspective (B) 3

076.375 Globalization and the World-System (B) 3

Economics

018.120 Principles of Economics 6

018.121 Introduction to Canadian Economic Issues and Policies and 3

018.122 Introduction to Global and Environmental Economic Issues and Policies 3

018.254 Political Economy 1: Production and Distribution 3

018.255 Political Economy 2: Economic Growth and Fluctuations in a Global Economic Environment 3

018.263 An Introduction to the World's Economies 6

Global Political Economy

157.270 Perspectives on Global Political Economy 3

157.470 Studies in Global Political Economy 6

History

011.137 An Introduction to Modern World History: 1500-1800 (M) 3

011.138 An Introduction to Modern World History: 1800 - Present (M) 3

011.150 An Introduction to Modern World History: 1500 - Present (M) 6

011.238 The Twentieth-Century World (G,M) 6

011.272 The World Since 1945 (G,M) 6

Political Studies

019.150 Introduction to Politics 6

019.253 Elements of Foreign Policy (Required in General degree only. Recommended elective in the Advanced degree.) 6

019.383 The Politics of International Economic Relations (Required in Advanced degree only. Recommended elective in the General degree.) 6

Sociology

077.120 Introduction to Sociology 6

077.229 Introduction to Research Methods 6

077.347 Political Sociology 3

077.369 Sociology of the Developing Societies 3

List of Suggested Electives

Faculty of Arts

Anthropology

076.122 Cultural Anthropology (A) 3

or

076.152 Critical Cultural Anthropology (A) 3

076.244* Peasant Society and Culture (B) 3

076.246 Peasantry in a Changing World (B) 3

076.251 Anthropology of Economic Systems (B) 3

076.253 Anthropology of Political Systems (B) 3

076.257 Urban Anthropology (B) 3

076.338 Anthropology and Contemporary Social Issues (B) 3

Asian Studies

150.142 Asian Civilizations to 1500 (Cross-listed with History 011.142) 3

150.143 Asian Civilizations Since 1500 (Cross-listed with History 011.143) 3

150.207 South Asian Civilization 6

150.211 East Asian Civilization 6

Economics

018.249 Economic Accounting 3

018.256 Corporations in the Global Economy 3

018.339	Development Economics	6	Sociology	
018.366	Economic Ideas and Social Institutions	6	077.248	Population Problems 3
018.371	Sustainable Development: Issues and Policy	3	077.384	Community and Social Reconstruction 3
018.451	Economy and State in a Modern Period: Western Europe and North America	6	077.387	Social Inequality 3
History				
011.267	History of Capitalism (M,S)	3	Faculty of Environment	
011.268	History of Socialism from the French Revolution to the Present (M,S)	3	Geography	
011.271	Women in History (S)	6	053.128	Introductory Human Geography 3
011.341	The British Empire and Commonwealth Since 1815 (G)	6	053.221	Economic Geography 6
011.358	Topics in Recent World History 1 (M)	3	053.359	Geography of Developing Countries 6
011.359	Topics in Recent World History 2 (M)	3	053.380	Geography of Transportation Development 3
011.401	Imperialism, Decolonization and Neo-Colonialism, 1700 to the Present (G,M)	6	053.464	Models in Urban Geography 3
011.432	Studies in World History since 1945 (G,M)	3	* No longer offered	
Political Studies				
019.156*	Introduction to Canadian Government	6	8.16.3 Global Political Economy Course Descriptions	
019.204	Introduction to Canadian Government	6	For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.	
019.273	International Conflict Resolution	6	157.270 Perspectives on Global Political Economy (3) An interdisciplinary seminar exploring issues in political economy at the global level from the perspectives of Anthropology, History, Economics, Political Studies, and Sociology. <i>Prerequisite:</i> written consent of Global Political Economy coordinator.	
019.343	Comparative Foreign Policy	3	157.470 Studies in Global Political Economy (6) An advanced interdisciplinary seminar that will study the effects of institutions, structures, and dynamics operating in the current global political economy. Students, working in groups, will be expected to do case studies on selected local (or regional) political economies. <i>Prerequisite:</i> written consent of Global Political Economy coordinator.	
019.453	Regionalism in International Politics	3		
019.466	The State in the Economy	6		

8.17 Department of History

Head: Mary Kinnear

General Office: 403 Fletcher Argue Building

Telephone: 204 474 9613

Website: www.umanitoba.ca/faculties/arts/history/

E-mail: history@umanitoba.ca

8.17.1 Academic Staff

Professors Emeriti

Carroll, F.M., B.A., M.A. (Minnesota), Ph.D. (Dublin); **Lebrun**, R.A., B.A. (St. John's), M.A., Ph.D. (Minnesota); **Sandiford**, K.A.P., B.A.(Hons.) (UCWI), M.A., Ph.D. (Toronto); **Wortley**, J.T., B.A., M.A. (Durham), Ph.D. (London), F.R. Hist.S.

Distinguished Professors

Anna, T.E., B.A., M.A., Ph.D. (Duke), F.R.S.C.; **Friesen**, G.A., B.A.(Hons.) (Saskatchewan), M.A., Ph.D. (Toronto), F.R.S.C.

Senior Scholars

Kendle, J.E., B.A. (Manitoba), Ph.D. (London), F.R. Hist. S.; **Kerr**, I.J., B.A. (Pennsylvania), Ph.D. (Minnesota); **Moulton**, E.C., B.A.(Ed.), M.A. (Memorial), Ph.D. (London); **Steiman**, L.B., B.A.(Hons.) (Manitoba), M.A., Ph.D.(Pennsylvania); **Vadney**, T.E., B.A.(Hons.) (Toronto), M.A., Ph.D. (Wisconsin).

Professors

Bailey, P.C., B.A. (Hons.), M.A. (Oxford), Ed.Cert. (Manchester), Ph.D. (UBC); **Bumsted**, J.M., B.A. (Tufts), Ph.D. (Brown); **Ferguson**, B.G., B.A.(Hons.) (UBC), M.A. (Carleton), Ph.D. (York); **Finlay**, J.L., B.A., M.A. (Cambridge), Ed.Cert. (Nottingham), Ph.D. (Manitoba); **Gerus**, O.W., B.A., M.A. (Manitoba), Ph.D. (Toronto); **Heller**, H., B.A. (Michigan), Ph.D. (Cornell); **Kinnear**, E. Mary, B.A. (Hons.), M.A. (Oxford), Ph.D. (Oregon), F.R.S.C.; **Kinnear**, M.S.R., B.A. (Saskatchewan), M.A. (Oregon), D.Phil.(Oxford), F.R. Hist.S.; **Rea**, J.E., B.A., M.A. (Manitoba), Ph.D. (Queen's); **Stambrook**, F.G., B.A. (Hons.)(Oxford), B.Sc.(Econ.)(Hons.), Ph.D. (London).

Associate Professors

Friesen, Jean, B.A. (McGill), Ph.D. (UBC); **Gabbert**, M.A., B.A. (Lewis and Clark), M.A., Ph.D.(U.C. Santa Barbara); **Nesmith**, T.C., B.A.(Hons.), M.A. (Queen's), Ph.D. (Carleton).

Assistant Professors

Brownlie, R., B.A., M.A., Ph.D. (Toronto); **Chen**, T.M., B.A. (Toronto), M.A., Ph.D. (Wisconsin); **Churchill**, D.S., B.A. (Hons.)(Trent), M.A. (Toronto), Ph.D. (Chicago); **Cossar**, R., B.A.(Hons.) (McGill), M.A., Ph.D. (Toronto); **Perry**, A., B.A. (Simon Fraser), M.A., Ph.D. (York); **Ravindran**, V., B.Sc.

(Hons.) (Calgary), M.A. (Toronto), Ph.D. (Toronto); **Smith**, G.T., B.A. (Hons.) (U.B.C), M.A., Ph.D. (Toronto).

8.17.2 Program Information

The study of history provides essential background for many disciplines and professions where research, communications skills and an understanding of how past events influence the present are important. The department includes specialists in intellectual, cultural, social, medieval, Aboriginal, women's, and international history. A particular area of departmental specialization is Canadian and western Canadian history.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in the first six credit hours of History. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

When selecting 200-level courses in Year 2, students should anticipate their future interests.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in the first six credit hours of History.

Honours Program

For entry to the Honours Program, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Normally, to continue in Honours, a minimum grade of "B" must be obtained in all History courses.

History 011.440 or 011.458 is recommended in Year 4 for students intending to do graduate work.

Other

At most, 12 credit hours at the 100-level in History may count for a B.A. General, B.A. Advanced, or B.A. Honours degree credit.

Courses 076.236 offered by the Department of Anthropology, and 003.260 and 003.261 offered by the Department of Classics count for cred-

it towards a General Major, Advanced Major, Honours Single or Honours Double in History, 003.260 and 003.261 also count for credit towards a Minor in History.

8.17.3 History, Department Code: 011			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
6 credit hours in History courses numbered at the 100 or 200 level or 3 credit hours in History courses numbered at the 100 level and 3 credit hours in History courses numbered at the 200 level	12 credit hours in History courses numbered at the 200 level Within the 30 credit hours, students must choose 6 credit hours from each of 3 different areas of study.	<ul style="list-style-type: none"> ● 6 credit hours in History courses numbered at the 300 level ● 6 credit hours in History courses numbered at the 200 or 300 level 	
ADVANCED MAJOR TOTAL: 48 CREDIT HOURS			
6 credit hours in History courses numbered at the 100 or 200 level or 3 credit hours in History courses numbered at the 100 level and 3 credit hours in History courses numbered at the 200 level	18 credit hours in History courses numbered at the 200 level Within the 48 credit hours, students must choose 6 credit hours from each of 3 different areas of study.	18 credit hours in History courses numbered at the 300 level, <ul style="list-style-type: none"> or 12 credit hours in History courses numbered at the 300 level and 6 credit hours in History courses numbered at the 200 level, or 12 credit hours in History courses numbered at the 300 level and 6 credit hours in History courses numbered at the 400 level 	6 credit hours in History courses numbered at the 400 level
MINOR TOTAL: 18 CREDIT HOURS			
6 credit hours in History courses numbered at the 100 or 200 level or 3 credit hours in History courses numbered at the 100 level and 3 credit hours in History courses numbered at the 200 level	6 credit hours in History courses numbered at the 200 level	6 credit hours in History courses numbered at the 200 or 300 level	
HONOURS SINGLE¹			
6 credit hours in History courses numbered at the 100 or 200 level or 3 credit hours in History courses numbered at the 100 level and 3 credit hours in History courses numbered at the 200 level	<ul style="list-style-type: none"> ● 18 credit hours in History courses numbered at the 200 level or 12 credit hours in History courses numbered at the 200 level and 6 credit hours in History courses numbered at the 300 level ● 12 credit hours in ancillary options 	<ul style="list-style-type: none"> ● 6 credit hours in History courses numbered at the 300 level ● 12 credit hours in History courses numbered at the 400 level ● 6 credit hours in ancillary options 	<ul style="list-style-type: none"> ● 18 credit hours in History courses numbered at the 400 level, including presentation of an Honours Paper prepared in conjunction with one of the History courses² numbered at the 400 level ● 6 credit hours in ancillary options
Honours students must choose from a minimum of three different defined areas of historical study.			
HONOURS DOUBLE¹			
6 credit hours in History courses numbered at the 100 or 200 level or 3 credit hours in History courses numbered at the 100 level and 3 credit hours in History courses numbered at the 200 level	<ul style="list-style-type: none"> ● 12 credit hours in History courses numbered at the 200 level or 6 credit hours in History courses numbered at the 200 level and 6 credit hours in History courses numbered at the 300 level ● 12 credit hours in other Honours field ● 6 credit hours in ancillary options 	<ul style="list-style-type: none"> ● 6 credit hours in History courses numbered at the 300 level ● 6 credit hours in History courses numbered at the 400 level ● 12 credit hours in other Honours field 	<ul style="list-style-type: none"> ● 12 credit hours in History courses numbered at the 400 level, including presentation of an Honours Paper prepared in conjunction with one of the History courses² numbered at the 400 level ● 12 credit hours in other Honours field
Honours students must choose from a minimum of three different defined areas of historical study.			

NOTES:

¹ Students, particularly those intending to proceed to a graduate program, are encouraged to study a second language during the course of their Honours program.

² Details of the Year 4 Honours paper are available from the head of the History department.

History courses are arranged into groups and areas of study as follows:

Groups:	Areas:
numbered at the 100 level: Introductory	A: The Americas
numbered at the 200 level: General	B: Asian
numbered at the 300 level: Special	C: Canadian
numbered at the 400 level: Honours	D: Ancient and Medieval
	E: European
	G: General
	M: Modern World
	S: Social

For information regarding Cross-Disciplinary Programs, see Section 8.6 and for Canadian Studies, see Section 8.3. Courses applicable to Canadian Studies have the symbol ✦.

8.17.4 History Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

The letter “F” following course numbers indicates courses given in French at Collège universitaire de Saint-Boniface.

Group 1: Introductory Courses

011.120W An Introduction to the History of Western Civilization (G) (6) An introductory survey of the cultural history of the Western world from the ancient Greeks to the present. Students may not hold credit for both 011.120 and 011.135 or 011.136.

011.120F Initiation à la civilisation occidentale (G) (6) Aperçu de l'histoire culturelle du monde occidental de l'antiquité grecque à nos jours. L'étudiant(e) ne peut se faire créditer à la fois le 011.120 et le 011.135 ou 011.136. Donné au Collège universitaire de Saint-Boniface.

011.126W New Directions in History: Inquiries into the Cultural Basis of the Modern World (S) (3) The history of cultural change focusing on such topics as leisure and popular culture, sexuality and history, and the social consequences of creativity and genius. The specific content will vary from year to year.

011.127W New Directions in History: Inquiries into the Power Relations of the Modern World (S) (3) The history of the social and cultural impact of factors such as changes in technology and communication, warfare, and revolution. The specific content will vary from year to year.

011.131W Canada-United States: Contemporary Problems in Perspective: Initial Problems (G) (3) An examination of such issues as the founding of new societies in New France and New England; the development of republican and responsible governments; and the industrialization of the American and Canadian nations.

011.132W Canada-United States: Contemporary Problems in Perspective: Current Problems (G) (3) An examination of such issues as the evolution of the modern state system in Canada and in the United States; the impact of urbanization and foreign affairs in the nuclear age.

011.135W An Introduction to the History of Western Civilization to 1500 (G) (3) An introductory survey of the cultural history of the Western World from the earliest civilizations to 1500. Students may not hold credit for both 011.135 and 011.120.

011.136W An Introduction to the History of Western Civilization from 1500 (G) (3) An introductory survey of the cultural history of the Western World from 1500 to the present. Students may not hold credit for both 011.136 and 011.120.

011.137W An Introduction to Modern World History: 1500-1800 (M) (3) A study of the forces which created the modern world, including the rise of capitalism and the encounter of Western and non-Western societies. Students may not hold credit for both 011.137 and 011.150.

011.138W An Introduction to Modern World History: 1800-Present (M) (3) A study of the forces which created the modern world, including industrialization, imperialism, decolonization, and the emergence of revolution and counter-revolution. Students may not hold credit for both 011.138 and 011.150.

✦ **011.139W History of Colonial Canada: 1500-1885** (C) (3) A study of the development of Canada from its colonial origins to the completion of national and transcontinental unification. Emphasis is on French Canada, Indian-European cultural contact, regional life and social organization, impact of colonialism, and the creation of a national state. Students may not hold credit for both 011.139 and 011.144 or the former 011.133.

✦ **011.140W History of the Canadian Nation since 1867** (C) (3) A study of the national development of Canada to the present. Emphasis is placed on French Canada, the regional life and social organization of the country, the impact of continentalism, the development of the economy, and the rise of a national sentiment. Students may not hold credit for both 011.140 and 011.144 or the former 011.133.

011.141W Asian Civilizations (B) (6) A study of major themes in the history and culture of China and Japan, the Indian Subcontinent and Southeast Asia, from ancient times to the contemporary period. Students may not hold credit for both 011.141 and 011.142 or 011.143. Also offered as Asian Studies 150.141. Students may not hold credit for both 011.141 and 150.141 or the former 099.141.

011.142W Asian Civilizations to 1500 (B) (3) A study of major themes in the history and culture of China and Japan, the Indian subcontinent and Southeast Asia from ancient times to around 1500. Students may not hold credit for both 011.142 and

011.141. Also offered as Asian Studies 150.142. Students may not hold credit for both 011.142 and 150.142 or the former 099.142.

011.143W Asian Civilizations from 1500 (B) (3) A study of major themes in the history and culture of China and Japan, the Indian subcontinent and Southeast Asia in modern times. Students may not hold credit for both 011.143 and 011.141. Also offered as Asian Studies 150.143. Students may not hold credit for both 011.143 and 150.143 or the former 099.143.

✦ **011.144W History of Canada** (C) (6) A study of Canadian development from earliest days to the present. Emphasis is placed on Aboriginal societies, the history of French Canada, the regional life and social organization of the country, the impact of colonialism and continentalism, and the rise of nationalisms. Students may not hold credit for both 011.144 and 011.139, 011.140 or the former 011.133.

✦ **011.144F Histoire du Canada** (C) (6) Étude de l'évolution générale du Canada, des “origines” à nos jours. À travers un survol des principales périodes, régions, groupes, personnages et institutions qui ont contribué à la formation et à la transformation de la société canadienne, il s'agira d'illustrer la richesse et la complexité des rapports humains dans le temps et l'espace. L'étudiante ou l'étudiant ne peut se faire créditer à la fois le 011.144 et 011.139, 011.140 ou l'ancien 011.133. Donné au Collège universitaire de Saint-Boniface.

011.150W An Introduction to Modern World History: 1500-Present (M) (6) A study of the forces which created the modern world, including the rise of capitalism, colonial expansion from the 15th Century on, and the emergence of revolution and counter-revolution in the 20th Century. Students may not hold credit for both 011.150 and 011.137 or 011.138.

Group 2: General Courses

011.204F Histoire des Etats-Unis jusqu'en 1877 (A) (3) Une vue générale du développement du peuple américain et de l'établissement jusqu'à la période de Reconstruction. L'étudiant(e) ne peut se faire créditer à la fois le 011.204 et le 011.223. Donné au Collège universitaire de Saint-Boniface.

011.205W South Asia since 1947 (B) (3) A comparative history of India, Pakistan, Bangladesh and Sri Lanka since their achievement of independence in the late 1940s.

011.206W The Emergence of the Medieval World (D) (3) A survey of the decline of the ancient world and the emergence of medieval societies in Europe and the east Mediterranean area from ca. 284-800 A.D.

011.207W The Early and High Middle Ages, 800-1300 A.D. (D) (3) A survey of medieval European history from the Carolingian empire to the death of Boniface VIII.

011.208W The Byzantine Empire and the Slavic World (D) (3) A study of the rise and fall of the “later Roman Empire” and of its relations with Russia, Bulgaria, Serbia and the west (i.e., in the crusades), 800-1261 A.D.

011.209W The Middle Ages in Decline (D) (3) A survey of the late middle ages from the establishment of the papal court at Avignon to the fall of the Kingdom of Grenada in 1492.

011.213W Emergence of Modern South Asia: 1757-1947 (B) (3) A survey of major developments in the modern history of the Indian subcontinent with particular reference to colonialism and nationalism and to the 20th Century emergence of India, Pakistan, and Bangladesh.

011.214W Colonial Latin America (A) (3) A survey of the major developments in Latin America from the Indigenous cultures and European Conquest to Independence in 1821.

011.215W Independent Latin America (A) (3) A survey of the major developments in Latin America from Independence in 1821 to the present.

011.218W The History of Catholicism to 1540 (S) (3) The history of Roman Catholicism from the first century to 1540. Emphasis will be placed on the external forces and internal developments that have shaped Catholicism.

✦ **011.219F Histoire économique et sociale canadienne du XIXe siècle** (C) (6) Ce cours aborde l'émergence de l'industrialisation au Canada et ses effets sur la société canadienne. La mise en place d'une bourgeoisie industrielle et d'un prolétariat sera examinée attentivement de même que ses implications sur la société canadienne. Donné au Collège universitaire de Saint-Boniface.

011.221W History of Britain, 1485 to the Present (E) (6) A general survey of British history from 1485 to the present. Emphasis is placed on constitutional, political, and diplomatic themes; social, economic, and cultural factors are also discussed.

011.221F Histoire d'Angleterre depuis 1485 (E) (6) Aperçu du progrès et du développement de la Grande-Bretagne depuis 1485 jusqu'à l'époque contemporaine inclusivement. Donné au Collège universitaire de Saint-Boniface.

011.223W History of the United States from 1607 (A) (6) A survey of the development of the American people and their institutions from Colonial times to the present day. Students may not hold credit for both 011.223 and 011.276.

011.224W History of Antisemitism and the Holocaust (S) (6) A survey of the role of the Jewish minority in Christian Europe over the past two thousand years. First term will focus on the evolution of anti-Jewish ideas and policies. Second term will be a study of the Nazi German Holocaust and, in particular, the role of antisemitism as a causal factor therein. Students may not hold credit for both 011.224 and 055.294 or the former 011.294.

✦ **011.228W Aboriginal History of Canada** (C,S) (6) A historical survey of Aboriginal peoples in Canada from early times to the present. The course will cover pre-contact peoples, responses to the European arrival, military alliances, the fur trade, the Métis, treaties, government policies and Aboriginal responses, and cultural resurgence and political organizing since 1945. Students may not hold for credit both 011.228 and the former 011.254.

011.237W History of Europe since the French Revolution (E) (6) The history of Europe since 1789, focusing on industrialization, political ideologies, and national and

international politics.

011.238W The Twentieth-Century World (G,M) (6) The problems of the modern world, including the global impact of Western civilization, the clash of ideologies, war and peace, and modernization.

011.238F Le monde du 20e siècle (G,M) (6) Les crises du monde moderne, y compris l'impact, sur une échelle universelle, de la civilisation occidentale, le choc des idéologies, la guerre et la paix, et la modernisation. Donné au Collège universitaire de Saint-Boniface.

011.241W History of India (B) (6) The aim of the course is to introduce students to Indian history. It provides a broad survey of major developments in Indian history from its origins in Indus valley to the present.

011.248F Histoire de France depuis 1500 (E) (6) Aperçu de la Renaissance, des XVIIe, XVIIIe et XIXe siècles et de l'époque contemporaine. L'étudiant(e) ne peut se faire créditer à la fois le 011.248 et l'ancien 011.292. Donné au Collège universitaire de Saint-Boniface.

011.249W History of Russia (E) (6) A survey of Russian history from its origins to the present. Students may not hold credit for both 011.249 and either 011.266 or 011.284.

011.252W A History of Germany since the Reformation (E) (6) A survey of German history from the 16th Century to the present day.

011.255W History of Ukraine (E) (6) A survey of Ukrainian history from the era of the Kievan Rus' to modern times.

011.257W Nationalism in Modern Times (M,S) (3) A study of the ideology and practices of national movements in the 19th and 20th Centuries. Attention will be given in particular to the development of the idea of the nation, and nation-building in the twentieth-century world.

011.258W A History of Fascism: The Politics and Culture of the Radical Right (S) (3) An examination of the ideas and practices of twentieth-century fascist movements.

011.265W Modern China and Japan (B) (6) An examination of the major development in East Asian history from 1800 to 1960. Topics to be examined include Western imperialism, nationalism, the Chinese revolutions, and the modernization of Japan.

011.266W History of the Soviet Union (E) (3) Attention will be given in particular to the Russian Revolution, the nature of the Soviet political system, the major social and economic experiments, and the Soviet role in international politics. Students may not hold credit for both 011.266 and 011.249.

011.267W History of Capitalism (M,S) (3) A study of the emergence and evolution of the capitalist system stressing its effects on human culture from the 15th to the 20th Centuries.

011.268W A History of Socialism from the French Revolution to the Present (M,S) (3) The history of socialism, both revolutionary and nonrevolutionary from the French Revolution to the present. The course covers the history of theory and political action, and of both European and non-European socialism.

011.269W The Common People in Industrial Society (S) (6) A study of the experience of common people in an era of massive social change, with particular attention to the history of Britain as the prototype modern urban industrial society, 1750-1920.

011.271W Women in History (S) (6) An introductory survey of the social, economic, cultural, and political history of women in Western society from prehistory to the present.

011.272W The World Since 1945 (G,M) (6) A survey of the political, social, economic, and cultural history of the world since World War II.

011.276W History of the United States from 1877 (A) (3) A survey of the development of the American people from Reconstruction to the present. Students may not hold credit for both 011.276 and 011.223.

011.276F Histoire des Etats-Unis depuis 1877 (A) (3) Une revue générale du développement du peuple américain à partir de la Reconstruction jusqu'au présent. L'étudiant(e) ne peut se faire créditer à la fois le 011.276 et le 011.223. Donné au Collège universitaire de Saint-Boniface.

011.282W An Introduction to Historical Method (G) (6) This course is intended mainly for prospective history and social science teachers but also will be useful for History Major and Honours students. It combines a survey of approaches to the writing of history, past and present, and, through the presentation of a research paper, an introduction to the use and assessment of historical evidence.

011.282F Introduction à la méthode historique (G) (6) Ce cours s'adresse tant aux futurs enseignants en histoire et en sciences sociales qu'aux gens inscrits aux programmes de majeure et de mineure en histoire. Le cours combine l'étude des manières dont on écrit aujourd'hui, l'histoire et une introduction à l'utilisation et à l'analyse des faits et concepts historiques. Donné au Collège universitaire de Saint-Boniface.

011.284W A History of Russia to 1917 (E) (3) A survey of the historical development of Russia from its beginnings to the end of the Imperial period. Students may not hold credit for both 011.284 and 011.249.

011.289W Imperialism (G,M) (6) A study of imperialism in the modern world, its historic origins, its growth and development as a worldwide phenomenon in the late 19th Century, and its transformation and continuing manifestations in the 20th Century.

011.290W Topics in Social History (S) (6) The content of this course will vary from year to year. A description of the course is available in advance at the History Department Office.

011.293W The History of the British Isles, 412-1485 (D) (6) A survey of the political, social, religious and cultural history of the British Isles (with special emphasis on England) from the end of the Roman occupation to the conclusion of the Wars of the

Roses.

011.295W Early Canada: from the Earliest Settlement to 1867 (C) (6) A study of the origin and development of New France and British North America up to the Union of 1867.

011.295F Les origines du Canada: depuis la première colonie jusqu'en 1867 (C) (6) Étude des origines et du développement de la Nouvelle France et de l'Amérique du Nord britannique jusqu'à l'Union de 1867. Donné au Collège universitaire de Saint-Boniface.

011.296W The New Dominion: 1867 to 1921 (C) (6) An intensive examination of the problems of nation-making: Canada's reactions to the new imperialism; and the impact of industrialization upon Canada.

011.296F Le nouveau Dominion: de 1867 à 1921 (C) (6) Étude approfondie des problèmes liés à l'émergence du Canada en tant que nation. Les réactions au nouvel impérialisme et les répercussions de l'industrialisation. Donné au Collège universitaire de Saint-Boniface.

011.297W Modern Canada: 1921 to the Present (C) (6) An intensive examination of the building of modern Canada, as a nation state and as a social, cultural, economic and political entity.

011.297F Le Canada moderne: de 1921 à nos jours (C) (6) Étude approfondie de la transformation du Canada en un Etat moderne, entité nationale, politique, économique, sociale et culturelle. Donné au Collège universitaire de Saint-Boniface.

011.299W The History of Catholicism since 1540 (G,M,S) (3) The history of Roman Catholicism from about 1540 to the present. Emphasis will be placed on Catholic responses to the modern world and to movements of theological and institutional reform.

Group 3: Special Courses

011.300 Issues in European History (E) (3) The content of this course will vary. It is designed to provide an analysis of selected issues in European history. Consult the History Department for particulars. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.302 South America since 1945 (A) (3) Major developments since 1945 on the continent of South America, with special emphasis on major political movements, Marxism and populism, the impact of industrialization, and South America's international role. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.303 Issues in Ukrainian History (E) (3) The content of this course will vary and will be announced each year. It is intended to provide an analysis of important issues in Ukrainian history. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.304 Mexico, Central America, and Cuba since 1945 (A) (3) Major developments since 1945, with special emphasis on changes in the Mexican revolutionary system, the crisis in Central America, and the Cuban Revolution. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.305 Canada since 1945 (C) (6) A problems approach to recent Canadian history involving lectures and seminars. Emphasis will be placed on political, social and economic issues of national interest during the last 40 years. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.309 Studies in Asian History (B) (3) The content of this course will vary. It is designed to provide in-depth examination of specialized themes or areas in modern Asian history. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.311 Topics in History 1 (G) (3) An opportunity for the intensive study of selected topics or themes in history. The content varies, but may include work in social and cultural history or on specialized subjects. Consult the History Department and the Registration Guide for particulars. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.312 Topics in History 2 (G) (3) An opportunity for the intensive study of selected topics or themes in history. The content varies, but may include work in social and cultural history or on specialized subjects. Consult the History Department and the Registration Guide for particulars. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.313 Issues in Social History (S) (3) The content of this course will vary. It is designed to provide an analysis of important issues in Social history. Consult the History Department for particulars. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.316 The Cultural History of Postwar Britain (S) (6) The cultural history of modern Britain since 1945, interpreting culture both in its formal artistic expression and in the practices of everyday life. Students may not hold credit for both 011.316 and 011.358 offered as Culture and Society in Post-1945 Britain. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.318 Modern Russia: The Soviet Era and Beyond (E) (6) An examination of the revolutionary transformation of the Russian empire into the Soviet Union and the aftermath of its collapse in 1991. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.321 The History of Popular Radicalism in the Twentieth Century (G,M,S) (6) Studies in the history of popular radicalism since the Bolshevik Revolution. Topics will include the development of communist and social democratic movements in the West, socialist revolutions in the underdeveloped world, the nature of communist workers' states and the development of radical theory. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.322 The History of Canadian-American Relations (A,C) (6) A detailed and comprehensive study of the diplomatic relations between Canada and the United

States from 1783 to the present. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

✦ **011.325 Canada and the World, 1867 to the Present** (C) (6) A study of selected aspects of Canada's external relations since Confederation. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.327 Roman Law in Medieval Europe (D) (3) An historical survey, for the non-specialist, of the developments in Roman Law and jurisprudence from the period of the later Roman Empire to the high middle ages (ca. 284-1300). *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.328 History of Medieval English Law (D) (3) An inquiry into the constituents which shaped the Common Law of England from the beginning of the 7th to end of the 14th Century. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.329 The United States since 1939 (A) (6) A survey of political, social, economic, and cultural history of the United States since the beginning of the Second World War. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.333 Intellectual History of Western Europe, 1750-1850 (E) (6) The age of prose and reason; the Enlightenment; reactions to the French Revolution; origins and development of romanticism; science and realism; new social, political, and economic theories. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.334F Histoire de l'Europe, 1789-1870 (E) (6) Une étude historique, à partir de la révolution française et la vie de Napoléon Bonaparte, portant sur les forces et les personnalités dominantes du 19e siècle européen. On fera ressortir les aspects suivants: le nationalisme, le libéralisme, le conservatisme réactionnaire, et le socialisme. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir obtenu une note minimale de C dans six crédits en histoire ou l'assentiment du département.

011.342 History of American Foreign Policy (A) (6) American diplomacy from the eve of the Revolution to the present, stressing Anglo-Canadian-American relations in the nineteenth century and Far Eastern and Cold War policies in the 20th Century. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.343 Britain, 1714-1815 (E) (6) An examination of the political structure, constitutional developments, colonial problems, and social and religious changes, the impact of the industrial revolution, and the reaction to the French Revolution in Britain during this period. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.344 Post-Colonial South Asian History (B) (3) This course through lectures, films and in-class discussion surveys the major developments and themes in the histories of South Asian societies and states since independence from British colonial rule. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.345 A History of the Medieval Holy Roman Empire c. 750-1250 (D) (6) An analysis of the origins, development, and decline of the medieval Holy Roman Empire, with special attention to church-state relations, internal tensions, and the economic structure. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.347F Histoire de la Russie moderne (E) (6) L'évolution politique, économique et sociale de la Russie de 1689 à nos jours. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir obtenu une note minimale de C dans six crédits en histoire ou l'assentiment du département.

011.355 Popular Culture, Crime and Punishment in England, 1550-1850 (E,S) (3) A history of crime and the institutions for its control and punishment in England from the Tudor period to the turn of the nineteenth century. We will trace the connections between crime and larger processes such as war, the economy and urbanization. Topics will include the changing patterns of crime, the role of gender in the application of law, the reform of the criminal law and the emergence of imprisonment. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of the department head.

011.357 History of Women in Canada (C) (6) This course explores the history of women in Canada from the pre-contact period to the present. Specific topics analysed in class and in readings will include women's roles in First Nations societies, white-Aboriginal contact, settlement, industrialization, family economy, immigration, work, sexuality, reproduction, feminism and politics. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.358 Topics in Recent World History 1 (M) (3) An in-depth treatment of selected topics in world history since 1945. The content of the course will vary from year to year, and a precise description is available in advance from the History department office. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.359 Topics in Recent World History 2 (M) (3) An in-depth treatment of selected topics in world history since 1945. The content of the course will vary from year to year, and a precise description is available in advance from the History department office. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.367 Modern Indian History (B) (3) This course surveys the major developments in Indian history during the British colonial period culminating in the year 1947 with independence from colonial rule and the creation of the independent states of India and Pakistan. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.368 Europe, 1870-1945 (E) (6) Europe at the zenith of its power. The course examines the dominant forces and personalities of the period between Bismarck and

Hitler. It emphasizes nationalism and minorities questions; the origins and events of the two world wars; and the domestic concerns of the major European states. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

✦ **011.369 History of Northern Canada** (C) (6) A regional history of northern Canada with particular emphasis on native people. Themes will include culture contact, economic exploitation of northern territories, and the political relationship of metropolis and hinterland in Canada. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.370 History of Working People and Labour Movements 1700 to the Present (M,S) (6) A survey of working class history with emphasis upon the varieties of labour movements and trade unions. The course will refer to the social and political experience of working people in Great Britain, Europe and the United States and will devote one term to Canadian topics. Also offered as Labour and Workplace Studies 153.370. Students may not hold credit for both 011.370 and 153.370. *Prerequisite*: a grade of "C" or better in six credit hours of history or labour and workplace studies or written consent of department head.

011.371 Selected Topics (6) A program of independent reading and/or research on selected topics, undertaken and arranged by a student in consultation with the prospective instructor, upon the written approval of the department head.

✦ **011.372F Histoire du Manitoba** (C) (6) L'évolution politique, économique et sociale de la province depuis sa création à nos jours. Le cours sera précédé d'un bref aperçu de l'ère missionnaire dans l'Ouest canadien. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans 011.144 ou l'ancien 011.133 ou l'assentiment du département.

✦ **011.373 A History of Western Canada** (C) (6) A regional history emphasizing the development of a Western perspective upon the nation. Topics include the fur trade and Red River Settlement, transition to Canadian institutions, the wheat economy, immigration, labour and political movements, cultural changes. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.374 Topics in Latin American History (A) (3) The contents of this course will be announced each year. Consult the History Department. It is designed to provide in-depth studies of specialized subjects and themes in modern Latin American history. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.376 Problems in American History 1 (A) (3) The subject matter of this course will be announced each year. Consult the History department. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.376F Sujets particuliers en histoire des Etats-Unis 1 (A) (3) La matière de ce cours sera annoncé chaque année. Veuillez consulter le département d'histoire. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir obtenu une note minimale de C dans six crédits en histoire ou l'assentiment du département.

011.377 Problems in American History 2 (A) (3) The subject matter of this course will be announced each year. Consult the History department. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.377F Sujets particuliers en histoire des Etats-Unis 2 (A) (3) La matière de ce cours sera annoncée chaque année. Veuillez consulter le département d'histoire. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir obtenu une note minimale de C dans six crédits en histoire ou l'assentiment du département.

✦ **011.378 Studies in Canadian History 1** (C) (3) The content of this course will vary. It is designed to provide in-depth studies of specialized topics and themes in Canadian history. A precise description of the course is available in advance at the History department office. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

✦ **011.378F Études choisies en histoire du Canada 1** (C) (3) Le contenu de ce cours variera d'année en année. Il est construit en vue de donner une connaissance approfondie de certains sujets et thèmes particuliers de l'histoire du Canada. La description détaillée de ce cours sera disponible à l'avance au bureau du professeur. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir obtenu une note minimale de C dans six crédits en histoire ou l'assentiment du département.

✦ **011.379 Studies in Canadian History 2** (C) (3) The content of this course will vary. It is designed to provide in-depth studies of specialized topics and themes in Canadian history. A precise description of the course is available in advance at the History department office. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

✦ **011.379F Études choisies en histoire du Canada 2** (C) (3) Le contenu de ce cours variera d'année en année. Il est construit en vue de donner une connaissance approfondie de certains sujets et thèmes particuliers de l'histoire du Canada. La description détaillée de ce cours sera disponible à l'avance au bureau du professeur. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir obtenu une note minimale de C dans six crédits en histoire ou l'assentiment du département.

011.381 The Family, Love and Marriage in Western Society, 1500-1800 (S) (6) An examination of the theory and practise of marriage in early modern Europe, with particular reference to the demographic, economic, religious and legal context for intimate relations. *Prerequisite*: a grade of "C" or better in six credit hours of history or written consent of department head.

011.381F Famille, amour et mariage dans la société occidentale, 1500-1800 (S) (6) Étude de la théorie et de la pratique du mariage dans l'Europe moderne particulièrement dans un rapport avec les aspects démographiques, économiques, religieux et juridique de la relation maritale. Donné au Collège universitaire de Saint-Boniface. *Préalable*: avoir obtenu une note minimale de C dans six crédits en histoire ou l'assentiment du département.

011.382 The Women's Movement, 1850 to the Present (S) (6) A comparative exam-

ination across western societies of women's reform organizations, of women's movement into public life, and of the changes in women's paid and unpaid work. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.388 Europe in Transition: 1348-1648 (E) (6) A study of the transition from the medieval to the modern world. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

✦ **011.391 The Ukrainians in Canada** (C,S) (3) A history of the Ukrainian community in Canada. Topics to be discussed will include immigration, social and political organizations, churches, cultural assimilation, Ukrainian contributions to Canada, and relations with Ukraine. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.393 Minorities in the Modern World (S) (3) A comparative study of tensions between majority and minority groups since 1848. The course emphasizes Europe, although minorities in Canada and elsewhere are also considered. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.396 China, 1911 to the Present (B) (3) A study of nationalism and revolution in 20th Century China. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

011.398 Nationalism on the Indian Sub-Continent in the Twentieth-Century (B) (3) A study of the emergence and consolidation of the nations of India, Pakistan and Bangla-desh, 1909 to the present. *Prerequisite:* a grade of "C" or better in six credit hours of history or written consent of department head.

Honours Courses

011.401 Imperialism, Decolonization and Neo-Colonialism, 1700 to the Present (G,M) (6) Studies in the theories and practise of imperialism from an historical perspective. *Prerequisite:* written consent of department head.

011.402 Studies in Modern British History (E) (6) An examination of topics drawn from 19th and 20th Century Britain. The specific content will vary from year to year. *Prerequisite:* written consent of department head.

011.403 The History of Communism and Socialism since 1945 (S,M) (6) A seminar course in the history of communism and socialism since World War II. Topics will include the evolution of communist and social democratic movements in the West, the development of communist workers' states and the struggle for socialism in the underdeveloped world. *Prerequisite:* written consent of department head.

011.404 The Later Middle Ages (D) (6) Selected topics in economics, social, cultural, art, and religious history of the later medieval world. *Prerequisite:* written consent of department head.

011.405 England in the Long Eighteenth Century (E,S) (6) Selected themes in the history of England's long eighteenth century, from 1660-1840. Specific topics will vary from year to year, but will generally include the transformation of political culture, the consequences of war, the question of national identities, the emergence of commercial society and the changes in social structure. *Prerequisite:* written consent of the department head.

✦ **011.406 Gender History in Canada** (C) (6) Gender history explores the roles, images, and experiences of masculinity and femininity in the past. This course will familiarize students with the changing theoretical and historiographical terrain of gender history. It will draw on the international literature but focus on the history of gender in Canada, examining how historians analyse masculinity, femininity, the family, sexuality, politics, race/ethnicity, moral regulation, class, nation, and colonialism. *Prerequisite:* written consent of department head.

011.407 Issues in Modern Asian History 1: Selected Topics (M,B) (3) The content of this course will vary. Emphasis will be on analysis of important issues and recent developments in the history and historiography of modern Asia. Consult the History Department for particulars. *Prerequisite:* written consent of department head.

011.408 Issues in Modern Asian History 2: Selected Topics (M,B) (3) The content of this course will vary. Emphasis will be on analysis of important issues and recent developments in the history and historiography of modern Asia. Consult the History Department for particulars. *Prerequisite:* written consent of department head.

011.409 Studies in American History to 1877 (A) (6) An examination of selected topics in American history from colonial beginnings to Reconstruction. Particular topics will be announced each year. *Prerequisite:* written consent of department head.

011.410 Studies in American History since 1877 (A) (6) An examination of selected topics in American history from Reconstruction to the present. Particular topics will be announced each year. *Prerequisite:* written consent of department head.

011.420 Modern South Asia: Colonialism, Nationalism and Modernization (B) (6) A study of selected themes in the history of the Indian subcontinent in the 19th and 20th Centuries. *Prerequisite:* written consent of department head.

✦ **011.428 Topics in the Cultural History of Canada** (C) (6) Studies in Canadian cultural, communications, and intellectual history. Topics will vary from year to year but a description is available in advance at the History department office. *Prerequisite:* written consent of department head.

011.430 Problems in Modern Russian and Soviet History (E) (6) A study of selective historical problems from 1861 to the present. The focus will shift from year to year. *Prerequisite:* written consent of department head.

011.431 Topics in Social History (S) (6) The content of this course will vary. It is designed to provide students with specialized topics and themes in Social history. A de-

scription of the course is available in advance at the History department office. *Prerequisite:* written consent of department head.

011.432 Studies in World History since 1945 (G,M) (6) A comparative approach to recent world history, utilizing area and thematic studies. *Prerequisite:* written consent of department head.

011.433 Selected Topics in Early British History (D,E) (6) A seminar course whose content will vary. A description of the course is available in advance at the History department office. *Prerequisite:* written consent of department head.

✦ **011.434 Introduction to Archival Science** (G) (6) A thorough introduction to archival theory and practise with special emphasis on the history and development of archives and their place in modern society, terminology, collection development, appraisal arrangement, access, conservation, research aids and related archival principles. *Prerequisite:* written consent of department head.

011.439 The History of White Attitudes and Policies towards Native Peoples in North America (S) (6) Topics will include the changing social and radical ideas of programs of directed change and the resistance of indigenous peoples to white social goals. *Prerequisite:* written consent of department head.

011.440 Historical Method and Historiography (G) (6) A study of historical methods and historiography. *Prerequisite:* written consent of department head.

011.441 The Renaissance (E) (6) Interpretations of the transitional period, 1300 to 1500, in Europe, with emphasis upon cultural and intellectual aspects of the Renaissance in Italy. *Prerequisite:* written consent of department head.

011.453 Europe, 1870-1914 (E) (6) The domestic policies and diplomatic and military strategies of the major or European powers between Bismarck and World War I. *Prerequisite:* written consent of department head.

011.458 The Great Historians (G) (6) The readings of a select number of modern and classical historians. Preparation of a research paper on a particular historiographic problem. *Prerequisite:* written consent of department head.

011.463 The United States, 1828-65 (A) (6) A study of the pre-Civil War era with special emphasis on Jacksonian democracy and the ferment of reform. *Prerequisite:* written consent of department head.

✦ **011.470 Canada, 1896 to the Present** (C) (6) A detailed study of the major problems which have confronted Canada in the 20th century. *Prerequisite:* written consent of department head.

✦ **011.472 History of Manitoba** (C) (6) An intensive study of selected topics in the history of Manitoba from the 1890s to the present. *Prerequisite:* written consent of department head.

011.474 The Golden Age of Byzantium (D) (6) A study of the Byzantine Empire with special emphasis on the period of the Macedonian dynasty. *Prerequisite:* written consent of department head.

011.482 The Crusades (D) (6) A study of the evolution and decline of the crusading ideal in Europe, 1095-1291. Particular attention will be given to the effect of the Crusades on the Mediterranean world. *Prerequisite:* written consent of department head.

011.484 The Early Middle Ages (D) (6) An inquiry into the disintegration of the Roman Empire from Constantine to Charlemagne. *Prerequisite:* written consent of department head.

011.487 Contemporary Latin America (A) (6) A study of selected historical developments in Latin America since the Cuban Revolution, with emphasis on most recent themes. *Prerequisite:* written consent of department head.

011.488 International History, 1919-45 (E,M) (6) A study of international affairs, with emphasis on the diplomacy of the great powers, policy formation, and ideology. *Prerequisite:* written consent of department head.

✦ **011.489 Canadian Social History** (C,S) (6) A study of the evolution of Canadian society with intensive analysis of topics such as the pioneer community, immigration, ethnic history, urban development. *Prerequisite:* written consent of department head.

✦ **011.490 The Hudson's Bay Company and British North America** (C) (6) A research course which examines various aspects of the relations between the Hudson's Bay Company and British North America and is designed to utilize the Hudson's Bay Company Archives in Winnipeg. *Prerequisite:* written consent of department head.

011.494 Revolutionary China: A Century of Upheaval, 1870 to the Present (B) (6) A study of the disintegration of the Imperial order, the 1911 revolution, Kuomintang rule and Japanese aggression, and the Communist revolution. *Prerequisite:* written consent of department head.

✦ **011.495 History of Quebec** (C) (6) A study of the province of Quebec from 1791 to the present day. Emphasis will be on recent history with examination of such topics as Laurier liberalism, Duplessis nationalism, and the emergence of the Parti Québécois. *Prerequisite:* written consent of department head.

011.496 Special Studies in European History (E) (6) A seminar course whose content will vary from year to year. *Prerequisite:* written consent of department head.

011.497 The United States in the Twentieth Century (A) (6) An examination of the United States since 1900, emphasizing the political system, government-business relations, radicalism, the labour movement, and foreign policy. *Prerequisite:* written consent of department head.

011.499 Selected Topics (6) A program of independent reading and/or research on selected topics, undertaken and arranged by a student in consultation with prospective instructor, upon the written approval of the department head.

8.18 Department of Icelandic

Acting Head: David Arnason

General Office: 357 University College

Telephone: 204 474 9551

Website: www.umanitoba.ca/faculties/arts/icelandic/

E-mail: uctyp@cc.umanitoba.ca

8.18.1 Academic Staff

Lecturer

Jóhannsdóttir, K., B.A., M.A.(Iceland).

8.18.2 Program Information

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in either 012.124 or 012.224. For students who have taken additional courses to-

ward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in 012.122 or 012.124 or 012.224.

Honours Program

The Honours Program is not currently offered.

For information on reciprocal recognition of credit for Scandinavian/Icelandic courses given by the University of Alberta and the University of Manitoba, see the department.

8.18.3 Icelandic, Department Code: 012			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
MAJOR (OPTION 1) TOTAL: 30 CREDIT HOURS			
012.124 ¹	012.224	18 credit hours in Icelandic courses numbered at the 200, 300, or 400 level	
MAJOR (OPTION 2) TOTAL: 30 CREDIT HOURS			
012.224	24 credit hours in Icelandic courses numbered at the 200, 300, or 400 level		
MINOR (OPTION 1) TOTAL: 18 CREDIT HOURS			
012.124 ¹	012.224	6 credit hours in Icelandic	
MINOR (OPTION 2) TOTAL: 18 CREDIT HOURS			
012.122 or 012.124	12 credit hours in Icelandic		
HONOURS SINGLE OR DOUBLE²			
012.224	012.222, 012.230	012.231, 012.340	012.442, 012.443, 012.444, 012.446

NOTES:

¹ "Prior to standing" in 012.124 will be determined by means of a written test administered by the department at time of registration.

² Students who qualify for Single or Double Honours must select the balance of their work in years 2, 3, and 4 from: Classics, English, French, German, History, Philosophy, or Russian in consultation with the department head.

8.18.4 Icelandic Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

General Courses

012.122 Introduction to Icelandic Culture and Civilization (6) An introductory survey of Icelandic history, culture, and civilization from the Viking Age to the 20th century. Open to all students. Taught in English.

012.124 Modern Icelandic 1 (6) Texts: Asta Svavarsdottir and Margret Jonsdottir, *Islenska fyrir Utlendinga* (Reykjavik 1991) and Ari Pall Kristinsson, *The Pronunciation of Modern Icelandic* (Reykjavik 1985). Other texts to be announced. Students may not hold credit for both 012.124 and the former 012.090 and 012.093.

012.222 Modern Icelandic Literature in Translation (3) A study of modern Icelandic literature through an analysis of a selection of works by Icelandic writers in English translation from around 1900 until the present.

012.223 Contemporary Icelandic-Canadian Literature (3) An examination of contemporary Icelandic-Canadian literature in English, its role and characteristics, its place and function within the broader field of Canadian literature, and its challenges to the Canadian cultural mainstream.

012.224 Modern Icelandic 2 (6) Modern Icelandic usage through practical exercises and free composition. Study of fictional and non-fictional texts. Students may not hold credit for both 012.224 and any of the former 012.121 or 012.123. *Prerequisite:* prior standing in 012.124, the former 012.090, the former 012.093 or a grade of "C" or better in 012.124, the former 012.090, or the former 012.093.

012.225 Icelandic Folktales (3) An introduction to Icelandic and Icelandic-Canadian folk- and fairytales; including stories of ghosts, trolls, elves, huldufolk and sea-monsters. Open to all students; taught in English.

012.323 Modern Icelandic 3 (6) A study of Icelandic grammar and syntax, combined with lessons and exercises in reading, composition, dialogue, and oral presentation. *Prerequisite:* a grade of "C" or better in 012.224 (the former 012.123) or written consent of department head.

012.332 Old Norse Mythology (3) The myths and cults of the pre-Christian gods in the Nordic countries studied on the basis of the original sources (in English translation) and related to pre-Christian Nordic society. Open to all students; taught in English.

012.333 Icelandic Sagas in Translation (3) A study of the Icelandic sagas based on the original sources in English translation. Open to all students; taught in English. 012.332 is recommended but not required.

◆ **012.346 Laura Goodman Salverson** (3) A study of the creative and political implications of minority writing and the construction of an ethnic female identity through an analysis of Laura Goodman Salverson's main works in their Canadian and Icelandic cultural contexts and their critical reception. *Prerequisite:* written consent of department head.

Honours Courses

◆ **012.230 Icelandic-Canadian Literature** (6) Text: Einar H. Kvaran and Gudm. Finnbogason, *Vestan um haf* (Reykjavik, 1930). Other texts to be announced. *Prerequisite:* written consent of department head.

012.231 An Introduction to Old Icelandic Language and Literature (6) Text: Sigríð Valfél's and James E. Cathey. *Old Icelandic: An Introductory Course* (Oxford, 1981). *Prerequisite:* written consent of department head.

012.340 Old Icelandic Literature (6) A study of selected Icelandic sagas and Eddic poems. *Prerequisite:* written consent of department head.

012.442 History of the Icelandic Language (3) A study of the development of the Icelandic language from the twelfth century to the present day. *Prerequisite:* written consent of department head.

◆ **012.444 The Icelanders in Canada** (3) A history of the emigration of Icelanders to North America and the Icelandic communities in Canada, their social and political organizations, churches, and cultural assimilation. *Prerequisite:* written consent of department head.

012.446 Special Topics (3) A seminar course whose content will vary from year to year. *Prerequisite:* written consent of department head.

8. 19 Interdisciplinary Courses (099)

The Faculty of Arts offers a number of interdisciplinary courses designed by a course committee consisting of members of a number of departments. Interdisciplinary courses are free options, and a student may register for more than one.

Cross-disciplinary programs are available in:

Asian Studies	See Section 8.3
Canadian Studies	See Section 8.4
Catholic Studies	See Section 8.5
Central and East European Studies	See Section 8.6
Drama	See Section 8.9
Film Studies	See Section 8.12
Global Political Economy	See Section 8.16
History of Art	See Section 9.3
Labour and Workplace Studies	See Section 8.20
Latin American Studies	See Section 8.21
Medieval and Renaissance Studies	See Section 8.23
Theatre	See Section 8.31
Ukrainian Canadian Heritage Studies	See Section 8.32
Urban Studies	See Section 8.33
Women's Studies	See Section 8.34

Others

For further information on these courses, consult the Faculty of Arts general office.

8.19.1 Interdisciplinary-Others Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

099.111W Introduction to University (3) A seminar course designed to help students make the transition from high school to university by imparting the knowledge, skills, and attitudes requisite for success in university study. Each section limited to 30 students. Open only to students who have completed less than twelve credit hours.

099.112 Reading and Writing Across the Disciplines (6) English 099.112 is designed to teach students how to read, write, and research at the university level. The course stresses effective expository writing, prose reading, and research skills.

099.114W European Literature 1 (3) Great books of continental Europe in English translation. Team taught by a number of specialists in different literatures. Selected works from the ancient period until the end of the eighteenth century.

099.115W European Literature 2 (3) Some of the best known and most influential writers of continental Europe in English translation. Taught by specialists in the different literatures. Selected works from the beginning of the nineteenth century until the present day.

099.264 Technology and Society 1 (3) An interdisciplinary examination of technological development, economic growth and their effect on Society and the natural environment. Among the topics to be discussed will be industrialism and its effect on air and water quality illustrated by case studies of several industries and of the Great Lakes. Students may not hold credit for both 099.264 and 023.264.

099.265 Technology and Society 2 (3) Problems caused by technological development: resource availability, energy development, nuclear proliferation, population growth and food supplies. Possible future technological developments and the responsibilities of the professional. Students may not hold credit for both 099.265 and 023.265.

099.305 Interdisciplinary Seminar (6)* A course which forms part of the core curriculum taken by students in the associateship program at St. John's College, and is a requirement for all such students. Those enrolled in the seminar will be expected to present papers contributing to the integration of knowledge derived from their various major fields, from the subject areas represented in the core curriculum, and from the pursuit of their own special interests. The papers will be commented on by faculty members drawn from different academic departments. *Prerequisite:* written consent of the dean of studies, St. John's College.

* Indicates the course is not regularly offered

8.20 Labour and Workplace Studies Program

Program Coordinator: Jesse Vorst

Associate Coordinator: Julie Guard

Program Office: 470 University College

Telephone: 204 474 7110

Website: www.umanitoba.ca/faculties/arts/labour_studies/

E-mail: julie_guard@umanitoba.ca

8.20.1 Academic Staff

Senior Scholar

Gonick, C.W., Ph.D. (Berkeley).

Professor

Phillips, P.A., Ph.D. (London).

Associate Professor

Vorst, J.I., Ph.D. (Equiv.) (Netherlands School of Economics).

Assistant Professor

Guard, J., B.A. (Western Ontario), M.E.S. (York), Ph.D. (Toronto).

8.20.2 Program Information

This program examines people at work, how workplaces are organized, and the employer-employee relationship. What happens in the workplace is important to understanding current issues in public policy and economic relationships. Students in the program are exposed to topics in collective bargaining, labour law, workplace health and safety, as well as the history, ideology, and goals of the labour movement. The impact of technology, specialization, and globalization are also explored.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in both 153.127 and 153.128. For students who have taken additional courses toward the major, a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in both 153.127 and 0153.128.

All Programs

While 018.120 Principles of Economics, or 018.121 Introduction to Canadian Economic Issues and Policies and 018.122 Introduction to Global and Environmental Economic Issues and Policies, and 077.120 Introduction to Sociology are not required, they are highly recommended. Students are encouraged to select additional course from the List of Core Courses and the List of Electives (see below).

Courses used towards a Labour and Workplace Studies Major or Minor may not be used towards a Major/Minor or Honours in the second field.

8.20.3 Labour and Workplace Studies, Program Code: 153 [Formerly (099B)]

UNIVERSITY 1

YEAR 2

YEAR 3

YEAR 4

GENERAL MAJOR TOTAL: 30 CREDIT HOURS

153.127 and 153.128

- Labour and Workplace Studies 153.242 (or Economics 018.242)
- either Labour and Workplace Studies 153.370 (or History 011.370) or Labour and Workplace Studies 153.351 (or Economics 018.351)
- 12 credit hours from the list of electives below

ADVANCED MAJOR TOTAL: 54 CREDIT HOURS

153.127 and 153.128	<ul style="list-style-type: none"> ● Labour and Workplace Studies 153.242 (or Economics 018.242), Labour and Workplace Studies 153.351 (or Economics 018.351) ● Labour and Workplace Studies 153.244 (or Economics 018.317 or Sociology 077.229¹), 153.301, 153.307, 153.370 (or History 011.370), 153.451² and 153.452² (or 153.481³ and 153.482³) ● 12 credit hours from the list of electives below
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MINOR TOTAL: 18 CREDIT HOURS

153.127 and 153.128	<ul style="list-style-type: none"> ● Labour and Workplace Studies 153.242 (or Economics 018.242) ● either Labour and Workplace Studies 153.370 (or History 011.370) or Labour and Workplace Studies 153.351 (or Economics 018.351)
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NOTES:

- ¹ Students who include 077.229 in their program need to take only 9 additional credit hours from the list of electives below.
² Courses 153.451 and 153.452 may only be taken in the final year of the program and require written consent of the Labour and Workplace Studies program coordinator.
³ Courses 153.481 and 153.482 may only be taken in the next-to-final or final year of the program and require written consent of the Labour and Workplace Studies program coordinator.

List of Core Courses for Labour and Workplace Studies

Economics		History	
018.242	Economics of the Labour Process and Labour Relations (same as Labour and Workplace Studies 153.242)	011.267	History of Capitalism (M,S) 3
018.317	Introduction to Quantitative Methods in Economics (or Labour and Workplace Studies 153.244 or Sociology 077.229)	011.268	A History of Socialism from the French Revolution to the Present (M,S) 3
018.351	Industrial Relations (same as Labour and Workplace Studies 153.351)	011.269	The Common People in Industrial Society (S) 6
		011.271	Women in History (S) 6
		011.272	The World Since 1945 (G,M) 6
		011.297	Modern Canada: 1921 to the Present (C)/Le Canada moderne: de 1921 à nos jours (C) (CUSB) 6
		011.305	Canada since 1945 (C) 6
		011.321	The History of Popular Radicalism in the Twentieth Century (G,M,S) 6
		011.357	History of Women in Canada (C) 6
		011.370	History of Working People and Labour Movements 1700 to the Present (M,S) (same as Labour and Workplace Studies 153.370) 6
		011.373	A History of Western Canada (C) 6
		011.403	The History of Communism and Socialism since 1945 (S,M) (H) 6
		Labour and Workplace Studies	
153.127	Introduction to the Political Economy of Labour	153.244	Economic and Social Measurement 3
153.128	Introduction to Labour Institutions and Problems	153.245	Labour and Technology (same as Economics 018.250) 3
153.242	Economics of the Labour Process and Labour Relations (same as Economics 018.242)	153.301	Labour Law 3
153.244	Economic and Social Measurement (or Economics 018.317 or Sociology 077.229)	153.303	Labour and the Bargaining Process 3
153.301	Labour Law	153.306	Workplace Health and Safety 3
153.307	Labour Relations and Occupational Health and Safety Law	153.307	Labour Relations and Occupational Health and Safety 3
153.351	Industrial Relations (same as Economics 018.351)	153.308	Workers' Self Management 6
153.370	History of Working People and Labour Movements 1700 to the Present (M,S) (same as History 011.370)	153.311	Special Studies in Labour Studies 3
153.451	Labour Studies Field Placement Seminar	153.312	Special Studies in Labour Studies 3
153.452	Labour Studies Field Placement	153.313	Employment Legislation and the Protection of Workers 3
153.481	Labour and Workplace Studies Work Experience Seminar	153.314	Pensions and Benefits 3
153.482	Labour and Workplace Studies Work Experience	153.315	Labour Adjustment 3
		153.351	Industrial Relations (same as Economics 018.351) 6
		153.370	History of Working People and Labour Movements 1700 to the Present (M,S) (same as History 011.370) 6
		Native Studies	
		032.332	Aboriginal Organizations 3
		Philosophy	
		015.229	Ethics and Society 6
		015.283	Business Ethics 3
		015.371	Critiques of Contemporary Society 6
		Political Studies	
		019.457	Public Organizational Management (H) 6
		019.466	The State in the Economy (H) 6
		019.487	Government and Public Sector Unionism (H) 3
		Psychology	
		017.351	Organizational Psychology 3
		017.360	Environmental Psychology 3
		Sociology	
		077.229	Introduction to Research Methods 6
		077.337	Sociology of Work / Sociologie du travail (CUSB) 3
		077.347	Political Sociology / Sociologie politique (CUSB) 3
		077.382	Qualitative and Historical Methods in Sociology 3
		077.387	Social Inequality / Inégalités sociales (CUSB) 3

List A: List of Electives

The following courses may be selected to fulfill the requirements for a degree in Labour and Workplace Studies (see the table above for details). Other courses might be chosen for this purpose, in accordance with students' individual interests, but require advance permission from the Labour and Workplace Studies coordinator. Students are responsible for ensuring that all prerequisites have been met. In the following list (H) indicates an Honours course.

Faculty of Arts

Economics	
018.228	Social Welfare and Human Resources 6
018.235	Community Economic Development 3
018.236	Women in the Canadian Economy 6
018.250	Labour and Technology (same as Labour and Workplace Studies 153.245) 3
018.317	Introduction to Quantitative Methods in Economics 3
018.330	Canadian Economic History 6
018.336	Labour Economics 6
018.351	Industrial Relations (same as Labour and Workplace Studies 153.351) 6
018.366	Economic Ideas and Social Institutions 6

Women's Studies		
156.250	Race, Class and Sexuality	3
156.355	Feminist Community Organizing: Theories and Practices	3
I.H. Asper School of Business (Faculty of Management)		
Business Administration		
027.203	Administrative Theory	3
027.208	Introduction to Management and Organization Theory	3
027.244	Human Resource Management	3
027.303	Contemporary Social Issues in Business	3
027.343	Selected Topics in Industrial Relations	3
027.345	Labour and Employment Relations (or the former 027.341)	3
027.442	Compensation	3
027.448	Collective Bargaining and Administration	3
027.452	Comparative Industrial Relations and Human Resource Management	3
Interdepartmental Courses		
098.300	Aboriginal Business Context: Influences and Impacts	3
098.409	Aboriginal Business Leadership	3
For course descriptions, see departmental listings.		

8.20.4 Labour and Workplace Studies Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

153.127 Introduction to the Political Economy of Labour (3) Labour, production, economic and social reproduction in various economic systems. Students may not hold credit for both 153.127 and the former 099.127.

153.128 Introduction to Labour Institutions and Problems (3) An introduction to the development and structure of the Canadian union movement and to contemporary problems in the workplace. Students may not hold credit for both 153.128 and the former 099.128.

153.242 Economics of the Labour Process and Labour Relations (6) Theoretical approaches to the labour process, the formation and reproduction of the labour force, the structure of the labour market, labour institutions and the economy. Applications to Canadian and alternative economic systems. Students may not hold credit for both 153.242 and 018.242. *Prerequisite:* a grade of "C" or better in both 153.127 (the former 099.127) and 153.128 (the former 099.128), or 018.120, or both 018.121 and 018.122.

153.244 Economic and Social Measurement (3) Sources, techniques and limitations of data collection and processing in the socio-economic sphere. Students may not hold credit for both 153.244 and the former 099.244. *Prerequisite:* a grade of "C" or better in both 153.127 (the former 099.127) and 153.128 (the former 099.128), or written consent of the Labour and Workplace Studies coordinator.

153.245 Labour and Technology (3) Examination of the relationship between technological change and levels of employment, organization/quality of work and division of labour. Same as Economics 018.250 Labour and Technology (3). Students may not hold credit for both 153.245 and 018.250 or the former 099.245. *Prerequisite:* a grade of "C" or better in both 153.127 (the former 099.127) and 153.128 (the former 099.128), or 018.120, or both 018.121 and 018.122, or written consent of the Labour and Workplace Studies coordinator.

153.301 Labour Law (3) An introduction to legislation and interpretation, legal procedures, and quasi-judicial boards as they concern the organization of trade unions, collective bargaining, settlement of disputes, labour standards, workers' compensation, unemployment insurance and human rights. Students may not hold credit for both 153.301 and the former 099.301. *Prerequisite:* a grade of "C" or better in both 153.127 (the former 099.127) and 153.128 (the former 099.128), or written consent of the Labour and Workplace Studies coordinator.

153.303 Labour and the Bargaining Process (3) A course to explain labour's involvement in the negotiation process including the mechanics and the theoretical issues of bargaining. The course focuses on contemporary issues. Students may not hold credit for both 153.303 and the former 099.303. *Prerequisite:* a grade of "C" or better in both 153.127 (the former 099.127) and 153.128 (the former 099.128), or written consent of the Labour and Workplace Studies coordinator.

153.306 Workplace Health and Safety (3) An introduction to occupational health, industrial hygiene and industrial safety emphasizing the impact of chemical hazards on the body, the measure and control of hazards and the causes and prevention of industrial accidents. Students may not hold credit for both 153.306 and the former 099.306. *Prerequisite:* a grade of "C" or better in both 153.127 (the former 099.127) and 153.128 (the former 099.128), or written consent of the Labour and Workplace Studies coordinator.

153.307 Labour Relations and Occupational Health and Safety Law (3) The economic costs of workplace injuries and sickness; the history of occupational health and safety laws and their implementation; the history and functions of workers' compensation; collective bargaining on health and safety. Students may not hold credit for both 153.307 and the former 099.307. *Prerequisite:* a grade of "C" or better in both 153.127 (the former 099.127) and 153.128 (the former 099.128), or written consent of the Labour and Workplace Studies coordinator.

153.308 Workers' Self Management (6) A study tour/course with theory and practise of self management in the context and location of its application in contemporary Yugoslavia. Students may not hold credit for both 153.308 and the former 099.308. *Prerequisite:* a grade of "C" or better in both 153.127 (the former 099.127) and 153.128

(the former 099.128), or 018.120 and/or 153.242 (or 018.242), or written consent of the Labour and Workplace Studies coordinator.

153.311 Special Studies in Labour Studies (3) This course will vary from year to year depending on the needs of students and the interests of the instructor. Students may not hold credit for both 153.311 and the former 099.311. *Prerequisite:* written consent of the Labour and Workplace Studies coordinator.

153.312 Special Studies in Labour Studies (3) This course will vary from year to year depending on the needs of students and the interests of the instructor. Students may not hold credit for both 153.312 and the former 099.312. *Prerequisite:* written consent of the Labour and Workplace Studies coordinator.

153.313 Employment Legislation and the Protection of Workers (3) A survey of the statute and common law, enforcement institutions and the jurisprudence with respect to personal labour contracts, labour standards and human rights. Particular attention is given to the impact of the Charter of Rights and Freedoms on labour jurisprudence. Students may not hold credit for both 153.313 and the former 099.313. *Prerequisite:* a grade of "C" or better in both 153.127 (the former 099.127) and 153.128 (the former 099.128), or written consent of the Labour and Workplace Studies coordinator.

153.314 Pensions and Benefits (3) The nature and role of pensions in the life cycle of workers and the issue of pension funds control on distribution. The role of non-wage benefits in the labour compensation package. Students may not hold credit for both 153.314 and the former 099.314. *Prerequisite:* a grade of "C" or better in both 153.127 (the former 099.127) and 153.128 (the former 099.128), or written consent of the Labour and Workplace Studies coordinator.

153.315 Labour Adjustment (3) An examination of occupational and labour training and of income support systems available to the Canadian labour force, including recent immigrants, with comparisons to some other countries. Students may not hold credit for both 153.315 and the former 099.315. *Prerequisite:* a grade of "C" or better in both 153.127 (the former 099.127) and 153.128 (the former 099.128), or written consent of the Labour and Workplace Studies coordinator.

★ **153.351 Industrial Relations** (6) A study of comparative employer-employee relationships in Canada and other selected countries as affected by market forces, social traditions, and government action. Students may not hold credit for both 153.351 and 018.351. *Prerequisite:* a grade of "C" or better in one of the following: 153.127 (the former 099.127) and 153.128 (the former 099.128); 018.120; or 018.121 and 018.122.

153.370 History of Working People and Labour Movements 1700 to the Present (M,S) (6) A survey of working class history with emphasis upon the varieties of labour movements and trade unions. The course will refer to the social and political experience of working people in Great Britain, Europe and the United States and will devote one term to Canadian topics. Also offered as History 011.370. Students may not hold credit for both 153.370 and 011.370. *Prerequisite:* a grade of "C" or better in six credit hours of Labour and Workplace Studies or History or written consent of the Labour and Workplace Studies coordinator.

153.451 Labour Studies Field Placement Seminar (3) A seminar to be taken concurrently with 153.452 in which each student will relate theory and practise. Students may not hold credit for both 153.451 and either 153.481 or 153.482 or any of the former 099.451, 099.481, 099.482. *Prerequisite:* formal declaration of the Labour and Workplace Studies Advanced Major; a grade of "C" or better in each of: 153.127 (the former 099.127), 153.128 (the former 099.128), 153.244 (the former 099.244) or 077.229, 153.301 (the former 099.301), 153.306 (the former 099.306), 018.242, 018.351; a minimum of an additional 30 credit hours in which an average grade of "C" or better has been obtained; written consent of the Labour and Workplace Studies coordinator.

153.452 Labour Studies Field Placement (6) An educationally directed field experience in which the student will undertake specific tasks and assignments in some aspects of labour relations. Field placement options include a trade union, professional association, employer, provincial department of labour, public archives. Students may not hold credit for both 153.452 and either 153.481 or 153.482 or any of the former 099.452, 099.481, 099.482. *Prerequisite:* formal declaration of the Labour and Workplace Studies Advanced Major Degree Program; a grade of "C" or better in each of: 153.127 (the former 099.127), 153.128 (the former 099.128), 153.244 (the former 099.244) or 077.229, 153.301 (the former 099.301), 153.306 (the former 099.306), 018.242, 018.351; a minimum of an additional 30 credit hours in which an average grade of "C" or better has been obtained; written consent of the Labour and Workplace Studies coordinator.

153.481 Labour and Workplace Studies Work Experience Seminar (3) A seminar to be taken concurrently with the second term of 153.482 (or in the following fall term) in which each student will relate theory and practice. Students may not hold credit for both 153.481 and 153.451 or 153.452 or any of the former 099.450, 099.451, 099.452, 099.481. *Prerequisite:* formal declaration of the Labour and Workplace Studies Advanced Major; a grade of "C" or better in each of: 153.127 (the former 099.127), 153.128 (the former 099.128), 153.244 (the former 099.244) or 077.229, 153.301 (the former 099.301), 153.306 (the former 099.306), 018.242, 018.351; written consent of the Labour and Workplace Studies coordinator.

153.482 Labour and Workplace Studies Work Experience (6) Six months of educationally directed work experience at an approved place of employment in some aspects of labour relations. Work positions may be held in business, government, union, or community sectors. During the second term of 153.482 students must take 153.481. Students may not hold credit for both 153.482 and 153.451 or 153.452 or any of the former 099.451, 099.452, 099.482. *Prerequisite:* formal declaration of the Labour and Workplace Studies Advanced Major; a grade of "C" or better in each of: 153.127 (the former 099.127), 153.128 (the former 099.128), 153.244 (the former 099.244) or 077.229, 153.301 (the former 099.301), 153.306 (the former 099.306), 018.242, 018.351; written consent of the Labour and Workplace Studies coordinator.

8.21 Latin American Studies Program

Program Code: 099L

Program Coordinator: Jean-Luc Chodkiewicz

Program Office: 443 Fletcher Argue Building

Telephone: 204 474 6330

E-mail: chodkie@cc.umanitoba.ca

8.21.1 Program Information

Through varied courses students may examine regions or periods of Latin American history. Emphasis is given to Mexican, Meso-American and Andean topics, Latin American civilizations including the pre-Columbian. Ethnic studies are also a major theme. Courses from Anthropology, Economics, Geography, History, and Spanish are included. This cross-disciplinary program permits a student to gain a deeper understanding of the subject area without being restricted to one discipline. The program offers the option of a term in Mexico from January to April; information is available from the program coordinator.

A Minor in Latin American Studies consists of at least three full courses, or equivalent, from a **minimum of two different departments chosen from the following list.**

Faculty of Arts

Anthropology

076.298**	Anthropological Perspectives on Contemporary Mexico (B)	3
076.299**	Prehispanic Cultures of Mexico (D)	3
076.366*	Latin American Culture History	3
076.368	Anthropological Perspectives on Current Issues in Latin America (B)	3
076.369*	Peoples and Cultures of Contemporary Latin America	6

* Indicates course no longer offered

** Offered only in second term as part of the "Term in Mexico" option.

Economics

018.339	Development Economics	6
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History

011.214	Colonial Latin America (A)	3
011.215	Independent Latin America (A)	3

011.302	South America Since 1945 (A)	3
011.304	Mexico, Central America, and Cuba Since 1945 (A)	3
011.487	Contemporary Latin America (A)	6
Spanish		
044.220	Spanish American Culture and Civilization	3
044.253	Spanish-American Literature 1	3
044.254	Spanish-American Literature 2	3
044.323	Spanish-American Fiction Since 1950	3
044.325	Realism in Spanish-American Fiction	3
044.326	Twentieth-Century Theatre and Poetry in Spanish America	3
044.369	Nineteenth-Century Theatre and Poetry in Spanish America	3
044.370*	The Novel of the Land and the Realistic Short Story in Spanish America	3
044.373*	The Spanish-American Essay and Twentieth-Century Poetry and Drama	3
044.374*	The New Spanish-American Novel and the Contemporary Short Story	3

* Indicates course no longer offered

Faculty of Environment

Geography

053.235	Latin America (A)	6
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Knowledge of the Spanish language is not required since the literature on Latin America in English is extensive and adequate. However, the Latin American literature courses offered by the Department of French, Spanish and Italian require a reading knowledge of Spanish.

For entry to the Minor in Latin American Studies, the prerequisite is a grade of "C" or better in six credit hours from the approved list.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

For course descriptions, see departmental listings.

8.22 Department of Linguistics

Head: Kevin Russell

General Office: 514 Fletcher Argue Building

Telephone: 204 474 9596

Website: www.umanitoba.ca/faculties/arts/linguistics/

E-mail: lingdpt@cc.umanitoba.ca

8.22.1 Academic Staff

Distinguished Professors

Wolfart, H.C., [B.A.equiv.](Albert-Ludwigs-Universität, Freiburg im Breisgau), M.A. (Yale), M.A. (Cornell), M.Phil., Ph.D. (Yale), F.R.S.C.

Senior Scholar

Wade, W.D., B.A., M.A., Ph.D. (Colorado).

Professor

Nahir, M., B.A. (Bar-Ilan), M.A., Ph.D. (Pittsburgh).

Associate Professors

MacDonald, L.A., B.A.(Hons.) (Trent), M.A. (Calgary), Ph.D. (Manitoba); **Pentland**, D.H., B.A.(Hons.) (Manitoba), M.A., Ph.D. (Toronto); **Russell**, K., B.Sc. (Manitoba), M.A., Ph.D. (Southern California).

Assistant Professors

Ghomeshi, J., B.A.(Hons.) (York), M.A., Ph.D. (Toronto); **Hagiwara**, R., B.A. (Washington), M.A., Ph.D. (U.C.L.A.); **Janzen**, T., B.Ed. (Saskatchewan), M.A. (Manitoba), Ph.D. (New Mexico).

Adjunct Professor

Nichols, J.D., A.B. (Hamilton), A.M., Ph.D. (Harvard), F.R.S.C.

8.22.2 Program Information

The linguistics approach to language is based on the analysis of sound, the structure of words and sentences, and the meanings they transmit. But it

also has to deal with the way sounds change, words come and go, and meanings shift. Linguistics is the humanities discipline that is closest to being a science in the generally accepted sense of the word. Partly because human language, the subject of linguistics, is almost entirely acquired subconsciously, it is a massive and intricate structure that is free to develop in accordance with natural rather than with consciously determined social laws.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in 126.120 or written consent of the department head. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in 126.120, or written consent of the department head.

Other

In addition to its core concentration in *Linguistic Theory and Analysis* and such other areas of study as Applied Linguistics, Verbal Arts, etc., Linguistics also offers:

- A pre-professional concentration in *Applied Linguistic Science*, which will be of special interest to students planning a career in speech/language pathology; contact department general office for information; and

- A program in American Sign Language/English Interpretation, offered jointly with Red River College; see below for details.

Students intending to major in Linguistics are strongly encouraged to undertake the in-depth study of a second language.

8.22.3 Linguistics, Department Code: 126	
UNIVERSITY 1	YEAR 2
YEAR 3	
YEAR 4	
GENERAL MAJOR TOTAL: 30 CREDIT HOURS	
126.120 ¹	<ul style="list-style-type: none"> • at least 9 credit hours chosen from the core courses² numbered at the 200 level • at least 6 credit hours chosen from the core courses² numbered at the 300 level • 9 additional credit hours of Linguistics
ADVANCED MAJOR TOTAL: 48 CREDIT HOURS	
126.120 ¹	<ul style="list-style-type: none"> • at least 12 credit hours¹ chosen from the core courses² numbered at the 200 level • 126.320 or 126.330 or 126.340 • 6 additional credit hours chosen from the core courses² numbered at the 300 level • 18 additional credit hours of Linguistics
MINOR TOTAL: 18 CREDIT HOURS	
126.120 ¹	<ul style="list-style-type: none"> • at least 6 credit hours chosen from the core courses² numbered at or above the 200 level • 6 additional credit hours of Linguistics
NOTES:	
¹ Students are advised to take 126.138 General Phonetics as early as possible in their program (ideally during their first year, in addition to 126.120 Introduction to Linguistics) as this course is a prerequisite for many of the advanced courses.	
² Not all of the core courses listed below will necessarily be offered every year; this includes even those at the 200 level which are prerequisites for courses at the 300 level. Students intending to major in Linguistics are advised to plan their programs well in advance, and to consult the Linguistics department at the beginning of each academic year.	

Core Courses

126.220	Syntax	6
126.242	Phonology	3
126.244	Analytic Techniques	3
126.246	Morphology	3
126.264	Comparative Linguistics	3
126.312	Syntactic Theory	3
126.314	Phonological Theory	3
126.320	The Structure of a non-Indoeuropean Language	6
126.330	The Structure of ASL	6
126.340	Field Methods	6
126.380	Seminar	6
126.382	Selected Topics	3

Program in Linguistics and American Sign Language/English Interpretation taught jointly with Red River College leading to a B.A. General Degree

Students who wish to pursue this program must seek separate admission to both the University of Manitoba and Red River College.

Students must successfully complete all requirements for the American Sign Language/English Interpretation Program at Red River College. Specific courses (42 credit hours) completed in this program will be considered acceptable for university degree credit, will satisfy a humanities requirement and will become the declared minor for purposes of the degree. For the purposes of satisfying the distribution requirement, completion of the Deaf Studies Certificate will qualify as six hours in a field and completion of the Joint ASL Program will qualify as six hours in a field.

The entire joint program is described below:

Deaf Studies Program (prerequisite) - RRC

Course No.	Credit Hours
DSP-D101 American Sign Language 1	These 3 courses count as 6 credit hours
DSP-D201 American Sign Language 2	
DSP-D300 American Sign Language 3	
DSP-D100 Deaf Culture	3
DSP-D202 Deaf History	3
DSP-D301 Cross-cultural Interaction	(no UofM credit)
Total Hours	12

Deaf Studies Program (prerequisite) - U of M

126.120 Introduction to Linguistics	6
076.122 Cultural Anthropology (A)	3
or	
076.152 Critical Cultural Anthropology (A)	3
Math (science)	3
Total Hours	12

Following successful completion of this prerequisite year, a Certificate in Deaf Studies is awarded by Red River College and selection for continuation for the joint degree program is made by RRC and the Linguistics department. There is no University of Manitoba degree credit granted for any of the courses taken at RRC in the prerequisite year in the Deaf Studies Program.

Linguistics (U of M) and American Sign Language/English Interpretation (RRC)

Year 1 – RRC

AEI-A420	Advanced ASL	3
AEI-1120	Language Processing in Interpretation-English	3
AEI-1220	Language Processing in Interpretation-ASL	3
AEI-1101	English Comprehension and Expression	3
	Total Hours	12

Year 1 - U of M

126.220	Syntax	6
126.246	Morphology	3
126.274	Interpretation Theory	3
004.XXX	English	6
	Math (science)	3
	Total Hours	21

Year 2 - RRC

AEI-I320	Cross-language Processing in Interpretation	3
AEI-P120	Interpretation Lab 1	6
AEI-I290	Ethics 1	3
AEI-I390	Ethics 2	3
AEI-I280	Interpretation Settings 1	(no UofM credit)
AEI-I380	Interpretation Settings 2	(no UofM credit)
	Total Hours	15

Year 2 - U of M

126.330	The Structure of ASL	6
126.XXX	Linguistics elective	3
	Total Hours	9

Year 3 - RRC

AEI-P220	Interpretation Lab 2	3
AEI-P500	Practicum	(no UofM credit)
AEI-P454	Practicum Seminar	(no UofM credit)
	Total Hours	3

Year 3 - U of M

126.384	Special Topics in ASL	3
	UM Electives	6
	(Before selecting the 6 credit hours of electives, contact the dean's office to ensure the selection satisfies the subject field requirement.)	
	Total Hours	9

8.22.4 Linguistics Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

126.120 Introduction to Linguistics (6) Language as a communication system composed of sound, grammatical and semantic subsystems. Development of a theoretical framework. Exercises in a variety of languages.

126.134 Semantics (3) An introduction to linguistic approaches to meaning, with special emphasis on the analysis of lexical domains.

126.136 Languages of Canada (3) A survey of languages and linguistic problems encountered in North America, with particular attention to questions of relationship and classification. Examples will be drawn from both indigenous and immigrant languages.

126.138 General Phonetics (3) The articulatory and acoustic analysis of speech sounds. Transcription exercises in a variety of languages.

126.142 Language and Gender (3) In exploring the relationship between language and gender, this course addresses such questions as: how are gender differences manifested and perpetuated through language use?; is there such a thing as 'women's language'?; how do gender differences influence communication between women and men?; how does gender interact with (for example) race, class and sexuality with respect to language use? In addition, we consider issues of language structure, including sexism in English and the relative success of gender-based language reform efforts.

126.144 Rules of English Grammar (3) What are the criteria that are used to distinguish 'good' from 'bad' grammar? What are the rules we need to know in order to speak and write 'properly'? In focusing on basic concepts in traditional grammar, this course reviews parts of speech, the English tense system, sentence types (active vs. passive), question formation and types of embedded clauses. It examines the rules of traditional grammar and explores the linguistic structures that lie behind the rules. This course is not intended for students learning English; it presupposes native or near-native competence in English.

126.220 Syntax (6) Sentences are complex arrangements of words and other elements, and syntactic structures have long been at the centre of theoretical controversy. A typological survey of syntactic patterns, introducing formal and functional approaches to syntactic analysis. *Prerequisite:* a grade of "C" or better in 126.120 or written consent of instructor.

126.242 Phonology (3) Each language relies on a finite set of distinctive sounds. Based on physical features which are universal, sound systems are language-specific,

abstract structures. *Prerequisite:* a grade of "C" or better in 126.120 or written consent of instructor.

126.244 Analytic Techniques (3) Techniques for recognizing the structure of words and sentences in a variety of languages. The formulation of linguistic rules, especially at the interface of morphology and phonology. *Prerequisite:* a grade of "C" or better in 126.120 or written consent of instructor.

126.246 Morphology (3) The internal structure of words: the traditional distinction between inflection and derivation, types of word structures, word-formation rules, levels of word-formation. The relationship of morphology to phonology and syntax. *Prerequisite:* a grade of "C" or better in 126.120 or written consent of instructor.

126.260 Verbal Art (3) Puns, punchlines, slogans and the chant of the auctioneer are as much instances of verbal art as are rhetorical flourishes and formal literary structures. With spoken language as its major focus, this course draws on a variety of languages, sources and genres to study artistic and playful uses of language. *Prerequisite:* a grade of "C" or better in 126.120 or written consent of instructor.

126.262 Language in Society (3) Language is embedded in a social context: dialect variability, the choice of speech registers, the use of special-purpose languages, code-switching, sexual specialization are instances of language behaviour reflecting non-linguistic reality. *Prerequisite:* a grade of "C" or better in 126.120 or written consent of instructor.

126.264 Comparative Linguistics (3) Language change and its consequences; aspects of historical linguistics, language classification and linguistic prehistory. Examples from Indo-European and North American Indian languages. *Prerequisite:* a grade of "C" or better in 126.120 or written consent of instructor.

126.272 Applied Linguistics (3) The practical implications of linguistic analysis in such areas as the formal or informal acquisition of a second language, the establishment of standards for spoken and written usage, language maintenance and other aspects of language planning. *Prerequisite:* a grade of "C" or better in 126.120 or written consent of instructor.

126.274 Introduction to Interpretation Theory (3) A survey of interpretation theory, including specifics of language use and problems in the transfer of cultural context for both source and target language, the history of language awareness on the part of the interpreter, and the development of theories of interpretation. This course will draw heavily on the field of ASL/English interpretation for illustration. *Prerequisite:* a grade of "C" or better in 126.120 or written consent of instructor.

126.280 Communication Disorders (3) A general introduction to the major pathologies of speech, language and hearing as viewed against the background of normal linguistic structures and functions. The distinction between mechanically- and neurologically-based disorders is illustrated in terms of aetiology, diagnosis and approaches to treatment. *Prerequisite:* a grade of "C" or better in 126.120 or written consent of instructor.

126.283 Linguistic Anatomy and Physiology 1 (3) An intensive survey of the principal organs of speech and hearing, their embryology, and the general features of their evolutionary history. Some consideration will also be given to their pathological impairment. *Prerequisite:* a grade of "C" or better in 126.120 and 126.138, or written consent of instructor.

126.285 Linguistic Anatomy and Physiology 2 (3) A survey of the structures of the central and peripheral nervous systems as they relate to the production and perception of speech and the processing of language. Includes a survey of linguistic aphasiology and a review of neurological deficits associated with abnormal language behaviour. *Prerequisite:* a grade of "C" or better in 126.283 or written consent of instructor.

126.286 Language Acquisition (3) The study of first language acquisition based on evidence from typologically diverse languages. Universals in the emergence of phonological, morphological and syntactic features, and their impact upon linguistic theory. *Prerequisite:* a grade of "C" or better in 126.120 and 126.138, or written consent of instructor.

126.288 Acoustic Phonetics (3) The physical principles involved in the production, propagation and reception of sound. The subjective characteristics of sounds (loudness, pitch and quality) are related to their objective parameters (intensity, frequency and spectrum). The physical methods and the types of equipment used to analyze the basic physical properties of sounds will be demonstrated. *Prerequisite:* a grade of "C" or better in 126.120 and 126.138, or written consent of instructor.

126.290 The Evolution of Language (6) The fundamental concepts of communication and language; emergent and continuity theories of language. The distinctive traits of human speech and their analogues among non-humans (especially birds, primates and cetaceans). The inferential evidence of speech capacity in the human fossil record. *Prerequisite:* a grade of "C" or better in 126.120 or written consent of instructor.

126.312 Syntactic Theory (3) Formal and functional analyses of specific syntactic issues, such as the representation of grammatical relations, the formulation and explanation of universals, the "learnability criterion" as a test for theoretical adequacy and the rôle of semantics and pragmatics in syntactic theory. *Prerequisite:* a grade of "C+" or better in 126.220 or written consent of instructor.

126.314 Phonological Theory (3) The nature of phonological representations: prosodic hierarchies, multi-tiered structures, the underspecification of segments. Types of phonological rules, rule ordering, the cycle. *Prerequisite:* a grade of "C+" or better in 126.242 or written consent of instructor.

126.320 The Structure of a non-Indo-European Language (6) Every "new" language challenges accepted doctrine and helps us to evaluate competing hypotheses: in this course, a non-Indo-European language (which may vary from Hua to Hungarian) is systematically explored on the basis of field records and descriptions which have become classics. *Prerequisite:* a grade of "C+" or better in each of 126.220, 126.242

and 126.244, or written consent of instructor.

126.330 The Structure of ASL (6) An examination of ASL as a signed, as opposed to spoken, language. Topics include phonetic, phonological, morphological and syntactic structures. *Prerequisite:* a grade of "C+" or better in each of 126.120, 126.220, and 126.246, or written consent of instructor.

126.340 Field Methods (6) Working with a speaker of an unfamiliar (and, usually, unrecorded) language, students are apprenticed in the collection, analysis and interpretation of raw data. *Prerequisite:* a grade of "C+" or better in each of 126.220, 126.242 and 126.244, or written consent of instructor.

126.360 History of Linguistics (6) The analysis of language and linguistic theory from the Indian, Graeco-Latin and Arabic traditions to the Renaissance, Enlightenment and the modern period. *Prerequisite:* a grade of "C+" or better in 126.264 or written con-

sent of instructor.

126.380 Seminar (6) Major issues or problems of current interest in the language sciences. *Prerequisite:* written consent of instructor.

126.382 Special Topics (3) Topics of current interest in the language sciences. *Prerequisite:* written consent of instructor.

126.384 Special Topics in ASL (3) Topics of current interest in ASL linguistics. *Prerequisite:* written consent of instructor.

126.390 Special Studies (6) Supervised research or field work. *Prerequisite:* written consent of instructor.

126.392 Special Studies (3) Supervised study. *Prerequisite:* written consent of instructor.

8.23 Medieval and Renaissance Studies Program

Program Code: 099M

Program Office: Faculty of Arts Dean's Office

Telephone: 204 474 9100

8.23.2 Program Information

The millennium from the end of the Roman empire to the Renaissance is the formative period of European civilization. The Middle Ages and the Dark Ages were periods of human drama full of change and growth and a struggle to regain a civilized way of life. The Age of Chivalry with its crusades, the flowering of the arts and architecture, and the emergence of new philosophical concepts and ideologies found culmination in the Renaissance. For those interested in the pre-modern world, this program permits a broad approach to the subject.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

The following entries contain information which is not contained in Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in 12 credit hours considered relevant to the Major by the program advisor.

A) General Major in Medieval and Renaissance Studies consists of 36 credit hours selected as follows:

- Nine credit hours in either Latin or Greek
- Six credit hours from the following History courses:

011.206	The Emergence of the Medieval World (D)	3
011.207	The Early and High Middle Ages (D)	3
011.208	The Byzantine Empire and the Slavic World (D)	3
011.209	The Middle Ages in Decline (D)	3

• 21 credit hours in courses dealing with the Medieval and/or Renaissance world, including a minimum of six credit hours to be selected from each of the following groups (a detailed list of courses may be obtained from the program advisor):

Group 1: History, Philosophy, Religion

Group 2: Literature, Language, Fine Arts (including Music)

B) Advanced Major in Medieval and Renaissance Studies consists of 12 credit hours in addition to the above, of which six must be in a modern language. The remaining six credit hours may be selected from Group 1 or Group 2.

Minor Program

For entry to the Minor program, the prerequisite is a grade of "C" or better in six credit hours considered relevant to the Minor by the program advisor.

A Minor in Medieval Studies will consist of 18 credit hours, to include at least six credit hours in History courses listed above for the Major (011.206, 011.207, 011.208, 011.209). The remaining 12 credit hours may be selected from Group 1 or Group 2, or from courses in either Latin or Greek. If Latin or Greek courses are chosen, a minimum of six credit hours is required in either Latin or Greek.

Other

Students should note that courses used towards the Major(s) or Minor in this area may not be used for Major, Minor or Honours in a second field.

8.24 Department of Native Studies

Head: Peter Kulchyski

General Office: 533 Fletcher Argue Building

Telephone: 204 474 9266

Website: www.umanitoba.ca/faculties/arts/native_studies/

E-mail: native@ms.umanitoba.ca

8.24.1 Academic Staff

Senior Scholar

Ahenakew, I.F., B.Ed. (Saskatchewan), M.A. (Manitoba).

Professors

Kulchyski, P., B.A. (Hons.) (Winnipeg), M.A., Ph.D. (York); **LaRocque,** E.D., B.A. (Goshen College), M.A. (Associated Mennonite Seminary), M.A., Ph.D. (Manitoba); **Oakes,** J.E., B.H.Ecol., M.Sc., Ph.D. (Manitoba).

Associate Professor

Wuttunee, W.A., B.Comm., LL.B., M.B.A. (Calgary), Ph.D. (Manitoba).

Assistant Professors

Shore, F. J., B.A.(Spec.) (Brandon), M.A., Ph.D. (Manitoba); **Trott,** C.J., B.A.(Hons.) (Toronto), B.Th. (McGill), Ph.D.(Toronto).

Professional Affiliates

Fontaine, P., B.A. (Manitoba); **Lavallee,** M., Human Relations Counsellor, B.A. (Brandon).

8.24.2 Program Information

Courses in this department examine the history, art, literature, and the philosophical and religious traditions of Canada's original inhabitants. Other

courses explore the legal, political, and health care systems in relation to Aboriginal people. Aboriginal and non-Aboriginal students may specialize in either Native studies or Native languages, Cree and Ojibway.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in 032.120 or "C" or better in both 032.122 and 032.124. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

A) Native Studies

For entry to the Minor, the prerequisite is a grade of "C" or better in one of 032.120 or "C" or better in both 032.122 and 032.124.

B) Native Languages

For entry to the Minor, the prerequisite is a grade of "C" or better in both 032.125 and 032.126, or "C" or better in both 032.127 and 032.128, or "C" or better in 032.225 and 032.227.

Other

Students will be permitted to register for a Major in Native Studies and a Minor in Native Languages but may not complete both a Major and Minor in Native Studies.

Before registering for approved cross-listed courses, students should consult the *Calendar* or the departments regarding prerequisites for specific courses.

8.24.3 Native Studies, Department Code: 032			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
NATIVE STUDIES MAJOR¹ TOTAL: 30 CREDIT HOURS			
032.120 or 032.122 and 032.124	<ul style="list-style-type: none"> • 18 credit hours in Native Studies numbered at the 200 level or above¹ • 6 credit hours in Native Studies or Native Languages courses numbered at the 300 level or above. 		
NATIVE STUDIES ADVANCED MAJOR TOTAL: 48 CREDIT HOURS			
032.120 or 032.122 and 032.124	<ul style="list-style-type: none"> • 21 credit hours in courses offered by Native Studies² • 12 credit hours in courses offered by Native Studies numbered at the 300 level • 9 credit hours in courses offered by Native Studies numbered at the 400 level 		
NATIVE STUDIES MINOR TOTAL: 18 CREDIT HOURS			
032.120 or 032.122 and 032.124	12 credit hours in courses offered by Native Studies numbered at the 200 level or above ²		
NATIVE LANGUAGES MINOR⁵ (OPTION 1) TOTAL: 18 CREDIT HOURS			
032.125 and 032.126 or 032.127 and 032.128	032.225 or 032.227	032.230 and 032.232, or 032.231 and 032.233, or 6 credit hours approved by the department ^{3,4}	
NATIVE LANGUAGES MINOR⁵ (OPTION 2) TOTAL: 18 CREDIT HOURS			
032.225 or 032.227	032.230 and 032.232, or 032.231 and 032.233	6 credit hours in Native languages or 6 credit hours approved by the department ^{3,4}	

NOTES:

- ¹ Students may substitute up to 12 credit hours from the approved cross-listed courses and/or 12 hours of Native Language courses numbered at the 100 or 200 level in lieu of Native Studies but must have six credit hours in Native Studies or Native Languages courses offered by Native Studies numbered at the 300 level or above.
- ² Students may substitute up to six credit hours from the list of approved courses and/or six hours of Native Language courses in lieu of Native Studies courses.
- ³ No more than 12 credit hours may be taken from 032.120, 032.122, 032.124, 032.125, 032.126, 032.127, 032.128, 032.225, 032.227.
- ⁴ Six credit hours may be from related linguistics courses approved by the department.
- ⁵ Students who wish to declare a Minor should consult with the department head.

Aboriginal Governance Stream

Students interested in pursuing an Advanced Major in Aboriginal Governance are required to take a minor in Business. The requirements for both are set out below. For course descriptions, including any prerequisites and/or restrictions see the appropriate chapter in this Calendar. The conditions for entry, continuation and graduation requirements may be found in Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Advanced Major, Aboriginal Governance Stream, the prerequisite is a grade of "C" or better in 032.120 or a "C" or better in both 032.122 and 032.124.

For students who have taken additional courses toward the Major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the required Minor in Business for students who wish the Aboriginal Governance Stream, the prerequisite is 6 credit hours from 009.110, 009.111, 009.200, 009.220, 027.203, 027.244, 027.330 or 118.221 with a grade of "C" or better in each.

For information on this program contact the Department of Native Studies.

8.24.4 Native Studies Aboriginal Governance Stream, Department Code: 032G			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
NATIVE STUDIES ADVANCED MAJOR — ABORIGINAL GOVERNANCE STREAM WITH REQUIRED MINOR IN BUSINESS			
032.120 or 032.122 and 032.124	<ul style="list-style-type: none"> • 032.222, 032.331, 032.332, 032.420, 098.300, 098.409 • 3 credit hours in courses offered by Native Studies numbered at the 300 level. • 3 credit hours in courses offered by Native Studies numbered at the 400 level. • 18 credit hours in courses offered by Native Studies¹ • Additional courses required for purposes of completing the governance stream are 		
	Faculty of Arts		
	Economics — 018.120 and 018.235		
	Political Studies — 019.150 and 019.257		
	Faculty of Science		
	Computer Science — 074.126		
	Statistics — 005.100		

REQUIRED MINOR IN BUSINESS FOR THOSE STUDENTS IN A DECLARED ABORIGINAL GOVERNANCE STREAM

009.110, 009.111, 009.200, 6 credit hours from:
 009.220, 027.203, 027.244, 009.347, 027.200, 027.260, 027.441, 118.310
 027.330, 118.221

NOTE:

¹ Students may substitute up to six credit hours from the list of approved courses and/or six hours of Native Language courses in lieu of Native Studies courses.

List of Approved Courses in Native Studies

Approved courses from other departments for partial fulfilment of the Major and Minor in Native Studies are given below.

Faculty of Arts

Anthropology

076.204	Native North America: A Sociocultural Survey (B)	3
076.262	New World Prehistory (D)	3
076.263	New World Civilizations (D)	3
076.264	Manitoba Prehistory (D)	3
076.345*	Native North America: A Sociocultural Survey (B)	3
076.346	Native North American Ethnology (B)	3
076.350	Peoples of the Arctic (B)	3
076.358*	North American Indians: A Sociocultural Survey	3
076.359*	North American Indian Ethnology	3

Economics

018.235	Community Economic Development	3
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History

011.254*	North American Indian (A,C,S)	6
011.228	Aboriginal History of Canada (C,S)	6
011.369	History of Northern Canada (C)	6

Sociology

077.237	Ethnic Relations	3
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Asper School of Business

098.300	Aboriginal Business Context: Influences and Impacts	3
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098.409	Aboriginal Business Leadership	3
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Faculty of Education

116.303*	Cross-cultural Education	3
129.154	Cross-cultural Education	3

Faculty of Environment

Geography

053.369*	Historical Geography of Indian Peoples in the Canadian Fur Trade	6
053.378*	Historical Geography of Canadian Indians (A)	6

School of Art

054.209	Art of the North American Aboriginal Peoples	3
054.343	Inuit Art	3
054.358*	Inuit Culture and Art	3
054.373*	Art of the North American Native Peoples	3

School of Music

033.386	Topics in Music (when the topic is "Music in Traditional Aboriginal Society")	3
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* Indicates course no longer offered

8.24.5 Native Studies Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

General Courses

032.100 Orientation Course: The Colonizers and the Colonized (3) The course which is offered as part of the summer session consists of an introduction to the colonization process as it regards Aboriginal people and the processes of decolonization undertaken by the people since 1970. *Prerequisite:* this is a special course designed for first year entering Aboriginal students. Registration is restricted and written consent must be obtained from the instructor prior to registration.

◆ **032.120W The Native Peoples of Canada** (6) A survey of the political, social, and economic situations of the contemporary Indian, Métis, and Inuit peoples of Canada. Students may not hold credit for both 032.120 and either 032.122 or 032.124.

◆ **032.122W The Native Peoples of Canada, Part 1** (3) A survey of the political, social, and economic situations of the contemporary Indian, Métis, and Inuit peoples of Canada from pre-contact to 1945. Students may not hold credit for both 032.122 and 032.120.

◆ **032.124 The Native Peoples of Canada, Part 2** (3) A survey of the political, social, and economic situations of the contemporary Indian, Métis, and Inuit peoples of Canada from 1945 to the present. This course may include a field trip component. Students may not hold credit for both 032.124 and 032.120.

032.129 Introductory Inuktitut (3) A practical course in conversational Inuktitut fo-

cus on basic grammatical structures, everyday vocabulary, and using syllabics. This course is offered as part of the Pangnirtung Summer Travel/Study Program. *Prerequisite:* written consent of department head.

032.200 Selected Topics in Native Studies (3) The content of this course will vary. Depending on instructor, this course may have a field component. Contact the Department of Native Studies for details. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

◆ **032.202W The Métis of Canada** (3) A history of the Métis of Canada. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

◆ **032.204 The Native Peoples of the Northern Plains** (3) An interdisciplinary study of the history and traditional cultures of the Native Peoples of the Northern Plains. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

◆ **032.206 The Native Peoples of the Eastern Woodlands** (3) An interdisciplinary study of the history and traditional cultures of the Native peoples of the Great Lakes and Maritimes. Emphasis will be on the Anishinabe (Ojibway, Saulteaux). Depending on instructor, this course may have a field component. Contact the Department of Native Studies for details. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

◆ **032.207 The Native Peoples of the Subarctic** (3) This course will examine the subsistence organization, social organization and cosmology of both the Cree and Dene. We will further examine the history of the aboriginal-European encounter and the impact of colonialism on contemporary political and land rights struggles. While we will consider the region as a whole, we will specifically focus on the James Bay Cree and Rock Cree of Northern Manitoba, and secondly on the Saisi Dene, north of the Churchill River. This course may include a field trip component. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

◆ **032.208 Inuit Society and Culture** (3) An examination of the subsistence organization, social organization, cosmology and ceremonies of Inuit from a regional and comparative perspective. While this course will focus on Eastern Arctic Inuit comparison will also be made to Greenlanders, Inuvialuit, Inupiat and Yup'ik. We will conclude the course by examining colonial history and the rise of Nunavut. The course may include a field trip component. Students may not hold credit for both 032.208 and 032.200 with the topic "Inuit Society and Culture". *Prerequisite:* a grade of "C" or better in 032.120 or 032.122 and 032.124, or written consent of Department Head.

◆ **032.222 Native Societies and the Political Process** (3) An analysis of contemporary Canadian (and U. S.) political and administrative processes as they affect Native people. Depending on instructor, this course may have a weekend field trip. Contact the Department of Native Studies for details. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

◆ **032.241 Canadian Native Literature** (3) A study of literature by and about Canadian Native peoples, Indian mythology, personal narratives, protest literature, poetry, plays and novels will be explored to give an appreciation of Native philosophies, experiences, traditions and cultures. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

032.242 Inuit Literature in Translation (3) An examination of various literary forms produced by Inuit including traditional myths and songs, life histories, contemporary novels and modern political writings. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of instructor or department head.

◆ **032.245 Images of Indian People in North American Society** (3) Will trace the portrayal of Indian peoples 1492 to the present. Emphasis will be on material and theoretical depictions, and will require reading as well as study of art pieces, tourist objects, cartoons, movies and so forth. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

◆ **032.300 Selected Topics** (3) The content of this course will vary. Contact the department for a course description. *Prerequisite:* written consent of department head.

◆ **032.324 Native Medicine and Health** (3) The health, disease, and medical practices of North American Native peoples. A survey of the health and health care of North American Native people from pre-contact to modern times. Special attention will be paid to traditional concepts of health and healing practices. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

◆ **032.327 The Métis Nation: The Modern Era** (3) A study of the dispossession of the Métis Nation after 1870, their resurgence in the 1950s and contemporary issues affecting Métis people in Canada. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

◆ **032.328 Aboriginal Peoples and the Canadian Justice System** (3) A study of Native peoples' relationships to civil and criminal law in modern Canadian society. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

032.329 Independent Research (3) Supervised research or field work. Results will be presented in a form appropriate to the subject of study. Written consent of department head, based on a written research proposal, must be obtained before registration.

✦ **032.331 Canadian Law and Aboriginal Peoples** (3) A survey of laws relating to Native peoples in Canada. Topics will include legal aspects of aboriginal title, Indian treaties, Indian and Métis land claims, the Indian Act, hunting and fishing rights, self-government, and constitutional issues. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

032.332 Aboriginal Organizations (3) A study of local, regional and national Aboriginal organizations in contemporary North America and their interaction with government and private agencies. Students may not hold credit for both 032.332 and 032.335. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

032.333 Aboriginal People, Science and the Environment (3) This course will examine current Aboriginal environmental and development issues both locally and internationally. The basic principles of Aboriginal philosophy and how present forms of development on Aboriginal land has conflicted with this philosophy will be examined. *Prerequisite:* written consent of department head.

032.334 Circumpolar Cultures and Lifestyles (3) An interdisciplinary study of interrelationships between the history, traditional lifestyles, politics, and environment of circumpolar Indigenous peoples. *Prerequisite:* written consent of department head.

032.335 Aboriginal Organizations (6) A study of local, regional and national Aboriginal organizations in contemporary North America and their interaction with government and private agencies. A field component may be included depending on instructor. Contact the Department of Native Studies for details. Students may not hold credit for both 032.335 and 032.332. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of department head.

032.336 Aboriginal Women of Canada (3) This course explores and critically examines from interdisciplinary and post-colonial perspectives historical and contemporary processes, representation, experiences and social issues specific to Aboriginal women of Canada. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of instructor or department head.

032.337 Political Development in the North (3) An examination of historical and contemporary political processes in Nunavut, Northwest Territories, and Yukon including the negotiation and implementation of Aboriginal land claims. *Prerequisite:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of instructor.

032.338 Cultural Constructions of Gender in Canadian Aboriginal Societies (3) An examination of the theoretical issues that surround the cultural construction of gender leading into detailed ethnographic and historical case studies. *Prerequisites:* a grade of "C" or better in 032.120, or 032.122 and 032.124, or written consent of instructor.

032.400 Field Course (3) The content and location of this course will vary depending on instructor. Extra costs for travel, meals, supplies and accommodation may be required. Contact the Department of Native Studies for details. *Prerequisite:* written consent of department head.

✦ **032.420 First Nations' Government** (3) A review and critical examination of the evolution of First Nations' self-government with a focus on contemporary issues, models and trends. *Prerequisite:* written consent of department head.

✦ **032.421 Seminar in Contemporary and Historical Métis Issues** (3) A study of the literature, both primary and secondary, dealing with the Métis people in Canada. *Prerequisite:* written consent of department head.

✦ **032.422 Environment, Economy and Aboriginal Peoples** (3) An analysis of sustainable development issues discussed within a cultural context. Depending on the instructor, this course may have a field component. Contact the Department of Native Studies for details. *Prerequisite:* written consent of department head.

✦ **032.423 Traditional Knowledge and Native Studies Research** (3) A study of issues influencing oral histories, case studies, interviews, and other techniques used in research with Aboriginal people. Depending on instructor this course may have a field component. Contact the Department of Native Studies for details. *Prerequisite:* written consent of department head.

✦ **032.424 Arctic Lifestyles** (3) An interdisciplinary study of the interrelationships between culture, economy, and ecology in the Arctic region. Depending on instructor, this course may have a field component. Contact the Department of Native Studies for details. *Prerequisite:* written consent of department head.

✦ **032.425 Topics on Aboriginal Identities** (3) An interdisciplinary study of Aboriginal values, cultures and contemporary identities with emphasis on the impact of colonization. *Prerequisite:* a grade of "C+" or better in 032.120, or 032.122 and 032.124, plus 6 credit hours in Native Studies, or written consent of instructor.

032.426 Sacred Lands and Sacred Spaces of Indigenous Peoples (3) Students will increase their understanding of the importance and significance of Sacred Lands and Sacred Spaces to International Indigenous Peoples. Experiential learning, seminar and a field component may be included depending on instructor. Contact the Department of Native Studies for details. *Prerequisite:* written consent of department head.

032.427 Indigenous Peoples' Material Culture (3) A critical review of the spiritual, cultural, historical and environmental factors influencing material culture used by international Indigenous Peoples. Experiential learning seminars and a field component may be included depending on instructor. Contact the Department of Native Studies

for details. *Prerequisite:* written consent of department head.

032.428 Missionaries, Colonialism and Aboriginal Peoples (3) A study of Aboriginal responses to Christian missions with a particular emphasis on resistance, syncretism, and 'prophet' movements. *Prerequisite:* a grade of "C" or better in 15 credit hours of Native Studies or written consent of instructor.

032.429 Independent Research (3) Supervised research or field work. Results will be presented in a form appropriate to the subject of study. *Prerequisite:* written consent of department head, based on a written research proposal, must be obtained before registration.

032.430 Advanced Selected Topics in Native Studies (3) The content of this course will vary from year to year. Contact the Department for a course description. *Prerequisite:* written consent of department head.

Native Languages

✦ **032.125 Introductory Cree 1** (3) Practical course intended for students who are not fluent in Cree. Emphasis will be on oral work for the purpose of learning basic sounds and grammatical patterns. Some attention will be given to the structural differences between Cree and English. Regular attendance and active participation are obligatory. Students may not hold credit for both 032.125 and the former 032.090 or 032.130. This course is a prerequisite for 032.126 Introductory Cree 2.

✦ **032.126 Introductory Cree 2** (3) Continuation of 032.125 Introductory Cree 1. Practical course intended for students who are not fluent in Cree. Emphasis will be on oral work for the purpose of learning basic sounds and grammatical patterns. Some attention will be given to the structural differences between Cree and English. Regular attendance and active participation are obligatory. Students may not hold credit for both 032.126 and the former 032.090 or 032.130. *Prerequisite:* a grade of "C" or better in 032.125.

✦ **032.127 Introductory Ojibway 1** (3) Practical course intended for students who are not fluent in Ojibway. Emphasis will be on oral work for the purpose of learning basic sounds and grammatical patterns. Some attention will be given to the structural differences between Ojibway and English. Regular attendance and active participation are obligatory. Students may not hold credit for both 032.127 and the former 032.091 or 032.121. This course is a prerequisite for 032.128 Introductory Ojibway 2.

✦ **032.128 Introductory Ojibway 2** (3) Continuation of 032.127 Introductory Ojibway 1. Practical course intended for students who are not fluent in Ojibway. Emphasis will be on oral work for the purpose of learning basic sounds and grammatical patterns. Some attention will be given to the structural differences between Ojibway and English. Regular attendance and active participation are obligatory. Students may not hold credit for both 032.128 and the former 032.091 or 032.121. *Prerequisite:* a grade of "C" or better in 032.127.

032.201 Northern Algonquian Languages (3) A survey of the structure of Swampy Cree, Moose Cree, Plains Cree, Woods Cree, Montagnais, Naskapi and Ojibway with particular attention to a shift from oral tradition to printed communication. *Prerequisite:* a grade of "C" or better in 032.125 and 032.126, or 032.127 and 032.128, or the former 032.090 or the former 032.091, or written consent of department head.

✦ **032.225 Intermediate Cree** (6) Continuation of introductory courses and entry-level course for fluent speakers. Development of conversational fluency. Cree orthography, composition and translation, introduction to the linguistic structure of Cree. Students may not hold credit of both 032.225 and the former 032.130. *Prerequisite:* a grade of "C" or better in 032.125 and 032.126, or the former 032.090, or Matriculation Cree, or written consent of instructor or department head.

✦ **032.227 Intermediate Ojibway** (6) Continuation of introductory courses and entry-level course for fluent speakers. Development of conversational fluency. Ojibway orthography, composition and translation, introduction to the linguistic structure of Ojibway. Students may not hold credit of both 032.227 and the former 032.121. *Prerequisite:* a grade of "C" or better in 032.127 and 032.128, or the former 032.091, or Matriculation Ojibway, or written consent of instructor or department head.

✦ **032.230 Cree Literature** (3) A survey of Cree literature based on the extensive study of particular texts in cultural, historical and spiritual contexts. *Prerequisite:* a grade of "C" or better in 032.225 or the former 032.130 or written consent of the department head.

032.231 Ojibway Literature (3) A survey of Ojibway (Eastern, Western, Chippewa, Saukteaux, Odawa, others) literature based on the extensive study of particular texts in cultural, historical and spiritual contexts. *Prerequisite:* a grade of "C" or better in 032.227 or the former 032.121 or written consent of department head.

✦ **032.232 Structure of the Cree Language** (3) A detailed structural analysis of Cree with special attention to the problem of dialect variation and to the contrastive analysis of Cree and English. *Prerequisite:* a grade of "C" or better in 032.225 or the former 032.130 or written consent of department head.

032.233 Structure of the Ojibway Language (3) A detailed structural analysis of Ojibway with special attention to the problem of dialect variation and to the contrastive analysis of Ojibway and English. *Prerequisite:* a grade of "C" or better in 032.227 or the former 032.121 or written consent of department head.

✦ **032.330 Native Language Planning and Development** (3) The social and political setting of the indigenous languages of North America. Issues and methods in language policy development, maintenance, standardization, and innovation. *Prerequisite:* a grade of "C" or better in six credit hours of Native Languages at the second year level.

8.25 Near Eastern and Judaic Studies

Program coordinator: Moshe Nahir

General Office: 545 Fletcher Argue

Telephone: 204 474 9623

E-mail: nahir@cc.umanitoba.ca

8.25.1 Program Information

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

Effective the 1989-1990 Regular Session, the General Major and Advanced Major in Near Eastern and Judaic Studies will not be offered until further notice.

Minor Program

A) Near Eastern and Judaic Studies

For entry to the Minor, the prerequisite is a grade of "C" or better in the first six credit hours of Near Eastern and Judaic Studies courses.

B) Yiddish

Effective with the 1989-1990 Regular Session, the Minor in Yiddish will not be offered until further notice.

8.25.2 Near Eastern and Judaic Studies, Program Code: 055			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR NEAR EASTERN AND JUDAIC STUDIES [NOT CURRENTLY OFFERED] TOTAL: 30 CREDIT HOURS			
• 6 credit hours in Language and Literature (Hebrew ¹ , Yiddish, or Arabic ²)			
• 6 credit hours in Judaic Civilization or Near Eastern Studies			
• 18 credit hours in Near Eastern and Judaic Studies			
ADVANCED MAJOR NEAR EASTERN AND JUDAIC STUDIES [NOT CURRENTLY OFFERED] TOTAL: 48 CREDIT HOURS			
• 12 credit hours in Language and Literature (Hebrew ¹ , Yiddish, or Arabic ²)			
• 12 credit hours in Judaic Civilization or Near Eastern Studies			
• 24 credit hours in Near Eastern and Judaic Studies			
MINOR NEAR EASTERN AND JUDAIC STUDIES TOTAL: 18 CREDIT HOURS			
18 credit hours in Near Eastern and Judaic Studies			
MINOR YIDDISH [NOT CURRENTLY OFFERED] TOTAL: 18 CREDIT HOURS			
055.122	055.232	6 credit hours in Hebrew Language and Literature or Near Eastern and Judaic Civilization	

NOTES:

¹ A language-placement interview is required before registration. Normally, elementary Hebrew day school graduates begin with 055.126 while secondary Hebrew day school graduates begin with language courses numbered at the 200 or 300 level.

² A language-placement interview is required before registration.

8.25.3 Near Eastern and Judaic Studies Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

Semitic Languages and Literature

055.112 Biblical Hebrew (A) (6) An introductory course with emphasis on basic grammar and syntax. Students will learn to read simple biblical narratives. Students may not hold credit for both 055.112 or 020.112 or the former 055.092 and 020.092.

055.125 Hebrew 1 (6) For students with a minimal experience with the language yet with a basic ability to read it. Following current methods in the teaching of a second/foreign language, the listening-comprehension, speaking, reading and writing skills are developed. Language lab and organized conversation are part of the course. Intended for students with a strictly elementary standing. Students may not hold credit for both 055.125 and 055.091. *Prerequisite:* written consent of program coordinator.

055.126 Hebrew 2 (6) For students who have taken 055.091, or 055.125 or the equivalent. Spoken and written Hebrew - vocabulary and grammar, organized conversation and reading of selected texts. In addition to regular sessions, either one hour of lab or directed conversation per week is required. *Prerequisite:* written consent of program coordinator.

055.221 Modern Hebrew Literature (6) Not regularly offered.

055.225 Rabbinic Hebrew (6) Not regularly offered.

055.226 Elementary Arabic (6) Introduction to Arabic language and grammar with emphasis on its relationship to semitic cognates. *Prerequisite:* written consent of program coordinator.

055.228 Introduction to Hebrew Literature (6) Not regularly offered.

055.235 Hebrew 3 (6) For students who have taken 055.126 or the equivalent. Further oral practise, vocabulary expansion and grammar review, and development of reading and writing skills. *Prerequisite:* written consent of program coordinator.

055.336 Hebrew Communication Arts (6) A study of all aspects of Hebrew communication. For advanced students with reasonable fluency in the language. The writing skill on general subjects will be developed as well as comprehension and vocabulary expansion in the reading of more technical texts. *Prerequisite:* written consent of program coordinator.

gram coordinator.

055.337 Hebrew Language and Literature (6) A study of the structure and usage of modern Hebrew, examination of selections of Major modern writers and development of speaking and writing skills. Review of the history of Hebrew and the application of linguistics to the understanding of the language. *Prerequisite:* written consent of program coordinator.

055.338 The Creation of Modern Hebrew (6) An advanced study of the revival of Hebrew as a spoken language. Other attempts at language planning and revival will be observed. Lectures and discussions will be in Hebrew. *Prerequisite:* written consent of program coordinator.

Yiddish

055.122 Yiddish (6) This course is intended for those who have little or no experience with the Yiddish language, and may not normally be taken by students who have attended a Yiddish day school. Emphasis on conversational Yiddish and reading comprehension. *Prerequisite:* written consent of program coordinator.

055.232 Yiddish Literature and Language (6) Not regularly offered.

Judaic Civilization

055.229 History of Jewish Thought (6) Not regularly offered.

055.230 The Makers of Modern Judaism (6) Not regularly offered.

055.233 Patterns in Jewish Life (6) A survey of the forms and institutions which made for the expression of Jewish culture. The course will specifically deal with the Jewish life cycle, holy days and holidays, communal structure and family organization. Students may not hold credit for both 055.233 and 020.282.

055.234 Contemporary Israel (3) A study of the history and development of modern Israel. Topics discussed include the economic, social, cultural and religious structures of the contemporary Jewish state. Attention will also be focused on the status of Israeli minorities such as Moslems and Christians.

055.237 Jewish-Gentile Relations (3) Not regularly offered.

055.265 Field Studies in Biblical Lands (6) Not regularly offered.

055.294 Antisemitism: A Social History from the Crusades to the Holocaust (6) A survey of the origins and consequences of antisemitism in Western history, from the eleventh century to the present, with emphasis on the medieval crusades, the age of

protestantism and capitalism, and the Nazi holocaust. Students may not hold credit for both 055.294 and 011.294.

055.339 Jewish Mysticism (6) Not regularly offered.

055.341 The Holocaust (6) An historical study of the destruction of the Jews during World War II. There will also be a survey of the philosophical, literary, and artistic responses. The course will utilize films, tapes, and other media.

8.26 Department of Philosophy

Head: Carl Matheson

General Office: 453 University College

Telephone: 204 474 6878

Website: www.umanitoba.ca/faculties/arts/philosophy/

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8.26.1 Academic Staff

Professors

McCarthy, D.J., B.A.(St.Paul's, Washington, D.C.), M.A., Ph.D. (Toronto), L.M.S. (Medieval Institute); **Matheson**, C., B.Sc.(Hons.), M.A. (Dalhousie), Ph.D. (Syracuse); **Schafer**, A. M., B.A.(Hons.) (Manitoba), B.Litt. (Oxford); **Shaver**, R. W., B.A. (Toronto), Ph.D. (Pittsburgh).

Associate Professors

Bailey, J.A., B.A. (Gettysburg), M.A., Ph.D. (Pittsburgh); **Jenkins**, J.L., B.A. (Hampshire), M.A., Ph.D. (Pittsburgh); **McLean**, M.R., B.A. (Alberta), L.Th. (St. John's College), M.A. (Birmingham), D.Phil. (Oxford); **Stack**, M.F., B.A., M.A. (Saskatchewan), Ph.D. (Duke); **Warmbrod**, W.K., A.B.(Hons.), Ph.D. (North Carolina).

Assistant Professors

Bright, R.W., B.A., M.A. (Alberta), Ph.D. (Dalhousie); **Caplan**, B.D., B.A. (McGill), M.A., Ph.D. (UCLA); **Feld**, M.E., B.A.(Hons.) (Manitoba), M.A., Ph.D. (Brown); **Martens**, R.M., B.A. Distinction (Manitoba), M.A. (Dalhousie), Ph.D.(Western Ontario); **Schroeder**, T.A., B.A. (Lethbridge), Ph.D. (Stanford).

8.26.2 Program Information

Philosophy is composed of several areas of study: these include logic, metaphysics, ethics, political philosophy, philosophy of science, philosophy of language, and aesthetics. Philosophers use the tools of rigorous logic and clear conceptual analysis. Their goal is to understand things such as

Near Eastern

055.342 The Arab-Israeli Conflict (6) Not regularly offered.

055.345 Studies in the Near East (3) The content of this course will vary. It is designed to provide instruction in specialized topics and themes in Near Eastern and Islamic Studies. A precise description of the course is available in advance from the department office. *Prerequisite:* written consent of the program coordinator.

the nature of reason, the physical universe, right and wrong, the human mind, and sometimes even the meaning of life. There are good arguments and bad arguments. Training in philosophy will help the student not only consider these important questions but also to improve his or her clarity of expression and ability to think critically.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in six credit hours in Philosophy. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

The General Major may consist entirely of courses numbered beyond the 100 level.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in six credit hours in Philosophy.

The Minor may consist entirely of courses numbered beyond the 100 level.

Honours Program

For entry to the Honours program, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

8.26.3 Philosophy, Department Code: 015

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
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GENERAL MAJOR¹ TOTAL: 30 CREDIT HOURS

6 credit hours in Philosophy courses numbered at the 100 level	<ul style="list-style-type: none"> 6 credit hours from Group 2 (History of Philosophy) an additional 18 credit hours in Philosophy
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ADVANCED MAJOR¹ TOTAL: 48 CREDIT HOURS

48 credit hours in Philosophy satisfying the following requirements:

- at least 6 and at most 12 credit hours must be from 015.120, 015.132, 015.133, 015.151
- at least 12 credit hours from courses in Group 2 (History of Philosophy). (015.151 may be used to satisfy both requirement 1 and half of requirement 2.)
- at least 6 credit hours from 015.243 or 015.276
- at least 12 credit hours from Philosophy courses numbered above the 200 level. (Students must obtain written permission of the department head to take honours courses)

MINOR¹ TOTAL 18 CREDIT HOURS

6 credit hours in Philosophy	12 credit hours in Philosophy
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HONOURS SINGLE^{1,2}

6 credit hours in Philosophy courses numbered at the 100 level	<ul style="list-style-type: none">● 015.243³● 015.276● 6 credit hours from 015.261, 015.263, 015.264, 015.265, 015.266, 015.278, 015.279, 015.358● 12 credit hours outside of Philosophy	<ul style="list-style-type: none">● 9 credit hours in Honours Philosophy courses● 3 credit hours from 015.261, 015.263, 015.264, 015.265, 015.266, 015.278, 015.279, 015.358● an additional 3 credit hours from Group 2 (History of Philosophy)● 3 credit hours in Honours Philosophy courses or Group 2 (History of Philosophy) courses● 6 credit hours outside Philosophy	<ul style="list-style-type: none">● 12 credit hours in Honours Philosophy courses● 6 credit hours in Philosophy courses numbered above the 100 level● 6 credit hours outside Philosophy
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HONOURS DOUBLE^{1,2}

6 credit hours in Philosophy courses numbered at the 100 level	<ul style="list-style-type: none">● 6 credit hours from Group 2 (History of Philosophy)● 015.243 or 015.276● 18 credit hours outside Philosophy	<ul style="list-style-type: none">● 6 credit hours in Honours Philosophy courses● 3 credit hours from 015.261, 015.263, 015.264, 015.265, 015.266, 015.278, 015.279, 015.358● an additional 3 credit hours from Group 2 (History of Philosophy)● 12 credit hours outside Philosophy	<ul style="list-style-type: none">● 6 credit hours in Honours Philosophy courses● 6 credit hours in Philosophy courses numbered above the 100 level● 12 credit hours outside Philosophy
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NOTES:

¹ At most 12 credit hours in Philosophy numbered at the 100 level may count towards any degree program. In addition, no student may hold credit in both 015.120 and 015.151. 015.151 counts as a Group 1 and a Group 2 course.

² Courses listed may be taken in years other than the ones specified; however, the total set of courses taken must conform to these requirements in other respects.

³ Students who took 015.133 in their first year will substitute six other credit hours in Philosophy for 015.243 in Year 2.

8.26.4 Philosophy Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

The letter “F” following course numbers indicates courses given in French at Collège universitaire de Saint-Boniface.

Detailed information on courses provided by instructors is available in a bound volume at the reserve desk in the Dafoe Library and the philosophy general office.

Courses not regularly offered at the University of Manitoba are shown with an asterisk (*) following the course title.

In addition to 100-level (Group 1) courses, the Department of Philosophy offers a number of upper-level courses for which there is no prerequisite; these are included in the course descriptions for Groups 2 and 3 below.

Group 1: Introductory (100-Level) Courses

NOTE: At most 12 credit hours at the 100 level in Philosophy may count towards any degree program. In addition, students may not hold credit for both 015.120 and 015.151; 015.151 counts as a Group 1 and a Group 2 course.

015.120 Introduction to Philosophy (6) An introduction to five main areas of philosophy. Topics are logical thinking; the criteria and limits of human knowledge; and three of: God, right and wrong, free will and the nature of consciousness, scientific inquiry, and social justice. Students may not hold credit for both 015.120 and 015.151.

015.126F Fondements de la philosophie (6) Spécificité du domaine de la philosophie par rapport aux domaines de la science expérimentale, des sciences religieuses, de l'art; initiation à la méthode dialectique et à son application. Notions fondamentales de critique. Donné au Collège universitaire de Saint-Boniface.

015.129 Critical Thinking (3) A course which helps students to think clearly and critically, and to present, defend, and evaluate arguments. The instructor will discuss good and bad reasoning, everyday fallacies, some specific argument forms such as the categorical syllogism, and ways and means of defining words. Students may not hold credit for both 015.129 and 015.132.

015.132 Introductory Logic (6) A course which helps students to think clearly and critically, and to present, defend and evaluate arguments. The course deals with categorical logic, non-formal fallacies, definition, modern symbolic logic and scientific method. Not open to students who have **previously** obtained credit for 015.131, 015.243 or 015.375. Students may not hold credit for both 015.132 and either 015.129 or 015.133.

015.132F Introduction à la logique (6) Ce cours a pour but d'aider les étudiants à penser clairement et de manière critique, à présenter, à défendre et à évaluer les arguments. Le cours traite de la logique catégorique, des sophismes non-formels, de la définition, de la logique symbolique moderne et de la méthode scientifique. L'étudiant(e) qui ont obtenu des crédits pour les cours 015.131, 015.243, et 015.375 ne sont pas autorisés à suivre ce cours. L'étudiant(e) ne peut se faire créditer à la fois les cours 015.132 et 015.129 ou 015.133. Donné au Collège universitaire de Saint-Boniface.

015.133 Introduction to Symbolic Logic (6) A comprehensive survey of modern symbolic logic, both sentential and quantificational. The course examines natural deduction techniques, symbolization of English arguments, tautologies, predicates, relations and definite descriptions. Students may not hold credit for both 015.133 and either 015.132 or 015.243 or 015.375.

015.151 Historical Introduction to Philosophy (6) An introduction to the great philosophical thinkers of Western civilization from the ancient Greeks such as Plato and Aristotle to the analytic philosophers and (possibly) the existentialists of our own day; and an introduction to the great issues, such as the nature of reality, the existence of God, human knowledge, and morality. Elementary logic will also be covered. Students may not hold credit for both 015.151 and 015.120. 015.151 counts as a Group 1 and a Group 2 course.

015.151F Introduction historique à la philosophie (6) Introduction aux grands penseurs de la civilisation occidentale des anciens grecs tels que Platon et Aristote jusqu'aux philosophes analytiques et (si possible) aux existentialistes contemporains. Introduction aux grandes questions telles que la nature de la réalité, l'existence de Dieu, la connaissance humaine et la moralité. La logique élémentaire sera aussi étudiée. L'étudiant(e) ne peut se faire créditer à la fois le 015.151 et le 015.126. Le cours 015.151 fait partie à la fois du groupe 1 et du groupe 2. Donné au Collège universitaire de Saint-Boniface.

Group 2: History of Philosophy

NOTE: 015.151 counts as a Group 1 and a Group 2 course.

015.226 Philosophical Perspectives (6)* A survey of selected influential ancient, medieval, modern and contemporary philosophers. The course will examine their views on human nature, appearance and reality, morals, politics, and the place of people in the universe. A natural adjunct to the study of literature, history, and religion.

015.232 Thomas Aquinas and Medieval Philosophy (6)* This course covers the doctrines of the principal medieval thinkers from Augustine to Ockham on human nature, knowledge, and morality. Half the course is devoted to a textual analysis of certain writings of Thomas Aquinas.

015.232F Thomas d'Aquin et la philosophie médiévale (6) Étude des doctrines des principaux penseurs de l'époque médiévale, de saint Augustin à Ockham, sur la nature humaine, sur la connaissance et sur la morale. La moitié du cours sera consacrée à l'analyse des textes pris parmi les différentes oeuvres de saint Thomas. Donné au Collège universitaire de Saint-Boniface.

015.261W The History and Philosophy of Science (6) A critical study of the nature of scientific knowledge and of the evolution of science from the ancient Greeks to the present. A background in science is not required. *Prerequisite:* 30 hours of university credit.

015.263 Continental Rationalism (3) A study of the great Continental philosophers, Descartes, Spinoza, and Leibniz, who viewed reason, rather than experience, as the key to knowledge of the universe. *Prerequisite:* a grade of "C" or better in six credit hours of 100-level Philosophy or written consent of department head.

015.263F Le rationalisme continental (3) Étude des philosophes du continent: Descartes, Spinoza, Leibniz, qui ont perçu la raison plutôt que l'expérience comme la clé de toute connaissance de l'Univers. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans six heures-crédits au niveau 100 en philosophie ou autorisation écrite du professeur.

015.264 British Empiricism (3) The course surveys and analyzes the theories of the great British empiricists, Locke, Berkeley, and Hume, on the nature and foundations of human knowledge and its relation to experience. *Prerequisite:* a grade of "C" or better in six credit hours of 100-level Philosophy or written consent of department head.

015.264F L'empirisme britannique (3) Revue et analyse des théories des grands empiristes britanniques: Locke, Berkeley et Hume, sur la nature et les fondements de la connaissance humaine et ses relations avec l'expérience. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans six heures-crédits au niveau 100 en philosophie ou autorisation écrite du professeur.

015.265 Plato (3) An examination of Plato's views on reality, "man", politics, and morals through a study of his most significant dialogues. The course will begin with a discussion of the main pre-socratic philosophers. *Prerequisite:* a grade of "C" or better in six credit hours of 100-level Philosophy or written consent of department head.

015.265F Platon (3) Examen des vues de Platon sur la réalité, la politique et la morale à travers l'étude de ses dialogues les plus importants. Le cours débutera avec une discussion des principaux philosophes présocratiques. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans six heures-crédits au niveau 100 en philosophie ou autorisation écrite du professeur.

015.266 Aristotle (3) A study of Aristotle's most important views on reality, knowledge, morals, and politics, and of the late classical philosophies: epicureanism and stoicism. *Prerequisite:* a grade of "C" or better in six credit hours of 100-level Philosophy or written consent of department head.

015.266F Aristote (3) Une étude des idées les plus importantes d'Aristote sur la réalité, la connaissance, la morale et la politique. Étude des philosophies postclassiques: l'épicurisme et le stoïcisme. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans six heures-crédits au niveau 100 en philosophie ou autorisation écrite du professeur.

015.269 Nineteenth-Century European Philosophy (6) A study of Continental philosophy beginning with Kant and including the work of Hegel, Marx, Kierkegaard, Nietzsche, and (possibly) Schopenhauer and Comte. The course examines different views about the nature of humans, history, morals, alienation, freedom, and science.

015.271 Twentieth-Century European Philosophy: Existentialism (3)* This course will be devoted to a study of existentialist themes as they appear in the writings, both literary and philosophical, of some of the following: Beckett, Camus, de Beauvoir, Hesse, Heidegger, Kafka, Kierkegaard, Marcel, Nietzsche, Sartre, Buber, R.D. Laing, and various existential psychologists. Students may not hold credit for both 015.271 and 015.282.

015.272 Twentieth-Century European Philosophy: Phenomenology (3)* A study of specially selected writings with emphasis upon the development of phenomenology from Husserl onward and the use of phenomenological method by such thinkers as: Sartre, Heidegger and Merleau-Ponty. Students may not hold credit for both 015.272 and 015.282.

015.278 Thomas Aquinas (3)* A study of Aquinas' views on topics such as humans, universals, truth, the existence and nature of God, morality and natural law, and the relation of philosophy to religious faith. Students may not hold credit for both 015.278 and 015.232.

015.279W Moral Philosophy (6) An introduction to moral philosophy and influential moral philosophers of the past and present. The main emphasis will be on the nature and justification of moral judgement. Philosophers such as Plato, Hobbes, Hume, Kant, Moore, Stevenson, Hare and Rawls will be discussed. *Prerequisite:* a grade of "C" or better in six credit hours of 100-level Philosophy or written consent of department head.

015.282 Existentialism (6) A study of existential themes as they appear in the writings, both literary and philosophical, of such figures as Beckett, Camus, de Beauvoir, Heidegger, Kafka, Jaspers, Kierkegaard, Marcel, Nietzsche, Sartre, Buber and Laing. Students may not hold credit for both 015.282 and 015.271.

015.282F L'existentialisme (6) Étude des thèmes existentialistes qui apparaissent à travers les oeuvres d'écrivains et de philosophes tels que: Beckett, Camus, de Beauvoir, Hesse, Heidegger, Kafka, Jaspers, Kierkegaard, Marcel, Nietzsche, Sartre, Buber et Lange. L'étudiant(e) ne peut se faire créditer le 015.282 et le 015.271. Donné au Collège universitaire de Saint-Boniface.

015.358 Kant (3)* A study of the 18th-century German thinker, Immanuel Kant, focusing on the revolutionary theories about reality and human knowledge contained in his major metaphysical work, *The Critique of Pure Reason*. *Prerequisite:* a grade of "C" or better in 015.263 or 015.264 or written consent of department head.

015.369 The Rise of Analytic Philosophy (3)* A study of the important developments in British philosophy in the first half of the 20th century and their effects upon present-day philosophical thinking. Special attention will be paid to the work of G.E. Moore, Bertrand Russell, Wittgenstein, and the logical positivists. *Prerequisite:* a grade of "C"

or better in six credit hours of Philosophy.

015.370 Pragmatism (3)* A survey of the development of pragmatism in the United States from Peirce to the present, including an examination of the work of James, Dewey, and C.I. Lewis. *Prerequisite:* a grade of "C" or better in six credit hours of Philosophy.

015.372 Contemporary Philosophy (6) An introduction to the main movements in 20th-century philosophy: idealism, realism, logical positivism, ordinary language philosophy, pragmatism, and existentialism. Philosophers such as Royce, Russell, Moore, Ayer, Carnap, Ryle, Wittgenstein, Peirce, James, Dewey, Heidegger and Sartre will be studied. Students may not hold credit for both 015.372 and 015.369. *Prerequisite:* a grade of "C" or better in six credit hours of 100-level Philosophy or written consent of department head.

Group 3: Systematic Courses

015.215W Mind and Body (3) An introduction to theories of the mind and body, including dualism, identity theory and functionalism. The course deals with topics such as consciousness, thought, and desire. *Prerequisite:* a grade of "C" or better in six credit hours of 100-level philosophy or 30 hours of university credit.

015.229 Ethics and Society (6) An examination of some contemporary ethical theories and their application to a number of practical issues. Current issues to be discussed may include: ethics and the environment; abortion and euthanasia; sexual freedom and human equality; civil disobedience; individual liberty vs. state authority; punishment; and, justice and utility. Students may not hold credit for both 015.229 and any of: 015.253, 015.274 and 015.275. *Prerequisite:* 30 hours of university credit.

015.230 Political Philosophy (6) An analysis and evaluation of the main ideals - justice, freedom, happiness, equality, and self-realization - of the great political philosophers (e.g., Plato, Hobbes, Locke, Mill, and Marx) and of their theories of human nature and their blueprints for society. *Prerequisite:* 30 hours of university credit.

015.230F Philosophie politique (6) Analyse et évaluation des doctrines des grands penseurs politiques tels que Platon, Hobbes, Locke, Mill, Marx; leurs idéaux de justice, de liberté, de bonheur, d'égalité et d'épanouissement personnel, leurs théories sur la nature humaine et sur les fondements de la société. Donné au Collège universitaire de Saint-Boniface. *Préalable:* 30 crédits universitaires.

015.243 Modern Logic and the Philosophy of Logic (6) A systematic introduction to the theory and techniques of modern symbolic logic, with an examination of contributions made by contemporary philosophers in dealing with philosophical problems closely connected with logic. Students may not hold credit for both 015.243 and 015.133 or 015.375.

015.245 Philosophy of Human Nature (6) An attempt to arrive at a viable view of humans in the universe. Problems to be considered include the mind and the body, free will, immortality, "human's" distinctiveness from the rest of nature, and personal identity. Students may not hold credit for both 015.245 and 015.258. *Prerequisite:* a grade of "C" or better in six credit hours of Philosophy.

015.253F Morale (6) Étude des problèmes moraux contemporains: la libération de la femme, la liberté de la personne, la pollution, la discrimination, l'avortement, les drogues, la violence - qui à la lumière de divers courants d'idées et de la tradition chrétienne. L'étudiant(e) détient les crédits du 015.253 ne peut se faire créditer aucun des cours 015.229, 015.274 et 015.275. Donné au Collège universitaire de Saint-Boniface.

015.256 Philosophy of History (3)* Consideration of philosophical problems arising in the study of history. Topics include historical knowledge, historical explanation, objectivity, slanted history, and propaganda. *Prerequisite:* a grade of "C" or better in six credit hours of 100-level Philosophy or written consent of department head.

015.258 Metaphysics (3) A study of some fundamental problems relating to the nature of reality, e.g., mind and body, cause and effect, human freedom, and the problem of universals. Students may not hold credit for both 015.258 and 015.245. *Prerequisite:* a grade of "C" or better in six credit hours of Philosophy at the 100 level.

015.270 Philosophy of Religion (6) A critical examination of religious beliefs and the grounds for holding them. Topics normally include God's existence and nature, evil, faith and reason, the meaning of religious language, revelation, miracles, and mysticism. Students may not hold credit for both 015.270 and 015.273.

015.270F Philosophie de la religion (6) Examen critique des raisons pouvant justifier l'attitude religieuse. Le cours portera entre autres sur l'existence de Dieu et sa nature, le mal, la raison et la foi, la signification du discours religieux, la révélation, les miracles, le mysticisme. L'étudiant(e) ne peut se faire créditer à la fois le 015.270 et le 015.273. Donné au Collège universitaire de Saint-Boniface.

015.273 Fundamentals of the Philosophy of Religion (3)* A critical study of some fundamental problems in the philosophy of religion, such as the existence and nature of God, the justification of religious beliefs, the status of mystical and other religious experiences, and the significance of religious discourse. Students may not hold credit for both 015.273 and 015.270.

015.274 Ethics and Biomedicine (3)* An examination of some important ethical issues arising out of recent developments in biology and medicine. Examples of topics to be covered include: the allocation of scarce medical resources; genetic engineering; euthanasia vs. the prolongation of life; abortion and infanticide, and experimentation on human subjects. Students may not hold credit for both 015.274 and either 015.229 or 015.253. *Prerequisite:* 30 hours of university credit.

015.275 Ethics and the Environment (3)* An examination of some important ethical issues connected with environmental pollution and resource depletion. Examples to be covered include: the ideal of liberty and environmental limits; scarcity and the ideal of justice; growth vs. steady-state economics; animal rights, and survival ethics vs. welfare ethics. Students may not hold credit for both 015.275 and either 015.229 or 015.253. *Prerequisite:* 30 hours of university credit.

015.276 Introduction to the Theory of Knowledge (6) This course challenges and investigates our claims to knowledge. Problems dealt with normally include: the nature of knowledge, sense experience, truth and necessary truth, the analytic-synthetic distinction, memory, induction, etc. *Prerequisite:* a grade of "C" or better in six credit hours of Philosophy or written consent of department head.

015.277 Philosophy of Art (6)* An introductory analysis of some contemporary aesthetic theories and an examination of such problems as the relation between art and morality, meaning and expression in art, the nature and functioning of criticism, and the justification of standards of aesthetic evaluation.

015.280 Contemporary Political Philosophy (3)* An examination of recent theories about whether there should be political authority, who should wield it, what is its proper scope and what are the duties and rights of citizens. The course will deal with representatives of such positions as anarchism, communism, conservatism, liberalism. Students may not hold credit for both 015.280 and 015.371. *Prerequisite:* 30 hours of university credit.

015.281 Educational Philosophy (3)* An examination of the main issues in philosophy of education: what traits it is desirable for people to acquire, why they are desirable and how they are best promoted. Also a consideration of how answers to these questions vary with theories of human nature. Students may not hold credit for both 015.281 and 015.355. *Prerequisite:* 30 hours of university credit.

015.283 Business Ethics (3) The course will explore the application of ethical theory to business. Topics to be discussed will normally include: theories of justice, corporate responsibility, the ethics of advertising, consumer and environmental protection, and preferential hiring. *Prerequisite:* 30 hours of university credit.

015.284 The Ethics of War and Peace (3) A study of the ethical issues connected with war and the securing of peace, as articulated in the writings of major philosophers and selected political and military thinkers. Relevant moral theories, such as non-violence, holy war, the just war, the ethical reasoning underlying policies of deterrence, will be critically examined in historical and contemporary context.

015.285 Philosophy of Social Science (3) The nature of logic and scientific reasoning as found in the context of the social sciences. *Prerequisite:* 30 hours of university credit.

015.286 Philosophy of Law (3) An introduction to the philosophy of law and to rule systems generally. Sample topics include the concept of law (law and religion; natural law; and the "laws of the books"); the connection, if any, between law and morality; and the politics of law in Canada and elsewhere. Students may not hold credit for both 015.286 and the former 015.246.

015.287 Philosophy and Law (3) An inquiry into the philosophy of law, on issues not covered in 015.286. Students will examine such topics as: guilt and responsibility; theories of punishment; the right to dissent; legal reasoning; and, "professional ethics". Students may not hold credit for both 015.287 and the former 015.247.

015.322W Feminist Philosophy (3) An examination of philosophical issues of special interest to students of feminism and women's issues. Topics typically include: feminist epistemology, metaphysical implications of feminism, and feminist ethics. *Prerequisite:* a grade of "C" or better in six credit hours in Philosophy or written consent of department head.

015.338 Theories of Value (6) A systematic study of some fundamental problems to do with the nature of value. For example, are standards of value matters of personal preference only? Are value judgments capable of being true or false? Does evaluation yield knowledge? In what ways is reasoning about values a special kind of reasoning? Students may not hold credit for both 015.338 and 015.374. *Prerequisite:* 30 hours of university credit.

015.355 Philosophy of Education (6)* An exposition, examination, and evaluation of contrasting views about what constitutes an ideal education, about what institutions and practices are most conducive to that ideal, and about what compromises have to be made with that ideal in view of human nature. Students may not hold credit for both 015.355 and 015.281. *Prerequisite:* 30 hours of university credit.

015.355F Philosophie de l'éducation (6) Exposé, examen et évaluation des diverses théories sur ce qui constitue l'éducation idéale. Des institutions et des pratiques les plus aptes à réaliser cet idéal et des compromis à faire selon la nature humaine. L'étudiant(e) ne peut se faire créditer à la fois le 015.355 et le 015.281. Donné au Collège universitaire de Saint-Boniface. *Préalable:* 30 heures-crédits universitaires.

015.356F Métaphysique (6) Les présocratiques et le problème de l'être mobile. Analyse du temps, de l'espace, du lieu et de la quantité. De la théorie hylémorphique et du mouvement reçu dans les êtres. Transcendantalisme et analogie de l'être et structure des êtres particuliers. Dieu et le concours divin. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans six heures de crédits en philosophie au niveau 100.

015.357F Philosophie de l'homme (6) Dans le monde, l'Homme est déterminé. Par la raison, il en émerge et cherche le sens de son existence. Est-ce là toute son originalité? Liberté et valeurs. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans six heures-crédits en philosophie ou autorisation écrite du professeur.

015.360 Philosophical Problems of Artificial Intelligence (3)* Can a machine think? Is the mind a machine? A study of recent work on these questions, from philosophy, computer science, psychology, and physiology. *Prerequisite:* a grade of "C" or better in six credit hours in Philosophy or Mathematics or Computer Science; or written consent of department head.

015.371 Critiques of Contemporary Society (6)* An exposition and appraisal of criticisms of contemporary society by philosophical liberals, conservatives, socialists and anarchists. Writers such as Engels, Dewey, J.S. Mill, Kropotkin, Lenn and Rand will be discussed. Students may not hold credit for both 015.371 and 015.280. *Prerequisite:* 30 hours of university credit.

015.373 Philosophy of Psychology (3) A study of the cognitive strategy in psychology, of the question of reductionism, and of the relevance of neuroscience to psychological theory. *Prerequisite:* a grade of "C" or better in six credit hours at the 100-level in Philosophy or Psychology, or written consent of the department head.

015.374 Value Theory (3)* An examination of some contemporary theories about the nature of value and its status in a world of facts, combined with a discussion as to whether it is rational, or prudent, to be moral. Students may not hold credit for both 015.374 and 015.338. *Prerequisite:* 30 hours of university credit.

015.375 Sentential and Predicate Calculi (3) An accelerated introduction to sentential and predicate calculi. Students may not hold credit for both 015.375 and either 015.133 or 015.243. *Prerequisite:* 60 hours of university credit.

Group 4: Honours Courses

015.343 Problems in Legal Philosophy (3) A treatment of some problems arising in the philosophy of law including responsibility and the doctrine of *mens rea*, theories of punishment, law and morality, and the concept of law. *Prerequisite:* written consent of department head.

015.344 Problems in Social and Political Philosophy (3) A treatment of selected problems arising in social and political philosophy, e.g., the philosophy of the state, distributive justice, and the ethics of revolution. *Prerequisite:* written consent of department head.

015.363 Contemporary Epistemology 1 (3) A critical examination of contemporary issues in the theory of knowledge including recent empiricist attempts to resolve the problem of justifying belief. Typical topics include foundations of knowledge, the concept of "truth", radical scepticism, the new riddle of induction, normative epistemology, the psychology and sociology of knowledge. *Prerequisite:* a grade of "C" or better in 015.276 or written consent of department head.

015.364 Contemporary Epistemology 2 (3) A critical examination of some contemporary issues in the theory of knowledge not covered in 015.363. There is evidence that empiricism is a mistaken theory of knowledge. The aim is to bring the student up-to-date on the details of this current conflict and to proceed further on our own, if possible. Readings are from the current literature. A natural sequel to 015.363, but can be taken independently. *Prerequisite:* written consent of department head.

015.365 Contemporary Metaphysics 1 (3) A survey of recent issues of ontology, reference and existence, ontological commitment, realism vs. nominalism, Quine's notion of ontological relativity, etc. *Prerequisite:* written consent of department head.

015.366 Contemporary Metaphysics 2 (3) An intensive investigation of the most significant recent scholarly research into metaphysics. Problem areas to be studied will vary from year to year. *Prerequisite:* written consent of department head.

015.376 Topics in Moral Theory 1 (3) A critical examination of such issues in moral theory as moral scepticism, contractarianism, moral realism, utilitarianism and justice. *Prerequisite:* a grade of "C" or better in 015.279 or written consent of department head.

015.377 Topics in Moral Theory 2 (3) A critical examination of such issues in moral theory as moral realism, naturalism, moral epistemology, feminist ethics, moral language, egoism and justice. *Prerequisite:* a grade of "C" or better in 015.279 or written consent of department head.

015.446 Contemporary Issues 1 (3)* An intensive study of specially selected topics in contemporary philosophy. The subject matter of the course will vary from year to year. *Prerequisite:* written consent of department head.

015.447 Contemporary Issues 2 (3)* A course of the same description as 015.446, but with subject matter drawn from a different area of contemporary philosophy. *Prerequisite:* written consent of department head.

015.449 Philosophy of Mind (3) A seminar concentrating on the analysis of consciousness. Topics include: mind and brain, the explanation of human behaviour, and whether or not machines and animals can think. *Prerequisite:* written consent of department head.

015.451 Philosophy of Language (3) An examination of problems such as the nature of meaning, grammar, semantics, reference, truth, and methodology in the study of language. *Prerequisite:* written consent of department head.

015.452 Historical Topics 1 (3)* Selected topics in the history of philosophy. *Prerequisite:* written consent of department head.

015.453 Historical Topics 2 (3)* Selected topics in the history of philosophy. *Prerequisite:* written consent of department head.

015.454 Philosophical Methodology (3)* A critical analysis and comparison of differing views of the nature and aims of philosophy and the methods to be employed in achieving those aims. *Prerequisite:* written consent of department head.

015.456 Inductive Logic (3) A study of inductive reasoning and inductively based knowledge claims. Topics normally include probability theory, confirmation, inductive knowledge, tests of hypotheses, the logic of estimation, etc. *Prerequisite:* written consent of department head.

015.457 Modal Logic (3)* A study of one or more of the strict or logical modalities, tense logic, deontic logic, and many-valued logic. *Prerequisite:* written consent of department head.

015.458 Honours Seminar (6)* A seminar course with subject matter varying from year to year, designed to meet special needs of Honours Philosophy students. *Prerequisite:* written consent of department head.

015.460 Science and Philosophy since Newton (3)* This course traces the major threads of humankind's intellectual evolution from the time of Newton to the present. Figures studied include Newton, Kant, Maxwell, Darwin, Peirce, and Einstein. Issues include the nature of space and time, of matter and energy, of living organisms, and the nature and evolution of human consciousness. *Prerequisite:* fourth year standing in any faculty, or written consent of department head.

015.461 Directed Reading in Philosophy 1 (3) Subject matter will vary from year to year. *Prerequisite:* written consent of department head.

015.462 Directed Reading in Philosophy 2 (3) Subject matter will vary from year to year. *Prerequisite:* written consent of department head.

015.463 Symbolic Logic 1 (3) Selected topics in mathematical logic, including prop-

ositional and quantificational logic, number theory, and the major metatheoretical results. *Prerequisite:* written consent of department head.

015.464 Symbolic Logic 2 (3) Selected topics in mathematical logic, including propositional and quantificational logic, number theory, and the major metatheoretical results. *Prerequisite:* written consent of department head.

8.27 Department of Political Studies

Head: William Neville

General Office: 532 Fletcher Argue

Telephone: 204 474 9733

Website: www.umanitoba.ca/faculties/arts/political_studies/

E-mail: political_studies@umanitoba.ca

8.27.1 Academic Staff

Duff Roblin Professorship in Government

Thomas, P.G., B.A.(Hons.), M.A. (Manitoba), Ph.D.(Toronto).

Senior Scholars

Daycock, D.W., B.A.(Hons.), M.A. (Manitoba), Ph.D. (London); **Peterson, T.E.,** B.A., M.A. (Manitoba); **St. John, O.P.,** B.A.(Hons.) (UBC), M.Sc., Ph.D. (London).

Professors

Buteux, P.E., B.Sc.(Econ.)(Hons.), Ph.D. (London); **Debicki, M.,** LL.M.(Warsaw), Ph.D. (Carleton); **Thomas, P.G.,** B.A.(Hons.), M.A. (Manitoba), Ph.D. (Toronto).

Associate Professors

Fergusson, J.G., B.A.(Hons), M.A. (Manitoba), Ph.D. (UBC); **Knysch, G, D.,** B.A.(L.PH.), M.A. (Manitoba), Ph.D. (London); **Lambert, G.,** B.A.(Hons.) (Manchester), M.A., Ph.D.(Minnesota); **Neville, W.F.,** B.A.(Hons.) (Manitoba), M.A. (Oxford); **MacLean, G.A.,** B.A.(Hons.) (Dalhousie), M.A. (McMaster), Ph.D. (Queen's); **Ogrodnick, M.,** B.A., M.A. (Alberta), Ph.D. (York); **Stewart, D.K.,** B.A., M.A. (Acadia), Ph.D. (UBC); **Santos, C.R.,** B.A., B.A.U., M.P.A. (Philippines), LL.M. (Harvard), Ph.D. (Michigan).

Assistant Professors

O'Neill, B. L., B.A.(Hons.) (Brock), M.A.(Economics), M.A.(Public Policy) (McMaster), Ph.D. (UBC); **Yellon, R. A.,** B.A.(Hons.) (McGill).

8.27.2 Program Information

Political Studies examines the dynamics of human interaction in which individuals and groups compete to achieve their goals. The study of politics involves a consideration of the interactions between the individual, the state, government, public affairs and public policy. Political Studies examines the dynamics of these interactions in the context of competing visions, values and interests, particularly in the pursuit of varying public goals, including the quest for political power and the control of government. Politics is thus both a study of conflict between competing interests and a study of how these competing interests achieve compromise and cooperation.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in six credit hours in Political Studies. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

A maximum of six credit hours in Political Studies courses numbered at the 100 level may be used towards the 30 credit hours for a General Major or the 48 credit hours for an Advanced Major.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in six credit hours in Political Studies.

A maximum of six credit hours in Political Studies courses numbered at the 100 level may be used toward the 18 credit hours for a Minor.

Honours Program

For entry to the Honours Program, see Section 4: Basic Faculty Regulations for the Three Programs leading to a B.A.

Honours Ancillary Options:

Economics	Psychology
Geography	Sociology
History	Statistics
Philosophy	

A modern language or another subject with department approval.

Honours in Political Studies may be taken in combination with the program of Central and East European Studies. See Section 8.5.

Other

Combinations of courses for the Major, Minor and Honours programs, other than those listed above may be permitted by written consent of the department head. Similarly, Honours courses may be taken by students in the General or Advanced Major programs with the written consent of the department head.

8.27.3 Political Studies, Department Code: 019

UNIVERSITY 1

YEAR 2

YEAR 3

YEAR 4

GENERAL MAJOR TOTAL: 30 CREDIT HOURS

6 credit hours in Political Studies courses numbered at or above the 100 level

- 18 credit hours in Political Studies courses numbered at or above the 200 level
- 6 credit hours in Political Studies courses numbered at or above the 300 level

ADVANCED MAJOR TOTAL: 48 CREDIT HOURS

6 credit hours in Political Studies courses numbered at or above the 100 level

- 6 credit hours in Political Studies courses numbered at the 200 level
- 6 credit hours in Political Studies courses numbered at the 300 level
- 6 credit hours in Political Studies courses numbered at the 400 level
- an additional 24 credit hours in Political Studies courses numbered at or above the 200 level

MINOR TOTAL: 18 CREDIT HOURS

6 credit hours in Political Studies courses numbered at or above the 100 level

12 credit hours in Political Studies courses numbered at or above the 200 level

HONOURS SINGLE¹

6 credit hours in Political Studies courses numbered at or above the 100 level

- 6 credit hours in Political Studies Honours or Composite courses numbered at the 200 level

- 6 credit hours in Political Studies General courses numbered at the 200 level

- 6 credit hours in Political Studies courses numbered at the 200 level or 6 credit hours in ancillary options

- 12 credit hours in ancillary options

- 12 credit hours in Political Studies Honours or Composite courses numbered at the 300 level²

- 6 credit hours in Political Studies courses numbered at the 300 level²

- 6 credit hours in ancillary options

- 18 credit hours in Political Studies Honours or Composite courses numbered at the 400 level²

- 6 credit hours in ancillary options

HONOURS DOUBLE¹

6 credit hours in Political Studies courses numbered at or above the 100 level

- 6 credit hours in Political Studies Honours or Composite courses numbered at the 200 level

- 6 credit hours in Political Studies General courses numbered at the 200 level

- 12 credit hours in other Honours field

- 6 credit hours in ancillary options

- 12 credit hours in Political Studies Honours or Composite courses numbered at the 300 level²

- an additional 12 or 18 credit hours depending on other Honours field

- 12 credit hours in Political Studies Honours or Composite courses numbered at the 400 level²

- 12 credit hours in other Honours field

NOTES:

¹ Include at least six credit hours in political theory.

² In either third or fourth year a student in Single or Double Honours may, with written permission of the department head, substitute one of the following:

a) Six credit hours in General Political Studies for six credit hours in Honours or Composite courses;

b) Six credit hours in Honours or Composite courses numbered at the 300-level in place of six credit hours in Honours or Composite courses numbered at the 400-level;

c) Six credit hours in Honours or Composite courses numbered at the 400-level in place of six credit hours in Honours or Composite courses numbered at the 300-level.

8.27.4 Political Studies Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

The letter "F" following course numbers indicates courses given in French at Collège universitaire de Saint-Boniface.

General Courses

019.150W Introduction to Politics (6) A survey and appraisal of contemporary ideology, government, and international problems. **019.150F Introduction à la politique** (6) Un aperçu et une évaluation de l'idéologie contemporaine, du gouvernement et des problèmes internationaux. Donné au Collège universitaire de Saint-Boniface.

019.202 Asian Politics (6) An analysis of contemporary politics in India, China, Japan. In a given year, the course will focus on the politics of one of these countries.

019.204 Introduction to International Relations (6) An Introduction to the analysis of international political action and interaction. The course examines the manner in which the foreign policies of states are formulated and the conflict, competition and cooperation produced by state interaction. Examples are drawn mainly from international events since 1945, with appropriate references to earlier periods. Students may not hold credit for both 019.204 and the former 019.153

★ **019.206 Urban and Local Politics** (6) A study of local government and urban problem-solving in Winnipeg, in Canada as a whole, and other countries.

★ **019.207W Introduction to Canadian Government** (6) A survey of the Canadian political institutions and processes including contemporary Canadian federalism, the parliamentary system, political parties and interest groups. Students may not hold credit for both 019.207 and the former 019.156.

★ **019.207F Introduction au système gouvernemental canadien** (6) Une revue à la fois des institutions et des processus politiques canadiens, y compris les systèmes parlementaires et fédéral, les partis politiques et les groupes d'intérêt. L'étudiant(e) ne peut se faire créditer à la fois le 019.207 et l'ancien 019.156. Donné au Collège universitaire de Saint-Boniface.

019.212 American and British Politics (6) An examination and analysis of modern American and British politics, with particular attention to government structure and operation, party rivalry and voting patterns, and the nature and influence of racial, ethnic and class divisions with respect to government policies and political alignments.

019.243 The European Union in World Politics (3) An examination of the political mechanisms and institutions of the European Community as a politico-economic bloc. Special emphasis is placed on issues such as the Common Agricultural Policy; the effort at economic, monetary, and political union; the goals and limits of the European Political Cooperation; EC's external relations and last, but not least, Canadian-E.U. relations. *Prerequisite:* a grade of "C" or better in any 100-level course in Political Studies, History or Economics.

019.251W Great Political Thinkers (6) A survey and evaluation of major political theorists from ancient to modern times.

019.251F Les grands penseurs politiques (6) Aperçu et jugement sur la pensée des grands philosophes politiques, de l'Antiquité aux temps modernes. Donné au Collège universitaire de Saint-Boniface.

019.253 Elements of Foreign Policy (6) A study of the factors affecting the making of foreign policy. An outline of a comparative approach is offered and the foreign policies of a number of countries are surveyed. These include Britain, Canada, China, France, Germany, the U.S.A., the former U.S.S.R. and Japan.

★ **019.256 Issues of Canadian Politics** (6) An analysis of the development of Canadian government activities in selected problem areas and an appraisal of currently proposed solutions and responses. *Prerequisite:* a grade of "C" or better in any 100-level course in Political Studies, or written consent of department head.

★ **019.256F Questions d'actualité en politique canadienne** (6) Une analyse des activités du gouvernement canadien dans certains domaines problématiques ainsi qu'une revue des différentes approches à ces problèmes. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans 019.150 ou l'ancien 019.156 ou l'autorisation écrite du professeur.

★ **019.257 Introduction to Public Administration** (6) An assessment of basic principles, personnel recruitment and organization, and fiscal management in government operation. Canadian topics will be assigned.

★ **019.257F Initiation à l'administration publique** (6) Une revue des principes fondamentaux, du recrutement du personnel et de l'organisation ainsi que de la gestion fiscale au sein du gouvernement. Donné au Collège universitaire de Saint-Boniface.

019.292 Government, Politics and Society in Ukraine (6) An introductory analysis of the modern Ukrainian political institutions and processes. Ukraine's relations with other jurisdictions of the former U.S.S.R. will also be examined.

★ **019.310 Gender and Politics in Canada** (3) This course introduces the principle themes in the study of gender and politics in Canada. Topics may include women's political organizing and activism, representation in political institutions, the gendered division of labour in the private and public spheres, gender and public policy, and the gendered nature of political behaviour.

019.351 Political Doctrines of the Twentieth Century (6) A survey of major contemporary systems of ideas which seek to explain or justify political behaviour.

019.352 Canadian Foreign and Defence Policy (6) An examination of Canadian foreign and defence policy, with attention to contemporary events and issues. The course is designed to examine both foreign and defence policies as interdependent issues for Canadian interests. The course will assess the evolution and changing priorities of Canadian foreign and defence issues, with particular attention to Canada's relations with the United States, Europe, Asian and the Third Worlds. Students may not hold credit for both 019.352 and 019.356 or 019.368.

★ **019.356 Canadian Foreign Policy** (6) An analysis of the Canadian "tradition" in foreign policy, the development of foreign policy in the Cold War, and prospects for the

future in terms of the Atlantic Alliance, the United States, and the "Third World." Students may not hold credit for both 019.356 and 019.352 and 019.368. *Prerequisite:* a grade of "C" or better in the former 019.156 or written consent of department head.

019.356F Politique étrangère canadienne (6) Une analyse de la tradition canadienne en politique étrangère, le développement de la politique étrangère pendant la Guerre Froide et les perspectives pour l'avenir en ce qui a trait à l'Alliance Atlantique, les Etats-Unis et le Tiers-Monde. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans l'ancien 019.156 ou l'autorisation écrite du professeur.

Courses Open to Honours and Major Students

Composite Courses

✳️ **019.266 Human Rights and Civil Liberties** (6) An assessment of the contemporary safeguards of and threats to civil liberties in judicial, administrative, and political processes in the Canadian context. Specific attention will be paid to linkages between the Charter and provincial human rights legislation.

019.271 Introduction to Political Analysis (6) A critical examination of how various analytical perspectives attempt to study the relationship between truth and bias in political discourse, with particular emphasis on ideological components in established techniques of political understanding. *Prerequisite:* written consent of department head.

019.281 Empirical Political Theory (6) An assessment of the contributions to, and significance of, empirical political theory. The course will discuss types of political theory, standards and theory assessment, and particular areas of application including: political attitudes, choice, policy performance, and leadership.

✳️ **019.286 Canadian Political Parties** (6) A study of the origins, evolution, functions, organizations and programs of political parties in Canada. *Prerequisite:* written consent of department head.

019.312 East European Political Systems (6) A comparative study of political values and processes in the former Soviet Union and selected East European states.

019.314 Selected Topics in Politics 1 (3) The content of this course will vary. Contact the Department for a course description. *Prerequisite:* written consent of department head.

019.315 Selected Topics in Politics 2 (3) The content of this course will vary. Contact department for a course description. *Prerequisite:* written consent of department head.

019.324 Feminist Political Theory (3) An examination of feminist approaches to the status and participation of women in political life. The course also includes feminist discourse on ethical issues and state policy.

019.360 Political Concepts (3) An exposition and analysis of the role and meaning of terms central to political discourse. Among concepts to be studied are power, community, justice, freedom, equality and obligation. *Prerequisite:* a grade of "C+" or better in 019.251 or the former 019.151.

019.361 Political Metaphors (3) An examination of the main interpretation of metaphors as they relate to and are illustrated by those characteristic of the understanding of political order. Metaphors to be analyzed include organism, mechanism, contractualism, games, exchange, and the theatre. *Prerequisite:* a grade of "B" or better in 019.251 or the former 019.151.

019.362 The Governments of Western Europe (6) A survey of the political and governmental process in Great Britain, France, and West Germany. *Prerequisite:* written consent of department head.

019.364 Comparative Defence Policy (3) The examination within a comparative framework of the factors determining the making and implementation of the defence policies of a number of representative and significant countries. *Prerequisite:* written consent of department head.

✳️ **019.368 Canadian Defence Policy** (3) The examination of the evolution and changing priorities of contemporary Canadian defence policy, the policy formulation process, and the role of armed forces in the context of Canadian politics and society. Students may not hold credit for both 019.368 and 019.352 and 019.356. *Prerequisite:* written consent of department head.

019.384 Approaches to the Study of International Relations (3) An overview of the various competing theoretical approaches used in the analysis of international relations, as well as the methodologies used by international politics analysts. *Prerequisite:* written consent of department head.

019.388 Comparative Foreign Policy (3) A comparative study of the factors affecting foreign policy in selected countries including, but not limited to, Canada, the United States, Russia, China, Japan, Great Britain, France, and Germany. The course also includes an examination of international, regional, and domestic factors affecting the creation of foreign policy by states. Students may not hold credit for both 019.388 and 019.253. *Prerequisite:* written consent of department head.

019.392 American Politics (6) An examination of institutions, processes, public policies, and current public affairs in the United States. *Prerequisite:* written consent of department head.

019.393 Foreign Policy Decision-Making (6) The analysis and construction of selected theoretical models of the foreign policy decision-making process. The case studies examined will refer primarily, but not exclusively, to U.S. foreign policy decision-making. *Prerequisite:* a minimum of 60 credit hours in Arts, or written consent of department head.

019.416 Selected Topics in Politics 3 (3) The content of this course will vary. Contact department for a course description. *Prerequisite:* written consent of department head.

019.417 Selected Topics in Politics 4 (3) The content of this course will vary. Contact the department for a course description. *Prerequisite:* written consent of department

head.

✳️ **019.476 Manitoba Politics and Voting Behaviour** (6) An analysis of major developments and issues in recent Manitoba politics, with primary research emphasis on party activity and socioeconomic voting patterns. *Prerequisite:* written consent of department head.

019.494 American Foreign Policy (6) An analysis of the foreign policy of the United States from 1945 to the present, focusing on the explanation of the foreign policy decisions taken and the policy-making process giving rise to them. Students may not hold credit for both 019.494 and the former 019.493. *Prerequisite:* written consent of department head.

Courses Open Only to Honours Students

019.273 International Conflict Resolution (6) A study and evaluation of conflict and conflict management in international relations. *Prerequisite:* written consent of department head.

✳️ **019.366 Quebec and the Canadian Political System** (3) An examination of the evolution of Quebec politics and that province's relationship to the rest of Canada with emphasis on French-Canadian and Quebec nationalism as well as the role of economic, social and political change. *Prerequisite:* written consent of department head.

019.382 The Ideologies and Politics of Radical Movements (6) A comparative analysis of the programs and ideologies of selected radical movements. *Prerequisite:* written consent of department head.

019.383 The Politics of International Economic Relations (6) An examination of the political process by which governments attempt to maintain the international economic system. Attention will be directed towards the operation of some of the major international economic institutions, and consideration will be given to the political implications of salient economic issues. *Prerequisite:* written consent of department head.

✳️ **019.386 Canadian Federalism** (3) An examination of Canadian federal structures and processes with emphasis on constitutional influences, the evolution of jurisdictions, province-building and contemporary federal issues. *Prerequisite:* written consent of department head.

019.390 Research Design and Measurement (3) Introduction to research design, measurement, and data collection. Course will include an introduction to computer-assisted research. *Prerequisite:* written consent of department head.

019.391 Applied Statistical Analysis (3) An examination of statistical models and applications. Topics include descriptive analysis, classification, correlation and regression. *Prerequisite:* written consent of department head.

✳️ **019.396 Canadian Politics** (6) An examination of recurrent issues and problems in the Canadian political culture including the evolution of parties and ideologies, and issues such as regionalism, dualism, continentalism, civil liberties and the interventionist state. *Prerequisite:* written consent of department head.

019.453 Regionalism in International Relations (3) This course examines the nature and substance of political relations among states in the international system to institutionalize relations for economic, political, or security reasons. Emphasis is given to post-1945 and contemporary regional relationships. Regional arrangements studied in the course include, but are not necessarily limited to, North America, Europe, the Asia-Pacific rim, the Middle East, Latin America, and Africa. Students may not hold credit for both 019.453 and 019.483. *Prerequisite:* written consent of department head.

019.457 Public Organizational Management (6) A study of the levels and functions of public management in governmental bureaucracy, models of decision-making and organizational development, unionized collective bargaining and equal opportunity employment, with some training in public administration research. *Prerequisite:* written consent of department head.

✳️ **019.466 The State in the Economy** (6) Drawing from literature in Canadian political economy, this course will examine historical and contemporary patterns and forms of Canadian state involvement in the economy. Both federal and provincial contexts will be studied and selected areas of current interest, such as the role of crown corporations and industrial policy, will be emphasized. *Prerequisite:* written consent of department head.

019.471 Contemporary Political Theory (6) An examination of recent developments in the analysis of political ideas, institutions, and behaviour. *Prerequisite:* written consent of department head.

019.473 Strategic Studies (6) An examination of the role, management, and politics of organized force in the international system. *Prerequisite:* written consent of department head.

019.477 Political Choice (6) Conceptualization and application of the factors that explain the choices of participants in political processes such as foreign and domestic policy-making, law-making, and voting. Both rational and non-rational factors will be covered. Emphasis will be placed on the integration of both sets of factors into a comprehensive explanation framework. *Prerequisite:* written consent of department head.

019.481 Seminar in Marxist-Leninist and Contemporary Marxist Political Theory (6) An examination of Communist political theory from Lenin to the present; an analysis of the main currents of Marxist and Marxist-Leninist theoretical developments since the death of Stalin. *Prerequisite:* written consent of department head.

019.483 The Politics of International Regions (6) The course will explore the themes of decolonization, nation-building, political leadership, international conflict, foreign policy and external intervention in the Middle-East, Latin America, Africa, or South-East Asia since World War II. In a given year, the course will concentrate on one of the above areas. *Prerequisite:* written consent of department head.

✳️ **019.486 The Canadian Policy Process** (6) This course will examine a number of conceptual frameworks for the analysis of the policy process, will analyze the role of

different institutions and actors in the policy process, and will appraise current government responses to problems within Canadian society. *Prerequisite:* written consent of department head.

◆ **019.487 Government and Public Sector Unionism** (3) The course will concentrate on the implications of collective bargaining for the process of modern government. It will trace the development of collective bargaining at all levels of government in Can-

ada. It will analyze selected on-going issues in the field of public service bargaining. *Prerequisite:* written consent of department head.

◆ **019.491 Scope and Methods in Political Science** (6) A research seminar involving the application of particular analytical models or theories to a range of related political problems. *Prerequisite:* written consent of department head.

8.28 Department of Psychology

Head: Gerry Sande

General Office: P404 Duff Roblin Building

Telephone: 204 474 9338

Website: www.umanitoba.ca/faculties/arts/psychology/

E-mail: psychology@umanitoba.ca

8.28.1 Academic Staff

Professor Emeritus

Adair, J.G., B.Sc., M.Sc. (Trinity, Texas), Ph.D. (Iowa).

Senior Scholars

Aftanas, M.S., B.A., M.A. (Manitoba), Ph.D. (Alberta); **Kaye, S.M.,** B.Sc.(McGill), M.A., Ph.D. (Dalhousie); **McIntyre, J.S.,** B.A. (Alberta), M.A. (Calgary), Ph.D. (Illinois).

Professors

Chipperfield, J., B.A.(Hons.), M.A. Ph.D. (Manitoba); **DeLuca, R.,** B.A.(Hons.)(Winnipeg), M.A., Ph.D. (Manitoba); **Eaton, W.O.,** B.A. (Stanford), M.A., Ph.D.(Illinois); **Keselman, H.J.,** B.A. (Farleigh Dickinson), M.Sc., Ph.D. (Oklahoma); **Keselman, J.C.,** B.A., M.A., Ph.D. (Manitoba); **LeBow, M.D.,** B.A.(UCLA), M.A., Ph.D. (Utah); **Leventhal, L.Y.,** B.A. (UCLA), M.A., Ph.D. (Southern Illinois); **Martin, D.G.,** B.A. (Albion), M.A., Ph.D.(Chicago); **Martin, G.L.,** B.A. (Colorado), M.A., Ph.D. (Arizona); **Nickels, J.B.,** B.A. (Occidental College), M.A., Ph.D. (Missouri); **Pear, J.J.,** B.S. (Maryland), M.A., Ph.D. (Ohio); **Perry, R.P.,** B.A. (UBC), M.Sc., Ph.D.(Calgary); **Schludermann, E.H.,** B.Sc., M.A. (Manitoba), Ph.D. (Chicago); **Schludermann, S.M.,** B.A. (Agra), M.A. (Lucknow), Ph.D. (Chicago.); **Singer, M.,** B.Sc.(McGill), M.S., Ph.D. (Carnegie); **Tait, R.W.,** B.A., M.A. (Queen's), Ph.D. (Iowa); **Wilson, L.M.,** A.B. (Mt. Holyoke College), M.A., Ph.D. (Kent State).

Associate Professors

Altemeyer, R.A., B.Sc. (Yale), M.S., Ph.D. (Carnegie); **Brodsky, M.J.,** B.A. (New York), Ph.D. (Texas); **Forest, J.J.,** B.A.(Hons.) (Alberta), M.Sc. (Washington), Ph.D. (Alberta); **Holborn, S.W.,** B.A. (Victoria), M.A., Ph.D. (Iowa); **Huynh, C-L.,** M.P.A. (Brigham Young), M.A. (Simon Fraser), M.A., M.S., Ph.D. (Iowa); **Jakobson, L.,** B.A.(Hons.) (Manitoba), M.A., Ph.D. (Western Ontario); **Johnson, E.,** B.A.(Hons.) (Queen's), Ph.D. (Waterloo); **Mondor, T.,** B.A.(Hons.) (Winnipeg), M.A., Ph.D. (Waterloo); **Niemi, R.R.,** B.A.(Hons.), M.A., Ph.D. (Queen's); **Sande, G.N.,** B.A.(Hons.) (Victoria), M.A., Ph.D. (Waterloo); **Schallow, J. R.,** B.S.(Hons.) (Northwestern), Ph.D.(Texas); **Shapiro, L. J.,** B.A. (Colgate), M.A., Ph.D. (Texas Christian); **Tefft, B. M.,** B.A. (Cornell), Ph.D. (Roch.); **Thomas, M.,** B.A. (Texas), M.A.,

Ph.D. (Tennessee); **Vorauer, J.,** B.A. (UBC), M.A., Ph.D. (Waterloo); **Whiteley, J.H.,** B.A. (Hons.) (Toronto), M.A. (Western Ontario), Ph.D. (Iowa); **Wilson, J.R.,** B.A. (Northern Illinois), M.S. (Kansas State), Ph.D. (Kent State).

Assistant Professors

Freeman, W., B.A. (Regina), M.A., Ph.D. (UBC); **Ivanco, T.L.,** B.A.Sc. (Lethbridge), Ph.D. (McMaster); **Leboe, J.,** B.A.(Hons.), M.A. (Simon Fraser), Ph.D. (McMaster); **Morry, M.,** B.A.(Hons.) (Alberta), M.A., Ph.D. (Iowa).

8.28.2 Program Information

Psychology is a discipline that examines questions concerning behaviour and mental processes. Cognitive processes such as perceiving, learning, remembering, thinking, talking, and social interactions as well as the biological basis for behaviour and human development are among the issues explored. Psychology on the one hand helps us understand human behaviour, but on the other also provides insights that can help and benefit individuals and society. A degree program is also offered in the Faculty of Science.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in 017.120 or a grade of "C" or better in both 017.121 and 017.122. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in 017.120 or a grade of "C" or better in both 017.121 and 017.122, or written consent of the department head.

Honours Program

For entry to the Honours program, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

8.28.3 Psychology, Department Code: 017

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
017.120 or 017.121 and 017.122	<ul style="list-style-type: none"> ● 017.225 and 017.226 ● 6 additional credit hours in Psychology courses numbered at the 200 or 300 level 	12 credit hours in Psychology courses numbered at the 200 or 300 level	
ADVANCED MAJOR TOTAL: 48 CREDIT HOURS			
017.120 or 017.121 and 017.122	<ul style="list-style-type: none"> ● 017.225 and 017.226 ● 6 additional credit hours in Psychology courses numbered at the 200 or 300 level 	12 credit hours in Psychology courses numbered at the 200 or 300 level	18 credit hours in Psychology courses numbered at the 200 or 300 level
MINOR TOTAL: 18 CREDIT HOURS			
017.120 or 017.121 and 017.122	6 credit hours in Psychology courses numbered at the 200 or 300 level	6 credit hours in Psychology courses numbered at the 200 or 300 level	

HONOURS SINGLE

017.120 or 017.121 and 017.122	<ul style="list-style-type: none">● 017.230¹● 6 credit hours in Psychology courses numbered at the 200 or 300 level: (3 hours from each of two different lettered menu categories)²● 15 credit hours in ancillary options³● 3 credit hours in free options⁴	<ul style="list-style-type: none">● 3 credit hours from 017.363, 017.450, or 017.457● 15 credit hours in Psychology courses: (3 hours each of at least two different lettered menu courses not taken in Year 2)● 9 credit hours in ancillary options● 3 credit hours in free options	<ul style="list-style-type: none">● 017.452● 6 credit hours in Psychology courses numbered at the 400 level● 6 credit hours in Psychology courses numbered at any level, including any remaining menu category● 6 credit hours in ancillary options
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HONOURS DOUBLE

017.120 or 017.121 and 017.122	<ul style="list-style-type: none">● 017.230¹● 6 credit hours in Psychology courses numbered at the 200 or 300 level: (3 hours from each of two different lettered menu categories)²● 12 credit hours in other Honours field● 6 credit hours in an ancillary option³	<ul style="list-style-type: none">● 3 credit hours from 017.363, 017.450, or 017.457● 9 credit hours in Psychology courses: (3 hours from each of three different lettered menu categories not already taken in Year 2)● 12 credit hours in other Honours field	<ul style="list-style-type: none">● 017.452● 6 credit hours in Psychology courses numbered at the 400 level● 12 credit hours in other Honours field
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NOTES:

¹ 017.225 and 017.226 are required when 017.230 is not offered.

² Lettered menu categories are as follows:

Category A: Personality/Social - 017.241, 242, 345, 346 Category B: Developmental - 017.229, 231, 237

Category C: Learning - 017.244, 247 Category D: Cognitive - 017.248, 344, 358, 361

Category E: Biological - 017.333, 343

³ Ancillary options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (excluding Psychology courses).

⁴ Free options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (including Psychology courses).

8.28.4 Psychology Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

The letter “F” following course numbers indicates courses given in French at Collège universitaire de Saint-Boniface.

More information on courses provided by instructors is available in a booklet at the reserve desk, Dafoe Library, the faculty general office, and the Psychology general office.

017.120 Introduction to Psychology (6) Basic concepts and principles of individual behaviour are examined, particularly those of human development, normal and abnormal behaviour, social psychology, learning, perception, and psychological measurement. Students may not hold credit for both 017.120 and 017.121 or 017.122. Prerequisite for all other courses in Psychology.

017.120F Introduction à la psychologie (6) Étude des principes et des concepts de base de la psychologie, tels l'apprentissage, la perception, le développement, le comportement normal et anormal. L'étudiant(e) ne peut se faire créditer à la fois le 017.120 et le 017.121 ou le 017.122. Ce cours est préalable à tout autre cours de psychologie. Donné au Collège universitaire de Saint-Boniface.

017.121F Introduction à la psychologie 1 (3) Ce cours traite des processus fondamentaux sous-jacents à la psychologie. On y parle des bases biologiques des comportements, des processus sensoriels, de la perception, des états de conscience, de l'apprentissage et de la mémoire. On décrit également les méthodes de recherche propres à la psychologie scientifique. L'étudiant(e) ne peut se faire créditer à la fois le 017.121 et le 017.120. Donné au Collège universitaire de Saint-Boniface.

017.122F Introduction à la psychologie 2 (3) Ce cours traite des connaissances utilisées par les psychologues pour aider l'être humain dans sa compréhension personnelle et ses interactions sociales. On y parle de motivations, d'intelligence, de personnalité et de psychopathologie. On décrit également les outils et les méthodes de travail propres à la psychologie appliquée. L'étudiant(e) ne peut se faire créditer à la fois le 017.122 et le 017.120. Donné au Collège universitaire de Saint-Boniface.

017.224 History of Psychology (3) A consideration of some factors contributing to the development of modern psychology. The influence of different schools and systems of psychology on contemporary points of view is considered. *Prerequisite:* a grade of “C” or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.225 Introduction to Psychological Research (3) Examines psychology as a scientific discipline and describes methods of collecting and interpreting psychological data. Required of all majors and normally taken in the second year. *Prerequisite:* a grade of “C” or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.225F Introduction à la recherche en psychologie (3) Une étude de la psycholo-

gie comme discipline scientifique et la description des méthodes de collecte et d'interprétation des données en psychologie. Ce cours est obligatoire pour la majeure et devrait être suivi en deuxième année. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.120 ou tous les deux le 017.121 et le 017.122 ou l'autorisation écrite du professeur.

017.226M Introduction to Research Methods in Psychology (3) Discusses concepts of inductive inference and explanation. The nature of research designs is emphasized. Required of all majors and normally taken in the second year. *Prerequisite:* a grade of “C” or better in 017.225.

017.226F,M Introduction aux méthodes de recherche en psychologie (3) Étude des concepts inductifs d'inférence et d'explication. Ce cours mettra l'accent sur les schèmes de recherche en psychologie. Ce cours est obligatoire pour la majeure, et devrait être suivi en deuxième année. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.225.

017.229 Child Development (3) The course deals with normal psychological development from prenatal life until puberty. The scientific approach to child study is emphasized. *Prerequisite:* a grade of “C” or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.229F Le développement de l'enfant (3) Étude du développement psychologique normal de la période prénatale à la puberté. Les méthodes de recherche utilisées dans l'étude de l'enfant sont présentées. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.120 ou tous les deux le 017.121 et le 017.122 ou l'autorisation écrite du professeur.

017.231 Adolescent Development (3) This course deals with normal psychological development from puberty until adulthood. Results of scientific research are emphasized. *Prerequisite:* a grade of “C” or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.231F Le développement de l'adolescent (3) Étude du développement psychologique normal de la puberté au stade adulte, à l'aide des résultats de recherches scientifiques. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.120 ou tous les deux le 017.121 et le 017.122 ou l'autorisation écrite du professeur.

017.232 Motivation (3) Critical evaluation of current theories and research on motivation are presented. Topics typically surveyed include instinct, exploration, homeostasis, frustration, conflict, and social motivation. *Prerequisite:* a grade of “C” or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.233 Emotion (3) This course deals with theories and research in the psychology and physiology of emotional behaviour. The theoretical frame of reference for this course is that emotion is a descriptive concept. *Prerequisite:* a grade of “C” or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.237 Developmental Psychology from Adolescence to Old Age (3) The course deals with psychological changes during young adulthood, middle age, and old age. *Prerequisite:* a grade of “C” or better in 017.120 or both 017.121 and 017.122 or writ-

ten consent of department head.

&017.239 Psychology of Women (3) A critical re-examination of existing assumptions about women in the light of contemporary research. Psychology as a discipline and a methodology for investigating human behaviour will be stressed. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

&017.240 The Psychology of Sex Differences (3) Course explores the relationship between: human behaviour, physiology, and sex roles for males and females in our society. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.241 Social Psychology 1 (3) This course provides a basic introduction to the ways in which we affect and are affected by the behaviour of others. Topics typically include: methods used by social psychologists, attitudes and attitude change, social beliefs and judgements, conformity, and persuasion. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.241F Psychologie sociale 1 (3) Ce cours présente une introduction de base aux façons par lesquelles nous affectons et sommes affectés par les comportements des autres. Les thèmes abordés incluent: les méthodes utilisées par les psychologues sociaux, les attitudes et le changement d'attitude, les croyances sociales et le jugement, la conformité et la persuasion. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.120 ou tous les deux le 017.121 et le 017.122 ou l'autorisation écrite du professeur.

017.242 Social Psychology 2 (3) This course provides an introduction to basic social psychology topics not covered in 017.241, such as social norms and roles, group dynamics, prejudice, aggression, altruism, attraction and close relationships, and intergroup conflict. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.243 Humanistic and Transpersonal Psychology (3) A survey of such topics as search for meaning, personal growth, self-actualization, electric stimulation of the brain, meditation, and extra-sensory perception. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.244 Behaviour Modification Principles (3) The fundamental assumptions, principles, and procedures of behaviour modification are described and illustrated by applications to normal and abnormal human behaviour. Students may also conduct supervised projects in applied areas or in basic behavioural research. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.244F Principes de modification du comportement (3) On discutera les hypothèses fondamentales, les principes et les méthodes de modification du comportement à partir d'exemples tirés du comportement humain, normal et anormal. Les étudiants pourraient effectuer des projets de recherche supervisés dans des secteurs d'application spécifique ou de la recherche fondamentale sur le comportement. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.120 ou tous les deux le 017.121 et le 017.122 ou l'autorisation écrite du professeur.

017.245 Behaviour Modification Applications (3) Guidelines for designing, implementing, and evaluating behaviour modification applications are described in detail. Students may also conduct supervised projects in applied areas or in basic behavioural research. *Prerequisite:* a grade of "C" or better in 017.244.

017.245F Domaines d'application de la modification du comportement (3) L'étude d'un certain nombre de domaine d'application de la modification du comportement basée sur les principes et les procédés décrits dans le cours 017.244. Les étudiants pourraient effectuer des projets de recherche supervisés dans des secteurs d'application spécifique; ou de la recherche fondamentale sur le comportement. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.244 ou l'ancien cours 017.234.

017.246 Dyadic Relations (3) This course covers friendship formation and dyadic relations - linking, liking, loving, and leaving from an empirically oriented psychological perspective. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.247 Learning Foundations of Psychology (3) Examines basic learning processes, along with examples of how psychologists study them. Emphasis is placed on how knowledge of basic learning processes can help us understand complex human behaviour. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.248 Cognitive Processes (3) An introduction to the higher mental processes from an information processing perspective. Topics include attention, cognitive development, imagery, language, memory and problem-solving. Extensive reference will be made to recent experimental findings. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.248F Processus cognitifs (3) Une introduction aux processus langage, supérieurs dans une perspective de traitement de l'information. Les sujets abordés incluent l'attention, le développement cognitif, l'imagerie, le langage, la mémoire et la résolution de problèmes. Le cours sera basé sur de nombreuses références aux résultats expérimentaux récents. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.120 ou tous les deux le 017.121 et le 017.122 ou l'autorisation écrite du professeur.

017.250W Elements of Ethology (3) This course involves one three-hour lecture meeting and one laboratory per week and concerns the study of animal behaviour through lectures, films, and field trips. Parakeets, flies, and/or ducklings plus one animal of the student's choice will be observed. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.251 Comparative Psychology (3) This course examines the viability of comparative psychology today, the type of subjects used in comparative psychology research, its history and background, some applications and contemporary viewpoints, and its current status. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.252 Orientations to Psychological Systems (3) Examines and contrasts humanistic, psychodynamic, cognitive, and behavioural psychology with regard to consciousness vs. the unconscious, free-will vs. determinism, holism vs. analysis, purpose vs. past influences, transcendentalism vs. physicalism, and focus on the person vs. focus on problems. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.333 Elements of Physiological Psychology (3) This course presents the fundamentals of the neurobiology of behaviour. Special importance is placed on the information-processing properties of the nervous system in order to provide a uniform framework for the understanding of such topics as perception, attention, sleep and wakefulness, motivation, and learning. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.333F Éléments de psychologie physiologique (3) Ce cours présente les fondements de la neurobiologie du comportement. Une importance particulière est placée dans les propriétés du traitement de l'information du système nerveux de façon à offrir un cadre de référence à la compréhension de thèmes tels la perception, l'attention, le sommeil et la vigilance, la motivation et l'apprentissage. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.120 ou tous les deux le 017.121 et le 017.122 ou l'autorisation écrite du professeur.

017.336 Experimental Child Psychology (3) Selected topics in child psychology are reviewed, such as infant learning and the development of memory processes. Students learn methods for observing child behaviour through laboratory assignments. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.337 Principles of Physiological Psychology (3) This course provides an in-depth examination of the important issues and areas of physiological psychology, with emphasis on recent and exciting developments. Biological systems and processes that underlie behaviour and experience will be studied. *Prerequisite:* a grade of "C" or better in 017.333 or written consent of department head.

017.339 Thinking (3) A survey of psychological inquiries into complex mental processes. The course provides a conceptual integration of concept learning, problem-solving, creativity, and fantasy. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.343 Sensory Processes (3) A review of the structure and function of biological receptor systems and how they mediate information about the environment. It includes such topics as receptor transduction, neural correlates of sensation, and neural models of sensory discrimination. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.344 Perception (3) A survey of methods and research which deals with the interaction of sensory information and existing information within the organism. Topics include psychophysics, the perceptual constancies, perceptual learning, adaptation, and distortion. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.344F Perception (3) Un survol des méthodes et des techniques qui traitent de l'interaction entre les informations sensorielles et les informations existantes au sein de l'organisme. Les sujets traités incluent la psychophysique, les constances perceptuelles, l'apprentissage perceptuel, l'adaptation et les distorsions. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.120 ou tous les deux le 017.121 et le 017.122 ou l'autorisation écrite du professeur.

017.345 Psychology of Personality (3) The study of theory and research on the principles affecting personality development and structure. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.345F Psychologie de la personnalité (3) Étude de la théorie et de la recherche dans les principes qui gouvernent le développement de la personnalité. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.120 ou tous les deux le 017.121 et le 017.122 ou l'autorisation écrite du professeur.

017.346 Abnormal Psychology (3) The study of theory and research on abnormal human behaviour. The major forms of psychological disturbance are discussed. An introduction to the prevention and treatment of psychological disturbances is given. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.346F Psychologie de l'anormal (3) Étude de la théorie et de la recherche dans le domaine du comportement anormal de l'homme. On discute les formes principales des troubles psychologiques, leur prévention et leur traitement. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.120 ou tous les deux le 017.121 et le 017.122 ou l'autorisation écrite du professeur.

017.348 Social Learning and Psychopathology (3) This course emphasizes the manner in which pathological and maladaptive behaviour patterns are transmitted to the individual by his/her environment. The major focus is on the way in which various psychosocial forces contribute to specific disorders such as schizophrenia and psychosomatic illnesses. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.349 Individual Differences (3) This course is concerned with the systematic way in which individuals vary. Topics include individual differences as a function of sex, age, race, and socioeconomic status. Specific behaviours to be studied include reaction-time differences, differences in intelligence, differences in aptitudes and interests, and differences in motor abilities. The reasons for some of these differences will

also be delineated. Hence genetic and physiological factors, as well as psychological explanations for individual differences, will be studied. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.351 Organizational Psychology (3) An examination of representative theory and research about psychological aspects of behaviour in various types of organizations. Topics include personnel selection, group processes, worker satisfaction, productivity, and consumer behaviour. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.352 Independent Research in Psychology 1 (3) Students carry out a research project and write a paper. Research may include historical, theoretical or experimental analyses of psychological problems. Normally available only to third and fourth year students who are in Honours Psychology or who are Psychology Majors and have completed 017.230 or 017.225 and 017.226. A student may not hold credit for more than two of 017.352, 017.356, 017.359. *Prerequisite:* prearranged written consent of an individual instructor and written consent of department head.

017.353 Contemporary Issues 1 (3) The content of this course will vary from year to year, but in general it will entail either some specific topic of prominent interest in psychology or a psychological analysis of some problem of current public interest. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.353F Problèmes contemporains 1 (3) Le contenu de ce cours variera d'année en année, mais traitera généralement d'un sujet spécifique d'actualité concernant la psychologie, ou de l'analyse psychologique d'un problème d'intérêt public. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.120 ou tous les deux le 017.121 et le 017.122 ou l'autorisation écrite du professeur.

017.354 Contemporary Issues 2 (3) The content of this course will vary from year to year, but in general it will entail either some specific topic of prominent interest in psychology or a psychological analysis of some problem of current public interest. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.354F Problèmes contemporains 2 (3) Le contenu de ce cours variera d'année en année, mais traitera généralement d'un sujet spécifique d'actualité concernant la psychologie, ou de l'analyse psychologique d'un problème d'intérêt public. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.120 ou tous les deux le 017.121 et le 017.122 ou l'autorisation écrite du professeur.

017.356 Supervised Field Study in Psychology (3) Students usually do supervised field work in a community setting and write a paper. Normally available only to third and fourth year students who are in Honours Psychology or who are Psychology Majors. A student may not hold credit for more than two of 017.352, 017.356, 017.359. *Prerequisite:* prearranged written consent of an individual instructor and written consent of department head.

017.358 Language and Thought (3) An examination of recent investigations of human language behaviour. Emphasis will be placed on natural language phenomena, which will be examined within the framework of modern theories of thought. Some of the topics considered include communication, the development of language, and natural language comprehension. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.359 Independent Research in Psychology 2 (3) Students carry out a research project and write a paper. Research may include historical, theoretical or experimental analysis of psychological problems. Normally available only to third and fourth year students who are in Honours Psychology or who are Psychology Majors and have completed 017.230 or 017.225 and 017.226. A student may not hold credit for more than two of 017.352, 017.356, 017.359. *Prerequisite:* prearranged written consent of an individual instructor and written consent of department head.

017.360 Environmental Psychology (3) The scientific study of environment/behaviour interactions. The physiological and behavioural effects of the thermal, sonic, luminous, and built environment. Perception and evaluation of environments. Behaviour in domestic, work, and urban environments. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.361 Memory (3) Selected topics in human memory are reviewed, including the physiological and chemical bases for learning and memory, primary determinants of forgetting, memory models, nonverbal memory, organization in memory, and the use of mnemonic schemes to improve memory. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

017.362 Community Mental Health (3) A general introduction to community mental health theory and practice. The history of psychiatric care and dominant etiological models are briefly reviewed. Factors contributing to the development of community mental health approaches in dealing with psychological problems are discussed and current programs are reviewed. At least one field trip is required. *Prerequisite:* written consent of instructor or department head.

017.363 Psychological Measurement and Assessment (3) A study of the basic concepts of measurement in psychology and the application of these concepts in selected areas of psychology. The principal topics of the course will be historical foundations, basic concepts such as reliability, validity, and invariance, the use of different tests and instruments, scaling, and the unique aspects of measurement encountered in different areas of psychology. *Prerequisite:* a grade of "C" or better in 017.230 or both of 017.225 and 017.226 or written consent of department head.

017.363F Mesure et évaluation en psychologie (3) Étude et application des principes de la mesure dans divers domaines psychologiques. On étudiera les concepts de validité, de constance, d'échelonnage, de variance, et on offrira une introduction à la

construction et l'utilisation de différents tests psychologiques. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.230 ou tous les deux le 017.225 et le 017.226 ou l'autorisation écrite du professeur.

017.364F Introduction à la neuropsychologie (3) Un survol des connaissances actuelles touchant les relations entre le cerveau et les comportements humains. Les sujets suivants sont traités: organisation du système nerveux, les désordres neurologiques, effets des lésions cérébrales sur les comportements (agnosie, aphasie, apraxie, négligence, etc.) asymétrie cérébrale, applications cliniques. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 017.120 ou tous les deux le 017.121 et le 017.122 ou l'autorisation écrite du professeur.

017.365 Introduction to Clinical Psychology (3) Clinical psychology is presented as both a scientific and an applied discipline. Such topics as assessment, intervention, research, and professional issues are covered. *Prerequisite:* a grade of "C" or better in 017.345 or 017.346 or written consent of department head.

017.366 Sport Psychology (3) This course examines the use of psychological knowledge to enhance the development of performance and satisfaction of athletes and others associated with sports. Topics include improving skills of athletes, motivating practice performance, increasing the effectiveness of coaches, and mental preparation for competition. *Prerequisite:* a grade of "C" or better in 017.120 or both 017.121 and 017.122 or written consent of department head.

Honours Courses

All Honours courses have as prerequisite appropriate standing in the Honours Psychology program.

017.230MW Advanced General Psychology (6) A lecture and laboratory course introducing basic rationale, logic, and design in research, particularly emphasizing independent research. *Prerequisite:* written consent of department head.

017.342 Learning (6) A course surveying research in animal and human learning and emphasizing the discovery of basic principles related to the control of behaviour. Major theoretical systems will be considered. *Prerequisite:* written consent of department head.

017.445 Animal Behaviour 1 (3) The nature-nurture controversy will be discussed, followed by a survey of the diverse behaviours relating to the physical environment (e.g., food storage); predation (e.g. trapping); defence (e.g., camouflage); and migration. *Prerequisite:* written consent of department head.

017.446 Animal Behaviour 2 (3) A more detailed analysis of selected topics including communication, animal populations, and the social use of space in humans and in humans. *Prerequisite:* written consent of department head.

017.447 Perception (3) Emphasis is on coding and learning in visual perception. Perceptual plasticity is related to the physiology of encoding, information and decision processes, adaptation and constancy phenomena, and perceptual learning in the young. *Prerequisite:* written consent of department head.

017.448 Thinking (3) A critical evaluation of theory and research in complex mental processes. Topics discussed include information processing, human memory and problem-solving, creative thought, psycholinguistics, and the development of thought. *Prerequisite:* written consent of department head.

017.449 Comparative Psychology (3) A survey of similarities and differences of behaviour at various phylogenetic levels. Topics include evolution, genetics, sensory processes, neuropsychology, learning processes, and social behaviour. *Prerequisite:* written consent of department head.

017.450 Psychological Tests (3) Introductory study of the basic concepts in the construction, evaluation, and use of psychological tests, such as varieties of instruments, test data sources, item analysis, and test validity and reliability. *Prerequisite:* a grade of "C" or better in 017.230 or both of 017.225 and 017.226, and written consent of department head.

017.452 Honours Research Seminar (6) In first term there will be an examination of important experimental issues, and several experimental assignments. In addition, each student will propose a research project of greater scope to be conducted under the supervision of a Psychology staff member. In second term, students will carry out their projects and report their findings. *Prerequisite:* 90 credit hours towards honours program, including a grade of "C" or better in three credit hours in 017.363 or 017.450 or 017.457, and written consent of department head.

017.453 Sleep and Dream Research (3) Course covers current research regarding sleep and dreams. Emphasis will be upon methodology and empirical findings. *Prerequisite:* written consent of department head.

017.454 Contemporary Issues 1 (3) Course content may vary from year to year, but in general it will entail either some specific topic of prominent interest in psychology or a psychological analysis of some problem of current public interest. *Prerequisite:* written consent of department head.

017.455 Stress and Adjustment (3) Significant aspects of stress research, theory, and management are reviewed. Major course topics are the evolution of the stress concepts, determinants of stress, measurement of stress, effects of stress and principles of adjustment to stress. *Prerequisite:* written consent of department head.

017.456 Health Psychology (3) This course focuses on understanding how psychological factors contribute to the promotion and maintenance of good health, to the prevention and treatment of illness, and to recovery from or adjustment to existing illness. *Prerequisite:* written consent of department head.

017.457 Design and Analysis for Psychological Experiments (3) Methods for controlling sources of internal validity in psychological experiments, such as randomization, blocking, factorial configurations, and repeated measurements, will be discussed. Descriptive and multivariate methods of analysis will also be introduced. The use of statistical packages will be illustrated. *Prerequisite:* a grade of "C" or better in 017.230 or both of 017.225 and 017.226, and written consent of department head.

017.458 Elements of Behavioural Pharmacology (3) Data and theories related to psychoactive agents are introduced, with emphasis on therapeutic drug classes, drugs of abuse, and methodological issues in drug research. The focus is on the behavioural analysis of drug action, but a neuropharmacological analysis is developed where it has a firm relationship to the behavioural analysis. *Prerequisite:* written consent of department head.

017.459 Selected Topics in Social Psychology (3) A seminar in Social Psychology whose content shall vary from year to year. A description of the course is available in advance at the Psychology general office. *Prerequisite:* written consent of department head.

017.460 Selected Topics in Developmental Psychology (3) The specific content of this course will vary from year to year. A description of the course is available in advance at the Psychology general office. *Prerequisite:* written consent of department head.

017.461 Social Cognition (3) Focus on the processes determining how people perceive themselves and others in their social world. From topics such as causal attribution, psychological control, person memory, and social inference, the course will

address selected issues from theoretical and empirical perspectives. *Prerequisite:* written consent of department head.

017.462 Community Mental Health (3) A seminar covering contemporary issues in community mental health and their relation to psychological services. Topics include the history of the community mental health movement, de-institutionalization as a social policy, the etiology and epidemiology of mental disorders, recognition of and response to mental disorders, mental health systems, community-based mental health services, and prevention of mental disorders. Students may not hold credit for both 017.462 and 017.454 offered as Community Mental Health. *Prerequisite:* written consent of department head.

017.463 Behavioural Endocrinology (3) A comparative approach is adopted to examine how hormones influence a diversity of behaviours through their actions on brain function, the physiological substrates of the behaviours, and their development as evolutionary adaptations. Techniques used by behavioural neuroscientists to study the behavioural and neuroendocrine interactions are surveyed. *Prerequisite:* a grade of "C" or better in 017.333 and written consent of department head.

8.29 Department of Religion

Head: Dawne McCance

General Office: 327 Fletcher Argue Building

Telephone: 204 474 9516

Website: www.umanitoba.ca/faculties/arts/religion/

E-mail: religion@umanitoba.ca

8.29.1 Academic Staff

Distinguished Professor Emeritus

Klostermaier, K.K., Dr. Phil.(Gregorian, Rome), Ph.D. (Bombay).

Professor Emeritus

Harland, H.G., B.A. (Manitoba), B.D. (United College), Ph.D. (Drew), D.D.(hon.c.) (Winnipeg), D.D.(hon.c.) (Queen's).

Professors

Grislis, E., B.A.(Gettysburg), B.D. (Lutheran Theological Seminary, Gettysburg), Ph.D. (Yale), Dr.(h.c.) (Latvia), D.D. (h.c.) (St. John's College); **McCance, D.**, B.Sc., M.A., Ph.D. (Manitoba).

Associate Professor

Kirk, A., B.A., M.A. (Calgary), Ph.D. (Toronto); **Stern, M.S.**, B.A. (Brooklyn College); M.H.L. (Yeshivah); Ph.D. (UCLA); **Wolfart, J.**, B.A.(Hons.), Ph.D. (Cambridge, UK).

Assistant Professors

Blackstone, K., B.A. (Lethbridge), M.A., Ph.D. (McMaster); **Whicher, I.**, B.A. (Queen's), M.A. (Concordia), Ph.D. (Cambridge, UK).

8.29.2 Program Information

In the Department of Religion, all major world religions are studied as both historical and living cultural systems. The department studies religious languages, world-views, ethical traditions, practices, organizations, and institutions as historically connected in complex ways to the periods and places in which they operate. Religion is an open and fascinating subject of study.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in six credit hours in Religion. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on

all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses..

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in six credit hours in Religion.

A maximum of 12 credit hours in Religion courses numbered at the 100-level may be used toward the 18 credit hours for the Minor.

Honours Program

For entry to the Honours Program, see Section 4.0: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Other

For the purpose of the Honours and the Major programs, the three areas of study are identified in the course listing with the following letters in brackets after the course title:

A: Western Religious Traditions

B: World Religions

C: Religion and Culture

In addition to courses numbered at the 100-level, the Department of Religion offers a number of upper-level courses for which there are prerequisites; see course descriptions.

It is not necessary for students to enter the offerings in Religion by way of courses numbered at the 100-level. Students in any year or program may register for any course in Religion provided they satisfy course and program prerequisites. With written permission of the department head students may take courses numbered at the 400-level.

In cooperation with St. Paul's College, the Department of Religion offers an arrangement of courses with special emphasis in Catholic studies as an option for students intending to major or minor in Religion. This special emphasis involves completing course 020.285 Contemporary Issues in Roman Catholicism and selecting relevant courses offered in the Faculty of Arts and the School of Art. Contact the Department of Religion prior to registration in order to select appropriate courses.

It is also possible for students to complete a Specialization in Judaic Studies; contact the Department of Religion for information.

8.29.3 Religion, Department Code: 020

UNIVERSITY 1

YEAR 2

YEAR 3

YEAR 4

GENERAL MAJOR TOTAL: 30 CREDIT HOURS

6 credit hours in Religion courses

- 6 credit hours in Religion courses numbered at the 300 level (with written consent of the department head, students are permitted to substitute Honours courses in the Major)

- 18 credit hours in Religion courses: six credit hours must be taken in each of the following three areas: Western Religious Traditions (A), World Religions (B), and Religion and Culture (C)

ADVANCED MAJOR TOTAL: 48 CREDIT HOURS

6 credit hours in Religion courses	<ul style="list-style-type: none">● 12 credit hours in Religion courses numbered at the 400 level (with written consent of the department head, students may be permitted to substitute courses numbered at the 300 level)● 30 credit hours in Religion courses: six credit hours must be taken in each of the following three areas: Western Religious Traditions (A), World Religions (B), and Religion and Culture (C)
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MINOR TOTAL: 18 CREDIT HOURS

6 credit hours in Religion courses	6 credit hours in Religion courses	6 credit hours in Religion courses
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HONOURS SINGLE¹

6 credit hours in Religion courses	<ul style="list-style-type: none">● 18 credit hours in Religion courses numbered at the 200 level● 12 credit hours in ancillary options	<ul style="list-style-type: none">● 12 credit hours in Religion courses numbered at the 300 level● 6 credit hours in Religion courses numbered at the 400 level● 6 credit hours in ancillary options	<ul style="list-style-type: none">● 18 credit hours in Religion courses numbered at the 400 level● 6 credit hours in ancillary options
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HONOURS DOUBLE¹

6 credit hours in Religion courses	<ul style="list-style-type: none">● 12 credit hours in Religion courses numbered at the 200 level● 12 credit hours in other Honours field● 6 credit hours in ancillary options	<ul style="list-style-type: none">● 6 credit hours in Religion courses numbered at the 300 level● 6 credit hours in Religion courses numbered at the 400 level● 12 credit hours in other Honours field	<ul style="list-style-type: none">● 12 credit hours in Religion courses numbered at the 400 level● 12 credit hours in other Honours field
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NOTES:

¹ Honours students will be expected to obtain six credit hours in each of the study areas B and C. In addition, for purposes of the Honours program, study area A is divided into two parts: (a) Bible and (b) the history of Western religion. Normally an Honours student will be expected to obtain six credit hours in each of those two parts.

8.29.4 Religion Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

The letter "F" following course numbers indicates courses given in French at Collège universitaire de Saint-Boniface.

Introductory Courses

020.112 Biblical Hebrew (A) (6) An introductory course with emphasis on basic grammar and syntax. Students will learn to read simple biblical narratives. (Not acceptable for credit towards a Major or Minor in Religion.) Students may not hold credit for both 020.112 or 055.112 or the former 020.092 and 055.092.

020.128F Fondements de la religion chrétienne (A) (6) Une étude du phénomène de la religion, affirmations chrétiennes fondamentales et choix de sujets sur le débat contemporain. Donné au Collège universitaire de Saint-Boniface.

020.132W Introduction to World Religions (B) (6) An historical survey of the major living religions in terms of their development, ideas and practices as reflected in their literature.

020.132F Introduction aux religions du monde (B) (6) Un aperçu de l'histoire des grandes religions du monde, avec insistance sur le Bouddisme, l'Hindouisme, les religions de l'Orient et l'Islam à partir de leur littérature. Donné au Collège universitaire de Saint-Boniface.

020.135 The History of Eastern Christianity (A) (6) This course examines the general history of Eastern Christianity. It studies the doctrines and organization of the churches, their spirit and attitude to church unity.

020.139 Readings in Biblical Hebrew 1 (A) (3) Reading and translation of selected prose portions of the Hebrew Bible. Vocabulary building and advanced grammar. *Prerequisite:* a grade of "C" or better in 020.112 (the former 020.092) or 055.112 (the former 055.092) or written consent of instructor or department head.

020.140 Readings in Biblical Hebrew 2 (A) (3) Reading and translation of selected poetic portions of the Hebrew Bible. Vocabulary building and advanced grammar. *Prerequisite:* a grade of "C" or better in 020.139 or written consent of instructor or department head.

020.141 Death and Concepts of the Future (C) (3) The course investigates theories, images, and rituals of death, dying and the afterlife in selected world religions. Students may not hold credit for both 020.141 and the former 020.247.

020.142W Ethics in World Religions (C) (3) Examination of the ethical teachings of world religious traditions. Attention will be given to such questions as the nature of the good or virtue, the place of law or commandments, the relationship between religion and morality, the concepts of moral community and the moral self. Students may not hold credit for both 020.142 and the former 020.245.

020.142F Éthique religieuse (C)(3) Un examen de la pensée éthique de représentants d'une ou de plusieurs traditions religieuses. Une attention spéciale est portée sur des sujets comme la nature du bien et de la vertu, la place des lois ou commandements, et en relation entre la religion et la moralité. On ne peut se faire créditer à la fois le 020.142 et l'ancien 020.245. Donné au Collège universitaire de Saint-Boniface.

020.143 Food: Religion Concepts and Practices (C) (3) This course explores the cultural (communal and social) dimensions of the major World Religions through exam-

ination of food concepts and practices. Topics studied include: food symbols and rituals in the theory of religion; food proscription and endorsements ("dietary laws"); food in ritual time and space ("menus" and "liturgies"); concepts of plenty and concepts of dearth (ethics of food distribution); food and communication; food and gender/food and the body; feasting and fasting; food, religion and "consumer culture". Students may not hold credit for both 020.143 and the former 020.131.

020.144W Evil in World Religions (C) (3) The course introduces students to perspectives on evil in selected world religions. Students may not hold credit for both 020.144 and the former 020.138.

020.145 Religion and The Media (C) (3) This course investigates representations of religion in popular media. Through study of a range of media, from newspapers to the internet, the course explores cultural stereotypes about religion, asking how religions are represented, and how they represent themselves, in popular culture.

General Courses

020.216W Introduction to the Hebrew Scriptures (A) (3) An introduction to the historical and critical study of the writings of the "Old Testament," the Hebrew Scriptures. Students may not hold credit for both 020.216 and the former 020.240.

020.217W Introduction to the New Testament (A) (3) An introduction to the historical and critical study of the Christian "New Testament." Students may not hold credit for both 020.217 and the former 020.240.

020.218 Theory of Nature (C) (3) While the content of this course will vary year-to-year, its constant purpose will be to introduce students to some of the many ways in which "nature" has been theorized. The course will explore historical and cultural contexts in which selected theories of nature have developed. It will also explore implications of different theories of nature for environmental ethics.

020.221W Psychology of Religion (C) (6) An examination of religious experience in the light of modern psychology with special attention given to the personal dynamics of faith experience and the relation of faith to contemporary methods of self-discovery.

020.221F Psychologie de la religion (C) (6) Un examen de l'expérience religieuse à la lumière de la psychologie moderne. Il comprend une étude de la religion chez l'individu et la société; de l'enfance et de l'épanouissement de la conscience religieuse; de la psychologie des foules et de l'évangélisme, du culte; de la mystique, de l'immortalité. Donné au Collège universitaire de Saint-Boniface.

020.223F Étude de l'Ancien Testament (A) (6) Un aperçu de l'histoire, de la littérature et des idées religieuses de l'Ancien Testament. Donné au Collège universitaire de Saint-Boniface.

020.228 Makers of Modern Christianity (A) (6) An examination of some of the major figures who have shaped modern Christianity from the time of Luther to the present.

020.235 Major Themes in World Religions (B) (6) A systematic and comparative study of some of the central issues of the major living high-religions of the East and West.

● **020.241 Religion in Canada (C)** (6) The goal of the course is to provide an outline history of the religious institutions and groups in Canada and to explore how they responded to the peculiar character of Canadian life.

● **020.241F Les religions au Canada (C)** (6) Le but de ce cours est de donner un aperçu historique des institutions et groupes religieux au Canada et aussi de voir comment ceux-ci répondent aux caractéristiques spéciales de la vie canadienne. Donné

au Collège universitaire de Saint-Boniface.

020.250 Science and Religion (C) (6) A study of some major issues of interest to both science and religion such as theories about the origin of the universe, theories about human nature and origins, the methods of science and religion. Team taught with members of the Faculty of Science.

020.251 Mennonite Studies (C) (6) A study of the history and theology of the Mennonite people from the 16th century to the present.

020.252 Eastern Christianity in North America (A) (3) A survey of the history and institutions of the major Eastern Christian bodies in North America. Particular reference will be made to the sociological and economic problems, the question of identity and survival, the problem of unity. *Prerequisite:* a grade of "C" or better in 020.135 or written consent of department head.

020.253 Eastern Christianity in the Contemporary World (A) (3) A study of some modern-day problems such as: politics, nationalism, geography, culture, secularization, and the question of unity. Particular reference will be made to the problem of the church in Eastern Europe. *Prerequisite:* a grade of "C" or better in 020.135 or written consent of department head.

020.254 Modern Movements in World Religions (B) (6) Major developments of historic living religions from the end of their medieval periods into the 20th century, including the rise of nationalistic prophetic movements and post-independence formulations.

020.255 History of Early Christian Thought (A) (3) Christian thought from the second century to Augustine.

020.256 History of Medieval Christian Thought (A) (3) Christian thought from Augustine to the end of the medieval period.

020.257 Indian Religious Art and Architecture (B) (3) A survey of Major periods and themes in Indian art and architecture (Buddhist, Jain, Hindu); iconography, temples, canons of Indian art; life of Buddha, Rama-cycle and Krsna-complex; socioeconomic background.

◆ **020.259W Religion and Social Issues** (C) (3) The course examines selected ethical-social issues such as abortion, euthanasia, new genetic and reproductive technologies, and environmental and ecological issues, with reference to one or more of the world's religious traditions.

◆ **020.259F La religion et les problèmes sociaux** (C) (3) Les problèmes tels que l'ordre, la justice, la guerre, le changement social, la désobéissance civile, l'avortement et l'euthanasie seront considérés à la lumière des ressources d'une ou de plusieurs traditions religieuses. Donné au Collège universitaire de Saint-Boniface.

020.263 Problems of Faith and Reason (C) (6) An historical study of certain attempts to solve problems concerning the relationship between religious faith and natural reason.

020.264 Anti-Semitism and Christianity (A) (3) A survey of the phenomenon of Anti-Semitism as it relates to the Christian community.

&020.268 Women and Religion 1 (C) (3) Content of this course may vary from year to year. It will address, through contemporary interpretive models, topics of current and ongoing interest in relation to the understanding and role of women in the world's religious traditions.

&020.269 Women and Religion 2 (C) (3) Content of this course may vary from year to year. It will address, through contemporary interpretive models, topics of current and ongoing interest in relation to the understanding and role of women in the world's religious traditions.

020.270 Religions of China and Japan (B) (6) A study of the history, teachings and developments of Confucianism, Taoism, Shinto and Buddhism in China and Japan from their beginning to the present.

020.271F Étude du Nouveau Testament (A) (6) Un aperçu de l'histoire, de la littérature et des idées religieuses du Nouveau Testament. Donné au Collège universitaire de Saint-Boniface.

020.273 Jews and Judaism in Antiquity (A) (3) The study of the Jewish people and their civilization from its origins in the ancient Near East to the completion of the Hebrew Bible and the redaction of the Talmud.

020.274 Medieval Jewish Civilization (A) (3) A history of the Jews and their civilization from the close of the Talmud to the 18th century. Topics covered will include Christianity, Islam, Messianism and anti-Semitism.

020.275 Modern Jewish Civilization (A) (3) A history of the Jews and their civilization from the French Revolution to the last quarter of the 20th century. Topics covered will include the Enlightenment, Emancipation, Racism/Holocaust, Nationalism/Zionism and Religious Denominationalism.

020.276 Rabbinic Judaism (A) (3) A study of the development of classical rabbinic Judaism from its roots in the Hebrew Bible and the Talmud to the end of the 18th century. Talmud, Law, Mysticism, Theology and Biblical Exegesis are some of the subjects examined.

020.277 Contemporary Judaism (A) (3) A study of contemporary denominational Judaism and its origins in the classical rabbinic tradition. The focus will be on the denominations active in North America.

020.278 Classical Islam (B) (3) An examination of the formation, development and expression of classical Islam. Emphasis is placed on the life and teachings of the Prophet Muhammad, the Qur'an, the Sunna, and the Shi'ism.

020.279 Contemporary Islam (B) (3) A study of the responses of Islamic communities to the pressures of the modern world. Special note will be taken of the relation between Islam and power.

020.280 The Makers of Modern Judaism (A) (6) The course will begin with the emancipation of Jews under Napoleon and the subsequent progress of Enlightenment. Par-

ticular attention will be given to the rise of contemporary Jewish ideologies and movements.

020.281 History of Jewish Thought (A) (6) A survey of intellectual and philosophical patterns as exhibited throughout Jewish history. Particular attention will be paid to the cultural, social, and economic influences which gave rise to these patterns.

020.282 Patterns in Jewish Life (A) (6) A survey of the forms and institutions which made for the expression of Jewish culture. The course will specifically deal with the Jewish life cycle, holy days and holidays, communal structure and family organization.

020.283 Buddhism (B) (6) A survey of the origins and teachings of Buddhism and its spread throughout Asia and the West. Particular attention will be given to transformations in Buddhist thought and practice as it entered different cultural regions.

020.284 The Second Vatican Council (A) (3) An historical and theological analysis of the Second Vatican Council, beginning with the situation of the Roman Catholic Church subsequent to the French Revolution. The course will include study of major Vatican II documents. Particular attention will be given to the legacy of Vatican II and to assessment of the Council's impact on the life of the Roman Catholic Church. Students may not hold credit for both 020.284 and the former 020.267.

020.285 Contemporary Issues in Roman Catholicism (A) (3) A survey of major movements, thinkers, debates and issues in twentieth-century post-Vatican II Roman Catholicism. Particular attention will be given to the following: magisterium and dissent, social justice, women in the church, ecumenical and inter-religious dialogue, and emergent theologies. Students may not hold credit for both 020.285 and the former 020.267.

020.286 Hinduism (B) (6) This course presents an overview of the rich and multi-faceted tradition of Hinduism dealing with its history and development and the religious thinking and experience formed from ancient to modern times. In the first term several foundational aspects of Hindu culture will be examined including the diversity of religious and philosophical perspectives, ritual, mythology, deity figures, and social structure. The second term will deal largely with central themes in the study of Hinduism and explore key issues past and present that enrich our understanding of Hinduism and its global significance today.

020.321 Indian Philosophy (B) (3) This course introduces some of the main philosophical schools of Hindu and Buddhist thought, emphasizing the living history of interaction and debate between the various traditions.

020.322 Indian Religion and Society (C) (3) This course investigates selected topics in religion and society in the region of the Indian sub-continent. Topics will vary from year to year, ranging from a focus on marriage to a study of Buddhist monks and the politics of civil war in Sri Lanka.

020.323 Gender in Early Christianity (C) (3) This course examines the light shed by ancient writings on the role(s) of women in ancient Christian groups, and on the ideologies of gender promoted or assumed by these groups. Thus the focus, while predominately on women, will extend to the way in which gender identities were constructed and adhered to by males and females in early Christianity.

020.324 Jesus and the Gospel Writings (A) (3) The aim of this course is to develop a sophisticated understanding of the New Testament Gospels and their sources, and the ideas these writings were intended to communicate; also to reconstruct the outlines of a history of the earliest traditions about Jesus based on the analysis of these writings.

020.325 Religion and Modern Thought (C) (6) Our awareness of religion as a distinct area of human activity makes us modern. Since around 1500 C.E., intellectual developments, closely matched by social, political and economic changes, have altered radically the ways in which we relate to the world. Religious discourse has been an integral part of these changes. This course traces ongoing discussion concerning the nature of religion and its diverse roles in the public sphere. The course gives special attention to the themes of reformation, colonialism, confessionalism, nationalism, enlightenment, revolution, romanticism, industrialization, and imperialism. Students may not hold credit for both 020.325 and the former 020.134.

020.325F La religion et la pensée moderne (C) (6) Étude des idées contenues dans certaines idéologies, telles que le marxisme, la théorie de l'évolution, les méthodes d'interprétation biblique et la psychologie moderne, contestant les positions traditionnelles des religions. revues des réfutations apportés par certains penseurs contemporains et des solutions transmises par les mouvements religieux. On ne peut se faire créditer à la fois le 020.325 et l'ancien 020.134. Donné au Collège universitaire de Saint-Boniface.

020.339F L'Église d'aujourd'hui (A) (6) Le cours examine l'Église telle qu'elle apparaît dans la Bible; l'à-propos de sa vie dans la société contemporaine; les problèmes de liberté et d'autorité dans la communauté; le mouvement vers l'unité. Donné au Collège universitaire de Saint-Boniface.

020.352 Religion in American Culture (C) (6) This course will develop an understanding of American religious life and thought through an examination of some of the major movements, thinkers, issues, and problems of its history.

020.353 Contemporary Issues 1 (3) Content of this course will vary from year to year but it will deal with some specific topic of current interest in religion, some aspect of methodology, in the study of religion, or an analysis from a religious perspective of some problem of current public interest. *Prerequisite:* written consent of department head.

020.353F Problèmes contemporains 1 (3) Le contenu de ce cours variera d'année en année. Toutefois, il traitera de sujets particuliers d'intérêt courant en religion, de certains aspects de méthodologie de l'étude de la religion, ou d'une analyse de certains problèmes courants d'intérêt général du point de vue religieux. Donné au Collège universitaire de Saint-Boniface. *Préalable:* l'autorisation écrite du professeur.

020.354 Contemporary Issues 2 (3) Content of this course will vary from year to year but it will deal with some specific topic of current interest in religion, some aspect of

methodology in the study of religion, or an analysis from a religious perspective of some problem of current public interest. *Prerequisite:* written consent of department head.

020.354F Problèmes contemporains 2 (3) Le contenu de ce cours variera d'année en année. Toutefois, il traitera de sujets particuliers d'intérêt courant en religion, de certains aspects de méthodologie de l'étude de la religion, ou d'une analyse de certains problèmes courants d'intérêt général du point de vue religieux. Donné au Collège universitaire de Saint-Boniface. *Préalable:* l'autorisation écrite du professeur.

020.357 Major Thinkers in the Eastern Christian Tradition (A) (6) An examination of some major figures together with certain specific problems and special movements in the history of Eastern Christian thought. *Prerequisite:* 020.135 or written consent of department head.

020.364 Religion in the Hellenistic World (A) (3) A study of the philosophical, social, and religious context in which the religions of Judaism and Christianity emerged. *Prerequisite:* written consent of instructor or department head.

020.366 Christian Thought in an Age of Skepticism and Faith (A) (6) The religious quests of the Protestant and Catholic Reformations in the 16th century. *Prerequisite:* written consent of department head.

020.374 Studies in Asian Religions: Texts, Major Figures, Schools of Thought (B) (6) A study of significant texts, schools of thought, important concepts or key figures.

020.375 Topics in Indian Religious Art and Architecture (B) (3) The course will focus on one or more of the religious dimensions of the following: selected motifs in Indian art, the art and architecture of a particular region or epoch, the theoretical assumptions underlying Indian art.

020.377 Paul the Apostle (A) (6) The ministry of Paul the Apostle in the light of modern historical study, his importance in the formation of Christianity, and examination of selected Pauline letters from the New Testament. *Prerequisite:* a grade of "C" or better in both 020.216 and 020.217 (the former 020.240), or written consent of instructor or department head.

020.378 Selected New Testament Literature and Themes (A) (6) An intensive study of selected documents and/or themes from the New Testament. *Prerequisite:* a grade of "C" or better in both 020.216 and 020.217 (the former 020.240), or written consent of instructor or department head.

020.379 Prophets of Ancient Israel (A) (6) The nature and role of prophets in ancient Israelite religion, study of selected examples of Old Testament prophetic literature. *Prerequisite:* a grade of "C" or better in both 020.216 and 020.217 (the former 020.240), or written consent of instructor or department head.

020.380 Selected Old Testament Literature and Themes (A) (6) An intensive study of selected writings or themes of the Old Testament (the Tanach). *Prerequisite:* a grade of "C" or better in both 020.216 and 020.217 (the former 020.240), or written consent of instructor or department head.

020.381 Religion and the Foundations of Bioethics (C) (6) This course will explore the central religious problems faced by contemporary bioethics and how these problems are being engaged by various religious traditions. *Prerequisite:* a grade of "C" or better in six credit hours in Religion or written consent of instructor or department head.

020.384 The Bible as Story (A) (6) A study of the manner in which biblical storytellers present their tales and the ways in which these narratives have been retold ever since. Particular attention will be paid to Midrash, the tradition of creative retellings of biblical tales. *Prerequisite:* a grade of "C" or better in both 020.216 and 020.217 (the former 020.240), or written consent of department head.

020.385 Story and Storytelling: Religious Narratives in Context and Performance (C) (3) An investigation of the importance of narrative in selected religious traditions. The course will survey a variety of stories in their religious contexts, giving particular attention to the following issues: orality and textual authority, transmission and transformation, interpretation and power. The course will involve study of various approaches to myth and narrative analysis, both of textual sources and of performative traditions.

020.387 The Thought of Bernard Lonergan (A) (3) A study of the thought of the twentieth-century Canadian Jesuit, Bernard Lonergan, including his work on method in theology, on ways of knowing and on ethics. Students may not hold credit for both 020.387 and the former 020.457.

Honours Courses

020.406 The Yoga Tradition (B) (3) This course explores the rich, diverse, and highly complex Yoga tradition, emphasizing classical and medieval forms of Yoga philosophy and practice within Hinduism. As well as tracing historical development of the Yoga tradition, the course highlights the meaning and purpose of Yoga in its classical expression and considers the growing popularity and relevance of Yoga in the modern world. *Prerequisite:* written consent of department head.

020.407 Prophets and/or Revolutionaries: Christianity and Political Culture since 1500 (C) (3) This course explores both the material and ideological circumstances linking major religious and political upheavals in "the West" over the course of the modern period. Using case studies (e.g. the German Peasants' War / Radical Reformation; the Puritan Revolution / English Civil War; the French Revolution; The Riel Revolt; contemporary Guatemala) from the sixteenth to the twentieth centuries, the course introduces students of religion to the methods and practices of the "social history of ideas." *Prerequisite:* written consent of department head.

020.420 Early Christian Gnosticism (A) (3) This course constitutes a partial introduction to the historical and critical study of earliest Christianity and the writings of the

Christian "New Testament." The main emphasis will lie on a study of the New Testament and contemporary writings that show strong mystical and Gnostic-leaning tendencies. Above all, the course will focus on the Gospel of Thomas, the Gospel of John, and other New Testament writings related to the Gospel of John. *Prerequisite:* written consent of the Department Head.

020.421 The Sayings of Jesus (A) (3) This course examines the sayings gospel "Q" and the Gnostic Gospel of Thomas in detail, focusing on both their literary and historical dimensions. *Prerequisite:* written consent of the Department Head.

020.422 Incorporations of History (C) (3) This course explores social formation in relation to "religious" representation. Using examples drawn from Western, mainly Christian, traditions, the course traces the discursive construction of a wide range of social institutions as bodies. *Prerequisite:* written consent of the Department Head.

020.423 Studies in Body History (C) (3) A study in the religious-cultural history of the body, this course explores the multiple meanings given to the body, sexuality and sexual difference in historical and contemporary religious traditions. The course gives particular attention to theories of representation of body, and includes study of both written and performative sources. Students may not hold credit for both 020.423 and the former 020.456. *Prerequisite:* written consent of the Department Head.

020.424 Research Methods for the Academic Study of Religion (A, B) (3) A survey of current techniques and resources. This course introduces students to such topics as: literature searches and area assessments; effective use of abstracts; handbooks and electronic resources; critical bibliography; academic publishing; research ethics and research sponsorship. Particular attention will be given to the diversity of disciplinary traditions and conventions as they affect the academic study of religion. *Prerequisite:* written consent of the Department Head.

020.425 Thesis Seminar (A, B) (3) This course introduces students to all aspects of dissertation and research-paper writing, from effective planning and drafting to editorial techniques and typescript presentation. Particular emphasis will be on practices of peer criticism and on how to revise written work in response to such criticism. *Prerequisite:* written consent of the Department Head.

020.426 Theoretical Approaches: Western Religions (C) (3) This course explores theoretical approaches to the study of western religions, focusing in any given year on one of the following: theories of representation, theories of interpretation, theories of contestation. Students may not hold credit for both 020.426 and the former 020.451. *Prerequisite:* written consent of the Department Head.

020.427 Theoretical Approaches: Eastern Religions (C) (3) This course explores theoretical approaches to the study of eastern religions, focusing in any given year on one of the following: theories of representation, theories of interpretation, theories of contestation. Students may not hold credit for both 020.427 and the former 020.452. *Prerequisite:* written consent of the Department Head.

020.440 Studies in Contemporary Theology (C) (6) Examination of the thought of some major 20th-century thinkers. *Prerequisite:* a grade of "C" or better in 12 credit hours in Religion or written consent of instructor or department head.

020.441 Masters of Spiritual Life (B) (6) A study of some major classics of spiritual literature of the East and West; their influence in religious history and their relevance for the present situation. *Prerequisite:* written consent of department head.

020.442 Religion and Philosophy (C) (6) An examination of the relation between philosophical and religious thought through in-depth study of selected thinkers. Seminar. *Prerequisite:* written consent of department head.

020.443 Selected Topics in Religion 1 (3) An intensive study of specially selected topics in the field of religion. The subject matter of the course will vary from year to year. *Prerequisite:* written consent of department head.

020.444 Selected Topics in Religion 2 (3) An intensive study of specially selected topics in the field of religion. The subject matter of the course will vary from year to year. *Prerequisite:* written consent of department head.

020.445 Topics in Comparative Religion (B) (6) A study of selected topics which enables the student to compare the structures of different religions and provides a basis for interreligious dialogue. *Prerequisite:* written consent of department head.

020.446 The Religious Thought of St. Augustine and John Calvin (A) (6) A study of the interplay of religious creativity and cultural context in periods of social upheaval. Attention will be paid to personal experience, understanding of faith, interpretation of tradition and scripture, and their ecclesiastical and cultural significance. *Prerequisite:* written consent of department head.

020.448 Martin Luther and the Rise of Anabaptism (A) (6) An interpretation of the religious thought of these two major perspectives with special attention to their quest for holiness. *Prerequisite:* written consent of department head.

020.450 Current Issues in Biblical Studies (A) (6) A seminar on one or more selected issues in contemporary biblical studies. *Prerequisite:* written consent of department head.

020.453 Seminar in Comparative Religious Ethics (C) (6) An examination of selected topics in comparative religious ethics. *Prerequisite:* written consent of department head.

020.454 The Thought of Paul Tillich (C) (3) A study of the major concepts in Tillich's theological perspective. Special attention is given to the structure of his Systematic Theology. *Prerequisite:* written consent of department head.

020.455 Selected Topics in Religion 3 (6) An intensive study of specially selected topics in the field of religion. The subject matter of the course will vary from year to year. *Prerequisite:* written consent of department head.

8.30 Department of Sociology

Head: Stephen Brickey

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Telephone: 204 474 9260

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E-mail: sociology@umanitoba.ca

8.30.1 Academic Staff

Professor Emeritus

Driedger, L., A.B. (Kansas), B.D. (Bethany Biblical Seminary), M.A. (Chicago), Ph.D. (Michigan State).

Senior Scholars

Boldt, E., B.Sc., B.A. (Calgary), M.A., Ph.D. (Alberta); **Currie, R.F.**, M.A. Ph.D. (Fordham); **Driedger, L.**, A.B. (Kansas), B.D. (Bethany Biblical Seminary), M.A. (Chicago), Ph.D. (Michigan State); **Goldstein, J.E.**, B.A. (San Francisco), M.A., Ph.D. (Washington State); **Rennie, D.**, B.Sc. (Sir George Wms.), M.A. (McGill), Ph.D. (Yale); **Tavuchis, N.**, Ph.D. (Columbia).

Professors

Albas, D.C., B.A. (Alberta), Ph.D. (Colorado); **Comack, A.E.**, B.A. (Winnipeg), M.A. (Queen's), Ph.D. (Alberta); **Kwong, J.**, B.A. (Hong Kong), M.Ed. (Alberta), Ph.D. (Toronto); **Linden, E.W.**, B.A., M.A. (Alberta), Ph.D. (Washington); **Ramu, G.N.**, B.A. (Mysore), Ph.D. (Illinois); **Roberts, L.**, B.A., M.A., Ph.D. (Alberta); **Segall, A.**, B.A., M.A. (Manitoba), Ph.D. (Toronto); **Smandych, R.C.**, B.A. (Saskatchewan), M.A. (Simon Fraser), Ph.D. (Toronto); **Strain, L.A.**, B.A. (Brandon), M.N.R.M. (Manitoba), Ph.D. (Toronto).

Associate Professors

Axelrod, C.D., B.A. (Sir George Williams), M.A., Ph.D. (York); **Baureiss, G.**, B.Ed. (Austria), B.A. (Hons.) (Toronto), M.A. (Calgary), Ph.D. (Alberta); **Brickey, S.L.**, B.A. (Wm. Penn.), M.A., Ph.D. (Iowa); **Grant, K.R.**, B.A., M.A. (Manitoba), Ph.D. (Boston); **Kueneman, R.**, B.A. (Waterloo), M.A., Ph.D. (Ohio State); **Olsen, G. M.**, B.A. (Windsor), M.A., Ph.D. (Toronto); **Payne, B.J.**, B.A. (York), M.Sc., Ph.D. (Toronto); **Prentice, S.L.**, B.A. (Toronto), M.E.S., Ph.D. (York); **Taylor, K.W.**, B.A. (Hons.), M.A. (Saskatchewan), Ph.D. (Southern Illinois); **Ursel, E.J.**, B.A., M.A. (Manitoba), Ph.D. (McMaster).

Assistant Professors

Wilkinson, L., B.A., M.A. (Saskatchewan), Ph.D. (Alberta); **Woolford, A.**, B.A. (Victoria), M.A. (Western Ontario), Ph.D. (UBC).

Instructor II

Michaud, V., B.A., M.A. (Manitoba).

Instructor I

Maloney, L., B.A., M.A. (Manitoba).

8.30.2 Program Information

Sociology examines the patterns of interaction among individuals and the group activity that emerges from such interaction. A basic premise is that social behaviour, and society itself, cannot be fully understood simply by studying the individuals involved. Sociology has a special interest in all those intermediate forms of association between the family and the state which together comprise much of the basis for social solidarity and cohesion. Whether individuals cooperate, compete, or fight is in large measure determined by forces outside themselves, by social forces that encourage or restrain their behaviour.

Criminology is the study of the patterns and causes of crime in society and the operation of the criminal justice system. The criminology program introduces students to the dimensions of the crime problem, the theories advanced to explain the various types of crime, and the array of agencies and programs designed to prevent, control, and respond to criminal activity. Attention is also given to issues relating to women and crime, youth and crime, drugs and crime, the sociology of law, criminal law and procedure, comparative criminology, and community policing.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in 077.120 or a grade of "C" or better in both 077.121 and 077.122. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in 077.120 or a grade of "C" or better in both 077.121 and 077.122.

Honours Program

For entry to the Honours Program, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

8.30.3 Sociology, Department Code: 077

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR SOCIOLOGY TOTAL: 30 CREDIT HOURS			
077.120 or 077.121 and 077.122	<ul style="list-style-type: none"> ● 077.229 ● two of 077.222, 077.333, 077.335, 077.336, 077.339, 077.347 ● 12 credit hours in Sociology courses numbered at the 200 or 300 level 		
GENERAL MAJOR CRIMINOLOGY TOTAL: 30 CREDIT HOURS			
077.120 or 077.121 and 077.122	077.229, 077.251, 077.261	12 credit hours from 077.370, 077.371, 077.372, 077.374, 077.376, 077.378, 077.379, 077.380, 077.383, 077.452	
ADVANCED MAJOR SOCIOLOGY TOTAL: 48 CREDIT HOURS			
077.120 or 077.121 and 077.122	<ul style="list-style-type: none"> ● 077.229 and 077.233 ● one of 077.239, 077.337, 077.381, 077.387 ● two of 077.222, 077.333, 077.335, 077.336, 077.339, 077.347 ● 6 credit hours in Sociology courses numbered at the 200 or 300 level 		<ul style="list-style-type: none"> ● 18 credit hours in Sociology courses numbered at the 200 or 300 level
MINOR TOTAL: 18 CREDIT HOURS			
077.120 or 077.121 and 077.122	12 credit hours in Sociology courses numbered at the 200 or 300 level		

HONOURS SINGLE

077.120 or 077.121 and 077.122	<ul style="list-style-type: none">● 077.201, 077.222 and 077.229● 6 credit hours in Sociology● 12 credit hours in ancillary options	<ul style="list-style-type: none">● 9 credit hours from 077.333, 077.335, 077.336, 077.339, 077.347● 9 credit hours in Sociology courses numbered at the 200 or 300 level● 12 credit hours in ancillary options	<ul style="list-style-type: none">● 077.445, 077.446, 077.447, 077.448, and 077.456● 6 credit hours in ancillary options
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HONOURS DOUBLE

077.120 or 077.121 and 077.122	<ul style="list-style-type: none">● 077.201, 077.222 and 077.229● At least 36 credit hours in other Honours field● At least 6 credit hours in ancillary options	9 credit hours from 077.333, 077.335, 077.336, 077.339, 077.347	077.445, 077.446, 077.447, 077.448, and 077.456
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8.30.4 Sociology Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

The letter “F” following course numbers indicates courses given in French at Collège universitaire de Saint-Boniface.

General Courses

077.120 Introduction to Sociology (6) A systematic introduction to the scientific perspective of sociology. The following areas will be treated: culture, socialization, groups, social stratification, associations, collective behaviour, and urban and political institutions. Students may not hold credit for both 077.120 and 077.121 or 077.122.

077.120F Introduction à la sociologie (6) Introduction systématique à la perspective sociologique: points de vue théorique, méthodes et domaines de recherche. Parmi ces domaines, on initiera l'étudiant(e) à l'étude de la culture, la socialisation, les groupes, la stratification sociale, les mouvements sociaux, la population, la famille, la religion, le système scolaire, les minorités, la déviance, les institutions politiques. L'étudiant(e) ne peut se faire créditer à la fois le 077.120 et 077.121 ou 077.122. Donné au Collège universitaire de Saint-Boniface.

077.121F Introduction à la microsociologie (3) Introduction systématique à la perspective sociologique: points de vue théorique, méthodes et domaines de recherche. On initiera l'étudiant(e) à l'étude de la socialisation, des groupes, de la famille, de l'école, des minorités, des rôles sexuels. L'étudiant(e) ne peut se faire créditer à la fois le 077.121 et 077.120. Donné au Collège universitaire de Saint-Boniface.

077.122F Introduction à la macrosociologie (3) Introduction systématique à la perspective sociologique: points de vue théorique, méthodes et domaines de recherche. On initiera l'étudiant(e) à la culture, la stratification sociale, les mouvements sociaux, la population, les institutions politiques, les différents systèmes de la société. L'étudiant(e) ne peut se faire créditer à la fois le 077.122 et 077.120. *Préalable*: une note minimale de C dans le 077.121. Donné au Collège universitaire de Saint-Boniface.

077.222 Sociological Theoretical Foundations (3) A review of classical sociological theory. The focus will be on the central figures and schools of thought in Sociology. Students may not hold credit for both 077.222 and the former 077.367. *Prerequisite*: a grade of “C” or better in 077.120 or a grade of “C” or better in each of 077.121 and 077.122.

077.222F Théories sociologiques classiques (3) Un aperçu de la théorie sociologique classique. Ce cours mettra l'accent sur les principaux penseurs et les principales écoles de pensée en sociologie. Les étudiants(es) ne peuvent se faire créditer à la fois le 077.222 et l'ancien 077.367. *Préalable*: une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122. Donné au Collège universitaire de Saint-Boniface.

077.227 Urban Sociology (3) A study of urban communities from demographic, ecological, and institutional points of view. *Prerequisite*: a grade of “C” or better in 077.120 or a grade of “C” or better in each of 077.121 and 077.122.

077.227F Sociologie urbaine (3) Une étude de la communauté urbaine du point de vue de la démographie, de l'écologie et de l'institution. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

077.229M Introduction to Research Methods (6) An introduction to quantitative and qualitative scientific methods of investigating social phenomena. The course will include introductions to the assumptions of scientific inquiry, the conceptualization of research problems, basic statistical analysis, and use of a packaged computer program. *Prerequisite*: a grade of “C” or better in 077.120 or a grade of “C” or better in each of 077.121 and 077.122.

077.229FM Introduction aux méthodes de recherche (6) Ce cours initie l'étudiant aux méthodes quantitatives et qualitatives d'appréhension des phénomènes sociaux. Il traite des présupposés de l'enquête scientifique, de la conceptualisation des problèmes de recherche, de l'analyse statistique élémentaire et de l'utilisation d'un programme informatisé pertinent. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 077.120 ou une note minimale de C dans

le 077.121 et le 077.122.

077.231 Selected Social Problems (3) An examination of one or more contemporary social problems, other than crime and delinquency. Issues that might be addressed include poverty, war, environment, licit and illicit drugs, and death and dying. Consult the *Registration Guide* or contact the instructor for specific content in any particular academic year. *Prerequisite*: a grade of “C” or better in 077.120 or a grade of “C” or better in each of 077.121 and 077.122.

077.231F Choix de problèmes sociaux (3) Analyse d'un ou de plusieurs problèmes sociaux contemporains (autres que le crime et la délinquance). On pourra examiner, par exemple, des problèmes tels que la pauvreté, la guerre, l'environnement, la consommation de drogues, la mortalité. Pour plus de détails sur le contenu du cours, consulter le guide d'inscription ou s'adresser au professeur. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

★ **077.232 Canadian Society and Culture** (3) A sociological analysis of Canadian institutions with reference to historical, cultural, economic, and political perspectives. *Prerequisite*: a grade of “C” or better in 077.120 or a grade of “C” or better in each of 077.121 and 077.122.

★ **077.232F La société canadienne et sa culture** (3) Ce cours procède à une analyse sociologique des institutions canadiennes en adoptant, comme point de référence, des perspectives historiques, culturelles, économiques et politiques. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

077.233 Social Psychology in Sociological Perspective (3) The course examines the interrelations of the individual, the group, and society, with emphasis on interaction as the process that gives form, direction, and meaning to the everyday lives of people. Topics to be discussed may include: self esteem, identity, impression management, motivation and emotion. *Prerequisite*: a grade of “C” or better in 077.120 or a grade of “C” or better in each of 077.121 and 077.122.

077.233F Psychosociologie (3) Ce cours examine la relation entre individu, groupe et société en soulignant l'interaction comme étant le processus qui donne à la vie quotidienne sa forme, sa direction et sa signification. Les sujets discutés peuvent inclure: le soi, le processus de formation de l'identité, la motivation, le contrôle des émotions. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

077.234 Socialization (3) The study of the process whereby children and adults are incorporated into human groups. Includes a consideration of the linkages between social structure and socialization practise. *Prerequisite*: a grade of “C” or better in 077.120 or a grade of “C” or better in each of 077.121 and 077.122; 077.233 is recommended.

077.235 Collective Behaviour (3) The analysis of various forms of collective behaviour, such as crowds, mobs, and social movements. The underlying social conditions, action processes, and consequences of such behaviour will be considered. *Prerequisite*: a grade of “C” or better in 077.120 or a grade of “C” or better in each of 077.121 and 077.122.

077.236 Small Group Interaction (3) The basic sociological concepts and methods used in analyzing and designing small groups such as the family, children's groups, work groups, and friendship groups. *Prerequisite*: a grade of “C” or better in 077.120 or a grade of “C” or better in each of 077.121 and 077.122; 077.233 is recommended.

★ **077.237 Ethnic Relations** (3) Introduction to the social and social psychological aspects of ethnic relations in Canada. *Prerequisite*: a grade of “C” or better in 077.120 or a grade of “C” or better in each of 077.121 and 077.122.

★ **077.237F Rapports ethniques** (3) Une introduction aux dimensions sociologiques et socio-psychologiques des rapports ethniques au Canada. Donné au Collège universitaire de Saint-Boniface. *Préalable*: une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

077.238 Sociology of Religion (3) A study of the nature and function of religion as a social institution with emphasis on early theorists, primitive religions, belief systems, and typologies. *Prerequisite*: a grade of “C” or better in 077.120 or a grade of “C” or better in each of 077.121 and 077.122.

077.239 Social Organization (3) The process of ordering social life and the structures that result. Power, conflict, social control, bureaucracy, industrialization, urbanization, and centralization. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.239F L'organisation sociale (3) Étude des forces qui influencent la formation de l'ordre dans la société, son maintien et son changement, contrôle social, conflit de pouvoir, intégration. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

077.246 The Family (3) A sociological analysis of the various family arrangements and practices in contemporary societies and their historical roots. An examination of the relationships between family and other institutions in the context of widespread social changes. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.246F La Famille (3) Analyse sociologique des diverses formes et pratiques familiales dans les sociétés contemporaines, ainsi que de leur évolution à partir de formes plus anciennes. Sont également étudiés les rapports entre les formes familiales et le contexte social global. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

077.247 Courtship and Marriage (3) Mate selection, marital interaction, adjustment, changing roles of wives and husbands, with special emphasis on division of labour, power relations, and sexual adjustment in contemporary Western marriage and across cultures. Experimental marriage forms will be examined. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.247F Les fréquentations et le mariage (3) Discussion comparative et interculturelle portant sur le choix du conjoint, les rôles au sein du ménage, les modèles d'interaction conjugale. Le cours insistera particulièrement sur les rapport conjugaux observables dans les sociétés développées contemporaines, sous l'angle du partage des tâches ménagères et des rapports de pouvoir au sein du couple. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

077.248 Population Problems (3) A survey of the impact of population growth, contraction, density and distribution on the social, political and economic institutions of developing and developed societies. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.249 Sociology of Health and Illness (3) A general introduction to health sociology. The course examines health and illness as social concepts by exploring the personal and structural determinants of health status, and everyday health care practices in which people engage to maintain their health and to manage illness. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.251 Criminology (3) A general introduction to theories of deviant behaviour and criminology. The explanation of crime with reference to physical, psychological, and social factors. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.251F Criminologie (3) Introduction générale aux théories de comportement déviant et de criminologie. L'explication du crime en se référant aux facteurs physiques, psychologiques et sociaux. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

✦ **077.253F Sociologie du Manitoba** (6) Une étude sociologique de la population du Manitoba avec un accent sur ses regroupements culturels et sa stratification sociale. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

✦ **077.261 Sociology of Criminal Justice and Corrections** (3) The sociological study of the criminal justice system, including the police, the courts, prisons and other correctional agencies. *Prerequisite:* a grade of "C" or better in 077.251 or written consent of department head.

✦ **077.262 The Sociology of Aging** (3) An analysis of social and socio-cultural aspects of aging and old age. An orientation to social gerontology and an overview of the situation of the elderly in Canada. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.263 Social Change (3) Major trends of social changes in society, revolutionary and evolutionary change; problems in the measurement and prediction of social change patterns, consequences and problems of future change. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.333 Origins of Sociological Thought (3) A systematic introduction to sociological thought from ancient philosophy to the middle of the 19th century. Emphasis is placed on social thought that is to become the foundations of sociological theory. Students may not hold credit for both 077.333 and the former 077.250. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.333F Origines de la pensée sociologique (3) Une introduction systématique à la pensée sociologique, de ses origines philosophiques jusqu'au milieu du 19^e siècle. Ce cours insistera sur la pensée sociale qui deviendra la base de la théorie sociologique. Les étudiants(es) ne peuvent se faire créditer à la fois le 077.333 et l'ancien 077.250. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

077.335 Feminism and Sociological Theory (3) A critical examination of how gender

has been addressed in classical and contemporary sociological theories, with consideration of how sociological inquiry is being transformed through feminist theory and practice. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.336 Theories in Social Psychology (3) A review of the predominant theoretical perspectives currently utilized in social psychology in relation to contemporary sociological concerns. Students may not hold credit for both 077.336 and the former 077.449. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.337 Sociology of Work (3) A general examination of work behaviour including the historical development of contemporary attitudes about work, an overview of contemporary occupations and professions, characteristics of the professional, occupational choice, social control, and career patterns. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.337F Sociologie du travail (3) Vue générale du monde du travail; particulièrement études des attitudes envers le travail, du classement et de l'organisation des occupations et professions, du choix des carrières, du chômage, et des relations du travail et des loisirs. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

077.339 Contemporary Sociological Theory (3) A systematic comparison of contemporary sociological theories. Emphasis will be placed on the development of competing schools in modern sociology, highlighting the contributions of major theorists. Students may not hold credit for both 077.339 and the former 077.368. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.339F Théories sociologiques contemporaines (3) Une comparaison systématique des théories sociologiques contemporaines. Ce cours mettra l'accent sur l'évolution compétitive des diverses écoles en sociologie et surtout sur l'apport des théoriciens les plus importants. Les étudiant(es) ne peuvent se faire créditer à la fois le 077.339 et l'ancien 077.368. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

077.342 The Child in Society (3) A study of the position of the child in society, including: childhood in the life cycle; images of childhood; the child in work; the child in the family; the child in the adult world. *Prerequisite:* a grade of "C" or better in 077.233 or written consent of department head; 077.234 is recommended.

077.346 Selected Topics (3) The content of this course will vary from year to year, but will consist of a thorough sociological treatment of some topic of current interest. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

✦ **077.347 Political Sociology** (3) A critical evaluation of sociological theory and research focusing on power and politics in society. Topics covered include: the dimensions of power (economic, political, ideological), classes and class conflict, political socialization, the origin and nature of the state, and the welfare state. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

✦ **077.347F Sociologie politique** (3) Évaluation critique de la théorie et des recherches sociologiques relatives aux rapports de force dans la société. Ce cours traitera des divers aspects du pouvoir (économique, politique, idéologiques), des conflits de classe, de la socialisation, de l'origine, des fonctions et de l'évolution de l'État. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

077.351 Population Dynamics and Change (3) Changes in size, composition, and distribution of populations, the dynamics underlying these changes, and their social consequences. Issues and problems in population processes from Canadian and world perspectives will be considered. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.351F La dynamique des populations et le changement social (3) Description et analyse de la population. Étude des facteurs sociaux qui en affectent la distribution selon l'âge, le sexe, la fertilité, la mortalité et la classe sociale. Insistance sur l'étude de la population mondiale. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122 ou l'autorisation écrite du professeur.

077.354 The Sociology of Health Care Systems (3) An analysis of the social organization of formal and informal health care, including topics such as professionalism and health care, the nature of therapeutic relationships, institutional vs. community-based care, social reform and health care policy, medicine and the state, and emerging patterns of health care. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122; 077.249 is recommended.

077.359 Mass Communication (3) Consideration of the role of culture in communication and societies as communication systems. Media institutions and their relationship to other institutions in society. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122; 077.233 is recommended.

077.359F Les communications de masse (3) Le rôle de la culture dans la communication. Les sociétés comme systèmes de communication. Les institutions communicationnelles dans leur rapport avec les autres institutions sociales. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122; le 077.233 est recommandé.

077.364 Families in Societal Crisis (3) An analysis of the impact of major social and economic pressure and change on families. The course will focus on institutions, legislation and policies that respond to families and social change. *Prerequisite:* a grade

of "C" or better in 077.246 or written consent of department head.

077.366 Sociology of Mental Disorder (3) A study of the social processes involved in becoming and being mentally ill. Topics such as the public imagery of madness, decision-making rules in psychiatry, life in the mental hospital, and community attitudes toward the mentally ill will be considered. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122; 077.249 is recommended.

077.369 Sociology of the Developing Societies (3) An introduction to sociological theories concerning development in Third World societies. The course will focus on selected issues such as the relationship between developmental programs, gender, environment and international financial institutions. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

◆ **077.370 Sociology of Law** (3) The course will present a description of the basic elements of the legal system, its history, and the conditions that influence the form and content of the law. *Prerequisite:* a grade of "C" or better in 077.251 or written consent of department head.

077.371 Sociology of Criminal Careers (3) An examination of patterns of criminal behaviour focusing on the sociological aspects of selected offences, the criminal career of the offender, and on societal reaction and legal processing. *Prerequisite:* a grade of "C" or better in 077.251, or written consent of department head.

077.372 The Criminal Law and Its Procedure (3) An introduction to the criminal law and an overview of the system by which the criminal law is administered. *Prerequisite:* a grade of "C" or better in 077.251 or written consent of department head.

077.373 Society and Education (3) A critical examination of schools at all levels and the challenges they face. Issues such as, curriculum, classroom interaction, gender, race, class and equality of educational opportunities will be explored. The course should be useful to students interested in careers in education and counselling. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.373F Société et éducation (3) Un examen critique des enjeux de l'éducation et leur impacte sur l'évolution de la société. On aborde des questions telles que: le curriculum; l'interaction au sein de la classe, compte tenu des caractéristiques socio-économiques des élèves (genre, ethnie, niveau de revenu et profession des parents, etc.). Le cours intéresse particulièrement les personnes qui se préparent à faire carrière en éducation. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

077.374 Selected Topics in Criminology (3) The specific content of this course will vary, but in general it will consist of an examination of a specialized topics relevant to Criminology. *Prerequisite:* a grade of "C" or better in 077.251 or written consent of department head.

077.376 Criminology Field Experience (6) This course is designed to provide students with relevant practical experience through participant observation in a criminal justice agency. The course consists of supervised work within the agency and classroom instruction. Enrolment is competitive and limited to third year Criminology Majors. *Prerequisite:* written consent of department head.

& **077.377 Women, Health and Medicine** (3) A systematic sociological analysis of women's participation in the health care system, as consumers as well as providers. Historical and contemporary health issues of women are explored, as are women's efforts to control their experiences and improve their well-being. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122; 077.249 is recommended.

077.378 Comparative Criminology and Criminal Justice (3) An advanced course designed to engage students in the cross-cultural study of crime and criminal justice. *Prerequisite:* a grade of "C" or better in 077.251 or written consent of department head; 077.261 is strongly recommended.

& **077.379 Women, Crime and Social Justice** (3) The course examines gender differences in crime, theories of women's crime and the treatment of women offenders and victims by the criminal justice system. *Prerequisite:* a grade of "C" or better in 077.251 or written consent of department head.

077.380 Drugs and Crime (3) An analysis of the relationship between licit and illicit drugs and criminality. A variety of approaches to drug control will be examined. *Prerequisite:* a grade of "C" or better in 077.251 or written consent of department head.

& **077.381 Sociological Perspectives on Gender and Sexuality** (3) An exploration of the relations between men and women in contemporary society. This course will use historical and cross-cultural standpoints to examine the social construction of gender and sexuality, and the ideological and material structures which (re)produce gender difference. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

& **077.381F Sociologie de la sexualité et des rôles sexuels** (3) Étude exploratoire des rapports entre les hommes et les femmes dans la société contemporaine. Ce cours examine le processus de construction sociale de la sexualité et des rôles sexuels, à travers une perspective historique de comparaison entre les cultures. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

077.382 Qualitative and Historical Methods in Sociology (3) An introduction to a variety of data gathering techniques such as participant observation, interviewing, life histories, archival research, document analysis, and the use of case studies. Emphasis will be placed on the use of inductive/deductive procedures in the transformation of raw data into theoretical interpretations. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.383 Youth, Crime, and Society (3) An analysis of issues surrounding the treatment of children and youth in the Canadian criminal justice system. Topics include: historical changes in the role of children and youth; young offender legislation; young offenders and media; and current research on youth crime and its prevention in Canada and other countries. *Prerequisite:* a grade of "C" or better in 077.251, or written consent of department head.

077.384 Community and Social Reconstruction (3) An examination of the changing relationships between the global economic market, the declining resource base of the nation state, and the shift to local control within civil society. Topics may include: the central role of the household in civil society, the informal sector, local initiatives (e.g., co-housing, cooperative, land trusts), and community development. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.387 Social Inequality (3) An examination of social inequality in contemporary capitalist society from a comparative perspective. The course will critically examine theoretical explanations for various dimensions of social inequality, such as class, gender and race/ethnicity. Poverty, the distribution of wealth, elites, unemployment and the nature of work and the workplace in the context of globalization are among the indicators of social inequality which will be focussed upon. Students may not hold credit for both 077.387 and the former 077.254. *Prerequisite:* a grade of "C" or better in 077.120 or a grade of "C" or better in each of 077.121 and 077.122.

077.387F Inégalités sociales (3) Ce cours discute des inégalités sociales dans la société capitaliste actuelle. Il examine, de manière critique, les explications proposées au sujet des diverses dimensions de l'inégalité sociale, telles que: la classe sociale d'appartenance, les rôles sexuels l'appartenance ethnique. On y aborde, entre autres, les sujets suivants: la pauvreté, la répartition sociale de la richesse, le chômage, l'évolution des postes et des contextes de travail à l'ère de la globalisation. Les étudiants(es) ne peuvent se faire créditer à la fois le 077.387 et l'ancien 077.254. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 077.120 ou une note minimale de C dans le 077.121 et le 077.122.

Honours Courses

077.201 Critical Issues in Sociology (3) A form-specific, content variable course especially designed for Honours students. The intent of this course is to develop critical thinking and improve students' oral, writing and research skills. It is also designed to facilitate the creation of a cohesive cohort of Honours students through the use of group work and assignments. *Prerequisite:* written consent of department head.

077.445 Honours Seminar (6) An intensive discussion of selected sociological problems, culminating in a major Honours thesis. *Prerequisite:* written consent of department head.

077.446 Advanced Sociological Theory (3) A critical examination and analysis of sociological theories. *Prerequisite:* written consent of department head.

077.447 Research Methods 1 (3) An introduction to the philosophy of science and the logic of scientific methods, as well as a survey of social research methods and issues. Students are expected to gain a working knowledge of the research process. *Prerequisite:* written consent of department head.

077.448 Research Methods 2 (3) The application of quantitative data analysis in the social sciences, including the following multivariate procedures: multiple regression, dummy variable regression, simple analysis of variance and covariance, and an introduction to path analysis. *Prerequisite:* written consent of department head.

077.452 Current Issues in Criminology and Corrections (3) An advanced course designed to examine current controversies and issues in the Canadian system of criminal justice and corrections. Emphasis will be placed upon contemporary theory and research. *Prerequisite:* written consent of department head.

077.453 Readings in Sociology (3) A reading course for undergraduates and pre-Master's in sociology. *Prerequisite:* written consent of department head.

077.454 Sociology of Health Care Seminar (3) An analysis of theory and research in health care including topics such as: explanatory models of health and illness; the sick role; self-care health beliefs and behaviour; and professionalism and health care. *Prerequisite:* written consent of department head; 077.249 and 077.354 are recommended.

077.455 Sociology of Aging Seminar (3) This course considers selected aspects of aging with a specific focus on Canada. Topics such as gender, race and ethnicity, socio-economic status, sexuality, family, housing and transportation concerns, work and retirement patterns and use of social and health services may be included. *Prerequisite:* written consent of department head; 077.262 is recommended.

077.456 Advanced Sociological Theory (3) A critical examination and analysis of selected sociological theories. Course content may vary from year to year depending upon the instructor's interest. *Prerequisite:* written consent of department head.

8.31 Theatre (Minor) Program

Program Chair: Chris Johnson

Program Office: 367 University College

Telephone: 204 474 9581

Website: www.umanitoba.ca/faculties/arts/english/theatre/

E-mail: theatre@umanitoba.ca

8.31.1 Academic Staff

Professor

Johnson, C.G., B.A., M.A. (UBC), Ph.D. (Leeds).

Assistant Professors

Groome, M., B.A., M.A., Ph.D. (McGill); Kerr, W., B.A. (Saskatchewan), M.A., Ph.D. (Alberta).

8.31.2 Program Information

Theatre is a way of finding out what it means to be human and is therefore a good component of a liberal, humanist education. While the Theatre pro-

gram does not prepare students for a career, it can assist in helping students discover whether they have the talent and the determination to pursue that goal later. Students will study dramatic expression, dramatic writing, and become part of the Black Hole Theatre Company, which stages 7 or 8 productions each year.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in 154.122.

Other

The faculty also offers a General Major and an Advanced Major in Drama. See Section 8.8. Students are encouraged to consult the chair of the Theatre committee or the head of the Department of English.

8.31.3 Theatre (Minor), Program Code: 154 [Formerly (099T)]

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
MINOR TOTAL: 18 CREDIT HOURS			
154.122	12 credit hours from 154.215, 154.216, 154.217, 154.218, 154.247, 154.248, 154.249, 154.260, 154.261, 154.346, 154.347, 154.361, 154.362, 154.363, 154.364		

8.31.4 Theatre Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

154.122 Introduction to Theatre (6) A study of plays both as literature and as texts for stage presentation. The course will include practical work in studio sessions. Students may not hold credit for both 154.122 and the former 099.122.

154.215 Theatrical Techniques: Onstage (6) Advanced acting and an introduction to the fundamentals of directing. Lectures on dramatic and theatrical theory, and the analysis of representative plays; workshops on acting and directing, including the presentation of scenes; participation in the current Black Hole Theatre season. Students may not hold credit for both 154.215 and the former 099.215. *Prerequisite:* a grade of "C" or better in 154.122 (the former 099.122) **and** written consent of instructor.

154.216 Theatrical Techniques: Backstage (6) An introduction to the backstage arts and crafts of the Theatre: set, props, and costume design and construction; lighting and sound design and execution; stage management; company management. Practical projects required in conjunction with the current Black Hole Theatre season, the nature of the projects to be determined by the student's interests and the need of the company. Students may not hold credit for both 154.216 and the former 099.216. *Prerequisite:* a grade of "C" or better in 154.122 (the former 099.122) **and** written consent of instructor.

154.217 Specialized Practical Training 1 (3) Two special workshops, such as voice, stage movement, mime, or directing, from the Prairie Theatre Exchange Adult Program and approved in advance by the University of Manitoba Theatre Program. Students may hold credit for only two of 154.217 (the former 099.217), 154.218 (the former 099.218) or 154.249 (the former 099.249). Students may not hold credit for both 154.217 and the former 099.217. *Prerequisite:* a grade of "C" or better in 154.122 (the former 099.122) **and** written consent of the Theatre committee chair.

154.218 Specialized Practical Training 2 (3) Two special workshop courses, other than those credited for 154.217 (the former 099.217), from the Prairie Theatre Exchange Adult Program and approved in advance by the University of Manitoba Theatre Program. Students may hold credit for only two of 154.217 (the former 099.217), 154.218 (the former 099.218) or 154.249 (the former 099.249). Students may not hold credit for both 154.218 and the former 099.218. *Prerequisite:* a grade of "C" or better in 154.122 (the former 099.122) **and** written consent of the Theatre committee chair.

154.247 Fundamentals of Dramatic Analysis (3) This course aims at developing critical and analytic skills specific to the understanding of dramatic texts, through an introduction to key concepts, terminology and critical methods. Students may not hold credit for both 154.247 and the former 099.247. *Prerequisite:* a grade of "C" or better in 154.122 (the former 099.122) or 004.120 or 004.126, or written consent of instructor.

154.248 Theatre History (3) A study of plays, theatre architecture, dramatic theory, acting theory, and the social context in which theatre was presented in an era in the history of the theatre (e.g. Classical Greek and Roman, British Medieval and Tudor, Restoration and Seventeenth Century French). *Prerequisite:* a grade of "C" or better in 154.122 (the former 099.122) or written consent of instructor.

154.249 Specialized Practical Training 3 (3) An alternative method of taking 154.217 or 154.218. Two special workshops, other than those credited for 154.217 or

154.218, taken one each term in a single academic year, from the Prairie Theatre Exchange Adult Program and approved in advance by the University of Manitoba Theatre Program. Students may hold credit for only two of 154.217 (the former 099.217), 154.218 (the former 099.218), or 154.249 (the former 099.249). Students may not hold credit for both 154.249 and the former 099.249. *Prerequisite:* a grade of "C" or better in 154.122 (the former 099.122) **and** written consent of the Theatre committee chair.

154.260 Special Studies 1 (3) An extensive examination of selected topics that will vary from year to year, depending upon the needs and interests of the instructor and students. Students may not hold credit for both 154.260 and the former 099.260. *Prerequisite:* written consent of instructor.

154.261 Special Studies 2 (3) An extensive examination of selected topics that will vary from year to year, depending upon the needs and interests of the instructor and students. Students may not hold credit for both 154.261 and the former 099.261. *Prerequisite:* written consent of instructor.

154.346 Theory of Drama and Performance (3) Studies in major theories of drama, performance and its reception from Aristotle to the present day. Theories will be studied in conjunction with an in-depth analysis of a number of dramatic texts. Students may not hold credit for both 154.346 and the former 099.346. *Prerequisite:* a grade of "C" or better in one of 154.247 (the former 099.247), 004.296 or written consent of instructor.

154.347 Text and Performance (3) Explores the works of a significant playwright or group of playwrights, the appropriate dramatic theory/ies, the production and performance style involved. Students may be required to direct, act and/or design. Students may not hold credit for both 154.347 and the former 099.347. *Prerequisite:* a grade of "C" or better in 154.215 (the former 099.215), or a grade of "C" or better in six credit hours from 154.217 (the former 099.217), 154.218 (the former 099.218) or 154.249 (the former 099.249) or written consent of instructor.

154.361 Special Studies 3 (3) An extensive examination of selected topics that will vary from year to year, depending upon the needs and interests of the instructor and students. Students may not hold credit for both 154.361 and the former 099.361. *Prerequisite:* written consent of instructor.

154.362 Special Studies 4 (3) An extensive examination of selected topics that will vary from year to year, depending upon the needs and interests of the instructor and students. Students may not hold credit for both 154.362 and the former 099.362. *Prerequisite:* written consent of instructor.

154.363 Practicum 1 (3) Theatre Practicum in which the student works with a professional mentor on a production at the Prairie Theatre Exchange. Openings contingent on a match between student's theatrical field and interest and PTE's needs. Students may not hold credit for both 154.363 and the former 099.363. *Prerequisite:* a grade of "C" or better in six credit hours from 154.215 (the former 099.215), 154.216 (the former 099.216), 154.217 (the former 099.217), 154.218 (the former 099.218), or 154.249 (the former 099.249) **and** written consent of the Theatre committee chair.

154.364 Practicum 2 (6) Theatre Practicum in which the student works with a professional mentor on a production at the Prairie Theatre Exchange. Openings contingent on a match between student's theatrical field and interest and PTE's needs. Students may not hold credit for both 154.364 and the former 099.364. *Prerequisite:* a grade of "C" or better in six credit hours from 154.215 (the former 099.215), 154.216 (the former 099.216), 154.217 (the former 099.217), 154.218 (the former 099.218), or 154.249 (the former 099.249) **and** written consent of the Theatre committee chair.

8.32 Ukrainian Canadian Heritage Studies Program

Acting Program Director: Alexandra Pawlowsky

Program Office: 209 St. Andrew's College

Telephone: 204 474 8905

Website: www.umanitoba.ca/centres/ukrainian_canadian/

E-mail: cucs@cc.umanitoba.ca

8.32.1 Program Information

Canada is a multicultural nation to which people of Ukrainian origin have made a significant contribution. The study of this community, its past and present, provides a general understanding of the Ukrainian heritage and its role in Canadian society. The program is cross-disciplinary and leads to a Major, Advanced Major, and Minor. In addition to its Canadian focus, the program also examines historical and contemporary issues in Ukraine.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in six credit hours from List A below. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in six credit hours from List A below.

8.32.2 Ukrainian Canadian Heritage Studies, Program Code: 155 [formerly (099K)]			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
6 credit hours from List A	• 12 credit hours from List B taken from each of 3 different departments		
	• 12 credit hours from List C taken from each of 2 different departments		
ADVANCED MAJOR TOTAL: 48 CREDIT HOURS			
6 credit hours from List A	• 15 credit hours from List B		
	• 27 credit hours from List C		
MINOR TOTAL: 18 CREDIT HOURS			
6 credit hours from List A	• 6 credit hours from List B taken from each of 2 different departments		
	• 6 credit hours from List C		

List A

Faculty of Arts

Economics

018.120 Principles of Economics 6

German and Slavic Studies

052.127 Conversational Ukrainian 6

or

052.264* Ukrainian 1 6

or

052.272 Intermediate Ukrainian 6

History

011.120 An Introduction to the History of Western Civilization (G) 6

011.135 An Introduction to the History of Western Civilization to 1500 (G) 3

011.136 An Introduction to the History of Western Civilization from 1500 (G) 3

011.139 History of Colonial Canada: 1500-1885 (C) 3

011.140 History of the Canadian Nation Since 1867 (C) 3

Political Studies

019.150 Introduction to Politics 6

or

019.151* Introduction to Contemporary Ideologies 6

or

019.153* Introduction to International Relations 6

or

019.156* Introduction to Canadian Government 6

or

019.204 Introduction to International Relations 6

or

019.207 Introduction to Canadian Government 6

Religion

020.132 Introduction to World Religion 6

or

020.134* Religion and Modern Thought 6

or

020.135 The History of Eastern Christianity 6

Sociology

077.120 Introduction to Sociology 6

Faculty of Environment

Geography

053.120 Introductory Geography 6

053.128 Introduction to Human Geography 3

053.129 Introduction to Physical Geography 3

School of Art

054.103 Introduction to Art 1A 3

and

054.104 Introduction to Art 2A 3

or

054.105 Introduction to Art 1B 3

and

054.106 Introduction to Art 2B 3

*no longer offered

List B

Faculty of Arts

German and Slavic Studies

052.242 Ukrainian Canadian Literature 3

052.343 Ukrainian Canadian Folklore 3

History

011.391 The Ukrainians in Canada (C,S) 3

Religion

020.252 Eastern Christianity in North America (A) 3

Ukrainian Canadian Heritage Studies

155.310 The Ukrainian Arts in Canada 3

List C

Faculty of Arts

Economics

018.251 The Economy of Ukraine 3

German and Slavic Studies

052.370 Church Slavic: Ukrainian Version 3

052.271	Ukrainian Literature of the 16th to 18th Centuries	3
History		
011.255	The History of Ukraine (E)	6
011.303	Issues in Ukrainian History (E)	3
Political Studies		
019.292	Government, Politics and Society in Ukraine	6
Religion		
020.135	The History of Eastern Christianity (A)	6
020.253	Eastern Christianity in the Contemporary World (A)	3
020.357	Major Thinkers in the Eastern Christian Tradition (A)	6
Faculty of Environment		
Geography		
053.360	Geography of Ukraine (A)	3

School of Art		
054.328	Early Byzantine Art and Architecture	3
054.329	Later Byzantine Art and Architecture	3

8.32.3 Ukrainian Canadian Heritage Studies Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

★ **155.310 The Ukrainian Arts in Canada** (3) A study of varied aspects of artistic performance and production among Ukrainians in Canada, past and present: music, theatre, dance, cinema, fine arts and architecture. The course will focus on crucial trends and processes and adopt an evaluative approach in its exploration of the above artistic phenomena. Students may not hold credit for both 155.310 and the former 099.310. *Prerequisite:* written consent of the instructor or the director of the Centre for Ukrainian Canadian Studies.

8.33 Urban Studies (Minor) Program

Program Code: 099U
Program Office: Faculty of Arts Dean's Office
Telephone: 204 474 9100

8.33.1 Program Information

Approximately three-quarters of Canadians live in cities. These concentrations of people create economic, political, and social issues that can be examined from a number of perspectives. The Urban Studies Minor is a cross-disciplinary program that includes courses from Anthropology, Economics, Geography, History, Political Studies, and Sociology. The minor is relevant to further studies in urban and regional planning and other city-oriented professions.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in a full course (or equivalent) offered by one of the departments from the approved list below:

A Minor in Urban Studies will consist of 18 credit hours to be chosen from the following courses:

Anthropology: 076.257 Urban Anthropology (3)

Economics: 018.372 Urban and Regional Economics and Policies (3)[formerly 018.347 Urban Economics (3)]

Geography: 053.346 Urban Geography (6)

History: 011.378 Studies in Canadian History (6) (History 011.378 may only be used as part of the requirement for the Minor when the subject matter is the 'History of Winnipeg.')

Political Studies: 019.206 Urban and Local Politics (6) [formerly 019.252 Urban Politics (6)]

Sociology: 077.227 Urban Sociology (3)

8.34 Women's Studies Program

Program Coordinator: Janice Ristock
Program Office: 327 Fletcher Argue Building
Telephone: 204 474 6984
Website: www.umanitoba.ca/faculties/arts/womens_studies/
E-mail: womens_studies@umanitoba.ca

8.34.1 Academic Staff

Professor

Ristock, J., B.A.(Hons.) (Manitoba), M.A. (Guelph), Ph.D. (Toronto).

Associate Professors

Dodd, J., B.Sc., M.Sc., Ph.D.(Toronto); **Donatelli, C.J.**, B.A. (SUNY Binghamton), M.A. (New Mexico), M.A. (Toronto), M.S.L. (Pontifical Inst.), Ph.D. (Toronto); **Heald, S.**, B.Sc.(Ottawa), M.A. (Lakehead), Ph.D. (Toronto)

Assistant Professor

Kalbfleisch, J., B.A.(Hons.), M.A.(Waterloo), Ph.D. (Emory).

8.34.2 Program Information

The program explores alternatives within society to achieve equal rights and equal treatment for both sexes. Women's Studies is necessary because of a hitherto limited understanding of the role played by women in history and contemporary society. Women's Studies explores traditional and feminist views of women, the psychology of women, women's economic roles, and their relationships to men and each other. The program is interdisciplinary in focus.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

The following entries contain information which is not contained in Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in each of two 3 credit hour courses in Women's Studies. It is recommended that students wishing to Major in Women's Studies take both 156.153 and 156.154. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in each of two 3 credit hour courses in Women's Studies.

Honours Program

For entry to the Honours Program, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

Coordinated Programs in Women's Studies

Students may take courses in the Women's Studies program at the University of Winnipeg and, where applicable, have these courses credited to their degree at the University of Manitoba. The coordinated program offers students access to more faculty resources, greater course selection and additional library facilities and thus can enrich their Women's Studies program.

Students are advised to consult with the Women's Studies coordinator for information on courses available for credit in Women's Studies.

In addition, special courses under the rubric of selected topics or contemporary issues may be available in various Arts departments, particularly An-

thropology, English, Psychology, and Sociology, for Women's Studies credit in any given academic session.

8.34.3 Women's Studies, Program Code: 156 [Formerly (099W)]			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
156.153 or 156.154	● 156.252 and 156.358		
	● 18 credit hours from Women's Studies courses and/or List A		
ADVANCED MAJOR TOTAL: 48 CREDIT HOURS			
156.153 or 156.154	● 156.252 and 156.358		
	● 9 credit hours from Women's Studies courses		
	● 6 credit hours from courses numbered at or above the 300 level from Women's Studies courses and/or List A		
	● 21 credit hours from Women's Studies courses and/or List A		
MINOR TOTAL: 18 CREDIT HOURS			
156.153 or 156.154	● 6 credit hours from Women's Studies courses		
	● 9 credit hours from Women's Studies courses and/or List A		
HONOURS SINGLE			
156.153 and 156.154	● 156.252, 156.358, 156.410, 156.411		
	● 15 credit hours from Women's Studies courses		
	● 9 credit hours from courses numbered at or above the 300 level from Women's Studies courses and/or List A		
	● 12 credit hours from Women's Studies courses and/or List A		
	● 24 credit hours in ancillary options		
HONOURS DOUBLE			
156.153 and 156.154	● 156.252, 156.358, 156.410, 156.411		
	● 9 credit hours from Women's Studies courses		
	● 9 credit hours from courses numbered at or above the 300 level from Women's Studies courses and/or List A		
	● 36 credit hours in other Honours field		
	● 6 credit hours in ancillary options		

List A

Faculty of Arts

Anthropology	
076.332	Women in Cross-Cultural Perspective (B) / Femmes, so ciété et cultures (B) (CUSB) 3
Economics	
018.236	Women in the Canadian Economy 6
History	
011.271	Women in History (S) 6
011.381	The Family, Love and Marriage in Western Society, 1500-1800 (S) 6
011.382	The Women's Movement, 1850 to the Present (S) 6
Native Studies	
032.336	Aboriginal Women of Canada 3
032.338	Cultural Constructions of Gender in Canadian Aboriginal Societies 3
Philosophy	
015.322	Feminist Philosophy 3
Political Studies	
019.310	Gender and Politics in Canada 3
Psychology	
017.239	Psychology of Women 3
017.240	The Psychology of Sex Differences 3

Religion	
020.268	Women and Religion 1 3
020.269	Women and Religion 2 3
Slavic Studies	
052.235	Russian Women's Writing from the 1950s to the Present Day 3
Sociology	
077.247	Courtship and Marriage / Les fréquentations et le mariage (CUSB) 3
077.377	Women, Health and Medicine 3
077.379	Women, Crime and Social Justice 3
077.381	Sociological Perspectives on Gender and Sexuality/ Sociologie de la sexualité et des rôles sexuels (CUSB) [formerly 077.365 Sociology of Sex Roles (3)] 3
School of Art	
054.409	Seminar on Contemporary Issues in Art Acceptable for credit only when the topic is "Women Artists." 3
School of Music	
033.413	History of Women in Music 3
Faculty of Nursing	
049.333	Women and Health 3
For course descriptions, see departmental listing.	
NOTE: List A courses are identified in departmental course descriptions by &.	

8.34.4 Women's Studies Course Descriptions

For prerequisite, corequisite and course availability information, see Section 5.9: Prerequisite, corequisite and course availability.

General Courses

&156.153W Introduction to Women's Studies in the Humanities (3) Examination of women and the humanities, the development of feminism and of the contemporary women's movement, introduction to theories and issues in women's studies. Students may not hold credit for both 156.153 and any of the former 099.150 or 099.153.

&156.154W Introduction to Women's Studies in the Social Sciences (3) Examination of women's historical and contemporary roles in the economy, family, and society from the perspectives of the social sciences. Investigation of strategies and issues of the contemporary women's movement. Students may not hold credit for both 156.154 and any of the former 099.151 or 099.154.

&156.250 Race, Class and Sexuality (3) An exploration of the various ways race, class, and sexual orientation impact on women's lives and identities. Focus is on how racism, classism and heterosexism are produced and reproduced both within and outside of the feminist movement. Students may not hold credit for both 156.250 and the former 099.250. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours of Women's Studies courses, or written consent of the Women's Studies coordinator.

&156.251W Women and Education (3) An examination of school knowledge and organization as they affect the experiences of girls and women as students and teachers. Includes an exploration of the interaction between schooling and women's work as mothers, and between education and femininity. Students may not hold credit for both 156.251 and the former 099.251.

&156.252 Introduction to Feminist Theory (3) Survey of the varieties of feminist thought and the various approaches feminists have taken toward developing an understanding of women's oppression and the possibilities for change. Students may not hold credit for both 156.252 and the former 099.252 or 099.352. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours of Women's Studies courses, or written consent of the Women's Studies coordinator.

&156.253 Writing Women's Lives (3) Examination of the ways that traditional scripts for women have been rewritten in literature and film. Topics include coming-of-age, madness, utopia, motherhood, and romantic love as represented in fairytales, autobiographies, documentaries, contemporary novels, and Hollywood films. Students may not hold credit for both 156.253 and the former 099.253.

&156.254 Special Topics in Women's Studies (3) Course content will vary according to the needs and interests of students and instructors. Consult the Women's Studies Program office for information as to specific topics offered.

&156.255 Women in Nicaragua/Women in Canada (6) Offered as part of the Summer Session, this course is an exploration of the political, social, economic and relational lives of women on the Caribbean coast of Nicaragua, as well as of broader questions such as the struggle for truly inclusive feminist theories and activism and the possibilities for transnational feminist solidarity. This course consists of two parts: 5 days at the University of Manitoba followed by 1 month on the Caribbean coast of Nicaragua. In Nicaragua we will be accompanied by students and faculty from the University of the Autonomous Regions of the Caribbean Coast of Nicaragua (URACCAN). *Prerequisite:* a grade of "C" or better in a minimum of three credit hours of Women's Studies courses, and written consent of instructor.

&156.256W Women, Science and Technology (3) An overview of women's historical and contemporary participation in science, issues in science and math education, feminist critiques and theories on science and gender, and the impact of technology on women's lives. Students may not hold credit for both 156.256 and any of the former 099.152 or 099.256.

&156.257 Soap Operas, Harlequins, and Talk Shows (3) This course looks at gender-specific forms of entertainment that have been identified with women. Using post-modern feminist approaches to media, the course looks at how these forms are scripted for TV and cheap paperbacks, and at how the media constructs women as a marketing category for cultural and product consumption. Students may not hold credit for both 156.257 and 156.254 with the topic "Soaps, Harlequins, Talk Shows."

&156.350 Selected Topics in Women's Studies (3) Course in which content varies from year to year according to needs and interests of students and instructors. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours of Women's Studies courses, or written consent of the Women's Studies coordinator.

&156.351 International Feminisms (3) An examination of the social, political, economic and cultural realities facing women around the world, with emphasis on "Third World" women. A major focus will be on feminist struggles for change, international organizing and transnational solidarity efforts. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours of Women's Studies courses, or written consent of the Women's Studies coordinator.

&156.353 Readings in Women's Studies (6) Directed readings in a range of Women's Studies literature. This is an independent study course. *Prerequisite:* written consent of instructor and Women's Studies coordinator.

&156.354 Readings in Women's Studies (3) Directed readings in a range of Women's Studies literature. This is an independent study course. *Prerequisite:* written consent of instructor and Women's Studies coordinator.

&156.355 Feminist Community Organizing: Theories and Practices (3) Overview of organizing efforts and techniques, community issues and strategies that women have developed in North American and especially Canadian communities. Focus is on a synthesis of thought and action, theory and practice. Students may not hold credit for both 156.355 and the former 099.355. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours of Women's Studies courses, or written consent of the Women's Studies coordinator.

&156.356 Feminist Perspectives on Violence Against Women (3) An overview of feminist research and theories on violence against women as an integral component of our social structure, and on issues of social change to alleviate the problem. Students may not hold credit for both 156.356 and the former 099.356. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours of Women's Studies courses, or written consent of the Women's Studies coordinator.

&156.357 Feminist Cultural Studies (3) The study of how women are involved in, affected by, and have analysed culture, particularly the arts and popular culture. Includes an examination of how women participate in, are represented within, and are affected by, cultural productions. Students may not hold credit for both 156.357 and the former 099.357. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours of Women's Studies courses, or written consent of the Women's Studies coordinator.

&156.358 Feminist Approaches to Research (6) An examination of the processes of research on, by and for women. It provides an understanding of epistemology, methodology and methods in feminist research. Students develop their own research proposals as the major assignment for this seminar course. Students may not hold credit for both 156.358 and the former 099.358. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours of Women's Studies courses, or written consent of the Women's Studies coordinator.

&156.359 Thinking Through the Body (3) A study of the female body in the theory, literature, and performance art of contemporary feminists. Topics include menstruation, desire, disability and beauty. Students may not hold credit for both 156.359 and the former 099.359. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours of Women's Studies courses, or written consent of the Women's Studies coordinator.

&156.360 Good Girls/Bad Girls (3) This course challenges the good girl/bad girl binary as a way of defining the complex reality of women's lives by closely examining regimes of mental and physical hygiene. The course also considers how the media use this binary to sensationalize women like Princess Diana, Madonna, Amy Fisher, and Monica Lewinsky. Students may not hold credit for both 156.360 and 156.359 with the topic "Good Girls/Bad Girls." *Prerequisite:* a grade of "C" or better in a minimum of three credit hours of Women's Studies courses, or written consent of the Women's Studies coordinator.

&156.361 Dream Girls, Show Girls, Riot Grrrls (3) A feminist survey of women's performances in media in a sexist society. The course explores the relation between women putting on a show and being on show: e.g., Las Vegas revues, Madonna's videos, 90's supermodels, gynecologists' offices, radical feminist street protests, Playboy centerfolds, Riot Grrrl music, and performance art. Students may not hold credit for both 156.361 and 156.350 with topic "Good Girls/Bad Girls – The Sequel." *Prerequisite:* a grade of "C" or better in a minimum of three credit hours of Women's Studies courses, or written consent of the Women's Studies coordinator.

Honours Courses

&156.410 Honours Thesis (6) The Thesis present the results of an independent research project supervised by a faculty member. *Prerequisite:* written consent of the Women's Studies coordinator.

&156.411 Advanced Feminist Theory (3) In-depth analysis of feminist thought through an exploration of the major debates and issues in contemporary feminist theory. Students may not hold credit for both 156.411 and the former 099.352 or 099.360. *Prerequisite:* a grade of "C" or better in 156.252 (the former 099.252) or written consent of the Women's Studies coordinator.

&156.412 Practicum in Feminist Organizing (6) Between September and March, the student will complete a minimum of 80 hours of unpaid independent work in a feminist or woman-centered organization and meet regularly with the instructor and other practicum students. Students will reflect critically on the work experience in course assignments. *Prerequisite:* at least 24 credit hours in Women's Studies courses and written consent of the Women's Studies coordinator.

Section 9: Courses Offered by Other Faculties and Schools Acceptable for Credit in Arts

Courses

All courses listed below are acceptable for credit in the Faculty of Arts. Students registered in the Faculty of Arts may enrol in these courses subject to availability of space and satisfaction of prerequisites. These courses may be used to fulfil the requirements for receiving a Bachelor of Arts degree subject to the restrictions given in Section 4.0 and 5.0. In particular, note the requirement that at least eight of the 15 full-course equivalents required for a General B.A., and at least 11 of the 20 full-course equivalents required for an Advanced B.A., must be taught by, or be acceptable on transfer as equivalent to those taught by the Faculty of Arts, with mathematics, fine arts and music being special cases. For course descriptions, including any prerequisites and/or restrictions, see the appropriate faculty or school chapter in this *Calendar*.

Programs

Also listed below are eight programs which can be used by Faculty of Arts students to satisfy the Major or Minor requirement for graduation with a Bachelor of Arts degree. These programs are:

History of Art General Major	Mathematics Advanced Major
History of Art Minor	Mathematics Minor
Minor in Business	Music Advanced Major
Mathematics General Major	Music Minor

NOTE: Certain departments in the Faculty of Environment and the Faculty of Science offer a minor program for students in other faculties and schools. All such minor programs can be used to satisfy the minor requirement in Arts. Not all courses included in the History of Art General Major are taught by the School of Art.

9.1 Faculty of Agricultural and Food Sciences

Biosystems Engineering (034)		Soil Science (040)	
034.412 Drainage System Design	4	040.202* Introductory Soils	3
034.418 Irrigation System Design	4	040.306 Introduction to Agrometeorology	3
034.445 Radiation Processing of Food and Other Agricultural Commodities	4	040.350 Landscapes and Biophysical Processes (replaces 040.202)	3
034.450 Water Management	3	040.351 Fundamentals of Soils and Landscapes (replaces 040.405)	3
This course is available to Environmental Science students only.		040.405* Soil Genesis and Classification	3
Animal Science (035)		040.406 Physical Properties of Soils	3
035.311 Principles of Nutritional Toxicology	3	040.407* Soil Chemistry and Fertility	3
035.350 Principles of Animal Genetics	3	040.409 Chemical Analysis of Soils	3
035.428 Applied Animal Genetics	3	040.411 Agricultural Pesticides	3
035.441 Grassland Agriculture: Plant, Animal and Environment	3	040.412 Soil Microbiology	3
Entomology (038)		040.413 Soil Chemistry and Mineralogy	3
038.205 Introductory Entomology	3	040.450 Remediation of Contaminated Land	3
038.316 Veterinary and Wildlife Entomology	3	040.451 Soil and Water Management	3
038.413 Principles of Insect Control	3	040.452 Soil Fertility	3
038.425 Pesticide Toxicology	3	040.453 Land Use and Environment	3
038.428 Aquatic Entomology	3	040.454 Pesticides and Toxicology	3
038.431 Insect Pests of Crops	3	* No longer offered	
038.432 Pollination Biology	3	Agribusiness and Agricultural Economics (061)	
038.436 Principles of Pest Management	3	061.100 Introduction to Agribusiness and Management	3
038.450 Insect Taxonomy and Morphology	3	061.210 Economics of World Agriculture	3
038.451 Insects Affecting Domestic Animals and Wildlife	3	061.239 Introduction to Environmental Economics	3
038.452 Physiological Ecology of Insects	3	061.308 Introduction to Econometrics	3
038.454 Pesticides and Toxicology	3	061.355 Environmental Policy	3
Plant Science (039)		061.412 Intermediate Econometrics	3
039.250 Crop Production	3	General Agriculture (065)	
039.252 Genetics	3	065.150 Natural Resources and Primary Agricultural Production	3
039.314 Introductory Cytogenetics	3	065.151 Production, Distribution and Utilization of Agricultural Products	3
039.350 Plant Physiology	3	065.218 Introductory Toxicology	3
039.351 Cropping Systems	3	065.237 Principles of Ecology	3
039.352 Principles of Plant Improvement	3	065.250 Population Genetics	3
039.354 Weed Science	3	Food Science (078)	
039.427 Plant Disease Control	3	078.250 Food Chemistry	3
039.433 Intermediate Plant Genetics	3	078.320 Baking Science and Technology	3
039.436 Principles of Pest Management	3	078.415 Food Microbiology 1	3
039.441 Grassland Agriculture: Plant, Animal and Environment	3	078.424 Analysis of Water and Wastes	3
039.450 Plant Genetic Engineering	3	078.428 Food Microbiology 2	3
039.451 Plant Metabolism	3	078.430 Food Toxicants	3

9.2 Faculty of Architecture

Interior Design (051)		Environmental Design (079)	
051.265 The Social Aspects of Aging	3	079.160 Introduction to Environmental Design	3
		079.166 History of Culture, Ideas and Environment 1	3
		079.167 History of Culture, Ideas and Environment 2	3

9.3 School of Art: History of Art

9.3.1 Program Information

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty

Regulations for the Three Programs Leading to a B.A. **NOTE:** It is strongly recommended that students majoring in Art History have competence in a second language.

9.3.2 History of Art, Program Code: 054A				
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4	
GENERAL MAJOR TOTAL: 30 CREDIT HOURS				
6 credit hours from 054.103, 054.104, 054.105 or 054.106	<ul style="list-style-type: none"> ● 054.199 ● 12 credit hours from List A ● 054.326 or 054.327 ● 054.321 ● 054.344 ● 6 credit hours from either List A or List B 			
MINOR TOTAL: 18 CREDIT HOURS				
6 credit hours from 054.103, 054.104, 054.105 or 054.106	<ul style="list-style-type: none"> ● 054.199 ● 12 credit hours from either List A or List B 			
Introductory Courses				
054.103 Introduction to Art 1A	3	054.315	Topics in 18th and 19th Century Art	3
054.104 Introduction to Art 2A	3	054.316	Topics in 20th Century Art	3
054.105 Introduction to Art 1B	3	054.317	Contemporary Art	3
054.106 Introduction to Art 2B	3	054.318	History of Photography	3
054.199 First Year Field Trip	0	054.319	History of Ceramics	3
054.344 Field Trip	0	054.320	Art in New Media	3
		054.321	Introduction to the Theory and Criticism of Art	3
		054.322	Topics in Aboriginal Art	3
		054.323	Chinese Art and Architecture	3
		054.324	Japanese Art and Architecture	3
		054.325	Topics in Art History	3
		054.326	Canadian Art and Architecture to World War II	3
		054.327	Canadian Art Since World War II	3
		054.328	Early Byzantine Art and Architecture	3
		054.329	Later Byzantine Art and Architecture	3
		054.343	Inuit Art	3
		054.359	Islamic Art and Architecture	3
		054.378	Twentieth Century American Art Until 1950	3
		054.391	Field Studies in Art History 3	3
		054.392	Field Studies in Art History 4	3
		054.406	Seminar on the Theory and Criticism of Art	3
		054.407	Seminar in Art History 1	3
		054.408	Seminar in Art History 2	3
		054.409	Seminar on Contemporary Issues in Art	3
		054.471	Directed Study 1	3
		054.472	Directed Study 2	3
		Other		
		054.102	Mathematics in Art	3
		054.120	Fundamentals of Drawing	9
		054.122	Basic Design	9
		054.126	Drawing for Non-Majors	6
		These courses may not be used for the major or minor in History of Art		

9.4 Faculty of Education

Educational Administration, Foundations and Psychology (129)

129.154 Cross-cultural Education 3

9.5 Faculty of Engineering

Civil Engineering (023)		Electrical and Computer Engineering	
023.369 Environmental Engineering Analysis	4	024.216 Electronics 2E	5
023.370 Environmental Engineering Design	4	024.222 Digital Logic Systems	5
023.375 Hydrology	4	The above courses are available to Physics Honours and Major students only.	
023.420 Groundwater Contamination	4	General Faculty (130)	
023.425 Groundwater Hydrology	4	130.112 Thermal Sciences	4
The above courses are available to Environmental Science students only.		130.118 Electric Circuits	4
		130.135 Engineering Statics	4
		130.140 Engineering Design	4

9.6 Faculty of Environment

All courses offered by the Faculty of Environment are acceptable for credit in the Faculty of Arts.

9.7 Faculty of Human Ecology

General Faculty (028)		062.142 Family Management Principles	3
028.265 The Social Aspects of Aging	3	062.172* Environments for Living	3
Foods and Nutrition (030)		062.190 Families, Housing and Community: An Introductory Perspective	3
030.120 Food: Facts and Fallacies	3	Clothing and Textiles (064)	
030.121 Nutrition for Health and Changing Lifestyles	3	064.122 Dynamics of the Fashion Industry	3
Family Studies (062)		064.329 Evolution of Western Dress	3
062.101 Human Development in the Family	3	064.332 History of Textiles	3
062.114 Family Studies: Relationships	3	064.436 History of Canadian Dress	3
		* No longer offered	

9.8 Faculty of Law

045.329 Natural Resource Administration and Law	3	This course available to Environmental Science students only.
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9.9 I.H. Asper School of Business / Faculty of Management

All courses offered by the Asper School of Business (formerly the Faculty of Management) are acceptable for credit in the Faculty of Arts. Business courses may be taken by Faculty of Arts students subject to availability of space and satisfaction of prerequisites.

Effective September 2003 non-Asper School of Business students will be limited to a total of 36 credit hours of courses offered by the Asper School of Business at the University of Manitoba and/or transfer credit of Business

courses from external institutions. The 36 credit hour limit also includes failed and repeated courses.

Minor in Business (119)

For entry to the Minor, the prerequisite is a grade of "C" or better in the first 6 hours of Business courses. The Business Minor will consist of any 18 hours of credit hours in Asper School of Business courses.

9.10 School of Music

9.10.1 Program Information

For entry, continuation and graduation requirements for the General Degree, Advanced Degree, and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

NOTE: Ensemble courses (033.218, 033.318, 033.418) are acceptable for credit towards a degree in Arts only when applied to the Major or Minor. They are not acceptable for credit as options.

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in each of 033.128 and 033.129, or a grade of "C" or better in each of 033.111 and

033.112. For students who have additional courses toward the Major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required in order to graduate.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in each of 033.128 and 033.129 or a grade of "C" or better in each of 033.111 and 033.112.

9.10.2 School of Music, Program Code: 033

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
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ADVANCED MAJOR (OPTION 1) TOTAL: 54 CREDIT HOURS

033.128 and 033.129	033.107, 033.108, 033.111, 033.112, 033.207, 033.208, 033.211, 033.212, 033.396, 033.397; 6 credit hours of ensemble courses (033.218, 033.318, 033.418) ² ; 12 credit hours of Music courses from List A
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ADVANCED MAJOR¹ (OPTION 2) TOTAL: 48 CREDIT HOURS

033.111 AND 033.112 033.107, 033.108, 033.207, 033.208, 033.211, 033.212, 033.396,
033.397; 6 credit hours of ensemble courses (033.218, 033.318,
033.418)²; 12 credit hours of Music courses from List A

MINOR¹ (OPTION 1) TOTAL: 18 CREDIT HOURS

033.128 and 033.129 12 credit hours of Music courses from List A³

MINOR¹ (OPTION 2) TOTAL: 18 CREDIT HOURS

033.111 and 033.112 12 credit hours of Music courses from List A³

NOTES:

¹ At most, 12 credit hours at the 100 level may be used toward the Major or Minor.

² All ensemble courses (033.218, 033.318, 033.418) are required for the Major.

³ Students who elect ensemble courses from List A are required to complete all three courses.

NOTE: Completion of a major or minor in Music does not satisfy the "teachable" major or minor that is required for admission to the After Degree B. Ed. program.

List A

Students are responsible for ensuring that all prerequisites have been met.

033.105	The Well-Tempered Concert-Goer	3
033.107	Introduction to the History of Music	3
033.108	History of Music 2	3
033.111	Music Theory 1	3
033.112	Music Theory 2	3
033.128	Musical Style and Structure 1	3
033.129	Musical Style and Structure 2	3
033.207	History of Music 3	3
033.208	History of Music 4	3
033.211	Music Theory 3	3
033.212	Music Theory 4	3
033.246	Conducting	3
033.302	History and Performance of Jazz	3
033.303	History of Music in Worship	3
033.305	Research Methods	3
033.309	Introduction to Ethnomusicology	3
033.310	Opera Repertoire	3
033.311	Chamber Music Repertoire	3
033.323	Acoustics of Music	3

033.360	Conducting	3
033.363	Music Theory 5	3
033.382	Topics in Music	3
033.383	Topics in Music	3
033.384	Topics in Music	3
033.385	Topics in Music	3
033.386	Topics in Music	3
033.387	Topics in Music	3
033.396	Music of the Twentieth Century 1	3
033.397	Music of the Twentieth Century 2	3
033.406	History of Music 6	3
033.407	History of Music 7	3
033.413	History of Women in Music	3
033.415	Choral Repertoire	3

The following courses are acceptable for credit in Arts only to those graduating students with a declared Major or Minor in Music. All three Ensemble courses: 033.218 Ensemble (2), 033.318 Ensemble (2), 033.418 Ensemble (2), must be successfully completed in order to obtain credit.

List B

033.193	Rudiments of Music (formerly 033.093)	3
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(Not acceptable for credit towards this major or minor)
For course descriptions, see departmental listings. For information contact the Faculty of Arts general office.

9.11 Faculty of Nursing

049.126	Human Growth and Development	3	049.261	Health and Physical Aspects of Aging	3
049.128	Introduction to Nursing	3	049.333	Women and Health	3
			049.340	Men's Health: Concerns, Issues and Myths	3

9.12 Faculty of Physical Education and Recreation Studies

Physical Education			057.307	Rise of Modern Sport and Physical Education	3
057.120	Physical Activity, Health and Wellness	3	057.346	Sociology of Sport	3
057.150	Foundations of Physical Education and Exercise Science (formerly 057.132)	3	Recreation Studies		
057.231	Kinesiology	3	123.120	Introduction to Leisure Travel	3
057.232	Human Anatomy	3	123.140	Concepts of Recreation and Leisure	3
057.261	Health and Physical Aspects of Aging	3	123.265	The Social Aspects of Aging	3
			123.330	Nature-Based Outdoor Recreation/Education	3

9.13 Faculty of Science

As indicated in Section 5.0, all courses offered by the Faculty of Science are acceptable for credit in the Faculty of Arts except courses designated as service courses for some other faculty or school. Science courses may be taken by Faculty of Arts students subject to availability of space and satisfaction of prerequisites. For information, consult the Faculty of Science chapter of this *Calendar*.

Students may also choose a General or Advanced Major, or a Minor in Mathematics as described below.

9.13.1 Mathematics, Department Code: 136			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 36 CREDIT HOURS			
<ul style="list-style-type: none"> one of 136.150, 136.151, 136.152, 136.153 one of 136.170, 136.171, 136.173; or 136.169 136.120 one of 136.130, 136.131 074.101 	136.230, 136.260, 136.270	<ul style="list-style-type: none"> 136.271 9 credit hours from 136.245, 136.250, 136.255, 136.320, 136.321, 136.330, 136.331, 136.375, 136.390, 136.391 	
ADVANCED MAJOR TOTAL: 48 CREDIT HOURS			
<ul style="list-style-type: none"> one of 136.150, 136.151, 136.152, 136.153 one of 136.170, 136.171, 136.173; or 136.169 136.120 one of 136.130, 136.131 074.101 	136.230, 136.260, 136.270, 136.271	<ul style="list-style-type: none"> 136.330, 136.331, 136.375¹ 9 credit hours in Mathematics (136) courses 	
MINOR TOTAL: 18 CREDIT HOURS			
136.130 ² , 136.150 ² , and 136.170 ² (or 136.169) plus a minimum of 9 credit hours from 136.120 and 200 and (or) 300 level Mathematics courses.			
NOTES:			
¹ 136.330, 136.331 and 136.375 may be taken in either year 3 or year 4.			
² 136.151, 136.152 or 136.153 may be taken in place of 136.150; 136.131 may be taken in place of 136.130; 136.171 or 136.173 may be taken in place of 136.170. The courses listed under the University 1 heading may be taken in any year provided that at least six credit hours are taken from 136.120, 136.130, 136.131, 136.150, 136.151, 136.152, 136.153, 136.169, 136.170, 136.171, 136.173, and that the normal prerequisites are met.			
For entry to either Major in Mathematics, the prerequisite is a grade of "C+" or better in six hours of Mathematics courses taken.			
For entry to the Minor in Mathematics, the prerequisite is a grade of "C" or better in six hours of Mathematics courses taken.			
A detailed listing of courses in the Department of Mathematics is available in the <i>Calendar</i> entries of the Faculty of Science.			
Equivalent Honours courses may sometimes be substituted for the courses listed above. In this way, a Major degree can be considerably strengthened. For more detailed advice students should talk to a faculty member in the department.			

9.14 Faculty of Social Work

047.131	Introduction to Social Welfare Policy	3	047.265	The Social Aspects of Aging	3
			047.208	Interpersonal Communication Skills	3

9.15 Interfaculty Option in Aging

An Interfaculty Option in Aging is offered by: Architecture (Interior Design), Arts, Human Ecology, Nursing, Physical Education and Recreation Studies, and Social Work. To complete the option, Arts students will need to complete each of the following: a) The Social Aspects of Aging, 051.265 or 028.265 or 123.265 or 047.265; b) Health and Physical Aspects of Aging, 047.261 or 057.261; c) Developmental Psychology from Adolescence to Old Age, 017.237, and Sociology of Aging, 077.262. (Prerequisites for these courses are a grade of "C" or better in, respectively, 017.120 or 077.120); and d) an additional six credit hours from the following courses:

Faculty of Arts

Psychology		
017.346	Abnormal Psychology	3
017.349	Individual Differences	3
017.361	Memory	3

Sociology		
077.249	Sociology of Health and Illness	3
077.351	Population Dynamics and Change	3
077.354	The Sociology of Health Care Systems	3
Faculty of Environment		
Geography		
053.471	Geography of the Elderly and Aging	3

Upon completion of these requirements, a "Comment" will be added to the student's transcript. For information concerning the option, interested students are directed to faculty general offices.

Asper School of Business

Faculty of Management

General Office

268 Drake Centre

Telephone: (204) 474 6388

Fax: (204) 474 7529

E-mail: B_Comm@UManitoba.ca

Website: www.umanitoba.ca/asper

Dean: Jerry Gray

Associate Deans: Terrence Hogan, Malcolm Smith, Fred Starke

Undergraduate Program Manager: Wendy Fissel

Administrative Assistant/Advisor: Jennifer Jones

Student Advisors: Jenn Mitchell, Tara Cleve

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-

SECTION 1: Academic Staff

Deans Emeriti

R. Grandpre, J. Mundie.

Accounting and Finance

Professors

Elias, N.S., B.Comm. (Alexandria), M.S., Ph.D. (Minnesota), C.M.A.;
Gould, L.I., B.S. (Pennsylvania), M.B.A. (New York), Ph.D. (Toronto);
Mc-Callum, J.S., B.Sc., B.A. (Montreal), M.B.A. (Queen's), Ph.D. (Toronto);
Mittoo, U.R., B.A., M.A. (Panjab), M.B.A. (Manitoba), Ph.D. (UBC).

Associate Professors

Abeysekera, S., B.A. (Jackson State), M.B.A. (Simon Fraser), Ph.D. (Texas A and M); **Mossman**, C.E., B.A.(Hons.) (Royal Military College), M.B.A. (Queen's), Ph.D. (Western Ontario); **Stangeland**, D.A., B.Comm., Ph.D. (Alberta).

Assistant Professors

Bhattacharyya, N., B.Sc. (North Eastern Hill), M.B.A. (Indian Institute of Management), Ph.D. (UBC); **Brabston**, M., B.A. (Vanderbilt), M.B.A. (Alabama, Birmingham), Ph.D. (Florida State); **Eisenberg**, L., Ph.D. (Pennsylvania); **Hine**, M., B.Comm. (Alberta), M.B.A. (Arizona), Ph.D. (Arizona); **Hoffjan**, A., M.B.A. (Muenster), Ph.D. (Dusseldorf); **Jacoby**, G., B.A., M.A. (Hebrew), Ph.D. (York); **Morrill**, C.K.J., B.A., Ph.D. (Alberta); **Morrill**, J.B., B.Comm., Ph.D. (Alberta), C.A.; **Travica**, B., B.A. (Belgrade), M.A. (State University of New York), Ph.D. (Syracuse); **Zheng**, X., B.A. (China), M.B.A. (China), Ph.D. (abd) (SUNY).

Business Administration**Senior Scholars**

Atwell, J.F., B.Comm.(Hons.), M.A. (Manitoba); **Hall**, R.I., B.Sc. (Birmingham), D.I.C. (London), Ph.D. (Washington), C.I.T. (Harvard); **Henderson**, R., B.Sc. (M.E.) (Manitoba), M.B.A. (Harvard), Ph.D. (Western Ontario), P.Eng.; **Hercus**, T.F., B.A. (Manitoba), M.B.A. (Toronto); **Mundie**, J.D., B.Comm. (Manitoba), M.B.A. (Ohio State), Ph.D. (Stanford); **Nuttall**, G.A., B.Sc. (M.E.) (Manitoba), M.A. (Minnesota); **Willborn**, W., B.Ed., M.A. (Manitoba), Dip.rer.pol. (Hamburg), Dr.rer.soc.oec. (Innsbruck).

Professors

Bartell, M., B.A.(Hons.) (McGill), M.B.A. (Chicago), Ph.D. (Northwestern); **Bector**, C.R., B.A. (Punjab), M.A. (Agra), Ph.D. (Kanpur), F.I.M.A.; **Bhatt**, S.K., B.Sc., M.Sc. (Agra), Ph.D. (Kanpur); **Bruning**, N.S., B.A., M.A. (Arkansas), Ph.D. (Alabama); **Dyck**, B., B.Comm.(Hons.) (Manitoba), Ph.D. (Alberta); **Frohlich**, N., B.Sc.(Hons.) (Manitoba), M.S. (Rutgers), Ph.D. (Princeton); **Godard**, J.H., B.Comm.(Hons.), M.B.A. (Manitoba), Ph.D. (Cornell); **Gray**, J.L., B.Sc. (Evansville), M.Sc. (Southern Illinois), Ph.D. (South Carolina); **Hogan**, T.P., B.A. (Loras College), M.A., Ph.D. (Catholic University of America); **Notz**, W.W., B.S.(Hons.) (Colorado), M.B.A. (Denver), Ph.D. (Northwestern); **Owen**, B.E., B.S.A., M.Sc. (Manitoba), Ph.D. (Western Ontario); **Rosenbloom**, E.S., B.Sc.(Hons.), M.Sc. (Math), M. Sc. (Statistics) (Manitoba), Ph.D. (Waterloo); **Starke**, F.A., B.A., M.B.A. (Southern Illinois), Ph.D. (Ohio State).

Associate Professor

Anderson, G.B., B.A. (Idaho); **Dass**, P., B.Sc., M.B.A. (Punjab), Ph.D. (Michigan State); **Lee**, R.T., B.A., M.S. (San Francisco), Ph.D. (Wayne State).

Assistant Professors

Bowring, M., B.A. (Queen's), M.B.A. (York), Ph.D. Candidate (Alberta); **Hecht**, T., B.Sc. (McGill), M.A., Ph.D. Candidate (Western Ontario); **McLachlin**, R.D., B.Sc. (Eng.), M.B.A. (Alberta), Ph.D. (Western Ontario); **Park**, H., B.A., M.B.A., (Seoul National University), Ph.D. (Wisconsin); **Sue-Chan**, C., B.Sc. (Toronto), M.L.I.S. (Western Ontario), M.B.A., Ph.D. (Toronto); **Wang**, X., B.Ed., M.Ed. (Northeast Normal), Ph.D. (McGill).

Marketing**Senior Scholar**

Wilson, M.K., B.A. (Ohio State), M.B.A., D.B.A. (Indiana).

Professors

Bruning, E.R., B.S. (Arkansas), M.A., Ph.D. (Alabama); **Good**, W.S., B.Sc.F. (Toronto), M.S., M.B.A., Ph.D. (Michigan State).

Associate Professors

Litz, R.A., B.Comm.(Hons.) (Manitoba), M.B.A. (Minnesota), Ph.D. (Pittsburgh); **Smith**, M.C., B.Sc.(Hons.), M.B.A. (Queen's), Ph.D. (Oregon).

Assistant Professors

Bhatnagar, N., M.Sc.Mgmt.Studies, M.Sc.(Hons) (India), Ph.D. (North Carolina at Chapel Hill) pending; **Manchanda**, R.V., B.Comm., M.B.A. (India), M.Sc. (Illinois), Ph.D. (Illinois); **Samu**, S., B.Sc., M.B.A. (India), Ph.D. (India); **Sivaramakrishnan**, S., B.Sc. (Madras), M.B.A. (Bharathiar), Ph.D. (Pennsylvania State).

Warren Centre for Actuarial Studies and Research**Assistant Professors**

Byrne, M., B.A. (Manitoba), B.A.(Hons.) (Manitoba), F.S.A., F.C.I.A.; **Pai**, J.S., B.Comm. (Feng Chai), M.S., Ph.D. (Connecticut); **Pedersen**, H., B.Sc.

(Manitoba), M.Sc. (Stanford), Ph.D. (Washington); **Shand**, K.J., B.Comm.(Hons.) (Manitoba), Ph.D. Candidate (Heriot-Watt), F.S.A., F.C.I.A.

Transport Institute**Associate Professor**

Prentice, B.E., B.A. (Western), M.Sc. (Guelph), Ph.D. (Manitoba).

SECTION 2: Business Education

The undergraduate degree of the I.H. Asper School of Business, the Bachelor of Commerce (Honours), is designed to provide a broad-based general business education with an opportunity to specialize in one or two of the 13 majors available to undergraduate students.

Education for business had its origin at the University of Manitoba during the First World War when a series of short courses were offered in the evening for business people. By 1937, the Department of Commerce was created in the Faculty of Arts and Science, and the first graduates received their Bachelor of Commerce degree in 1940. Since then, the unit has undergone many transitions, changing its status to the School of Commerce in 1950, to the Faculty of Commerce in 1970, to the Faculty of Administrative Studies in 1972, to the Faculty of Management in 1986, and to its current name, the I.H. Asper School of Business in 2000.

In 1999, the Asper School of Business received accreditation from AACSB International - The Association to Advance Collegiate Schools of Business. This prestigious recognition affirms the faculty's commitment to the continuous improvement of its courses and programs. The mission of the Asper School of Business is to provide management education in Manitoba by creating and disseminating leading edge knowledge and developing skills relevant to current and future managers in organizations operating in a global environment.

SECTION 3: Admission to the Asper School of Business**3.1 Degree Offered****Bachelor of Commerce (Honours)**

Minimum time to graduation: Four years (University 1 plus three years in the Asper School of Business).

3.2 Diplomas Offered**Basic Diploma in Actuarial Studies**

Minimum time to graduation: one year

Advanced Diploma in Actuarial Studies

Minimum time to graduation: two years

3.3 Course Requirements for Admission

The following is a summary of the admission requirements for the Bachelor of Commerce (Hons.) and the Post-Baccalaureate Diplomas. Equivalent academic courses completed at recognized universities elsewhere will be considered. All admission requirements, as well as application deadline dates and forms, are included in an applicant information bulletin that is available from the Admissions Office, Enrolment Services, 424 University Centre. This information is also posted on the University of Manitoba's website.

Track 1

Economics 018.120

Mathematics 136.152M or 136.150M and Mathematics 136.131M or 136.130M

Psychology 017.120 or Sociology 077.120

A 3 or 6 credit hour course that satisfies the Written English requirement 6-9 credit hours of electives for a total of 30 credit hours

(Students must achieve a minimum grade of "C" on each course listed above.)

Track 2

Applicants who are missing one or more of the Track 1 course requirements may apply under Track 2 provided they have met the following criteria: completed a minimum of 30 credit hours; achieved a minimum

admission GPA of 3.1; and achieved a minimum grade of "C" on each course comprising the 30 credit hours. Track 2 applicants are required to complete all outstanding Track 1 required courses during their first year after admission to the Asper School of Business.

Priority for Admission

Admission to the Asper School of Business is limited to an annual quota. The quota will be filled by selecting students from a rank-ordered list of applicants in the following order:

For September 2003:

First Priority - Track 1 applicants with an Admissions Grade Point Average (AGPA) of 2.60 or greater in descending order of their AGPA.

Second Priority - Track 2 applicants with an AGPA of 3.10 or greater in descending order of their AGPA.

Third Priority - Track 1 applicants with an AGPA of 2.00 to 2.59 in descending order of their AGPA

Applicants in both Tracks may require an AGPA well in excess of the minimum to be successful in the annual competition for admission.

Other requirements

High school prerequisite: Mathematics 40S (pre-calculus, with a minimum 60 per cent)

The Written English and Mathematics requirements are satisfied by Track 1 courses.

Minimum GPA for consideration: 2.0 for Track 1 applicants; 3.1 for Track 2 applicants.

Admission to the Asper School of Business is limited to an annual quota and is competitive.

Mature students are not admitted directly to the Bachelor of Commerce (Honours) program. Mature students seeking admission to the Bachelor of Commerce (Honours) program must first complete the Qualifying Year program. All students planning to enter the Bachelor of Commerce (Honours) program must obtain a minimum of 60 per cent in Senior 4, Mathematics 40S, or equivalent.

Advance Standing: Transfer and Second Degree Students

Students who do not meet the eligibility requirements for admission after their first year of University can spend another year (or more) in another faculty, complete the eligibility requirements, and then apply (or re-apply) for admission. Students who complete additional course credits beyond the qualifying year requirements are eligible to receive applicable advance standing upon admission to the Asper School of Business.

The following regulations apply to students who must (or choose to) take more than one year to qualify for admission to the Asper School of Business.

All transfer and second degree students will be required to:

- Meet the admission requirements of Track 1 or Track 2 in the year of application.
- Complete all 126 credit hours required in the B. Comm. (Hons) program, including the 30 credit hours that comprise the specific qualifying year requirements, the Core requirements, the course requirements for one Major, Business Options, and Elective courses. After admission to the Asper School, students in Track 2 must complete all outstanding courses listed in the Track 1 requirements and achieve a minimum grade of "C" in each course.

Students who are admitted to the Asper School of Business who have completed more than the minimum 30 credit hours required in the qualifying year may be eligible to receive transfer credit for the additional work completed, provided the additional course work is creditable toward the degree requirements of the Bachelor of Commerce (Honours).

Students who are admitted to the Asper School of Business following the completion of another degree program are eligible to receive a maximum of 60 hours of transfer credit for applicable courses completed as part of their first degree. Students who within their first degree have more than 60 hours of transferable credits would be required to take substitute courses for credits in excess of the 60 hour limit on transfer.

Students who have a degree and in addition have completed further courses at the University of Manitoba which are applicable to the B.Comm.(Hons.) program that were not used for credit toward their first degree may receive additional transfer credit for that work.

Students are encouraged to contact a Student Advisor in the Program Office for information on how to optimise their transfer credit and advance standing.

Admission Requirements: Joint Programs with Manitoba Colleges

The Asper School of Business has established Joint Programs with Red River College, Assiniboine Community College, Keewatin Community College, and Ecole technique et professionnelle. Graduates of the Business Administration Diploma (University Stream) from these four colleges are eligible to apply directly to the Asper School of Business. Successful applicants will receive block transfer credit for their courses completed in the Business Administration Diploma and are required to complete specified courses at the University of Manitoba in order to receive the Bachelor of Commerce (Honours) degree. Requirements for the Joint Programs are listed in Section 7 for Red River College, in Section 8 for Assiniboine Community College, in Section 9 for Keewatin Community College, and in Section 10 for Ecole technique et professionnelle.

Admission to each Joint Program is limited to an annual quota and is competitive. Students must achieve a minimum grade point average of 3.00 on their Business Administration Diploma (University Stream) to be eligible for admission. Applicants are ranked in descending order of their grade point average and are admitted until the annual quota is met.

Admission Requirements: Post-Baccalaureate Diploma Programs

The Asper School of Business has established Post-Baccalaureate Diploma Programs in Actuarial Studies for students who have completed an undergraduate degree with some mathematics and statistics exposure and wish to pursue actuarial studies. The Program provides a diploma-oriented approach to prepare students with a limited prior actuarial educational background for careers as professional actuaries or researchers and to prepare students to undertake writing examinations set by the Society of Actuaries. Qualified students may apply to the Basic Diploma in Actuarial Studies or the Advanced Diploma in Actuarial Studies.

Admission to the Diploma Program is subject to the approval of the director of the Warren Centre for Actuarial Studies and Research. To be eligible for admission, students must have completed an undergraduate degree with a minimum cumulative grade point average of 3.00 on their most recent 60 credit hours. In addition, students must have completed the following courses:

Calculus 136.270 or 136.271

Linear Algebra 136.130 or Matrices 136.131

Statistics 005.200

Economics 018.120

SECTION 4: Asper School of Business Student Services

4.1 Career Services Centre

The Career Services Centre assists business students and graduates with job placement and career search skills development. The Centre also provides assistance and support to local, national, and international employers who recruit business students for full time, part time, summer, and casual employment. For information contact: Asper School of Business Career Services Centre, 144 Drake Centre, University of Manitoba, Winnipeg, Manitoba R3T 5V4; telephone: (204) 474 6596, Fax: (204) 474 8301.

4.2 International Study

Students who have reached the third year of the four-year B. Comm. (Hons.) program have an opportunity to participate in international exchange programs at several universities. Exchanges are currently available in Argentina, Brazil, Chile, China, Denmark, England, France, Germany, Iceland, India, Mexico, Minnesota, the Netherlands, South Korea, and Spain. Other international programs may be established throughout the year. Language proficiency is required for some programs.

Interested students are encouraged to contact the Undergraduate Program Office for applications and information.

4.3 Student Organizations

Commerce Students' Association

The Commerce Students' Association (CSA) is comprised of all students in the Asper School of Business. It is regarded as an integral part of the educational activities of Business students. The purpose of the organization is to enhance the quality of student life through social, educational, and informative events; to protect the academic rights of all students in the faculty; and to bring prominent business and government executives into contact with students. Telephone: (204) 474 7364.

The Asper School of Business also has student groups whose activities centre on the different majors or other areas of interest. For further information on these organizations, contact the following groups directly or the CSA offices at 254 Drake Centre; telephone (204) 474 7364.

ASBAA: Asper School of Business Accounting Association; 260 Drake Centre; (204) 269 1490.

AIESEC: International Association for Commerce, Science, and Economics Students; 266 Drake Centre; (204) 275 5539.

AIMS: Association of International Management Students; 262 Drake Centre; (204) 275 1431.

CEO: Collegiate Entrepreneurs' Organization; 526C Drake Centre; (204) 474 6531.

MIMC: Manitoba International Marketing Competition; 359 Drake Centre; (204) 474 6598.

MISA: Management Information Systems Association; 264 Drake Centre; (204) 269 5488

Toastmasters: Talking Bison Toastmasters; 264 Drake Centre; (204) 269 1490.

UMAC: University of Manitoba Actuarial Club; 266 Drake Centre; (204) 275 5539.

UMFO: University of Manitoba Finance Organization; 264 Drake Centre; (204) 261 7806.

UMHRA: University of Manitoba Human Resource Association; 262 Drake Centre; (204) 275 1431.

UMIG: University of Manitoba Investment Group; 264 Drake Centre; (204) 261 7800.

UMMA: University of Manitoba Marketing Association; 262 Drake Centre; (204) 275 1431.

4.4 Professional Affiliations

Professional Actuarial Associations

Students in the Actuarial program are encouraged to write professional actuarial examinations related to their program of studies. These professional examinations enable students to meet some of the membership requirements of the Canadian Institute of Actuaries and the Society of Actuaries.

The Society of Management Accountants of Manitoba

Graduates who wish to qualify for the professional designation CMA (Certified Management Accountant) must meet the requirements established by the society. These requirements include courses of study, practical accounting experience, and examinations. Students should obtain the requirements of the society by contacting the Society of Management Accountants of Manitoba, 815-240 Graham Avenue, Winnipeg, Manitoba R3C 0J7.

The Institute of Chartered Accountants of Manitoba

Graduates who wish to qualify for the professional designation CA (Chartered Accountant) must meet the requirements established by the institute. These requirements include courses of study, a period of practical experience, and satisfactory performance on examinations set by the institute. Students should obtain the current requirements of the institute by contacting the Institute of Chartered Accountants of Manitoba, 500 – 161 Portage Avenue East, Winnipeg, Manitoba R3B 0Y4.

The Certified General Accountants' Association of Manitoba

Graduates wishing to qualify for the professional designation CGA (Certified General Accountant) must complete the requirements established by the association. These requirements include courses of study, a period of

practical experience, and satisfactory performance on examinations set by the association. Students should obtain the current requirements of the association by contacting the Certified General Accountants' Association of Manitoba, 4 Donald Street, Winnipeg, Manitoba R3L 2T7.

Banff School of Advanced Management

The Asper School of Business is one of five western university programs that jointly sponsor the Banff School of Advanced Management. The BSAM program is a six-week executive development program designed to improve the managerial skills of middle and senior level managers in both public and private organizations. Additional information is available from the Banff School of Advanced Management, Box 1020, Station 5, Banff, Alberta, T0L 0C0.

SECTION 5: Academic Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Asper School of Business has regulations and requirements, published below, that apply specifically to its students.

5.1 Changes in Program Requirements

Once students are admitted to the Asper School and have successfully completed any portion of the program, they will not be required to meet new course requirements subsequently stipulated for that portion of the program, whether the requirements be for the faculty or for an individual major.

5.2 Evening Program

The Asper School of Business does not offer an evening program. Although a limited number of business courses may be offered in evening time slots during both the Regular and Summer Sessions, it is not possible to complete all the course requirements of the Bachelor of Commerce (Honours) program without recourse to daytime attendance.

5.3 Program Regulations

The Bachelor of Commerce (Honours) program undergoes changes from time to time. As a result, some changes in program structure, content and regulations may be made for the 2003-04 regular session. Specific program information may be obtained from the Program Office.

Student's Responsibility

It is the responsibility of all students to ensure that they follow the program of study as outlined in their chosen Major and that they meet all the requirements as specified by the University of Manitoba and the Asper School of Business.

5.4 Prerequisite Requirements

Prerequisite requirements must be met for entry into and continuance in the faculty.

Students must also meet all individual course prerequisites for further study in the program.

A passing grade is acceptable for prerequisite purposes unless a higher grade is called for in the course description.

5.5 Cumulative GPA Requirement for Graduation

Students Admitted in 2000 and Thereafter

Students admitted to the Asper School of Business in 2000 and thereafter must achieve a minimum cumulative GPA of 2.00 on all 126 credit hours required in the B. Comm. (Hons.) degree program. Students must also achieve a passing grade of "D" or better in each course except for the individual courses required in the Track 1 requirements which require a grade of "C" or better in each course.

All qualifying year courses, Core courses, Major courses, Options, and Electives applicable to the B. Comm. (Hons.) degree requirements, as well as the grades achieved in each course, are transferred into the Asper School of Business and are included in the cumulative GPA. However, creditable courses taken through the International Baccalaureate (IB) Program or the Advanced Placement (AP) Program are transferred as credit only (i.e. grades are not transferred).

Students Admitted Prior to 2000

The cumulative GPA of students admitted prior to 2000 will be based only on the 96 credit hours required in the B. Comm. (Hons.) program and excludes the qualifying year courses listed in the Track 1 requirements. Students must achieve a minimum cumulative GPA of 2.00 on the 96 credit hours and achieve a passing grade of "D" or better in each course.

5.6 Calculation of The Cumulative GPA

The computation of the cumulative GPA is the same as that described in the chapter, General Academic Regulations and Requirements, with the following exception:

- If a student repeats or substitutes a course, only the higher of the grades achieved will be included in the computation of the cumulative GPA (see Section 5.13, Repeating or Substituting Courses).

5.7 Residence Requirement

All Business students must complete a minimum of 66 credit hours at the University of Manitoba in order to satisfy the residence requirement of the B. Comm. (Hons.) degree. Students participating in approved International Exchange Programs may be exempt from the required 66 credit hour requirement. Students considering course work at another university are referred to the chapter, General Academic Regulations and Policy, and the section on Letter of Permission.

5.8 Time Limit for Completion of the Degree

A student may take up to a maximum of six years to complete all degree requirements. The six years (i.e., six consecutive 12-month periods) begin with the student's initial registration in the Asper School of Business. This time limit applies to all students, whether full-time or part-time.

The maximum period of six years for completion of degree requirements will be reduced by one year for each block of 15 credit hours of advance standing received at the point of admission.

A student who does not complete all degree requirements within the time limit permitted will be required to withdraw from the faculty.

5.9 Maximum Number of Failures and Repeats Permitted

Each student in the Asper School of Business is permitted a maximum of 15 credit hours of failures. Students who exceed their limit of failures will be placed on Academic Suspension. Such students may enter the Reinstatement Program and should contact a Student Advisor in the Program Office for details.

Each student will be permitted to repeat or substitute a maximum of 12 credit hours of previously passed courses, with a maximum of six credit hours per course.

5.10 Failure to Meet Requirements

Failure to meet the requirements for graduation within the limits specified above will result in the student being placed on Academic Suspension. Such students may enter the Reinstatement Program and should contact a Student Advisor in the Program Office for details.

Students will be placed on Academic Suspension as soon as it becomes evident that they will be unable to meet the requirements for the degree. Therefore, students in jeopardy should carefully monitor their first term results since they will be withdrawn from all second term Business courses if suspended, regardless of the date of official notification of the suspension.

Reinstatement of students into the Asper School of Business who have been placed on Academic Suspension will only be considered after the specific conditions of reinstatement have been met. Details concerning reinstatement are available from the Program Office.

5.11 Withdrawal from the Bachelor of Commerce (Honours) Program

- A student who does not register for any courses in the first academic year after admission will cease to be a student in the Asper School of Business. Such students must re-apply for admission if that is desired and will have to meet the requirements for admission at the time of the new application.

- A student who registers for course work in the first academic year after admission but subsequently voluntarily withdraws from all course work will be permitted to re-register at any time thereafter, subject to all faculty policies and requirements as they existed at the time of first admission. Such students should be aware of the time limit for completion of the degree.

- A student who applies for transfer to another university program and subsequently registers for courses will cease to be a student in the Asper School of Business. Such a student must re-apply for admission if that is desired and will have to meet the requirements for admission at the time of the new application.

5.12 Withdrawal from Individual Courses

Required Courses

Students in the Asper School of Business may withdraw without academic penalty from a required Core course provided they have not previously failed or withdrawn from that course and that they have met the Voluntary Withdrawal deadlines established by the university. (See Deadline for Withdrawals in the Academic Schedule.)

Electives and Options

Students may withdraw without academic penalty from an Elective or Option provided they do so before the final date for withdrawal (see Deadline for Withdrawals in the Academic Schedule).

Maximum Number of Voluntary Withdrawals

There is no limit on the number of course changes a student may make during the registration revision period in each term. However, there is a strict limit placed on the total number of times a student may voluntarily withdraw from a course after the registration revision period in each term (except for health reasons and on compassionate grounds in which case an authorized withdrawal may be granted). All students admitted to the Asper School of Business are permitted a maximum of 30 credit hours of voluntary withdrawals while a student in the Asper School. Voluntary withdrawals earned prior to admission to the Asper School of Business are not transferred to the Asper School and are not counted toward the maximum 30 credit hours of voluntary withdrawals permitted by the Asper School. No voluntary withdrawals will be allowed after this total of 30 credit hours of voluntary withdrawals has been reached. Course withdrawals that occurred prior to September 1993 will not be counted.

Voluntary withdrawals occurring after September 1993 are recorded on official transcripts and student histories.

Authorized Withdrawals

Authorized withdrawals from courses after the registration revision period in each term may be granted on the basis of medical and compassionate grounds. A medical certificate signed by a physician or other appropriate professional must document medical grounds. Compassionate reasons may include unavoidable financial hardships and family or personal circumstances supported by appropriate documentation. Authorized withdrawals do not count toward the 30 credit hour voluntary withdrawal limit nor are they recorded on official transcripts. Students requesting authorized withdrawals should contact the Program Office.

5.13 Repeating or Substituting Courses

Required Courses

A student who withdraws from a Core course or who obtains a grade of "F" in such a course must repeat that course during the following Regular Session. However, the student may take the course in either first or second term of that Regular Session. If a student repeats a course for which a grade was recorded, only the higher of the grades achieved will be included in the computation of the cumulative GPA.

Students may not substitute another course for a Core course.

Students may not subsequently withdraw from a Core course in which they have a previous withdrawal or failure except for those courses taken during the summer session. If, on repeating the course, the student does not complete the course successfully, a grade of "F" will be recorded for that course on the student's history.

Major Courses

Students who achieve a grade of "F" in a Major course must either repeat that course or substitute another Major course if the Major requirements permit an alternate choice. Upon successful completion of the Major course, only the higher of the grades achieved will be included in the com-

putation of the cumulative GPA. When a course is to be substituted, the student must advise the Program Office in writing prior to enrolling in the new course.

Electives and Options

Students who achieve a grade of "F" in an Elective or Option may either repeat that course or substitute another course in its place. Upon successful completion of the course, only the higher of the grades achieved will be included in the computation of the cumulative GPA. When a course is substituted for a failed Elective or Option, a student must advise the Program Office in writing prior to enrolling in the new course.

Voluntary Repeats

In order to improve their GPA, or to meet a prerequisite requirement, students may voluntarily repeat any course in which a passing grade has been received, subject to any restrictions which may be published in the faculty registration guide and subject to the limits imposed at the point of admission. In such a case only the higher of the grades achieved will be included in the computation of the cumulative GPA.

5.14 Maximum Course Load

Students are not permitted to take more than 18 credit hours during an academic term without permission from the Head of the department of the student's Major.

5.15 Course Selection and Requirements

All students are limited to a maximum of six credit hours of 098.405 Readings, 098.407 Research, and 098.408 Research. These courses are considered general Options, rather than as part of any Major.

009.305 Taxation Accounting, 009.307 Tax Planning, 009.327 Personal Financial Planning, 009.342 Security Analysis and 009.344 Real Estate Investments are also considered general options. They are not part of any Major.

Students will not be permitted to take any previously passed course that applies to the B. Comm. (Hons.) as a special student.

5.16 Eligibility Requirements for Awards

To be eligible for the Dean's Honour List or for bursary awards, a student must complete a minimum of 24 credit hours of courses at the University of Manitoba during an academic year consisting of consecutive fall and winter terms. For the Dean's Honour List, the student must also achieve a sessional GPA of a least 3.50. Students participating in approved International Exchange Programs may be eligible for the Dean's Honour List.

The degree "With Distinction" will be awarded to all students graduating with the B. Comm. (Hons.) Degree who attain a cumulative awards GPA of 3.80 or better on the following criteria.

- For students admitted to the Asper School of Business in 2000 and thereafter: The cumulative awards GPA will be determined on the basis of all courses which form a part of the 126 credit hours required in the four year degree program.
- For students admitted to the Asper School of Business prior to 2000: The cumulative awards GPA excludes the qualifying year courses listed in the Track 1 requirements. The GPA will be determined on the basis of all courses which form part of the remaining 96 credit hours of the degree requirements for the B. Comm. (Hons.) Program.

The University Gold Medal in Business shall be awarded to the graduating student who has achieved the highest cumulative grade point average (minimum 3.80) based on the last four Regular Session terms of their program. The student must be registered in a minimum 80% course load during the last four Regular Session terms. An 80% course load is considered to be 24 credit hours over a Regular Session consisting of consecutive fall and winter terms. When a student has not taken consecutive fall and winter terms, an 80% course load will be considered to be 12 credit hours in a term.

Summer session courses will not be included in this credit calculation. All courses (including Letter of Permission courses, repeats, substitutions, and special student status courses) are to be used to determine the credit load requirement, but the grade point average will be calculated on University of Manitoba courses only. Students graduating in October, February, and May are eligible for the Gold Medal which shall be awarded annually at the May Convocation.

Students interested in bursaries, awards and scholarships should contact the Program Office and Financial Aid and Awards for information.

5.17 Examination Regulations

For the particular examination regulations, including deferred examinations, pertinent to the faculty, students are referred to the pamphlet, Examination Regulations for the Asper School of Business, available from the Program Office. The faculty does not offer supplemental examinations. Contact the Program Office for information on Challenge for Credit.

5.18 Letter of Permission to Take Courses at Another University

Students wishing to complete courses at another institution for credit at the University of Manitoba must obtain written permission from the Student Records Office prior to registering at the other institution. To be eligible to take courses on a Letter of Permission, a Business student must have completed a minimum of 24 credit hours in the Asper School of Business in addition to any transfer credits received upon admission.

Effective September 1999 grades achieved in courses taken on a Letter of Permission shall be transferred to the student's academic record and shall be included in the sessional and cumulative GPA.

5.19 Plagiarism, Cheating and Personation

The Asper School of Business has adopted the Senate definition and policy on plagiarism, cheating and personation as described in the chapter, General Regulations and Requirements. A student found guilty of participating in any of these activities is subject to serious academic penalty and possible prosecution under the Canadian Criminal Code.

5.20 Student Appeals of Academic Regulations

Except as otherwise noted, student appeals should be directed to the secretary of the Undergraduate Program Committee in the Program Office. That committee considers appeals from students who request special consideration in respect to rules and regulations governing their programs of study.

A certificate from an appropriate professional agency such as the University Counselling Service or a licensed medical practitioner should support appeals based on emotional or medical problems.

5.21 Security of Academic Records

The Asper School of Business has adopted supplementary criteria and procedures on access to student academic records to supplement the university policy on Disclosure and Security of Student Academic Records. Copies of these policies are available in the Program Office.

SECTION 6: Program Requirements for the Asper School of Business Bachelor of Commerce (Honours) Program – Track 1 And Track 2

6.1 Requirements Applicable to Students Admitted in 2000 and Thereafter

Effective September 2000 all courses, including qualifying year courses, applicable to the 126 credit hours required in the B. Comm. (Hons.) degree program shall be transferred into each student's academic record in the Asper School of Business. Grades achieved on these applicable courses will be transferred as well, with the exception of applicable credit earned in the International Baccalaureate Program or the Advanced Placement Program. Cumulative GPA calculations will be based on the entire 126 credit hours.

6.2 Requirements Applicable to Students Admitted Prior to 2000

Students admitted prior to September 2000, the courses comprising the qualifying year requirements will not be transferred into their academic records in the Asper School of Business. Cumulative GPA calculations will be based only on the remaining 96 credit hours required in the B. Comm. (Hons.) Degree program. Track 2 students will be required to take out-

standing qualifying year courses as a special student, and grades earned in these courses will not be included in the student's cumulative GPA.

6.3 General Structure of the Program

The Bachelor of Commerce (Honours) degree is comprised of 126 credit hours and can be divided into the following components:

- The Qualifying Year (Track 1) Course Requirements (30 credit hours)
- The Core (57 credit hours)
- The Major (12 credit hours)
- Business Options (15-18 credit hours)
- Electives (9-12 credit hours)

These components and their associated limits are defined below.

Qualifying Year Course Requirements

All students must complete the specified qualifying year course requirements. Track 1 students complete these requirements prior to their admission to the Asper School of Business. Track 2 students have completed 30 credit hours of university course work but are missing one or more of the specific qualifying year courses. Track 2 students must complete all outstanding qualifying year (Track 1) courses during their first year after admission to the Asper School of Business and achieve a minimum grade of "C" in each outstanding qualifying year course.

The Core

The CORE consists of 57 credit hours of specified mandatory courses from all three departments in this faculty as well as courses taught by the departments of Computer Science, Statistics, Philosophy, and Religion. All students are required to complete the Core. The Core presents the essence of a business degree program. The majority of the Core courses are taken in the first two years after admission to the Asper School of Business.

The Major

Each student must complete the course requirements of one MAJOR. Each department and the dean's office have developed one or more Majors. Each Major consists of a 12 credit hour unit of course work specified by the department. Subject to demand and faculty resources, specialized Majors are available in Aboriginal Business Studies, Accounting, Actuarial Mathematics, Entrepreneurship/Small Business, Finance, Generalist, Human Resources Management/Industrial Relations, International Business, Logistics and Supply Chain Management, Management Information Systems, Management of Organizations, Marketing, and Operational Research/Operations Management. A list of the departments and the Majors they oversee is outlined below.

Students will normally choose a Major at the beginning of the third year of the program, following completion of many of the core courses, which introduce the areas. Students have an opportunity to transfer from one Major to another, but this opportunity decreases as the student progresses in the program.

Business Options

The third component of the program consists of a required number of Business courses freely selected by the student. These courses are referred to as Business OPTIONS. Students must complete at least 15 and not more than 18 hours of Options. Some students may want to take Options which will supplement their Major, whereas other students may prefer to broaden their educational base by selecting Business courses in another or several other Majors. Students who want to supplement their Majors may take up to twelve hours of their Options from that area. Students may complete a second Major as part of their Options requirements. Such students should consult with staff in the Program Office.

Electives

The fourth component of the program is the ELECTIVE requirement. An Elective is any three or six credit hour course freely chosen by the student from courses taught in the degree programs of other faculties and schools, excluding the Asper School of Business. Students must complete at least nine and not more than 12 credit hours of Electives.

The total of Major/Option/Elective courses is 39 credit hours. Therefore each student may choose a 12/15/12 credit hour combination or 12/18/9 credit hour combination.

6.4 Course Requirements

The tables below list the Core courses that all Business students must complete. The courses are listed by year in a suggested sequence. Students normally complete the Core courses in the sequence shown.

To determine which additional courses to take each year (i.e., non-Core courses) students should consult the listing of course requirements for each year of their chosen Major.

YEAR 2 of the 4-Year Program

005.100	3
005.200	3
009.110	3
009.111	3
009.220	3
027.200	3
027.208	3
027.215	3
074.126 (or the former 074.100)	3
118.221	3
Total credit hours	30

YEAR 3 of the 4-Year Program

009.200	3
Critical Thinking (see Note 1)	3-6
027.207	3
027.212	3
027.244	3
027.260	3
027.330	3
Electives, Options and Major Courses (see Note 2)	9-6
Total credit hours	30

YEAR 4 of the 4-Year Program

Ethics (see Note 3)	3-6
027.401	3
Electives, Options and Major Courses (see Note 2)	24-21
Total credit hours	30

YEARS 2, 3, or 4.

Electives, Options and Major Courses (see Notes 2 and 4)	6
Total Credit Hours Required	96

NOTES:

- 1) Critical Thinking requirement: One of the following courses: 015.120, 015.129, 015.132, or 015.285. If a six credit hour course is chosen, three credit hours will count as Electives.
- 2) In addition to 57 credit hours of Core courses all students must take 12 credit hours in one Major, 15 or 18 credit hours of Business Options and nine or twelve credit hours of Electives.
- 3) Ethics requirement: One of the following courses: 015.229, 015.274, 015.275, 015.279, 015.283, 015.284, 020.245, or 027.358F. If a six credit hour course is chosen, three credit hours will count as Electives.
- 4) An additional six credit hours are flexible and must also be completed.
- 5) Students may register for Electives in any year. Registration in Options and Major courses normally begins in Year 3 of the 4-Year program.

Course Key

All Core courses are taught by the Asper School of Business except the following:

<i>Statistics</i>		
005.100	Basic Statistical Analysis 1	3
005.200	Basic Statistical Analysis 2	3
<i>Philosophy</i>		
015.120	Introduction to Philosophy	6
015.129	Critical Thinking	3
015.132	Introductory Logic	6
015.229	Ethics and Society	6
015.274	Ethics and Biomedicine	3
015.275	Ethics and the Environment	3
015.279	Moral Philosophy	6
015.283	Business Ethics	3
015.284	The Ethics of War and Peace	3
015.285	Philosophy of Social Science	3
<i>Religion</i>		
020.245	Religious Ethics	3
<i>Computer Science:</i>		
074.126	Introductory Computer Usage 1	3
<i>Collège universitaire de Saint-Boniface</i>		
027.358F	Ethique et responsabilité sociale	3

6.5 Codes for Majors

Department	Major	Code
Accounting and Finance	Accounting	009A
	Finance	009F
	Management Information Systems	009M
Business Administration	Human Resources Management/Industrial Relations	027R
	Management of Organizations	027G
	Operational Research/Operations Management	027L
	Aboriginal Business Studies	098A
Dean's Office	Generalist	098G
	International Business	098N
	Logistics and Supply Chain Management	164L
Marketing	Entrepreneurship/Small Business	118E
	Marketing	118
Warren Centre for Actuarial Studies and Research	Actuarial Mathematics	010A

6.6 Asper School of Business Requirements for Majors, B. Comm. (Hons.)

All students must complete the Core, one of the Majors listed below, as well as the Option and Elective course components (15-18 hours of Options and 9-12 hours of Electives). Students who intend to complete a second major should note that when a course is applicable to two different majors, that course may be used to satisfy only one set of major requirements.

Aboriginal Business Studies

The Major consists of 032.422, 098.300 plus six credit hours from 009.325, 009.347, 027.415, 032.300 (topic: Aboriginal Wisdom and Spirituality), 032.332, 098.409, 118.310, or 118.410.

Accounting

The Major consists of: 009.201, 009.202, 009.304 and 009.403. The prerequisite for 009.201 is "C+" in 009.110 and for 009.304 is "C+" in 009.111.

Actuarial Mathematics

Effective September 1999 the Major consists of any 12 hours from 010.202, 010.212, 010.221, 010.313, 010.323, 010.333, 010.353, 010.414, 010.424, and 010.434.

Students who have completed a portion of the previous Actuarial Major requirements should consult the director or advisor for transition information. These students will not be disadvantaged by the new requirements.

All students enrolled in Actuarial Mathematics should consult the director or advisor before registering each year for program planning advice.

To facilitate entry into and understanding of material covered in some advanced Actuarial courses, students entering the second year of the four year program are advised to take the following courses: 136.270 plus 136.271 or 136.275 (which satisfies the elective requirement).

Business/Government Relations

This Major was deleted January 2002. Students who enrolled in the Business/Government Relations Major prior to January 2002 should consult the Program Office for course requirements for the major.

Entrepreneurship/Small Business

The Major consists of: 118.310, 118.410, 009.347 and one of: 009.305, 009.325, 009.353, 010.405 (former 010.451), 027.305, 027.308, 118.322, 118.331 (or former 118.321) or 118.427.

Finance

The Major consists of: 009.341, 009.346, 009.348, and 009.440.

Finance Options are: 009.345, 009.423, 009.426, and 009.427. Students in the Finance Major may take all of these courses.

Generalist

The Major consists of one course from the list of courses from four different Majors (i.e., Options that are not part of a Major's requirements are not eligible for the Generalist Major).

Human Resources Management/Industrial Relations

The Major consists of: 027.345 (or former 027.341), plus any three of the following: 027.343, 027.441, 027.442, 027.448 or 027.452.

Students entering the second year of the four-year program are advised to take 027.244 since it is a prerequisite to advanced courses in the area.

International Business

Effective September 2000 the Major consists of: 009.345, 027.220, 027.452, and 118.330.

Students admitted prior to September 2000 may complete the following requirements: 027.220; one of either 009.345 or 118.330; plus two of 009.306*, 009.345 (if not already chosen), 009.346, 027.302*, 027.412, 027.452, 118.324*, or 118.330 (if not already chosen). (*Selected topics must be an approved international topic.)

Students majoring in International Business are permitted to take 12 credit hours of a foreign language and/or courses with an international focus from an approved list and have these non-business courses count as Business options. The list is available in the program office.

Logistics and Supply Chain Management

The Major consists of: 164.221, 164.222, 027.463, 118.336.

Recommended Options/Electives in this area include: 009.350, 009.351, 027.220, 027.345, 027.312, 027.316, 027.416, 027.340, 098.405, 098.407, 098.408, 118.322, 118.332, 118.334, 118.441, 053.380, 018.245, 018.246.

Management Information Systems

The Major consists of: 074.101, 009.350, 009.351, and 009.450.

Options available in this area are 009.352 and 009.425.

Admission to the Management Information Systems major is restricted. Students should consult with staff in the Program Office for information regarding admission requirements. Students interested in pursuing the Management Information Systems Major are encouraged to take 009.200 in the second year of the four year program since it is a prerequisite to advanced courses in the area.

Management of Organizations

The Major consists of any 12 hours from: 027.301, 027.302, 027.304, 027.316, 027.404, 027.414 and 027.415. Students entering the second year of the four-year program are advised to take 027.207 and 027.208 since they are prerequisites to advanced courses in the area.

Marketing

The Major consists of 118.322, 118.323, 118.421 and 3 hours from the former 118.320, 118.324, 118.325, the former 118.328, 118.330, 118.331 (or the former 118.321), 118.332, 118.334, 118.336 (or the former 118.326), 118.339 (or the former 118.329), 118.424, 118.427 or 118.441 (or the former 118.440). In addition to the 12 credit hours required for the major, Marketing students may take up to an additional 12 credit hours from the above list.

Operational Research

This Major currently is not offered.

Operational Research/Operations Management

The Major consists of any 12 hours from 027.340, 027.365, 027.366, 027.367, 027.422, 027.423, 027.462, and 027.463.

All students enrolled in Operational Research/Operations Management should consult the Department Head or a Student Advisor before registering each year for program planning advice.

Production/Operations Management

This Major currently is not offered.

SECTION 7: Program Requirements for the Asper School of Business Red River College Joint Program

7.1 General Structure of the Program

Prior to admission to the Asper School of Business/Red River College Joint Program, students must complete the Business Administration Diploma (University Stream) at Red River College with a minimum cumulative grade point average of 3.00. Admission is limited and competitive. Following admission to the Asper School of Business, students in the Joint Program will be required to complete 72 credit hours to earn the Bachelor of Commerce (Honours) degree. The 72 credit hours can be divided into the following components: the Core, the Major, Business Options, and Electives. These components and their associated limits are defined below.

The Core

The CORE comprises 33 credit hours of the 72 required in the Joint Program. It consists of specified mandatory courses from Accounting and Finance, Business Administration, Mathematics, Philosophy and/or Religion, and any department that offers a Written English course. The Qualifying Core courses (12 credit hours) should be taken in the first year at the Asper School. Students must achieve a minimum "C" grade in each Qualifying Core course. The Program Core courses (21 credit hours) may be taken at any point in the program, but the course 27.401 must be taken in the student's final term. Core courses are listed in Section 7.2.

The Major

Each student must complete the course requirements of one MAJOR. Each Major will consist of a 12 credit hour unit of course work. The Majors are listed in Section 11.

Students may begin taking courses for their major as soon as prerequisites are met. Students have an opportunity to transfer from one Major to another, but this opportunity decreases as the student progresses in the program.

Business Options

The third component of the program consists of a required number of Business courses freely selected by the student. These courses are referred to as Business OPTIONS. Students must take at least 15 and not more than 18 credit hours of options. Some students may want to take options which will supplement their Major, whereas other students may prefer to broaden their base by selecting Business courses in another or several other Majors. Students who want to supplement their Majors may take up to 12 credit hours of their options from that area. Students may complete a second Major as part of their options requirements. Such students should consult with staff in the program office.

Electives

The fourth component of the program is the ELECTIVE requirement. An elective is any three or six credit hour course freely chosen by the student from courses taught in the degree programs of other faculties and schools, excluding the Asper School of Business. Students must take at least nine and not more than 12 credit hours of electives.

The total of Major/Option/Elective courses is 39 credit hours. Therefore each student may choose a 12/15/12 credit hour combination or 12/18/9 credit hour combination.

7.2 Course Requirements

The course requirements for the Asper School of Business/Red River College Joint Program are as follows.

Qualifying Core Courses (12 credit hours)

(Students should register for the qualifying Core courses in their first year at the University of Manitoba and must achieve a minimum "C" grade in each course.)

136.131 or 136.130 (see note 1)	3 credit hours
136.152 or 136.150 (see note 1)	3 credit hours
Written English Course/Elective (see note 2)	6 credit hours

Program Core Requirements (21 credit hours)

009.111	3 credit hours
009.200	3 credit hours
027.212	3 credit hours

027.260	3 credit hours
027.401 (must be taken in final term)	3 credit hours
Critical Thinking (see note 3)	3-6 credit hours
Ethics (see note 4)	3-6 credit hours

NOTES:

1) The prerequisite for 136.131, 136.130, 136.152, and 136.150 is a 60 per cent in Mathematics 40S(300) or equivalent or a grade of "C" in the Mathematical Skills course taught by the Continuing Education Division. Students who have been admitted into the Asper School of Business/Red River College Joint Program and who successfully complete the Mathematical Skills course are entitled to an additional three credit hour Elective from their Business Administration diploma.

2) Students may select a six credit hour or a three credit hour course to satisfy the written English requirement. Students who select a three credit hour written English course must complete a three credit hour elective to complete the six credit hour requirement. Courses that satisfy the written English requirement are listed in the chapter, General Academic Regulations and Policy.

3) All Business students must complete three credit hours of Critical Thinking. Students may fulfil this requirement by completing one of the following courses: 015.120 (6), 015.129 (3), 015.132 (6), or 015.285 (3). If a six credit hour course is chosen, three credit hours will count toward the core Critical Thinking requirement and three credit hours will count as electives.

4) All Management students must complete three credit hours of Ethics. Students may fulfil this requirement by completing one of the following courses: 015.229 (6), 015.274 (3), 015.275 (3), 015.279 (6), 015.283 (3), 015.284 (3), 020.245 (3), or 027.358F (3). If a six credit hour course is chosen, three credit hours will count toward the core Ethics requirement and three credit hours will count as electives.

Program Requirements

Qualifying Core Courses	12 credit hours
Program Core Courses	21 credit hours
Major Courses	12 credit hours
Business Options	15 - 18 credit hours
Electives	9 - 12 credit hours
Total Credit Hours	72

7.3 Requirements for Majors

In addition to the Core requirements, the Options and the Electives, all students must complete the requirements of one of the Majors listed in Section 11.

NOTE: Students in the Asper School of Business /Red River College Joint Program who want to major in Finance will be required to take 009.220 as one of their Business options. Likewise, students who want to major in Management of Organizations must take 027.208 as one of their Business options.

SECTION 8: Program Requirements for the Asper School of Business/ Assiniboine Community College Joint Program

8.1 General Structure of the Program

Prior to admission to the Asper School of Business /Assiniboine Community College Joint Program students must complete the Business Administration Diploma (University Stream) at Assiniboine Community College with a minimum cumulative grade point average of 3.00. Admission is limited and competitive. Following admission to the Asper School of Business, students in the Joint Program will be required to complete 72 credit hours to earn the Bachelor of Commerce (Honours) degree. The 72 credit hours can be divided into the following components: the Core, the Major, Business Options, and Elective courses. These components and their associated limits are defined below.

The Core

The CORE comprises 42 credit hours of the 72 required in the Joint Program. It consists of specified mandatory courses from Accounting and Finance, Business Administration, Mathematics, Philosophy and/or Religion, Psychology or Sociology, and any department that offers a Written English course. The Qualifying Core courses (18 credit hours) should be taken in the first year in the Asper School. Students must achieve a minimum "C" grade in each Qualifying Core course. The Program Core courses (24 credit hours) may be taken at any point in the program, but the course 27.401 must be taken in the student's final term. Core courses are listed in Section 8.2.

The Major

Each student must complete the course requirements of one MAJOR. Each Major will consist of a 12 credit hour unit of course work. The Majors are listed in Section 11.

Students may begin taking courses for their major as soon as prerequisites are met. Students have an opportunity to transfer from one Major to another, but this opportunity decreases as the student progresses in the program.

Business Options

The third component of the program consists of a required number of Business courses freely selected by the student. These courses are referred to as Business OPTIONS. Students must take at least nine and not more than 12 hours of options. Some students may want to take options which will supplement their Major, whereas other students may prefer to broaden their educational base by selecting Business courses in other Majors. Students who want to supplement their Majors may take up to 12 hours of their options from that area. Students may complete a second Major as part of their options requirements. Such students should consult with staff in the Program Office.

Electives

The fourth component of the program is the ELECTIVE requirement. An Elective is any three or six credit hour course freely chosen by the student from courses taught in the degree programs of other faculties and schools, excluding the Asper School of Business. Students must take at least six and not more than nine credit hours of Electives.

The total of Major/Option/Elective courses is 30 credit hours. Therefore each student may choose a 12/9/9 credit hour combination or 12/12/6 credit hour combination.

8.2 Course Requirements

The course requirements for the Asper School of Business /Assiniboine Community College Joint Program are as follows.

Qualifying Core Courses (18 credit hours)

(Students should register for the qualifying Core courses in their first year at the University of Manitoba and must achieve a minimum "C" grade in each course.)

136.131 or 136.130 (see note 1)	3 credit hours
136.152 or 136.150 (see note 1)	3 credit hours
017.120 or 077.120	6 credit hours
Written English Course/Elective (see Note 2)	6 credit hours

Program Core Requirements (24 credit hours)

009.200	3 credit hours
027.208	3 credit hours
027.212	3 credit hours
027.215	3 credit hours
027.260	3 credit hours
027.401 (must be taken in final term)	3 credit hours
Critical Thinking (see Note 3)	3-6 credit hours
Ethics (see Note 4)	3-6 credit hours

NOTES:

- 1) The prerequisite for 136.131, 136.130, 136.152, and 136.150 is 60 per cent in Mathematics 40S(300) or equivalent or a grade of "C" in the Mathematical Skills course taught by the Continuing Education Division. Students who have been admitted into the Asper School of Business/ Assiniboine Community College Joint Program and who successfully complete the Mathematical Skills course are entitled to an additional three credit hour Elective from their Business Administration diploma.
- 2) Students may select a six credit hour or a three credit hour course to satisfy the Written English requirement. Students who select a three credit hour Written English course must complete a three credit hour Elective to complete the six credit hour requirement. Courses that satisfy the Written English requirement are listed in the chapter, General Academic Regulations and Policy.
- 3) All Business students must complete three credit hours of Critical Thinking. Students may fulfil this requirement by completing one of the following courses: 015.120 (6), 015.129 (3), 015.132 (6), or 015.285 (3). If a six credit hour course is chosen, three credit hours will count toward the core Critical Thinking requirement and three credit hours will count as Electives.
- 4) All Business students must complete three credit hours of Ethics. Students may fulfil this requirement by completing one of the following courses: 015.229 (6), 015.274 (3), 015.275 (3), 015.279 (6), 015.283 (3), 015.284 (3), 020.245 (3), or 027.358F (3). If a six credit hour course is chosen, three credit hours will count toward the core Ethics requirement and three credit hours will count as Electives.

Program Requirements

Qualifying Core Courses	18 credit hours
Program Core Courses	24 credit hours
Major Courses	12 credit hours
Business Options	9 - 12 credit hours
Electives	6 - 9 credit hours
Total credit hours	72 credit hours

8.3 Requirements for Majors

In addition to the Core requirements, the Options and the Electives, all students must complete the requirements for one of the Majors listed in Section 11.

NOTE: Students in the Asper School of Business /Assiniboine Community College Joint Program who want to major in Finance will be required to take 009.220 as one of their Business options. Likewise, students who want to major in Marketing must take 118.221 as one of their Business options.

SECTION 9: Program Requirements for the Asper School of Business Keewatin Community College Joint Program

9.1 General Structure of the Program

Prior to admission to the Asper School of Business /Keewatin Community College Joint Program students must complete the Business Administration Diploma (University Stream) at Keewatin Community College with a minimum cumulative grade point average of 3.00. Admission is limited and competitive. Following admission to the Asper School of Business, students in the Joint Program will be required to complete 87 credit hours to earn the Bachelor of Commerce (Honours) degree. The 87 credit hours can be divided into the following components: the Core, the Major, Business Options, and Electives. These components and their associated limits are defined below.

The Core

The CORE comprises 48 credit hours of the 87 required in the Joint Program. It consists of specified mandatory courses from Accounting and Finance, Business Administration, Computer Science, Mathematics, Philosophy and/or Religion, Psychology or Sociology, Statistics and any department that offers a written English course. The Qualifying Core courses (18 credit hours) should be taken in the first year in the Asper School. Students must achieve a minimum "C" grade in each Qualifying Core course. The Program Core courses (30 credit hours) may be taken at any point in the program, but the course 27.401 must be taken in the student's final term. Core courses are listed in Section 9.2.

The Major

Each student must complete the course requirements of one MAJOR. Each Major will consist of a 12 credit hour unit of course work. The Majors are listed in Section 11.

Students may begin taking courses for their major as soon as prerequisites are met. Students have an opportunity to transfer from one Major to another, but this opportunity decreases as the student progresses in the program.

Business Options

The third component of the program consists of a required number of Business courses freely selected by the student. These courses are referred to as Business OPTIONS. Students must take at least 15 and not more than 18 hours of Options. Some students may want to take options which will supplement their Major, whereas other students may prefer to broaden their educational base by selecting Business courses in other Majors. Students who want to supplement their Majors may take up to twelve hours of their options from that area. Students may complete a second Major as part of their options requirements. Such students should consult with staff in the Program Office.

Electives

The fourth component of the program is the ELECTIVE requirement. An Elective is any three or six credit hour course freely chosen by the student from courses taught in the degree programs of other faculties and schools, excluding the Asper School of Business. Students must take at least nine and not more than 12 credit hours of Electives.

The total of Major/Option/Elective courses is 39 credit hours. Therefore each student may choose a 12/15/12 credit hour combination or 12/18/9 credit hour combination.

9.2 Course Requirements

The course requirements for the Asper School of Business/Keewatin Community College Joint Program are as follows.

Qualifying Core Courses (18 credit hours)

(Students should register for the Qualifying Core courses in their first year at the University of Manitoba and must achieve a minimum "C" grade in each course.)

136.131 or 136.130 (see Note 1)	3 credit hours
136.152 or 136.150 (see Note 1)	3 credit hours
017.120 or 077.120	6 credit hours
Written English Course/Elective (see note 2)	6 credit hours

Program Core Requirements (30 credit hours)

005.100	3 credit hours
005.200	3 credit hours
009.200	3 credit hours
027.212	3 credit hours
027.215	3 credit hours
027.260	3 credit hours
027.401 (must be taken in final term)	3 credit hours
074.126	3 credit hours
Critical Thinking (see note 3)	3-6 credit hours
Ethics (see note 4)	3-6 credit hours

NOTES:

1) The prerequisite for 136.131, 136.130, 136.152, and 136.150 is a 60 per cent in Mathematics 40S(300) or equivalent or a grade of "C" in the Mathematical Skills course taught by the Continuing Education Division. Students who have been admitted into the Asper School of Business/Keewatin Community College Joint Program and who successfully complete the Mathematical Skills course are entitled to an additional three credit hour Elective from their Business Administration diploma.

2) Students may select a six credit hour or a three credit hour course to satisfy the Written English requirement. Students who select a three credit hour Written English course must complete a three credit hour Elective to complete the six credit hour requirement. Courses that satisfy the Written English requirement are listed in the chapter, General Academic Regulations and Policy.

3) All Business students must complete three credit hours of Critical Thinking. Students may fulfil this requirement by completing one of the following courses: 015.120 (6), 015.129 (3), 015.132 (6), or 015.285 (3). If a six credit hour course is chosen, three credit hours will count toward the core Critical Thinking requirement and three credit hours will count as Electives.

4) All Business students must complete three credit hours of Ethics. Students may fulfil this requirement by completing one of the following courses: 015.229 (6), 015.274 (3), 015.275 (3), 015.279 (6), 015.283 (3), 015.284 (3), 020.245 (3), or 027.358F (3). If a six credit hour course is chosen, three credit hours will count toward the core Ethics requirement and three credit hours will count as Electives.

Program Requirements

Qualifying Core Courses	18 credit hours
Program Core Courses	30 credit hours
Major Courses	12 credit hours
Business Options	15 - 18 credit hours
Electives	9 - 12 credit hours
Total Credit Hours	87

9.3 Requirements for Majors

In addition to the Core requirements, the Options, and the Electives, all students must complete the requirements of one of the majors listed in Section 11.

NOTE: Students in the Asper School of Business/Keewatin Community College Joint Program who want to major in Finance will be required to take 009.220 as one of their Business options. Likewise, students who want to major in Marketing must take 118.221 as one of their Business options.

SECTION 10: Program Requirements for the Asper School of Business

Ecole technique et professionnelle Joint Program

10.1 General Structure of the Program

Prior to admission to the Asper School of Business /Ecole technique et professionnelle Joint Program students must complete the Business Administration Diploma (University Stream) at Ecole technique et professionnelle with a minimum cumulative grade point average of 3.00. Admission is limited and competitive. Following admission to the Asper School of Business, students in the Joint Program will be required to complete 72 credit hours to earn the Bachelor of Commerce (Honours) degree. The 72 credit hours can be divided into the following components: the Core, the Major, Business Options, and Electives. These components and their associated limits are defined below.

The Core

The CORE comprises 42 credit hours of the 72 required in the Joint Program. It consists of specified mandatory courses from Accounting and Finance, Business Administration, Mathematics, Philosophy and/or Religion, Psychology or Sociology, Statistics, and any department that offers a written English course. The Qualifying Core courses (18 credit hours) should be taken in the first year in the Asper School. Students must achieve a minimum "C" grade in each Qualifying Core course. The Program Core courses (24 credit hours) may be taken at any point in the program, but the course 27.401 must be taken in the student's final term. Core courses are listed in Section 10.2.

The Major

Each student must complete the course requirements of one MAJOR. Each Major will consist of a 12 credit hour unit of course work. The Majors are listed in Section 11.

Students may begin taking courses for their major as soon as prerequisites are met. Students have an opportunity to transfer from one Major to another, but this opportunity decreases as the student progresses in the program.

Business Options

The third component of the program consists of a required number of Business courses freely selected by the student. These courses are referred to as Business OPTIONS. Students must take at least nine and not more than 12 hours of Options. Some students may want to take options which will supplement their Major, whereas other students may prefer to broaden their educational base by selecting Business courses in other Majors. Students who want to supplement their Majors may take up to twelve hours of their Options from that area. Students may complete a second Major as part of their Options requirements. Such students should consult with staff in the Program Office.

Electives

The fourth component of the program is the ELECTIVE requirement. An Elective is any three or six credit hour course freely chosen by the student from courses taught in the degree programs of other faculties and schools, excluding the Asper School of Business. Students must take at least six and not more than nine credit hours of electives.

The total of Major/Option/Elective courses is 30 credit hours. Therefore each student may choose a 12/9/9 credit hour combination or 12/12/6 credit hour combination.

10.2 Course Requirements

The course requirements for the Asper School of Business /Ecole technique et professionnelle Joint Program are as follows.

Qualifying Core Courses (18 credit hours)

(Students should register for the Qualifying Core courses in their first year at the University of Manitoba and must achieve a minimum "C" grade in each course.)

136.131 or 136.130 (see note 1)	3 credit hours
136.152 or 136.150 (see note 1)	3 credit hours
017.120 or 077.120	6 credit hours
Written English Course/Elective (see note 2)	6 credit hours

Program Core Requirements (24 credit hours)

005.200	3 credit hours
027.212	3 credit hours

027.215	3 credit hours
027.244	3 credit hours
027.260	3 credit hours
027.401 (must be taken in final term)	3 credit hours
Critical Thinking (see note 3)	3-6 credit hours
Ethics (see note 4)	3-6 credit hours

NOTES:

1) The prerequisite for 136.131, 136.130, 136.152, and 136.150 is a 60 per cent in Mathematics 40S(300) or equivalent or a grade of "C" in the Mathematical Skills course taught by the Continuing Education Division. Students who have been admitted into the Asper School of Business/Ecole technique et professionnelle Joint Program and who successfully complete the Mathematical Skills course are entitled to an additional three credit hour Elective from their Business Administration diploma.

2) Students may select a six credit hour or a three credit hour course to satisfy the Written English requirement. Students who select a three credit hour Written English course must complete a three credit hour Elective to complete the six credit hour requirement. Courses that satisfy the written English requirement are listed in the chapter, General Academic Regulations and Policy.

3) All Business students must complete three credit hours of Critical Thinking. Students may fulfil this requirement by completing one of the following courses: 015.120 (6), 015.129 (3), 015.132 (6), or 015.285 (3). If a six credit hour course is chosen, three credit hours will count toward the core Critical Thinking requirement and three credit hours will count as Electives.

4) All Business students must complete three credit hours of Ethics. Students may fulfil this requirement by completing one of the following courses: 015.229 (6), 015.274 (3), 015.275 (3), 015.279 (6), 015.283 (3), 015.284 (3), 020.245 (3), or 027.358F (3). If a six credit hour course is chosen, three credit hours will count toward the core Ethics requirement and three credit hours will count as Electives.

Program Requirements

Qualifying Core Courses	18 credit hours
Program Core Courses	24 credit hours
Major Courses	12 credit hours
Business Options	9 - 12 credit hours
Electives	6 - 9 credit hours
Total Credit Hours	72

10.3 Requirements for Majors

In addition to the Core requirements, the options, and the elective course components, all students must complete the requirements of one of the majors in Section 11.

NOTE: Students in the Asper School of Business/Ecole technique et professionnelle joint program who want to major in Finance will be required to take 009.220 as one of their Business options. Likewise, students who want to major in Management Information Systems must take 009.200 as one of their Business options.

SECTION 11: Course Requirements for Majors for Students in the Asper School of Business Joint Programs with Red River College, Assiniboine Community College, Keewatin Community College, or Ecole technique et professionnelle

All students in one of the Joint Programs listed above must complete the requirements of one of the Majors listed below. Students who intend to complete a second major should note that when a course is applicable to two different majors, that course may be used to satisfy only one set of major requirements.

Aboriginal Business Studies

The Major consists of: 032.422, 098.300 plus six credit hours from 009.325, 009.347, 027.415, 032.300 (topic: Aboriginal Wisdom and Spirituality), 032.332, 098.409, 118.310, or 118.410.

Accounting

The Major consists of: 009.201, 009.202, 009.304 and 009.403. The prerequisite for 009.201 is "C+" in 009.110 and for 009.304 is "C+" in 009.111.

Actuarial Mathematics

The Major consists of any 12 hours from 010.202, 010.212, 010.221, 010.313, 010.323, 010.333, 010.353, 010.414, 010.424, and 010.434.

All students enrolled in Actuarial Mathematics should consult the director or advisor before registering each year for program planning advice.

To facilitate entry into and understanding of material covered in some advanced Actuarial courses, students entering their first year at the University of Manitoba are advised to take the following courses: 136.270 plus 136.271 or 136.275 (which satisfies the elective requirement).

Business/Government Relations

This Major was deleted January 2002. Students who enrolled in the Business/Government Relations major prior to January 2002 should consult the Program Office for course requirements for the major.

Entrepreneurship/Small Business

The Major consists of: 118.310, 118.410, 009.347 and one of: 009.305, 009.325, 009.353, 010.405, 027.305, 027.308, 118.322, 118.331 (or former 118.321) or 118.427.

Finance

NOTE: Students in the Joint Program with Red River College, Assiniboine Community College, Keewatin Community College, or Ecole technique et professionnelle who want to major in Finance will be required to take 009.220 as one of their Business options.

The Major consists of: 009.341, 009.346, 009.348, and 009.440.

Finance Options are: 009.345, 009.423, 009.426, and 009.427. Students in the Finance Major may take all of these optional Finance courses.

Generalist

The Major consists of one course from the list of courses from four different Majors (i.e., optional courses that are not part of a Major's requirements are not eligible for the Generalist Major).

Human Resources Management/Industrial Relations

The Major consists of: 027.345 (or former 027.341), plus any three of the following: 027.343, 027.441, 027.442, 027.448 or 027.452.

International Business

Effective September 2000 the Major consists of: 009.345, 027.220, 027.452, and 118.330.

Students admitted to the joint program with Red River College prior to September 2000 may complete the following requirements: 027.220; one of either 009.345 or 118.330; plus two of 009.306*, 009.345 (if not already chosen), 009.346, 027.302*, 027.412, 027.452, 118.324*, or 118.330 (if not already chosen). (*Selected topics must be an approved international topic.)

Students majoring in International Business are permitted to take 12 credit hours of a foreign language and/or courses with an international focus from an approved list and have these non-business courses count as business options. The list is available in the program office.

Logistics and Supply Chain Management

The Major consists of: 164.221, 154.222, 027.463, 118.336.

Recommended Options/Electives in this area include: 009.350, 009.351, 027.220, 027.345, 027.312, 027.316, 027.416, 027.340, 098.405, 098.407, 098.408, 118.322, 118.332, 118.334, 118.441, 053.380, 018.245, 018.246.

Management Information Systems

NOTE: Students in the Joint Program with Ecole technique et professionnelle who want to major in Management Information Systems will be required to take 009.200 as one of their Business Options.

The Major consists of: 074.101, 009.350, 009.351, and 009.450.

Options available in this area are 009.352 and 009.425.

Admission to the Management Information Systems major is restricted. Students should consult with staff in the program office for information regarding admission requirements.

Management of Organizations

NOTE: Students in the Joint Program with Red River College who want to major in Management of Organizations will be required to take 027.208 as one of their Business options.

The Major consists of any 12 hours from: 027.301, 027.302, 027.304, 027.316, 027.404, 027.414 and 027.415.

Marketing

NOTE: Students in the Joint Program with Assiniboine Community College or Keewatin Community College who want to major in Marketing will be required to take 118.221 as one of their Business options.

The Major consists of 118.322, 118.323, 118.421 and 3 hours from the former 118.320, 118.324, 118.325, the former 118.328, 118.330, 118.331 (or the former 118.321), 118.332, 118.334, 118.336 (or the former 118.326), 118.339 (or the former 118.329), 118.424, 118.427 or 118.441 (or the former 118.440). In addition to the 12 credit hours required for the major, Marketing students may take up to an additional 12 credit hours from the above list.

Operational Research

This Major currently is not offered.

Operational Research/Operations Management

The Major consists of any 12 hours from, 027.340, 027.365, 027.366, 027.367, 027.422, 027.423, 027.462, and 027.463.

All students enrolled in Operational Research/Operations Management should consult the department head or advisor before registering each year for program planning advice.

Production/Operations Management

This Major currently is not offered.

SECTION 12: Program Requirements for the Post-Baccalaureate Diplomas in Actuarial Studies

12.1 Requirements for the Basic Diploma in Actuarial Studies

Structure of Program

Following admission to the Basic Diploma in Actuarial Studies program students will be required to complete 30 credit hours to earn the diploma. Normally that work will take one year to complete. The 30 credit hours required in the Basic Diploma can be divided into the following components: the Core and Approved Electives. These components and their associated limits are defined below.

The Core

The CORE comprises 21 credit hours of the 30 required in the Basic Diploma. It consists of specified mandatory courses from the Asper School of Business as well as courses taught by the Department of Statistics. All students are required to complete the Core since it comprises the essential course work to prepare students to write the early examinations of the Society of Actuaries.

Students who have completed Core courses prior to entry into the diploma program may receive transfer credit for a maximum of six credit hours of applicable Core courses. Students who have completed more than 6 credit hours of Core courses must substitute an additional elective from the Approved Elective listing for each Core course in excess of their transfer credit limit. All students must complete 9 credit hours of Electives as no transfer credit will be granted for any approved Elective taken prior to enrolment in the Basic Diploma program.

Students must meet the prerequisite requirements for all Core courses. Students who are missing non-core prerequisites must take them in addition to the 30 credit hours required in the Basic Diploma program.

Core Requirements

005.350	Intermediate Statistical Theory 1	3
005.360	Intermediate Statistical Theory 2	3
010.202	Economic and Financial Applications	3
010.212	Interest Theory	3
010.221	Introduction to Risk Management	3
010.313	Actuarial Models 1	3
010.323	Actuarial Models 2	3
Total Core Credit Hours Required		21

Approved Electives

All students must complete 9 credit hours of Approved Elective courses. Students will not be granted transfer credit for any Approved Elective that

they have completed prior to their admission to the Basic Diploma program. Students who have previously taken an elective on the Approved Elective Listing must select alternate courses to satisfy their elective requirement. All students must meet the prerequisite requirements for each Approved Elective chosen. Students who are missing prerequisites not included on the Approved Elective Listing must take the prerequisite in addition to the nine credit hours of electives if they wish to select that elective.

Approved Elective Listing Basic Diploma

005.305	Introduction to Probability Theory and its Applications	3
005.347	Statistical Methods for Research Workers 1	3
005.349	Time Series Analysis	3
009.110	Introductory Financial Accounting	3
009.111	Introductory Managerial Accounting	3
009.220	Corporation Finance	3
009.341	Investments	3
009.427	Options and Futures	3
010.333	Actuarial Models 3	3
010.353	Actuarial Models 4	3
010.400	Advanced Actuarial Topics	3
010.405	Life Insurance Products and Employee Benefit Plans	3
010.406	Actuarial Aspects of Investment Practice	3
010.414	Actuarial Modelling Methods 1	3
010.415	Pension Mathematics	3
010.424	Actuarial Modelling Methods 2	3
010.434	Actuarial Modelling Methods 3	3
018.245	Microeconomic Theory and Its Applications 1	3
018.246	Microeconomic Theory and Its Applications 2	3
018.247	Microeconomic Theory and Its Applications 1	3
018.248	Microeconomic Theory and Its Applications 2	3
027.200	Introduction to Communications	3
027.215	Introduction to Management Sciences	3
027.340	Intermediate Management Science	3
027.422	Management Science Models in Business and Industry	3
027.423	Simulation Models in Management Science	3
074.101	Introductory Computer Science 1	3
074.126	Introductory Computer Usage 1	3
098.407	Management Research 1	3
098.408	Management Research 2	3
118.221	Fundamentals of Marketing	3
136.230	Linear Algebra 2	3
136.270	Calculus 3A (if not taken pre-admission)	3
136.271	Calculus 3B (if not taken pre-admission)	3

12.2 Requirements for the Advanced Diploma in Actuarial Studies

Structure of Program

Following admission to the Advanced Diploma in Actuarial Studies program students will be required to complete 60 credit hours to earn the diploma. Normally that work will take two years to complete. The 60 credit hours required in the Advanced Diploma can be divided into the following components: the Core and Approved Electives. These components and their associated limits are defined below.

The Core

The CORE comprises 33 credit hours of the 60 required in the Basic Diploma. It consists of specified mandatory courses from the Asper School of Business as well as courses taught by the Department of Statistics. All students are required to complete the Core since it comprises the essential course work to prepare students to write the early examinations of the Society of Actuaries.

Students who have completed Core courses prior to entry into the diploma program may receive transfer credit for a maximum of 15 credit hours of applicable Core courses. Students who have completed more than 15 credit hours of Core courses must substitute an additional elective from the Approved Elective listing for each Core course in excess of their transfer credit limit. All students must complete 27 credit hours of electives as no transfer credit will be granted for any approved elective taken prior to enrolment in the Advanced Diploma program.

Students must meet the prerequisite requirements for all Core courses. Students who are missing non-core prerequisites must take them in addition to the 60 credit hours required in the Advanced Diploma program.

Core Requirements

005.350	Intermediate Statistical Theory 1	3
005.360	Intermediate Statistical Theory 2	3
010.202	Economic and Financial Applications	3
010.212	Interest Theory	3
010.221	Introduction to Risk Management	3
010.313	Actuarial Models 1	3
010.323	Actuarial Models 2	3
010.333	Actuarial Models 3	3
010.353	Actuarial Models 4	3
010.414	Actuarial Modelling Methods 1	3
010.424	Actuarial Modelling Methods 2	3
	or	
010.434	Actuarial Modelling Methods 3	3
Total Core Credit Hours Required		33

Approved Electives

All students must complete 27 credit hours of Approved Elective courses. Students will not be granted transfer credit for any Approved Elective that they have completed prior to their admission to the Advanced Diploma program. Students who have previously taken an elective on the Approved Elective Listing must select alternate courses to satisfy their elective requirement. All students must meet the prerequisite requirements for each Approved Elective chosen. Students who are missing prerequisites not included on the Approved Elective Listing must take the prerequisite in addition to the 27 credit hours of electives if they wish to select that elective.

Approved Elective Listing - Advanced Diploma

005.305	Introduction to Probability Theory and Its Applications	3
005.347	Statistical Methods for Research Workers 1	3
005.349	Time Series Analysis	3
009.110	Introductory Financial Accounting	3
009.111	Introductory Managerial Accounting	3
009.220	Corporation Finance	3
009.341	Investments	3
009.427	Options and Futures	3
010.400	Advanced Actuarial Topics	3
010.405	Life Insurance Products and Employee Benefit Plans	3
010.406	Actuarial Aspects of Investment Practice	3
010.415	Pension Mathematics	3
010.424	Actuarial Modelling Methods 2 (if not selected as Core)	3
010.434	Actuarial Modelling Methods 3 (if not selected as Core)	3
018.245	Microeconomic Theory and its Applications 1	3
018.246	Microeconomic Theory and its Applications 2	3
018.247	Microeconomic Theory and its Applications 1	3
018.248	Microeconomic Theory and its Applications 2	3
027.200	Introduction to Communications	3
027.215	Introduction to Management Sciences	3
027.340	Intermediate Management Science	3
027.422	Management Science Models in Business and Industry	3
027.423	Simulation Models in Management Science	3
074.101	Introductory Computer Science 1	3
074.126	Introductory Computer Usage 1	3
098.407	Management Research 1	3
098.408	Management Research 2	3
118.221	Fundamentals of Marketing	3
136.230	Linear Algebra 2	3
136.270	Calculus 3A (if not taken pre-admission)	3
136.271	Calculus 3B (if not taken pre-admission)	3

12.3 Diploma Program Convertibility

A candidate enrolled in the Advanced Diploma program who voluntarily withdraws from the program after having completed the requirements for the Basic Diploma but before completing the requirements for the Advanced Diploma shall be granted the Basic Diploma in Actuarial Studies.

A candidate who completes the requirements for the Basic Diploma may apply for enrolment in the Advanced Diploma. The candidate will be allowed to offset up to 30 credit hours against the 60 credit hour requirement for the Advanced Diploma. In this situation courses completed while in the Basic Diploma course which would have been core courses had the student been enrolled in the Advanced Diploma course will count towards satisfaction of the 33 credit hour core course requirements under the Advanced Diploma.

SECTION 13: Asper School of Business Course Descriptions

13.1 Accounting and Finance

Head: D. Stangeland

General Office: 444 Drake Centre

Telephone: 204 474 9362

009.110 Introductory Financial Accounting (3) Examination of accounting postulates underlying the preparation and presentation of financial statements.

009.110F Introduction à la comptabilité financière (3) Analyse des termes, principes et concepts utilisés dans la préparation et la présentation d'états financiers. Donné au Collège universitaire de Saint-Boniface.

009.111 Introductory Managerial Accounting (3) Role of accounting in creation and application of business information used by decision-makers in the management of enterprise. *Prerequisite:* 009.110. *Corequisite:* 018.120.

009.111F Introduction à la comptabilité de management (3) L'importance des méthodes comptables dans la gestion de l'information utilisée par la direction d'une entreprise. Donné au Collège de St. Boniface. *Préalable:* 009.110.

009.200 Information Systems for Management (3) Introduction to information systems in organizations, systems development/acquisition, and management issues concerning information technology in organizations. *Prerequisite:* 074.126 (or the former 074.100) and 009.110 or consent of instructor.

009.200F Les systèmes d'information de gestion (3) Introduction aux systèmes d'information dans les organisations, au développement/acquisition des systèmes et à la gestion des systèmes d'information. Donné au Collège universitaire de Saint-Boniface. *Préalable:* 074.126 et 009.110 ou consentement du professeur ou de la professeure.

009.201 Intermediate Accounting: Assets (3) Accounting policies and practices dealing with calculation and measurement of assets and related reporting problems. *Prerequisite:* 009.110 (C+).

009.202 Intermediate Accounting: Equities (3) Consideration of current accounting relating to equities with attention to the accounting treatment of current and long-term liabilities, income tax allocation, share capital, and surplus. Students may not hold credit for both 009.202 and 009.325. *Prerequisite:* 009.201.

009.220 Corporation Finance (3) An introduction to business financial policies regarding the allocation, acquisition and control of funds. *Prerequisite:* 009.110 and 018.120. *Corequisite:* 005.100 or equivalent.

009.220F Gestion financière (3) Introduction aux principes de la gestion financière de l'entreprise en particulier dans le choix du financement, le choix de l'investissement et la gestion des fonds. Donné au Collège universitaire de Saint-Boniface. *Préalable:* 009.110.

009.303 Advanced Accounting (3) Topics include: partnerships, consolidations, mergers, reporting on conglomerates, and fund accounting. *Prerequisites:* 009.201 and 009.202 or approval of department head.

009.304 Cost Accounting (3) Study of accounting concepts and functions as they relate to product costing, planning, control, and decision-making. *Prerequisite:* 009.111 (C+).

009.305 Taxation Accounting (3) Structure and concepts of the Canadian tax system, emphasis on current tax practices. *Prerequisite:* 009.110 (C+).

009.306 Selected Topics in Accounting (3) An examination of current controversial issues in accounting. Topics will vary from year to year but could include, for example, such issues as: human resource accounting; published forecasts of operations; fund accounting; interim reporting. Not offered every year. *Prerequisites:* 009.201 and 009.202.

009.307 Tax Planning (3) Study of the impact of income taxes on managerial decision-making. Not offered every year. *Prerequisite:* 009.305.

009.325 Financial Statement Analysis (3) A study of the methods and techniques used for interpretation of annual financial reports and the significance of alternative accounting policies on reported income. Students may not hold credit for both 009.325 and 009.202. *Prerequisite:* 009.110.

009.327 Personal Financial Planning (3) An introduction to financial planning techniques used in professional practice. Topics include financial assessment, income tax planning, risk management, insurance, debt and credit management, investments, retirement planning, and estate planning. *Prerequisite:* 009.220.

009.341 Investments (3) Study of financial assets and their pricing. An introduction to formal models and methods of portfolio analysis and construction. *Prerequisite:* 009.220 (C+).

009.342 Security Analysis (3) Study of methods for evaluating securities, investment decision-making, and effecting financial transactions. *Prerequisite:* 009.220 (C+).

009.344 Real Estate Investments (3) An introduction to real estate investment and finance. Topics include urban growth, land use patterns, real estate market behaviour and property rights. *Prerequisite:* 009.220 (C+).

009.345 International Finance (3) An introduction to the study of international corporate financial issues and international security markets. *Prerequisite:* 009.220 (C+).

009.346 Financial Markets and Institutions (3) A study of finance at the macro level. Topics include the monetary and banking systems, flow of funds analysis, interest rates and exchange rates. Students may not take both 009.346 and 018.349 for credit. *Prerequisite:* 009.220 (C+).

009.347 Small Business Finance (3) Study of the financial issues faced by small business enterprises. *Prerequisite:* 009.220.

009.348 Corporate Finance Theory and Practice (3) Capital budgeting theory and techniques. Determination of relevant cost of capital. Implications of capital structure and dividend policy. *Prerequisite:* 009.220 (C+).

009.349 Ethics in Financial Reporting (3) Applies ethical theories to resolve ethical dilemmas faced by various parties in the financial reporting process as they carry out their roles and responsibilities. *Prerequisite:* 009.110.

009.350 Database Management Systems (3) This course is designed for students who are interested in learning how to design, develop and maintain databases. Students will be introduced to methodologies to design their systems and then implement them using currently popular end user tools. *Prerequisite:* 009.200 (C+).

009.351 Systems Analysis and Design (3) This course is designed for students who are interested in developing information systems. Working in teams, students will learn how to employ methodologies, techniques and popular end user tools to design and implement a functioning business information system. *Prerequisites:* 009.350 and 074.101.

009.352 Data Communications and Networking (3) A survey of data communications topics, including media and technology, protocols, security, structures, electronic commerce and the Internet, and related management issues. *Prerequisite:* 009.200 (C+).

009.353 Accounting Information Systems (3) Role of accounting systems in total management information systems; design and installation of accounting systems. May not be held with the former 009.302. *Prerequisites:* 009.111 and 009.200.

009.401 Auditing (3) Study of philosophy and concepts of auditing, legal and ethical responsibilities of the auditor, basic techniques of auditing including statistical sampling and flowcharting, and the operational audit. *Prerequisites:* 009.201 and 009.202 or approval of department head.

009.403 Accounting Theory (3) Examination of principles and postulates of accounting theory. Coverage of selected topics will vary from year to year depending on interests of course participants. *Prerequisites:* 009.201 and 009.202 or approval of department head.

009.404 Advanced Managerial Accounting (3) A critical examination of managerial accounting techniques and the controllership function. *Prerequisite:* 009.304.

009.423 Selected Topics in Finance (3) A study of current issues in finance. Topics considered will depend on the interests and needs of the participants. *Prerequisite:* 009.220 (C+).

009.425 Advanced Topics in Management Information Systems (3) A study of current issues in MIS. The topics for this course will vary over time, depending on student interests, faculty interests, and student demand. *Prerequisite:* consent of instructor. Not offered every year.

009.426 Advanced Finance Theory (3) Theories that provide the foundation for modern corporate finance. Empirical tests of finance theories. Implications for managers. *Prerequisites:* 009.341 and 009.348.

009.427 Options and Futures (3) Derivative securities. Pricing, markets, strategies and implications. *Prerequisite:* 009.341.

009.428 Intermediate Auditing (3) An examination of the external audit process, audit concepts, and applicable professional standards. *Prerequisites:* 009.200 and 009.401.

009.429 Current Issues in Financial Reporting (3) An examination of specific accounting standards and issues not covered in previous courses. Topics may include foreign currency translation, not-for-profit accounting and financial instruments. Case analysis is an important component of this course. *Prerequisite:* 009.303.

009.440 Financial Management Practices (3) Financing capital and current operations of business enterprises. Topics include expansion financing, setting of dividend policies, acquisitions, leasing, mergers, refundings, capitalization and reorganizations. *Prerequisite:* 009.348.

009.450 Management Information Systems and Strategy (3) A survey of the various issues associated with managing information as a resource. Explores MIS planning frameworks and tools, and the linkages between information systems, organizational structure and organizational strategy. *Prerequisites:* at least two of the following: 009.350, 009.351, 009.352, 009.353, 009.425.

13.2 Warren Centre for Actuarial Studies and Research

Director: M. Byrne

General Office: 268 Drake Centre

Telephone: 204 474 7426

010.202 Economic and Financial Applications (3) A synthesis of macroeconomic issues, quantitative aspects of finance using interest theory, and insurance economics. *Prerequisite:* 010.212 (C+).

010.212 Interest Theory (3) The application of calculus and probability to discrete and continuous interest functions. Key topics are the measurement of interest, present and accumulated values, and annuities. May not be held with the former 010.232 or 010.332. *Prerequisite:* 136.170 or 136.169. *Corequisites:* 136.275 (or former 013.234) or 136.270 (or former 013.239) and 005.200.

010.221 Introduction to Risk Management (3) Mathematical tools for the quantitative assessment of risk and their application to problems encountered in risk management. *Prerequisite:* 136.170 or 136.169. *Corequisites:* 136.275 (or former 013.234) or 136.271 (or former 013.249) and 005.200; or consent of instructor.

010.232F Mathématiques financières (3) L'étude de l'intérêt composé et des rentes discrètes et continues; équations de valeur, analyse de fonds; détermination de taux de rendement; construction de tables. L'étudiant (e) ne peut se faire créditer à la fois le 010.232 et le 010.332. Donné au Collège universitaire de Saint-Boniface. *Préalable:* 136.150, 136.152, l'ancien 013.139 ou l'équivalent.

010.313 Actuarial Models 1 (3) Elementary concepts respecting the quantification of the financial impact of contingent payments. May not be held with the former 010.347. *Prerequisite:* 010.212 (C+). *Corequisite:* 005.350.

010.323 Actuarial Models 2 (3) Intermediate and advanced concepts respecting the quantification of the financial impact of contingent payments. Not to be held with the former 010.348. *Prerequisite:* 010.313 (C+). *Corequisite:* 005.360.

010.333 Actuarial Models 3 (3) Frequency and Severity Models, Compound Distribution Models, Ruin Models. May not be held with the former 010.448 Topic Risk Theory. *Pre or Corequisites:* 010.212 (C+) (or the former 010.332), and 010.313.

010.353 Actuarial Models 4 (3) Survival Models, Stochastic Process Models, and Simulation Models. May not be held with the former 010.447. *Prerequisite:* 010.313. *Corequisite:* 010.323.

010.400 Advanced Actuarial Topics (3) A selection of advanced topics of current actuarial interest. *Prerequisite:* 010.313. *Corequisite:* 010.333 or consent of instructor.

010.405 Life Insurance Products and Employee Benefit Plans (3) Design, risk assumption for, and analysis of individual and group insurance products. Exploration of pension, employee benefit and government programs in a Canadian setting. May not hold credit with the former 010.451.

010.406 Actuarial Aspects of Investment Practice (3) This course examines stochastic interest rates and tools and techniques for coping with general product issues in asset/liability management. Students may not hold credit for both 010.406 and the former 010.448 Topic Asset/Liability Management. *Prerequisites:* 009.220 and 009.341, or consent of instructor. May not be offered every year.

010.414 Actuarial Modeling Methods 1 (3) Estimation and Fitting of Survival Models. May not hold credit with the former 010.448 Topic Survival Models. *Prerequisite:* 010.323.

010.415 Pension Mathematics (3) Actuarial applications for defined benefit pension plans. Actuarial cost methods, funding levels, operation of pension plans from an actuarial perspective. Students may not hold credit with 010.755. *Prerequisite:* 010.313.

010.424 Actuarial Modeling Methods 2 (3) Estimation and Fitting of Frequency and Severity Models. *Prerequisite:* 010.333. May not be offered every year.

010.434 Actuarial Modeling Methods 3 (3) Classical, Bayesian and Buhlmann Credibility Models. The connection between Credibility Theory and Experience Rating. Underlying assumptions for the different methods. Simulation in Estimating and Fitting Actuarial Models. May not hold credit with the former 010.448 Topic Credibility Theory. *Prerequisite:* 010.424.

13.3 Business Administration

Head: S. Bruning

General Office: 426 Drake Centre

Telephone: 204 474 6566

027.111 Environment and Functions of Business (3) Currently not offered.

027.200 Introduction to Communications (3) An analysis of oral and written communication. Topics covered include methods of logic, organization, analysis, presentation and mechanics of written and oral communication. The course is designed to improve students' writing and public speaking skills. *Prerequisite:* University approved written English course.

027.203 Administrative Theory (3) Examination of the underlying principles concerning internal management of organizations. Emphasis on the study and analysis of various theoretical approaches to management. Students may not hold credit for both 27.203 and 027.208.

027.207 Introduction to Organizational Behaviour (3) Examination of the impact of human behaviour on the formal and informal organization. Topics include leadership, work groups, organizational conflict, and communications.

027.207F Introduction au comportement organisationnel (3) Analyse de l'impact du comportement humain sur l'organisation formelle et informelle. Les sujets traités sont le leadership, les groupes de travail, les conflits au sein de l'organisation et la communication. Donné au Collège universitaire de Saint-Boniface

027.208 Introduction to Management and Organization Theory (3) Examination of the underlying principles concerning the formation of organizations and their internal management. Emphasis on the study and analysis of various theoretical approaches to organization theory and management. Students may not hold credit for both 027.208 and 027.203.

027.208F Introduction au management et à la théorie de l'organisation (3) Analyse des principaux concepts régissant la formation d'organisations et leur gestion interne. L'accent est mis sur l'analyse de différentes approches théoriques concernant l'organisation et sa gestion. L'étudiant (e) ne peut se faire créditer à la fois le 027.208 ou le 027.203. Donné au Collège universitaire de Saint-Boniface.

027.212 Business/Government Relations (3) Analysis of the interaction between business firms and government in the creation, modification, and implementation of government policies that affect business. Study of the ways business can influence government decision-making. *Prerequisite:* 018.120.

027.212F Les entreprises et le gouvernement (3) Analyse des rapports entre le gouvernement et les entreprises au niveau de la conception, de la modification et de la

mise en place des politiques gouvernementales affectant l'entreprise. Analyse des moyens dont disposent les entreprises pour influencer la prise de décision des gouvernements. Donné au Collège universitaire de Saint-Boniface. *Préalable*: 018.120.

027.214F Introduction aux communications (3) Communication orale dans le milieu des affaires. Rédaction de documents écrits venant appuyer les activités d'écoute et de parole. Apprentissage des connaissances grammaticales, syntaxiques et lexicales. Apprendre à s'exprimer en public. Donné au Collège universitaire de Saint-Boniface

027.215 Introduction to Management Sciences (3) An introduction to management science techniques and models. Topics to include linear programming, distribution problems, decision theory and queuing models. *Prerequisites*: 136.131 or 136.130 or equivalent and 136.152 or 136.150 or equivalent. *Pre- or corequisite*: 005.100, or equivalent, and 074.126 (or the former 074.100).

027.215F Introduction aux sciences de la gestion (3) Introduction aux techniques et modèles des sciences de la gestion. Les sujets traités incluent la programmation linéaire, les problèmes d'affectation et de transport, la théorie de la décision, les files d'attente. *Préalables*: 136.131 ou 136.130 et 136.152, ou 136.150. *Préalable ou corequis*: 005.100 et 074.126 ou consentement du professeur.

027.220 International Management (3) Analysis of the practice of management in an international setting. Examines the cultural, political, and economic environments which influence managerial decision-making in an international context.

027.244 Human Resource Management (3) Introduction to principles and procedures in the management of human resources. Topics include conflict resolution, employment, law, planning, job analysis, performance appraisal, staffing, compensation, union-management relations, and current issues.

027.244F Gestion des ressources humaines 1 (3) Introduction au système de gestion des ressources humaines. Les sujets sont: la résolution de conflits, l'embauche, l'encadrement juridique, la planification, l'analyse de postes, l'évaluation, l'acquisition des ressources humaines, le système de relations industrielles et la problématique de la gestion des ressources humaines. Donné au Collège universitaire de Saint-Boniface.

027.260 Fundamentals of Production and Operations Management (3) Study of production function and management; production systems; system design, analysis and control. *Prerequisite*: must have completed 12 credit hours of Asper School of Business courses. *Pre-or corequisite*: 005.100 or equivalent.

027.260F Principes de gestion des opérations et de la production (3) Étude des notions de base en gestion des opérations et de la production, systèmes de production, conception de système, analyse et contrôle. Donné au Collège universitaire de Saint-Boniface. *Préalable ou corequis*: 005.100 ou l'équivalent.

027.301 Management Decision-Making (3) The decision-making process and factors that enter into making the decisions, including the objectives and approaches to decision-making, the basic type of managerial decisions, and exemplification of decision in operations. *Prerequisites*: 027.203 or 027.208 and 027.207.

027.302 Seminar in Administration (3) Selected problem areas and issues as they relate to administration of complex organizations. *Prerequisites*: 027.203 or 027.208 and 027.207, or consent of instructor.

027.303 Contemporary Social Issues in Business (3) Study of key issues in the relationship of business organizations and society with emphasis on the impact of management. *Prerequisites*: 027.203 or 027.208 and 027.207.

027.304 Organizational Systems Analysis Currently not offered.

027.305 Technological Entrepreneurship Currently not offered.

027.308 Issues in Technological Change Currently not offered.

027.309 Management of Research and Development Currently not offered.

027.312 Regulation (3) Study of the rationale and impact of public policies affecting the organization and behaviour of Canadian industry.

027.313 Management Applications of Forecasting Models Currently not offered.

027.316 Managerial Economics (3) Principles and techniques of managerial economics with applications from business and the public sector. *Prerequisite*: 018.120 or equivalent.

027.317 Administration of the Public Sector Currently not offered.

027.318 Non-Market Decision Making Currently not offered.

027.330 Commercial Law (3) General history of law, the organization of courts, the Canadian Constitution, federal and provincial legislative functions. Legal concepts and problems relating to business organization, contracts, principal and agent, negotiable instruments, common torts, and bankruptcy proceedings.

027.330F Droit commercial (3) Sommaire historique du droit, l'organisation des tribunaux, la constitution du Canada, les attributions législatives du gouvernement fédéral et des assemblées provinciales. Notions juridiques et problèmes attendant à: l'organisation des entreprises, la rédaction des contrats, le mandant et le mandataire, les effets négociables, les débits et les procédures de faillite. Donné au Collège universitaire de Saint-Boniface.

027.340 Intermediate Management Science (3) Operations research models used in the analysis of management problems. Topics include network analysis, deterministic inventory models, dynamic programming and game theory. *Prerequisite*: 027.215 or consent of instructor.

027.340F Sciences de la gestion 2 (3) Modèles de la recherche opérationnelle utilisés dans l'analyse de problèmes de gestion. Le sujet traités incluent les réseaux, les problèmes d'inventaire du point de vue déterministe, la programmation dynamique, la théorie des jeux. *Préalables*: 027.215 ou le consentement du professeur.

027.341F Gestion des relations de travail (3) Analyse des relations de travail et des facteurs économiques, psychologiques et sociologiques. Les sujets traités sont: l'évolution de l'organisation syndicale, les relations intergroupes et la résolution de conflit,

les relations patronales-syndicales, la négociation collective, la législation du travail et les problèmes contemporains. Donné au Collège universitaire de Saint-Boniface

027.343 Selected Topics in Industrial Relations (3) Analysis of specific topics or issues in the employment relationships in an industrial society. *Prerequisites*: 027.345 or former 027.341 and 027.244 or consent of instructor.

027.345 Labour and Employment Relations (3) This course is to enhance knowledge and understanding of labour and employment relations in Canada and beyond. It addresses various issues and debates about these relations; their history, structure, and functioning; management employment relations practices; the role of labour unions; collective bargaining; and contemporary developments and alternatives. May not hold with the former 027.341.

027.350 Communications: Contextual Applications (3) This course is designed to introduce students to basic linguistically specialized areas of typical business and administrative settings. Course offered at St. Boniface College.

027.351F Gestion des ressources humaines 2 (3) La planification des tâches, la structuration des rôles et du travail, la coordination et la réalisation des activités feront l'objet d'un apprentissage théorique associé au développement d'habiletés. Donné au Collège universitaire de Saint-Boniface. *Préalable*: 027.244.

027.352F Culture et organisation (3) L'influence des facteurs culturels sur la vie des entreprises et réciproquement. Les différentes dimensions de la culture telles que la langue, la religion, les valeurs, l'organisation sociale, l'éducation, la technologie, les institutions politiques, les législations, etc. Leurs influences sur l'organisation, le marketing, la gestion du personnel, la communication. Donné au Collège universitaire de Saint-Boniface. *Préalable*: 027.207.

027.354F Gestion des équipes de travail (3) Initiation à la gestion des équipes de travail en mettant l'accent sur les dimensions humaines et administratives du travail en équipe. Donné au Collège universitaire de Saint-Boniface. *Préalable*: 027.207.

027.356F Séminaire en management (3) Analyse de la gestion d'organisation: Réflexion critique sur des sujets d'actualité pertinents. L'étudiant(e) ne peut se faire créditer à la fois le 027.356 et le 027.302. Donné au Collège universitaire de Saint-Boniface. *Préalable*: 027.208 et 027.207 ou le consentement du professeur.

027.358F Ethique et responsabilité sociale (3) Le rôle social de l'entreprise. L'environnement interne et externe de l'entreprise; les problèmes sociaux et les activités de responsabilité sociale; l'éthique professionnelle du gestionnaire contemporain, la comptabilité sociale; les groupes défavorisés; etc. Donné au Collège de St. Boniface. *Préalable*: 027.207.

027.363 Simulation Models for Operations Management Currently not offered.

027.364 Project Planning and Control Currently not offered.

027.365 Management of Quality and Reliability Currently not offered.

027.366 Operations Management in Service Organizations Currently not offered.

027.367 POM Project in Industry Currently not offered.

027.401 Administrative Policy (3) Studies of policies available to business enterprise; with case studies to focus attention on problems involved in formulating and administering policies with interdisciplinary considerations. Take only in final term of program or with consent of department head. *Prerequisite*: prior to being admitted to 027.401 students must have attempted all 30 credit hours of courses specified in Year 2 and successfully completed at least 27 credit hours. *Corequisite*: at most three credit hours of Year 2 courses.

027.401F Gestion stratégique des organisations (3) Étude de la gestion stratégique des organisations. L'étude de cas permettra à l'étudiante ou à l'étudiant d'intégrer les connaissances acquises tout en mettant l'accent sur les questions qui entourent l'élaboration des stratégies et la gestion des politiques établies. Ce cours ne sera suivi qu'à la fin du programme ou avec l'autorisation écrite du professeur ou de la professeure. Donné au Collège de St. Boniface.

027.404 Advanced Organization Theory and Behaviour (3) An analysis of the human and structural aspects of organizations and how their interrelationship influences organizational performance. Topics covered include leadership, motivation, conflict, and organizational politics. The influence of technology, size, and the external environment on organizational structure is also examined. *Prerequisite*: 027.203 or 027.208 and 027.207.

027.411 Commercial Law 2 (3) Aspects of the law relating to business units, including a study of the law relating to proprietorships, partnerships and corporations, and secured transactions. *Prerequisite*: 027.330.

027.412 Tariffs, Trade, and Commercial Policy Currently not offered.

027.414 Evaluation Techniques for Management Currently not offered.

027.415 Managing Not-For-Profit Organizations Currently not offered.

027.416 Seminar in Business-Government Relations Currently not offered.

027.420 Topics in Management Science (3) Topics of current interest in management science. *Prerequisite*: 027.215. Not taught every year.

027.422 Management Science Models in Business and Industry Currently not offered.

027.423 Simulation Models in Management Science (3) Introduction to and use of simulation models and techniques to solve business and industrial problems. Not taught every year. *Prerequisite*: 027.215

027.441 Staffing and Management Development (3) A review of: employment planning; recruitment and selection; internal placement; out placement; performance appraisal; career development. Training needs analysis, methods and evaluation. *Prerequisite*: 027.244.

027.442 Compensation (3) A review of the major concepts and design of compensation systems including: strategy, internal equity, external competitiveness, rewarding individual contributions, performance incentives, employee benefits, government

regulations, union role in compensation; budgets and administration. *Prerequisite:* 027.244.

027.448 Collective Bargaining and Administration (3) Detailed examination of the elements and issues in contract negotiation and administration and of the legal framework imposed on public and private negotiations. Comparison of Canadian industrial relations system with other national systems. *Prerequisite:* 027.345 (or former 027.341).

027.450F Cultures du monde (3) Un aperçu des principales cultures du monde. Étude des relations entre la culture d'un peuple et ses rapports économiques internationaux. Donné au Collège universitaire de Saint-Boniface

027.451F Gestion de la diversité (3) La gestion de la diversité du point de vue historique, social, légal et opérationnel. L'influence de la diversité de la main-d'œuvre sur les politiques, les pratiques et les procédures de l'organisation. Modèle du développement organisationnel pluraliste relié à un ensemble de systèmes sociaux. Donné au Collège universitaire de Saint-Boniface. *Préalable:* 027.244.

027.452 Comparative Industrial Relations and Human Resource Management (3) To provide an international perspective on industrial relations (IR) and human resource management (HRM) through analysis and comparison of IR systems and HRM practice across selected countries and of current developments therein. Also covers theories and issues relevant to these topics. Students are encouraged, but not required, to complete 027.345 (or former 027.341) prior to taking this course.

027.453F Gestion du changement (3) Changement et développement organisationnel: processus de changement, agent de changement. Domaines d'intervention: changements dans l'environnement et l'organisation, processus sociaux, culture d'entreprise, techno-structure, qualité de vie au travail. Dilemmes et perspectives. Donné au Collège universitaire de Saint-Boniface. *Préalable:* 027.244.

027.454F Innovations en gestion des ressources humaines (3) Présentation des nouveaux courants en gestion des ressources humaines, en examiner les fondements, en présenter les modèles d'implantation et en faire une analyse critique. Donné au Collège universitaire de Saint-Boniface. *Préalable:* 027.244.

027.455F Développement d'habiletés de gestionnaire (3) Développement de certaines habiletés nécessaires au succès professionnel. Les principaux apprentissages sont: la gestion du stress, la communication orale, la négociation, la recherche d'emploi, les techniques de créativité et d'innovation, la gestion des relations vie privée/vie professionnelle. Donné au Collège universitaire de Saint-Boniface. *Préalable:* 027.207.

027.457F Introduction au management international (3) Acquisition de connaissances et savoir-faire relatifs à la gestion, au maintien et au contrôle du flux international de personnes, d'informations, de fonds, de biens ou de services, à des fins commerciales, entrepreneuriales ou caritatives. Donné au Collège universitaire de Saint-Boniface. *Préalable:* 027.244.

027.462 Production Management Seminar (3) Problems, development, and application of analytical methods in production and operations management with emphasis on planning and control. *Prerequisite:* 027.215 and 027.260.

027.463 Production and Inventory Systems: Planning and Control Currently not offered.

13.4 Interdepartmental Courses

098.300 Aboriginal Business Context: Influences and Impacts (3) Explore the impact of legal, constitutional and governance issues on the internal and operating environment affecting economic development by Aboriginal peoples. Current strategies for successful partnerships between industry and Aboriginal peoples will also be examined. *Prerequisite:* 032.120 or 032.122 and 032.124 or consent of instructor.

098.405 Readings in Management (3) Supervised readings in one of the areas of Management. Students are limited to a maximum of six hours of readings and research courses.

098.407 Management Research 1 (3) Individually supervised preparation of a detailed research proposal for an advanced study in one of the areas of Management. Students are limited to a maximum of six hours of readings and research courses.

098.408 Management Research 2 (3) Individually supervised research and preparation of a paper in one of the areas of Management based on the proposal developed in 098.407. Students are limited to a maximum of six hours of readings and research courses.

098.409 Aboriginal Business Leadership (3) An analysis of current leadership strengths and challenges facing Aboriginal organizations. Out of this analysis will come understanding of strategies for working effectively or ineffectively with Aboriginal organizations. *Prerequisite:* 032.120 or 032.122 and 032.124 or consent of instructor.

164.221 Transportation Principles (3) Demand forecasting, cost analysis, regulation of carriers, role of transport in economic development, project appraisal and transport planning. Also offered as 061.221 by the Department of Agribusiness and Agricultural Economics. Students may not hold credit for 061.221 and 164.221. *Prerequisite:* 018.120.

164.222 Selected Topics in Logistics and Transportation (3) This course provides coverage on a number of critical topics in Supply Chain Logistics and Transportation. Areas of emphasis are based on current issues confronting managers and regulators/policy makers such as global supply chain logistics and transportation policy.

13.5 Marketing

Head: W. Good

General Office: 450 Drake Centre

Telephone: 204 474 8852

118.221 Fundamentals of Marketing (3) Analysis of marketing problems, emphasizing various alternatives available for achieving economic efficiency in the distribution process; public policy with respect to marketing.

118.221F Principes de marketing (3) Analyse des problèmes précis de marketing, l'accent étant mis sur l'analyse de différentes façons de maximiser les bénéfices dans le processus de la distribution des biens et des services; le marketing et la société. Donné au Collège universitaire de Saint-Boniface.

118.310 Small Business Management (3) An appreciation of the primary issues that should be considered in starting and managing a small business within the Canadian context. *Prerequisites:* 009.110, 118.221, and 027.203 or 027.208.

118.322 Marketing Research (3) Study of marketing research as a tool for decision-making. The ability to use one of the statistical analysis computer packages (SPSS-X, SAS, etc.) is expected. *Prerequisites:* 118.221 and 005.100 or consent of instructor.

118.323 Consumer Behaviour (3) Study of buying behaviour of individuals and organizations as affected by psychological and sociological forces within society. *Prerequisite:* 118.221.

118.323F Comportement du consommateur (3) Étude de l'influence de l'environnement et de l'influence individuelle sur le comportement du consommateur. Donné au Collège universitaire de Saint-Boniface. *Préalable:* 118.221.

118.324 Selected Topics in Marketing (3) Analysis of marketing as it relates to specialized fields. *Prerequisite:* 118.221.

118.325 Marketing Strategy (3) Integration of sales and marketing strategies, including planning, formulation, and implementation. Emphasis on the role and importance of marketing strategy in overall corporate growth. *Prerequisite:* 118.221.

118.329F Publicité (3) Analyse du rôle et de la gestion de la publicité dans le cadre du plan marketing. Théorie de la communication et la formulation de messages publicitaires, établissement du budget, la sélection des médias et l'analyse de l'efficacité de la publicité. Donné au Collège universitaire de Saint-Boniface. *Préalable:* 118.221.

118.330 International Marketing (3) A study of international similarities and differences in marketing structures, functions and processes as related to the socio-economic and cultural environment and a consideration of the opportunities and problems of international marketing. *Prerequisite:* 118.221.

118.331 Retail and Channel Management (3) The study of the functions performed by traditional and e-commerce distributors. Topics include location and competitive analysis, promotion, merchandising, buying, design, selection and historical development. *Prerequisite:* 118.221. May not be held with the former 118.321.

118.332 Competitive Intelligence (3) An examination of the information sources and analytical techniques required by business to develop the competitive intelligence necessary to successfully compete in today's marketplace. *Prerequisites:* 009.111, 009.200, and 118.322.

118.334 Services Marketing (3) An examination of the differences in the marketing of goods versus services. Topics covered include service process design and management, problem identification and resolution, positioning issues, the importance of human resources, and promotional issues. *Prerequisite:* 118.221.

118.336 Supply Chain Logistics (3) The course provides an international/global orientation to logistics and supply chain management. *Prerequisite:* 118.221. May not hold with the former 118.326.

118.339 Integrated Marketing Communications (3) The process of using promotional tools in a unified way so that a synergistic communications is created. The course examines the roles of advertising, sales promotion, direct marketing, and the internet within this broader framework. *Prerequisite:* 118.221. May not hold with the former 118.329.

118.410 New Venture Analysis (3) A project oriented course focusing on the identification and evaluation of viable new venture concepts and their associated risks, problems, and opportunities. *Prerequisite:* 118.221.

118.421 Marketing Management (3) Study of location and nature of markets, techniques by which firms attempt to affect the demand for their goods and services and the significance of these effects on business and society. Can be taken only in final year of program. *Prerequisites:* 118.221 and two other marketing courses.

118.424 Advanced Seminar in Marketing Currently not offered.

118.427 Sales Management (3) The study of the management of the personal selling area including an examination of the selling function, the sales manager, and sales management. *Prerequisite:* 118.221.

118.427F Administration des ventes (3) Analyse de l'administration de la vente personnelle, y compris l'analyse la fonction-vente, la supervision de la force de vente et la gestion des ventes. Donné au Collège de St. Boniface. *Préalable:* 118.221.

118.441 Business to Business Marketing (3) The study of marketing management and its decision-making implications within the industrial and commercial marketplace. *Prerequisite:* 118.221. May not hold with the former 118.440.

118.451F Entrepreneurship et création d'entreprises (3) Ce cours porte sur la création d'entreprise. Lancement d'entreprise; caractéristiques de l'entrepreneur; plan d'entreprise; définition du projet; détermination du marché; fonctions administratives; problèmes particuliers au lancement d'entreprise, aide gouvernementale. L'étudiant (e) ne peut se faire créditer à la fois le 118.451 et le 118.410. Donné au Collège universitaire de Saint-Boniface. *Préalable:* 009.110, 118.221 et 027.203 ou 027.208.

Continuing Education Division

General Office

188 Continuing Education Complex

Telephone: (204) 474 9921

1 800 432 1960 ext. 9921 (Toll free in Manitoba)

1 888 216 7011 ext. 9921 (Toll free in Canada)

Request for Information Line: (204) 474-6742

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Website: umanitoba.ca/coned

Dean: Anne Percival

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SECTION 4: Academic Staff

Senior Scholar

Anderson, E. O., B.B.A.(Minnesota), M.A. (Manitoba)

Professors

Percival, A., B.A., M.A., M.B.A. (Manitoba), Ed.D.(Columbia).

Associate Professors

Davidson, H., B.A. (California), M.A., Ed.D. (Toronto); **Hartman, J. B.**, B.A., M.A. (Manitoba), Ph.D. (Northwestern); **Kops, B.**, B.A., M.B.A. (Manitoba), Ed.D. (Toronto); **Smith, G. A.**, B.Comm., M.B.A. (Manitoba); **Wallace, L.**, B.A. (Winnipeg), M.Ed. (Manitoba), Ph.D. (Minnesota).

Assistant Professors

Nunoda, P., B.A. (Hons)(Western Ontario), M.A., (Windsor) Ph.D. (Manitoba); **Rice, B.**, B.A., M.A. (Concordia), Ph.D. (California Institute of Integral Studies); **Sloane-Seale, A.**, B.A., M.Ed.(Manitoba), Ed.D.(British Columbia).

Lecturers

Barr, W. C., B.A.(Winnipeg), M.Ed.(Manitoba);

Instructors

Barss, P., B.A., M.Ed., (Manitoba); **Bartlett, F.**, B.A. (Brandon); **Burns, S.**, B.S.W. (Manitoba); **Carriere, A.**, B.S.W. (Manitoba); (New Mexico); **Federkevic, S.**, B.Ed., B.A.(Winnipeg), M.Ed.(Manitoba); **Gaywish, R.**, M.A.(Carleton); **Hatcher, S.**, B.A. (Winnipeg); **Lafreniere, B.**, B.S.W.(Manitoba);

Lavallee, B., B.S.W. (Regina), M.C.E. (Calgary); **LeBlanc, A.**, B.A., M.A. (Wilfrid Laurier), C.R.E.D.I.F. (Laval), Ph.D.(Western Ontario); **Luterbach, B.**, B.Ed. (Regina), B.A., M.Ed.(Manitoba); **MacDonald, M.**, M.B.A. (McGill), B.A., L.L.B. (Manitoba); **Maia, M.**, B.A., B.Ed. (Manitoba); **Martin, C.**, B.Sc., M.Ed. (Manitoba) Ph.D (Florida); **Martin, L.**, B.A., (Winnipeg); **McDermott, L.**, B.A.(Manitoba); **McGunigal, F.**, B.Sc., B.Ed. (Sask.); **McIntosh, H.**, B.Ed. (Manitoba), M.A. (Concordia); **Miller, B.**, B.R.S. (Manitoba); **Olson, L.**, B.A. (Hons.)(Winnipeg), B.Ed., (Western Ontario), M.A. (Western Ontario); **Paisley, J.**, B.Sc. (Lakehead), M.B.A. (Manitoba); **Schwabe, N.**, R.N., B.G.S. (Brandon), M.Ed. (Manitoba).

SECTION 1: Continuing Education

The Continuing Education Division provides a central focus for adult, distance, mature and summer continuing education in the university and undertakes planning and general administration for these programs and services. Insofar as possible, the university accepts the principle of parity of accessibility to its services in all areas of the province regardless of economic, geographic, physical, or social disadvantage.

The Continuing Education Division coordinates a wide range of programs through which degree courses and non-degree or certificate courses are offered. Degree courses are drawn from the offerings of various faculties and schools. Students must apply to, be admitted to, and register in a particular faculty or school to receive credit towards a degree.

SECTION 2: Program Areas

2.1 General Studies

Area Director: Bill Kops

General Office: 188 Continuing Education Complex

Telephone: 204 474 8330 or 474 7154

Welcome to General Studies

A key component of the mission of the Continuing Education Division is to provide equality of opportunity and increased access to the educational resources of the university and the community. General Studies, originated in 1979, strives to fulfil this mission by allowing people who require a specific selection of courses to meet entrance requirements, or career development and personal goals to enrol at the University of Manitoba. It provides an opportunity for people who are not seeking a University of Manitoba degree to take degree credit courses in a variety of disciplines. As well, General Studies allows students to select courses that are applicable to a planned degree program or sample courses from different areas in order to be able to make more informed decisions about their career direction. Courses may be taken in General Studies in the Regular Session, Summer Session or by Distance Education.

Entrance Requirements to General Studies

General Studies students are required to meet the general entrance requirements of the University of Manitoba (or be admitted under the mature student category). Students may be admitted in one of the following categories: Auditing Student; Mature Student; Special Student; Visiting Student. Detailed information on the general entrance requirements and a description of the student categories can be found in the Admissions chapter of this Calendar or by contacting the General Studies office.

Courses Available to General Studies Students

General Studies students may choose from courses in the faculties of Arts and Science, as well as other faculties and schools. General Studies students have essentially the same course choices that are available to University 1 students.

Courses offered in the faculties of Architecture, Asper School of Business, Education, Engineering, Environment, Human Ecology, Nursing, Physical Education and Recreation Studies, Social Work, School of Art and School

of Music require teaching faculty approval prior to registration, with the exception of courses included in the University 1 list (See the University 1 chapter of this *Calendar*).

Students who have not been admitted to the Asper School of Business will be limited to an aggregate total of 36 credit hours offered by the Asper School of Business while registered in another faculty, school, or division. This aggregate total of 36 credit hours will include: failures, repeats of previously passed courses, and transfer credit received for business courses from external institutions.

Some introductory level courses require the completion of specific high school courses as prerequisites. Also, university prerequisites may be required for other courses. Prerequisites are given in the course descriptions found in the faculty or school chapters of this *Calendar*.

University of Manitoba Academic Performance

All students admitted to General Studies are required to comply with the rules, regulations and procedures of the University of Manitoba. See the chapter, General Academic Regulations and Policy, or contact the General Studies office.

General Studies Academic Performance

Academic performance is the gauge of a student's success at University. The General Studies academic performance assessment, which occurs when a student has completed 45 credit hours of study, determines how a student is performing. Students may be contacted prior to the completion of the 45 credit hours, to discuss their academic performance.

First Level Assessment

After completing 45 credit hours of study, students will be assessed on the best half of the total credit hours completed. If a student achieves a 2.00 GPA, they may continue in General Studies. If their GPA is below 2.00, they proceed to the next level of assessment on probation.

Second Level Assessment

The second level of assessment will occur when a student completes the credit hours registered for in the session following the first level assessment. If a student achieves a 2.00 GPA on the best half of the total number of credit hours, they can continue in General Studies. If their GPA is below 2.00 on the best half of the total number of credit hours, they will be suspended for two academic years. Following the suspension period, a student may reapply for admission to General Studies.

General Studies Credit Hour Policy

In an effort to assist students with academic decisions, students who have completed 45 credit hours in General Studies will be required to meet with the student advisor before being allowed further registration in General Studies. Until such time as the student meets with the advisor a block will be placed on his/her record to prevent further registration.

Transfer to Faculties and Schools

Entry to all faculties and schools requires a formal application to be submitted to the Admissions office. Applications are available at the Admissions Office, 424 University Centre. Application deadline dates are available from the admissions office and are listed on the inside cover and in the Academic Schedule of the Undergraduate Calendar.

Student Services

A Student Advisor is available to assist students with course and program planning, and to provide admission and registration information on a drop-in basis or by appointment throughout the year in the General Studies office.

For information call (204) 474 8330 or 474 7154, or toll-free in Canada, 1 888 216 7011 (Extension 8330) or visit our website at

umanitoba.ca/coned/gen_studies.

2.2 Summer Session

Area Director: Bill Kops

General Office: 188 Continuing Education Complex

Telephone: 204 474 6963

Summer Session offers a wide range of courses in the spring and summer, including feature programs, summer institutes, travel/study and off-campus courses. Summer Session provides an opportunity to accelerate degree completion, ease course loads in the regular session, or benefit from smaller classes. There are three academic periods to choose from:

Spring Intersession

Spring Intersession courses begin in early May and continue to late June. Most classes meet for two hours each day either in the morning or early afternoon.

Spring/Summer Evening

Spring/Summer Evening courses run from early May to early August. Classes are generally scheduled two evenings each week and meet for two and one-half hours.

Summer Day

Summer Day courses begin in early July and continue to late August. Most classes meet for two hours each day either in the morning or early afternoon.

For information about Summer Session, call (204) 474 6963, or toll-free in Canada 1 888 216 7011 (extension 6963) or e-mail summer@umanitoba.ca, or visit our website at umanitoba.ca/summer.

2.3 Off-Campus Study and Courses in High School

Area Director: Bill Kops

General Office: 188 Continuing Education Complex

Telephone: 204 474 8019

Off-Campus Study and Courses in High School are programs designed to improve accessibility and success in university for students.

A flexible and convenient alternative, **Off-Campus Study** allows students to take degree courses at sites within Winnipeg. Courses are taught by University of Manitoba instructors.

The **Courses in High School** program allows Senior 4 students to take university courses while still in high school and receive university credit.

For information about these programs, call (204) 474 8019, or toll-free in Canada 1 888 216 7011 (extension 8019) or e-mail aclaman@ms.umanitoba.ca, or visit our website at umanitoba.ca/coned/off-campus

2.4 Distance Education Program

Area Director: Lori Wallace

General Office: 188 Continuing Education Complex

Telephone: 204 474 8012

Website: www.umanitoba.ca/distance

Each year, over 3,500 university learners complete degree credit courses offered by the Distance Education Program. Distance Education courses are open to all University of Manitoba students and provide an opportunity for students to complete courses without attending classes on campus. Students have many different circumstances that motivate them to enrol in distance education courses. They are full-time students using distance education courses as a way to flex their schedules; work shifts or in part-time service jobs; have young families and enjoy the convenience of studying at home; live or work at a geographic distance from the U of M; or continue to study year round in order to more quickly complete their degrees.

Over 100 degree credit courses are offered in regular session and Distance Education summer session from the following faculties: Agricultural and Food Sciences, Arts, Education, Environment, Nursing, Physical Education and Recreation Studies, Science, and Social Work. Programs offered by distance include a Bachelor of Arts, Bachelor of Social Work, Post-Baccalaureate Certificate in Education, and Baccalaureate Program for Registered Nurses.

Students may choose from the following delivery methods: Independent Study, Group Based Study, Net Based Study, and Campus Manitoba.

You will find Distance Education courses highlighted in the 2003/2004 Registration Guide with the statement: ****This Course Also Offered By Distance Education. See Distance Education Section In The Guide****.

To request a copy of the 2003/2004 Distance Education Guide, call 474 8012, toll free in Canada at 1 888 216 7011, ext. 8012 or visit the website: www.umanitoba.ca/distance. Please also feel free to drop into the Distance Education Office, located in 188D Continuing Education Complex.

2.5 Inter-Universities North Program

In cooperation with Brandon University and the University of Winnipeg, courses in Arts, Science and Education are offered in communities north of the 53rd parallel. Telephone: 1 800 442 0462.

2.6 English Language Studies

Area Director: Arthur LeBlanc

General Office: 188 Continuing Education Complex

Telephone: 204 474 8738

Seven levels of Intensive English Program sessions ranging in length from four weeks to one year, consisting of 25 hours of classroom instruction per week are offered throughout the year. Academic instruction, oral language experiences, socio-cultural activities and organized contacts with Anglophone Winnipeggers constitute the basis of this program. Students are housed in residence on campus or in a homestay situation with a family depending upon their preference. Similar programs for Japanese nationals are also offered. At our U of M Tokyo Campus, several Intensive English Program instructors spend the month of March teaching English to students from Sagami Women's University.

In collaboration with the Faculty of Education, a Certificate in Teaching English as a Second Language (CTESL) consisting of five courses is now offered to meet the needs of teachers in Manitoba and those who teach abroad. For information see section 3.4.

The Area also offers a range of evening conversational courses in French, Japanese, and Spanish. Beginner Level 1 and Level 2 courses in French, Japanese, and Spanish are scheduled for mid-September to late November, and mid-January to early April. Higher levels will be scheduled as students progress. Courses at intermediate or higher levels in other major world languages are available given sufficient demand.

2.7 Information Technology Programs

Director: Byron Wright

General Office: 102-300 Carlton Street,
University of Manitoba Downtown

Telephone: 204 982 4224

The Information Technology Programs area offers practical, hands-on training programs suited for students who want to start a career in Information Technology or who are already working in the industry and need to develop or upgrade their technical skills.

Full-time Certificate programs up to 12-months and part-time programs that vary in length follow industry-developed certifications from vendors such as Microsoft, Novell and CompTIA. Course areas include computer hardware, Windows 2000/XP/.NET, Linux, Novell, network and Internet technologies, network security, website design, and technical support.

Part-time courses vary in length from one-day seminars to eight-week evening courses and are offered year-round, including summer. Full-time programs are offered five times per year. Information Technology Programs staff will consult with individuals, groups, and organizations who wish to customize courses and/or programs to meet their specific needs.

Copies of the current course schedule for Information Technology Programs are available by calling (204) 982 4224 or visit our website: www.umanitoba.ca/coned/it.

2.8 Management, Professional, and Community Programs

Area Director: Maureen MacDonald

General Office: 188 Continuing Education Complex

Telephone: 204 474 8024

A variety of certificate programs, seminars, and short courses are offered for professional and personal development in general management, health and social services, adult education and training, human ecology and horticulture.

Certificate Programs

The Continuing Education Division offers a range of professional continuing education certificate programs, in cooperation with agencies in the community and faculties and schools on campus. These programs vary in length, comprehensiveness, and level of certification. Most certificate pro-

grams are offered annually. See Section 3.0 below for a listing of certificate programs.

Professional Development Programs, a programming initiative responding to the lifelong learning needs of professionals, provide new and expanded learning opportunities that address changing market, technological, and workplace needs. Through these program partnerships with faculties and professional associations, the division provides professional development learning opportunities previously not available at the University of Manitoba.

Management Development Programs, in partnership with the I. H. Asper School of Business, are designed to strengthen organizational effectiveness and develop managerial talent needed in today's competitive environment. The programs present leading-edge concepts in a format and learning style designed for middle, senior and high potential managers.

In addition to advising on existing programs, the staff of the Continuing Education Division will consult with individuals, groups, and organizations (profit and non-profit) who have an interest in or desire to develop learning experiences specific to their needs.

Copies of the current calendars of Management, Professional, and Community Programs Area are available by calling (204) 474 6742 or toll-free in Canada 1888 216 7011 (extension 6742) or visit websites: www.umanitoba.ca/coned/mpcp or www.umanitoba.ca/coned/cep.

2.9 ACCESS Programs

Area Director: Peter Nunoda

General Office: 505 University Centre

Telephone: 204 474 8000

University of Manitoba Access Program (UMAP)

In cooperation with the Province of Manitoba, the University of Manitoba Access Program (UMAP) facilitates university studies at the degree level for persons who traditionally have not had the opportunity for such experience because of social, economic and cultural reasons, lack of formal education or residence in remote areas. Preference will be given to Aboriginal Manitobans (Status, Non-status, Metis or Inuit). Students in this program are provided with academic and personal supports. Financial assistance may be available. For information, call 474 8000 or, within Manitoba, 1 800 432 1960, extension 8000.

Special Pre-Medical Studies Program (SPSP)

This program is designed to prepare Manitoban Aboriginal persons (Status, Non-Status, Metis, or Inuit) for entry to the health-related professions such as Medicine, Dentistry, Pharmacy, Rehabilitation Therapy. Through the cooperation of the Province of Manitoba and the University of Manitoba, students in this program are provided with academic and personal supports. Financial assistance may be available. For information call 474 8000 or, within Manitoba, 1 800 432 1960, extension 8000.

Professional Health Program (PHP)

This program is designed to support Aboriginal persons (Status, Non-Status, Metis, Inuit) in any of the professional health fields. Housed within the Northern Medical Unit at the Bannatyne Campus this program provides academic and personal supports. Limited financial assistance may be available. For information call 474 8000 or, within Manitoba, 1 800 432 1960, extension 8000.

Nursing Access Program (NAP)

This program is designed to provide supports to persons entering the nursing faculty who traditionally have not had the opportunity for such experience because of social, economic and cultural reasons, lack of formal education or residence in remote areas. Preference will be given to Aboriginal Manitobans (Status, Non-Status, Metis, Inuit). This program is a partnership between ACCESS and the Faculty of Nursing. Academic and personal supports are provided through this program. Limited financial assistance may be available. For information call 474 8000 or, within Manitoba, 1 800 432 1960, extension 8000.

Engineering Access Program (ENGAP)

This program provides Aboriginal persons (Status, Non-Status, Metis, Inuit) with access to university studies in Engineering (BioSystems, Civil, Computer, Electrical, Industrial and Mechanical). Students in this program are provided with academic and personal supports. Limited financial assistance may be available. For information call 474 9872 or, within Manitoba, 1800 432 1960, extension 9872.

2.10 Canadian Forces University Program

Program Coordinator: Kenn Doerksen

General Office: 188 Continuing Education Complex

Telephone: 204 474 8005

The University of Manitoba Canadian Forces Program, beginning its 30th year, is designed to assist CF personnel and DND employees, as well as their immediate families, in the pursuit of a university education. The program attempts to alleviate many of the problems associated with completing a degree as a part-time student.

The extensive mobility of CF personnel, which often interrupts studies and increases the difficulty of satisfying the residency requirement for graduation, is taken into account by this program. Recognition is given for a wide range of military training, and counselling services are provided by program student advisors. Within North America, call 1 800 850 6166 or e-mail cfup@umanitoba.ca. The CFUP Website is at www.umanitoba.ca/coned/cfup

2.11 Aboriginal Focus Programs

Area Director: Barbara Lavallee

General Office: 188 Continuing Education Complex

Telephone: 204-474 8039

The Aboriginal Focus Programs area of Continuing Education Division offers a range of programs that are designed to respond to the continuing education needs and concerns of Aboriginal people. The mission of the area is to create paths of choice in post-secondary education that are based on Indigenous worldviews and developed through partnerships with Indigenous Peoples and communities.

AFP offers certificate and diploma programs as well as degree programs through cooperative arrangements with Aboriginal stakeholders and faculties of The University of Manitoba. Programs are offered in a central location, as in-house training to staff of an organization, or as community-based programs. Programs are offered as 'open enrolment' or as block-funded cohort programs through an arrangement with an employer or sponsor. Delivery methodology can be as part-time or full-time study, and can incorporate technology-based delivery where student access permits. Aboriginal organizations that identify a need for specific post-secondary or adult education not currently available may be interested in knowing that AFP has the capacity to develop new programs to meet their needs. The following are programs currently being offered:

Counselling Skills Certificate

This foundation program gives individuals in the helping professions, who are employed by First Nation and/or Aboriginal social service agencies, knowledge and skills in how to provide culturally appropriate counselling services to individuals and families. *The Faculty of Social Work offers graduates three allocated and 6 unallocated hours of credit.

Child Sexual Abuse Intervention and Treatment Certificate

The disclosure of sexual abuse, as in the residential school experience, has highlighted the need for counsellors with specialised expertise. The CSAIT program builds on prior training and experience in counselling. Courses are offered in eleven six-day modules over a year.

Certificate in Environmental Assessment, Protection and Education

This program, created by the Centre for Indigenous Environmental Resources, is a First Nations initiated and directed education program, offered in partnership with the Continuing Education Division of The University of Manitoba. Graduates will be able to conduct entry-level environmental assessments in communities and engage in monitoring and auditing functions. * CIER graduates accepted into the Environmental Science program in the Faculty of Science are eligible for up to 60 hours of transfer credit.

Special Education Teacher Assistant Certificate

This program provides culturally relevant accredited training for K-6 teacher assistants who work with special needs children under the direction of classroom and/or resource teachers. *The Faculty of Education offers graduates a transfer of up to 6 unallocated elective credits.

First Nation Community Wellness Diploma

This 60 credit-hour program was developed as a professional development opportunity in community wellness for Aboriginal health and wellness service workers. The program is offered through a partnership between The University of Manitoba and the Manitoba Community Wellness Work-

ing Group. Each course in the program incorporates an indigenous wellness perspective.

Aboriginal Child and Family Services Diploma

This off-campus program will provide field staff of Aboriginal agencies in Manitoba the knowledge and skills they require to deliver child and family services as outlined by Manitoba's Child and Family Services Act, and as directed by the Aboriginal Child and Family Services agencies.

Transition Year (18 to 30 credit hours)

This off-campus Transition Year is designed to facilitate the successful transition of students from their community to full-time post-secondary study. Emphasis is on building students' academic and personal skills through specific support to students such as expanded instruction, tutorial support and orientations to the expectations of post-secondary education programs. A minimum of 18 credit hours of university courses is offered in the Transition Year.

4-Year Advanced B.A. Degree in Aboriginal Governance

The Advanced B.A. in Native Studies with a focus on Aboriginal Governance is a cohort program currently offered in partnership with Sagkeeng First Nation. The objective of the program is to build capacity among its students in the areas of political and economic policy and management principles to facilitate the process of self-determination in First Nation communities. It is clear that to develop the constitutional structures necessary for self-government, highly knowledgeable Aboriginal people will be needed. The program exposes the students to a wide range of courses from Native Studies, Economics, Political Studies and Management so that they acquire the requisite expertise.

*For further details on the requirements of transfer credit, call Aboriginal Focus Programs at 474-8039.

SECTION 3: Certificate and Diploma Programs

3.1 General Management

Certificate in Accounting

This certificate program is designed to provide general accounting and management education to anyone seeking a career as an accountant or working with accounting information. The program provides a solid technical and conceptual foundation in accounting and management processes. Part-time study over three years.

Advanced Certificate in Accounting

Provides advanced instruction for individuals wishing to further their education in accounting or pursue a professional accounting designation. Part-time study over two years.

Certificate in Applied Management

This certificate is designed to provide individuals in various work environments with the opportunity for combining management studies with applications relevant to their own careers. Registrants select a particular specialization appropriate to their own development interests. Specializations are available in: police service, retail management, organizational effectiveness and utilities management. Part-time study over three years.

Human Resource Management

This program provides instruction in concepts and practices in human resource management. Part-time study over three years.

Interdisciplinary Studies

This program provides a certificate to students completing a minimum of 200 contact hours within the MPCP Area. Students must identify their learning objectives and develop a program to meet these objectives.

Quality Management

This program offers a management approach to the design and implementation of quality assurance programs. Also offered by independent study. Part-time study over 1 year.

Management Development for Women

This program provides management education which combines theory with practice and reflects the real world of management. For highly motivated women who wish to develop management skills they can use immediately in a practical work environment. Part-time study over 1 year.

Municipal Administration

This program provides an essential body of knowledge required to assume administrative responsibilities within small to mid-size municipalities in Manitoba. Part-time study over four years.

Participative Management

This program offered in partnership with the Crocus Investment Fund, is a modular program that provides instruction in subject areas relevant for developing a participative management style and workplace environment. Part-time study over one year.

3.2 Information Technology

Internetworking Professional Certificate Program

This program is designed to prepare students to start a career in Information Technology in the areas of technical support and network support. Full-time study over 8-12 months.

Windows Networking Professional Certificate Program

Provides students with the skills needed to provide technical and network support in a Microsoft Windows network environment. Part-time study for six months – two years with classes available year-round, including summer.

3.3 Health and Social Services

Certificate in General Case Management

This program is for individuals who want to prepare for future positions in Canada's rapidly changing health and social service sectors by gaining a general background in case management. 6 courses.

Certificate in Rehabilitation Case Management

This program prepares individuals to work in rehabilitation programs (e.g., medical, social and physical services, claims management, long term care, education). Participants learn varied case management models, principles of social and physical rehabilitation and functional and psychosocial theories in rehabilitation. 6 courses.

Applied Counselling Certificate Program

To provide persons in health, education, private and government social service agencies with progressive skill development and theory in the practice of counselling. The four program areas are: general counselling, working with abused women and children, addictions studies, and child welfare practice. Part-time study over 1½-5 years.

3.4 Education

Certificate in Adult and Continuing Education

To develop and enrich the knowledge and level of competence of those practicing in the field of adult education. Also offered by independent study. Part-time study.

Certificate in Teaching English As a Second Language

The Certificate Program objectives are to meet local, national, as well as international needs of teacher development in ESL and EFL. The program provides a focused initial preparation for teaching ESL. Upon successful completion of the program, CTESL participants will be able to: Discuss the theoretical basis of second language instruction; demonstrate a variety of effective ESL teaching techniques; and explain, in pedagogically relevant ways, the linguistic structures of the English language.

3.5 Human Ecology

Apparel Design 1

A program for fashion designers, dressmakers, homemakers, and those working in the garment industry. Part-time study over 1 year.

Apparel Design 2

An advanced level program for fashion designers, dressmakers, homemakers, and those working in the garment industry. Part-time study over 1 year.

3.6 Agriculture

Prairie Horticulture

The purpose of this program is to focus on horticulture specific to the prairies, especially with respect to production and market conditions, climate, crop type, pests, disease, and other relevant prairie topics. Offered by independent study, part-time study.

3.7 Management/Professional Institute Affiliation

Four-Year Certificate Program in Management Administration*

To offer management training for managers and supervisors in industry, business, and government. 4 years part-time study.

Purchasing Management Association of Canada*

The University of Manitoba participates with the PMAC in the offering of four principles courses, plus a number of core and elective courses.

Institute of Canadian Bankers Business Program*

To provide students with the opportunity to explore and study concepts in management education particularly as they apply to the fields of banking, and finance. Individual courses.

Real Estate Institute* (FRI)

Awarded by the Real Estate Institute of Canada (REIC) to individuals whose education, experience and ethical conduct have met the standards set by the Institute. The FRI designation signifies professional expertise in market analysis, property sales and leasing, real estate marketing and residential appraisal.

NOTE: * Certificate awarded by an external agency.

School of Dental Hygiene

General Office

D35 Dental Building, Bannatyne Campus

Telephone: (204) 789 3683

E-mail: dent_hygiene@umanitoba.ca

Director: Salme Lavigne

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SECTION 1: Academic Staff

Professors:

Bowden, G.H.W., M.Phil. (London), Ph.D. (London); **Dawes**, C., B.Sc., B.D.S. (Manchester), Ph.D. (Durham); **Fleming**, N., B.Sc. (Belfast), Ph.D. (East Anglia); **Hamilton**, I.R., B.S.A., M.S.A. (Toronto), Ph.D. (Wisconsin); **Jay**, F., B.Sc. (McGill), M.Sc. (New Brunswick), Ph.D. (Liv.); **Karim**, A.C., B.Sc. (Sir George Williams), M.Sc., Ph.D. (McGill); **Lavelle**, C.L.B., B.Sc., B.D.S., M.D.S., D. Sc., Ph.D. (Birmingham), F.R.C.D. (C), M.R.C. (Path.), Ph.D. (California); **Scott**, J.E., B.Sc. (Brandon), M.Sc., Ph.D. (Manitoba); **Singer**, D.L., D.D.S. (Alberta), Ph.D., Dip.Perio. (Manitoba)

Associate Professors:

Ahing, S.I., B.Sc. (Sir George Williams), D.D.S. (McGill), M.S.D. (Indiana), F.R.C.D.; **Birek**, C., D.D.S. (Turgu-Mures), Ph.D. (Toronto), Dip. Oral Path. (Toronto); **Lavigne**, S.E., Dip.D.H. (Toronto), B.A. (Lakehead), M.S. (Missouri-Kansas City); **Louka**, A., B.D.S., B.D.D. (Cairo), M.Sc. (Manitoba); **MacDonald**, L.L., Dip.D.H. (Manitoba), B.Sc.D. (D.H.) (Toronto), M.Ed. (Manitoba); **Perry**, J.B., A.R.C.T., D.M.D. (Manitoba), Cert.Oral Path. (Emory), M.Sc. (Manitoba); **Pruthi**, V.K., B.D.S. (India), Cert. Perio. (Florida), Diplomate, Amer. Board of Perio., F.A.C.D.; **Williams**, P.T., B.A.Sc., D.D.S. (Toronto), M.S. (Indiana).

Assistant Professors:

McNicol, A., B.Sc., Ph.D. (Glasgow); **Trodden**, B.J., Dip.D.H. (Toronto), B.A. (Manitoba), M.A. (Manitoba), Ph.D. (Manitoba); **Wener**, M., R.D.H. (Kentucky), B.S. (Kentucky), M.Ed. (Manitoba).

Instructors:

Cringan, D.L., Dip.D.H. (Manitoba); **Girardin**, D., Dip.D.H. (Manitoba); **Glassford**, L., B.A. (Manitoba), Dip.D.H. (Manitoba); **Dods**, S., Dip. D.H. (Manitoba); **Grasby**, H., Dip.D.H. (Manitoba); **Halas**, G., Dip.D.H. (Mani-

toba); **Hedberg**, L., B.Sc.(Manitoba), R.N. (HSC), Dip. D.H. (Manitoba); **Hughes**, N., Dip.D.H. (Toronto); **Isaak-Ploegman**, C., B.A. (Manitoba), Dip.D.H. (Manitoba); **Kawahara**, D., Dip. D.H. (Confederation C.); **Kinchen**, E. Dip. D.H. (Manitoba); **Legary**, K., Dip. D.H. (Manitoba); **Parker**, J.E., B.Sc. (Calgary); **Rosenbaum**, H., Dip. D.H. (Manitoba); **Yakiwchuk**, C., Dip.D.H. (Manitoba).

SECTION 2: The Profession of Dental Hygiene

Dental hygiene is a health service profession concerned primarily with the prevention of oral disease and the promotion of optimum oral health. As a licensed professional, the dental hygienist's scope of practice is regulated by provincial legislation. The dental hygiene process of care consists of four components: assessment, planning, implementation, and evaluation. Current practice settings include: Private dental practice, community health centres, institutions (e.g., hospitals, long-term care facilities), primary health care centres, home care and other outreach programs, educational institutions (e.g., universities, community colleges), the military, research, and industry. Dental hygienists acquire competence through instruction in basic sciences, oral health sciences, the humanities and clinical practice. Through more than 600 hours of a competency-based clinical curriculum, students are prepared to meet the needs of a broad range of population groups.

The mission of the School of Dental Hygiene: In a tradition of excellence and progressive learning the University of Manitoba, School of Dental Hygiene prepares future dental hygienists to contribute collaboratively to the health and well-being of the public through oral health promotion and disease prevention.

Licence to Practice

In Manitoba, graduates must apply to the Manitoba Dental Association for a licence to practice as a dental hygienist. In other provinces, Dental hygienists must fulfil the requirements of the respective provincial licensing bodies.

SECTION 3: Admission to the School of Dental Hygiene

POSSIBLE CHANGE TO DENTAL HYGIENE PROGRAM

A proposal has been submitted to convert this program into a Baccalaureate Degree. Pending appropriate approval, two additional terms of Dental Hygiene will be added for the Class commencing in 2003. However, the minimum time to graduate will not change as the two additional terms will occur during Intercession (May and June each year).

3.1 Diploma offered

Diploma in Dental Hygiene

Minimum time to graduation: Three years (University 1, or satisfaction of prerequisites, plus two years).

NOTE: Pending approval, a Bachelor of Science degree will be offered commencing August, 2003. The admission requirements will not change but program length, following the prerequisites, will increase from four terms to six.

The following is a summary of the admission requirements. Equivalent academic courses completed at recognized universities elsewhere will be considered. All admission requirements, as well as application deadline dates and forms, are included in an applicant information bulletin that is available from the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

3.2 Course requirements

Chemistry 002.130, and Chemistry 002.131 or 002.132

Psychology 017.120

Zoology 022.132 (Anatomy) and 022.133 (Physiology) or Physiology 022.253 (prerequisite Biology 071.125 "C") and 023.254

Statistics 005.100

9 credit hours of electives (Sociology is strongly recommended) for a total of 30 credit hours.

Other Requirements

High school prerequisites: Mathematics 40S (pre-calculus or applied), and Chemistry 40S; Biology 40S is strongly recommended, or eligibility as a mature student to the University of Manitoba.

Interview: An interview is part of the admission process.

Minimum GPA for consideration: 2.5 with no grade less than C; admission is competitive.

The written English requirement will be met through Dental Hygiene courses and is not required in the prerequisite year.

Selection criteria: 30 per cent based on the interview, 70 per cent on academic standing.

It is recommended that all applicants attend an orientation session. Registration and orientation for dental hygiene takes place at the School of Dental Hygiene, Bannatyne Campus. There is no advance registration for dental hygiene.

SECTION 4: Academic Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the School of Dental Hygiene has regulations and requirements, published below, that apply specifically to its students.

4.1 Immunization Policy

All students enrolled in dental hygiene must be immunized against the following diseases: diphtheria/tetanus, polio, rubella, measles, mumps, chicken pox and hepatitis B. Students must be tested for tuberculosis if a suspected exposure occurs. Students who cannot be immunized because of allergies or other reasons must provide a physician's certificate to verify these reasons.

Before the first day of classes all students must complete the University of Manitoba Immunization Record Form, provided by the dental hygiene office. Immunization records must be signed by a physician or nurse verifying that all immunizations are up-to-date.

All students are responsible for updating their immunizations as needed.

Students will not be permitted to attend clinics until all immunization requirements are up-to-date.

Arrangements for immunization against hepatitis B for all first year students are made by the dean's office, Dentistry. Students will receive further details during the first week of classes. Additionally, accepted candidates will be required to show proof of CPR (Basic Rescuer) certification by October 15. This certification must be effective between this date and the date of graduation (May 2004).

4.2 Examinations and Promotions

Regular attendance in all courses as well as a satisfactory record completed during the term will be required to qualify a student to sit for the annual or other grading examination.

A student who is declared ineligible by the Dental Faculty Council to take the final examination in any subject due to unsatisfactory work will automatically be given a grade of "F" in that examination.

To obtain standing in any year, a student must attain a minimum overall Grade Point Average (GPA) of 2.0 in all courses of that year. If a student is registered for less than 100% of the courses listed for the year, a minimum sessional GPA of a 2.0 must be obtained.

A student who has obtained a grade of "F" in more than two subjects or who fails to obtain an overall GPA of 1.6 will be regarded as having failed the year and will be required to repeat the work of that year in a succeeding annual session. The student must re-apply for admission to the school if the failed year is the first year.

No student will be allowed to register for the full work of any one year who has a condition remaining from a previous year.

Students are prohibited from interviewing individual members of the school with reference to examination standing at any time prior to the posting of official grade lists.

For details on final examinations, see the Chapter General Academic Regulations and Policy of this Calendar.

For appeals process, see the Chapter General Academic Regulations and Policy.

For a description of the grading system, see the Chapter General Academic Regulations and Policy.

4.3 Supplemental Examinations

A student who has failed in not more than two subjects at the regular final examinations of any year, or who fails to obtain an overall GPA of 2.0 in courses of the year, may upon application and at the discretion of the Dental Faculty Council be awarded the privilege of one or two supplemental examination(s).

The Faculty Council will specify in which subjects the student may write supplemental examinations. For the purpose of calculating such a student's GPA for the year, grade points attained in supplemental examinations will replace the grade points previously attained in the same subject.

The passing grade in supplemental examinations is "C" in each subject.

A student must maintain a minimum GPA of 1.6 each year in order to be eligible for supplemental privileges.

A student who, having exercised supplemental privileges, has not more than one condition remaining, may in the ensuing annual session, be allowed to take only that one course in the Dental Hygiene program. If the condition is removed in that session, the student will be regarded as having completed the year to which the condition applied.

Supplemental examinations are held prior to the opening of the session in the autumn, and application must be made to the Student Records Office no later than those deadline dates listed in this Calendar.

4.4 Challenge for Credit

There are a number of courses which may be challenged for credit. Information on the specific courses involved may be obtained from the director of the School of Dental Hygiene.

4.5 Honours and Awards

Honours will be awarded to a maximum of the top 20 per cent of the class, provided that a GPA of 3.5 or greater has been achieved. Only students registered for 80 per cent or more of the normal course load during a regular session are eligible for Honours Standing.

A student who fails in one or more subjects, or who fails the year at the regular final examination, is not eligible to obtain Honours Standing or to receive any awards for the work of that year.

A student repeating a year's work is eligible to obtain Honours Standing or to receive any awards for the work of that year.

The following policy applies to the eligibility of part-time students for academic awards:

A student who is carrying less than 80 per cent of the normal course load for the year is only eligible for an award in the individual subjects taken by him/her.

A student who is repeating a course may not be eligible for an award in that subject.

NOTE: Regulations concerning Admissions, Academic Progress, Examinations and Withdrawal are on file in the general office of the School of Dental Hygiene.

4.6 Instruments, Textbooks and Uniforms

Students must purchase a dental hygiene student kit consisting of two sets of clinical instruments and uniforms. The total cost of the kit is approximately \$3,300. Students are also required to purchase one lab coat. Some laboratory equipment is loaned by the school. Expenditures for textbooks may amount to approximately \$3,000 over the two-year program.

SECTION 5: Program Requirements and Course Descriptions

5.1 Year 1 and 2 Course Requirements

First Year

Course No.		Credit Hours
070.123	Oral and Dental Anatomy	4
070.124	Preclinical and Clinical Dental Hygiene	9
070.126	Radiology	4
070.127	Biology of the Head and Neck	3
070.128	Microbiology and Infectious Diseases	3
070.129	Preclinical Restorative Dentistry Techniques for Dental Hygienists	4
070.132	Dental Materials	2
070.134	Communications	2
070.135	Community Health1	4
070.136	Periodontology 1	2
	Total credit hours	37

Second Year

070.228	Pharmacology	2
070.230	Pathology	3
070.231	Dental Hygiene	15
070.234	Periodontology 2	2
070.235	Biology of Oral Tissues	2
070.236	Community Health 2	4
070.237	Nutrition in Dentistry	2
070.238	Pain Management	2
	Total credit hours	32

5.2 Course Descriptions

First Year

070.123 Oral and Dental Anatomy (4) This course consists of lecture and laboratory work dealing with the normal development, morphology, structure, and function of the dentition and related structures. First term - Lecture (30) and Laboratory (60) 90 hours.

070.124W Preclinical and Clinical Dental Hygiene (9) Laboratory, didactic and clinical application of the techniques of the oral prophylaxis, client management and counselling, instrument care and current preventive techniques of dental hygiene practice. Both terms - Lecture (85), Laboratory (90), and Clinical Practice (165) 340 hours.

070.126 Radiology (4) An introduction to the production of x-rays, radiation biology, radiation protection, imaging materials, imaging techniques, recognition of radiographic landmarks and structures, and quality control of radiographs through application of basic knowledge in chemistry, physics, anatomy and mathematics. Second term - Lecture (15) and Clinical Practice.

070.127 Biology of the Head and Neck (3) Anatomy, physiology, histology and embryology of the head and neck. First term - Lecture (30) and Laboratory (15) 45 hours.

070.128 Microbiology and Infectious Diseases (3) A study of different types of microorganisms. Infectious diseases will be discussed in terms of reservoirs, transmission, pathogenesis, treatment and prevention. Emphasis will be given to common communicable diseases, the oral microflora and its role in disease and health. Second term - Lecture (30) and Laboratory (15) 45 hours.

070.129 Preclinical Restorative Dentistry Techniques for Dental Hygienists (4) A study of the principles and techniques of restorative dentistry. Introduction information on restorative dentistry specialities. Second term, lectures (20) and laboratory (28), total 48 hours.

070.132 Dental Materials (2) A study of the properties of materials used in the oral environment for restorative, prosthetic, orthodontic and preventive purposes. Laboratory demonstrations and exercises are designed to demonstrate the correct preparation and handling of dental materials. First term - Lecture (25) and Laboratory (10) 35 hours.

070.134W Communications (2) This course provides an introduction to basic principles of communication in relation to everyday and professional interactions. The students are sensitized to the process of communication, its complexities and its related dynamics. Particular attention is given to enabling students to develop effective professional communication skills that have the potential to promote client compliance and harmonious working relationships.

070.135W Community Health1 (4) An introductory, participatory course in community oral health promotion intended to inspire a sense of community responsibility in students as health professionals responding to community needs. This is accomplished through group assignments which involve classroom teaching of children; interviews of health agency staff; and participation in a debate. Integral to this sense of active community responsibility is an understanding of disease prevention and health promotion theories, mechanisms and strategies. Lecture (60), field (6), total 66 hours both terms.

070.136 Periodontology 1 (2) A study of the normal tissues of the periodontium, and an introduction to periodontal diseases, their etiology, epidemiology and treatment, especially as these relate to dental hygiene practice. A critical analysis of periodontal cases is included. First term, lecture 30 hours.

Second Year

070.228 Pharmacology (2) Drugs used in clinical practice; a general knowledge of drugs by groups with emphasis on agents such as local anesthetics, analgesics, and antibiotics used extensively in the practice of dentistry. Second term - Lecture 30 hours.

070.230 Pathology (3) A study of the principles of general and oral pathology involving pathologic mechanisms, disorders of physiologic systems, and pathologic conditions and diseases affecting oral and para-oral structures. Both terms - Lecture 45 hours.

070.231 Dental Hygiene (15) Clinical dental hygiene practice, lectures and seminars for discussion of and experience in clinical procedures, client counselling, care of client with special needs, office procedures, employment arrangements, ethics and other topics. Both terms - Lecture (75), Seminar and Laboratory (30) and Clinical Practice (360) 465 hours.

070.234 Periodontology 2 (2) Continuation of the study of etiology, diagnosis and treatment of periodontal disease. First term - Lecture 30 hours.

070.235 Biology of Oral Tissues (2) Consideration of physiology of the oral environment and its microflora in relation to health, dental caries and periodontal diseases. First term - Lecture 30 hours.

070.236 Community Health 2 (4) This course further develops the students' abilities to deliver community oral health education/promotion programs, with particular attention given to the barriers faced and strategies used to meet the unique needs of target populations which are less likely to have optimal oral health. Field experience in needs assessment, program planning, implementation and evaluation is a major component of this course. Both terms, lecture (60) and field work (60), total 120 hours.

070.237 Nutrition in Dentistry (2) A physiological, psychological, and social insight into the principles of nutrition and their relation to preventive dental practice. Second term - Lecture 25 hours.

070.238 Pain Management (2) This course is designed to enhance the dental hygiene student's knowledge of the mechanisms of pain control through the administration to topical and local anesthetic agents. Emphasis will be placed on the pharmacology of dental anesthetic agents and their interaction with the client's current conditions and medications. The course consists of 20 hours of lectures, and 12 hours of laboratory, total 32 hours.

Faculty of Dentistry

Dean's Office

D113 Dentistry Building, Bannatyne Campus

Telephone: (204) 789 3631

E-Mail: dean_dent@umanitoba.ca

Website: www.umanitoba.ca/faculties/dentistry

Dean: Johann de Vries

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SECTION 1: Academic Staff

Deans Emeriti

Neilson, J.W., B.A. (Saskatchewan), D.D.S. (Alberta), M.Sc. (Michigan), F.I.C.D., F.A.C.D., F.R.C.D.(C); **Schwartz**, A., D.D.S. (Toronto), F.I.C.D., F.A.C.D., F.R.C.D.

Professor Emeritus

Borden, S.M., D.D.S. (Toronto), M.S.D. (Northwestern), M.R.D.C.(C), F.I.C.D., F.A.C.D.; **Hamilton**, I.R., B.S.A., M.S.A. (Toronto), Ph.D. (Wisconsin).

Senior Scholars

Odlum, O., B.D.S. (London), B.D.s.(Hons.), M.S.C. (Manitoba); **Snihurowycz**, T.G., D.M.D. (Munich), D.M.D. (Manitoba), F.I.C.D.; **Love**, W.B., D.M.D. (Manitoba), M.S. (Ohio), F.A.C.P (USA), F.R.C.D.(C), F.I.C.D., F.A.C.D., F.A.P., Cert. Prosth.

Professors

Bhullar, R.P., B.Sc. (McMaster), Ph.D. (Manitoba); **Bowden**, G.H.W., M.Phil., Ph.D. (London); **Dawes**, C., B.Sc., B.D.S. (Manchester), Ph.D.

(Durham); **de Vries**, J., B.Ch.D., B.Ch.D.(Hons), M.Dent. (Pretoria), Col., F.I.A.D., F.P.F.A.; **Fleming**, N., B.Sc. (Belfast), Ph.D. (East Anglia); **Gelskey**, S.C., B.Sc. (D.H.) (Marq.), M.P.H (Michigan), Ph.D. (Manitoba); Ph.D. (Wisconsin); **Karim**, A.C., B.Sc. (Sir George Williams), M.Sc., Ph.D. (McGill); **Lavelle**, C.L.B., B.Sc., B.D.S., Ph.D., M.D.S., D.Sc. (Birmingham), F.R.C.D.(C), M.R.C.(Path.) (London), Ph.D. (California) D.D.S (Birmingham) F.R.C.P., M.B.A. (London), F.I.C.D.(C); **Lekic**, C., D.D.S. (Belgrade), M.Sc. (Belgrade), Ph.D. (Belgrade); **Scott**, J.E., B.Sc. (Brandon), M.Sc., Ph.D. (Manitoba); **Singer**, D.L., D.D.S. (Alberta), Ph.D., Dip.Perio (Manitoba); **Suzuki**, M., D.D.S. (Tokyo), M.S. (Roch.), D.M.D. (Manitoba), F.I.C.D., F.A.C.D.; **Wiltshire**, W., B.Ch.D., B.Ch.D. (Honors) (Pret.), M.Dent., M.Ch.D. (Ortho), D.Sc. (Odont.) (Pretoria).

Associate Professors

Ahing, S.I., B.Sc. (Sir George Williams), D.D.S. (McGill), M.S.D. (Indiana), F.R.C.D.; **Baker**, R.C., D.M.D. (Manitoba), Dip.Ortho. (Toronto), F.A.C.D., F.I.C.D.; **Birek**, C., D.D.S. (Turgu-Mures), Ph.D., Dip.Oral Path. (Toronto); **Boyar**, R.M., D.M.D., M.Sc. (Manitoba); **Cohen**, M., B.Sc., B.D.S., M.Dent. (Witwatersrand), F.R.C.D.(C); **Cleghorn**, B., D.M.D., M.Sc. (Manitoba); **Cross**, H.G., B.Sc., D.M.D. (Manitoba), Cert. Pedo. (Connecticut.), M.Sc. (Manitoba); **Curran**, J., B.D.S. (NUI), F.R.C.D.(C), F.F.D., R.C.S. (Irel); **Gilchrist**, J.S.C., B.Sc. (Liverpool), M.Sc. (Alberta), Ph.D. (UBC); **Louka**, A.N., B.D.S., H.D.D. (Cairo), M.Sc. (Manitoba); **Mazurat**, R., B.Sc. (Calgary), D.D.S. (Alberta), Dip. Prosth. (Med.Coll.of Georgia); **McNicol**, A., B.Sc., Ph.D. (Glasgow); **Peikoff**, M.D., D.M.D. (Manitoba), M.S.D. (Boston), F.R.C.D.(C), F.I.C.D., F.A.C.D.; **Perry**, J.B., A.R.C.T., D.M.D. (Manitoba), Cert.Oral Path. (Emory), M.Sc. (Manitoba); **Pruthi**, V.K., B.D.S. (India), Cert.Perio. (Florida), Diplomate, American Board of Periodontology., F.A.C.D.; **Stockton**, H.J., D.M.D., M.B.A. (Manitoba); **Stockton**, L., D.M.D. (Manitoba); **Williams**, P.T., B.A.Sc., D.D.S. (Toronto), M.S. (Indiana).

Assistant Professors

Baker, A., Dip. Ortho (Toronto), D.M.D. (Manitoba); **Braun**, J.V., B.Sc., D.M.D. (Manitoba), F.I.C.D.; **Brothwell**, D., B.Ed., D.M.D. (Saskatchewan), M.Sc., D.D.Ph. (Toronto); **Cantin**, R.Y., D.M.D. (Manitoba), Cert.Paed. (Connecticut); **Cholakis**, A., B.A., D.M.D., Dip.Perio. (Manitoba); **Davidson**, D.F., B.S.A., D.M.D. (Manitoba); **Dong**, C., D.M.D. (Manitoba), M.Sc. (Toronto); **Hechter**, F.J., D.M.D., M.Sc., M.Ed. (Manitoba); **Hernandez**, E., M.Sc. (Vanderbilt), D.D.A. (Pontificia); **Mazurat**, N., B.Sc., D.D.S. (Alberta); **McCallum**, M.J., D.M.D. (Manitoba); **McFadden**, L., D.D.S. (Alberta), M.Sc. (Dalhousie), M.R.C.D.(C); **Scott**, D.A., B.Sc. (Edinburgh), Ph.D. (McGill); **Smith**, D.M., B.A. (Emory), D.D.S. (Maryland), Dip. Fixed Prosth. (New York), M.S. (SUNY Binghamton.); **Stoykewych**, A.A., B.S., D.M.D., Dip. O.M.S. (Manitoba); **Winburn**, J.T., D.M.D. (Manitoba), Dip.Ortho. (Connecticut).

Instructors

Acheson, W., B.Sc., D.M.D. (Manitoba), M.Sc. (Boston); **Backman**, W., D.M.D. (Manitoba), Dip.Perio. (Toronto); **Benias**, G., D.M.D. (Manitoba); **Blight**, T., D.D.S. (Toronto), Dip. O.M.S. (Manitoba); **Broberg**, N., D.M.D. (Manitoba); **Boroditsky**, C., D.M.D. (Manitoba); **Buerckner**, D., D.M.D. (Manitoba); **Buettner**, M. A., D.M.D. (Manitoba); **Campbell**, W.J., D.M.D., M.Sc. (Manitoba); **Carter**, P., B.Sc., D.D.S. (Manitoba); **Chuchman**, A., D.M.D. (Manitoba); **Chung**, R., D.M.D. (Manitoba); **Cogan**, A., D.M.D. (Manitoba), Cert. Perio; **Cohn**, C., D.M.D. (Manitoba); **Colina**, T., D.M.D. (Manitoba); **Cottick**, C., B.Sc., D.M.D. (Manitoba); **Dale**, C., D.M.D. (Manitoba); **Dhillom**, R., D.M.D. (Manitoba); **Dillon**, J., B.D.S. (NUI); **Dobbs**, T., B.S., D.D.S. (Tennessee), Cert. Pedo. (Manitoba); **Doyle**, J.I.M., L.R.C.P. and S. (R.C.S.I.); **Dumore**, T., D.M.D. (Manitoba), M.Sc.(Ortho) (San Francisco); **Dziewit**, D., D.M.D. (Manitoba); **Fogel**, H., D.M.D. (Manitoba) M.Sc. (Oregon), F.R.C.D. (C.); **Girardin**, D., Dip.D.H. (Manitoba); **Gradt**, C., B.Sc., D.M.D. (Manitoba); **Hameed**, T., D.M.D. (Manitoba); **Hamin**, K., D.M.D. (Manitoba); **Hayduk**, S., D.M.D. (Manitoba); **Howorth**, H., D.M.D., B.Sc. (Manitoba); **Hui**, E., D.M.D. (Manitoba); **Hyman**, G., B.Sc., D.M.D. (Manitoba), Dip.Perio (Oregon); **Jobb**, D.,

D.M.D. (Manitoba); **Kim**, A., D.M.D. (Manitoba); **Krawat**, T., D.M.D. (Manitoba); **Krukovsky**, R., D.M.D. (Manitoba); **LaChance-Piché**, C., D.M.D. (Manitoba); **Lee**, H. M.Sc. (Biochem)(Wisconsin), D.M.D., Dip. (Ortho) (Washington); **Lekic**, Z., D.D.S., M.Sc., Dip. Prostho. Dent. (Belgrade); **Ling**, P., B.Sc., D.M.D. (Toronto), M.Sc. (Manitoba); **Lukas**, S., D.M.D. (Manitoba), M.Sc. (Ortho) (Western); **Lushaw**, M., D.D.S. (Western); **Manhas**, K., D.D.S. (Ontario); **Mao**, P., D.M.D. (Manitoba); **Maslow**, K., D.M.D. (Manitoba); **Mathu-Muju**, K., D.M.D. (Manitoba); **McClarty**, C., D.M.D., B.Sc. (Manitoba); **McFarlane**, B., D.M.D., M.Sc. (Ortho) (Western); **McManus**, P., D.M.D. (Manitoba); **Micflikier**, I., D.M.D., Dip. Perio. (Manitoba); **Moir**, R., D.M.D., M.Sc. (Ortho) (Manitoba); **Mulhern**, J., B.Sc. (Dublin), M.S.D., Cert. Endo (Indiana); **Nguyen**, W., D.M.D. (Manitoba); **Nikolaychuk**, B., B.Sc., M.Sc. Ortho, D.M.D. (Manitoba); **Nowakowski**, A., B.Sc., D.M.D. (Manitoba); **Patel**, S., D.M.D. (Manitoba); **Pesun**, S., B.Sc. (Dent), D.M.D. (Manitoba), M.Sc. (Minnesota); **Poliah**, S., D.M.D. (Manitoba); **Rebizant**, T., B.Sc., D.M.D. (Manitoba) Cert. Endo (Boston); **Resendes**, M., D.M.D. (Manitoba); **Rihal**, A., D.M.D. (Manitoba); **Rohalsky**, W., D.M.D. (Manitoba); **Schafer**, A.M., B.A. (Hons.) (Manitoba), B.Lit (Oxford); **Schroth**, B., D.M.D. (Manitoba); **Simpson**, P., Dip. D.H. Adv. Cert. Gerontology (Manitoba); **Skinner**, K., D.M.D. (Manitoba); **Solmundson**, K., D.M.D. (Manitoba); **Sroay**, H., D.M.D. (Manitoba); **Sullivan**, D., D.M.D., M.Sc. (Manitoba); **Toporowski**, B., D.M.D. (Manitoba); **Trac**, M., D.M.D. (Manitoba); **Tsang**, R., D.M.D. (Manitoba); **Vodrey**, M., D.D.S., Dip. Pedo. (Toronto); **White**, M., D.M.D. (Manitoba); **Wiebe**, R., D.M.D. (Manitoba); **Wilson**, P.B., D.M.D. (Manitoba); **Wood**, M., D.M.D. (Manitoba); **Wong**, C., D.M.D. (Manitoba); **Zetaruk**, J., D.M.D., (Manitoba); **Zimmer**, K., M.D. (Manitoba), F.R.C.P.

SECTION 2: The Profession of Dentistry

The Faculty of Dentistry is dedicated to educating dental, dental hygiene and graduate students in a progressive learning environment, conducting research in oral health, and serving the community and the oral health professions as a source of knowledge and expertise. The faculty serves as a bridge between the fundamental scientific foundation of the profession and its translation into health care for the public. Dentists enhance and promote the total health of patients through oral health management. Dentists are concerned with promoting oral health and preventing and alleviating the effects of oral diseases and conditions in order to contribute to the well-being of their patients.

The curriculum is designed to ensure that students graduate as competent dentists prepared to meet the oral health care needs of their patients. It provides the knowledge of basic biomedical, behavioural and clinical sciences and biomaterials, the cognitive and behavioural skills, and the professional and ethical values necessary for practice as a dental professional.

Information on the Dental Hygiene program is in the chapter, School of Dental Hygiene.

Licensing Requirements

A graduate of the Faculty of Dentistry is entitled, upon application to the Manitoba Dental Association and upon proof of good character and payment of the appropriate fee, to obtain a license to practice within the province. For information contact: The Registrar, Manitoba Dental Association, 103 - 698 Corydon Avenue, Winnipeg, Manitoba R3M 0X9; telephone (204) 988 5300.

National Examining Body

Graduates of this faculty are required to sit a written examination and an objective structured clinical examination during the calendar year of their graduation, administered by the National Dental Examining Board of Canada. The NDEB certification granted to graduates who pass these examinations, entitles them to apply for a license to practice in all provinces of Canada. The provinces of Ontario and Quebec have additional requirements. For information contact: The Registrar, National Dental Examining Board, 203 - 100 Bronson Avenue, Ottawa, Ontario K1R 6G8; telephone (613) 236 5912.

Other Licensing Bodies

For regulations governing licensure in other areas (e.g., the United States), candidates are advised to write the licensing body in the state in which they are interested. An up-to-date list of addresses of these licensing bodies is available in the Neil John Maclean Health Sciences Library.

SECTION 3: Admission to the Faculty of Dentistry

3.1 Degrees Offered

Doctor of Dental Medicine

Minimum time to graduation: Six years (University 1, plus one year, plus four years in the Faculty of Dentistry).

The following is a summary of the admission requirements. Equivalent academic courses completed at recognized universities elsewhere will be considered. All admission requirements, as well as application deadline dates and forms, are included in an application bulletin that is available from the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

3.2 Course Requirements

After University 1, most students choose the Faculty of Science because the pre-Dentistry requirements easily fit Science degree programs.

Minimum 60 credit hours of pre-Dentistry study including:

Biology 071.125

Chemistry 002.130 and 002.131

Organic Chemistry 002.221 and 002.222

Biochemistry 002.236 or Microbiology 060.236 and Biochemistry 002.237 or Microbiology 060.237.

Physics 016.102 and 016.103 or Physics 16.105 and 16.107

6 credit hours of 100 level English

24 credit hours of electives, 6 of which must be a Humanities/Social Sciences.

All science courses must include the laboratory component.

Other requirements

High school prerequisites: Chemistry 40S, Mathematics 40S, and Physics 40S.

The 6 credit hours of 100 level English satisfies the written English requirement; the mathematics requirement must be met in the first 60 credit hours even though it is not a specific admissions requirement.

The Dental Aptitude Test (DAT) must be written.

A personal interview is required.

The minimum GPA required for consideration: 2.5. Admission is competitive.

Selection criteria: Grades, interview and DAT score equally weighted.

Bachelor of Science (Dentistry)

In addition to the basic professional degree, the faculty offers the Bachelor of Science in Dentistry to interested dental students to undertake research during their undergraduate program. The program is designed to assure that participation in it will not interfere with the student's dental degree. Through active participation in a research program, the students will be given the opportunity to develop skills in applying scientific knowledge to dental practice and an interest in dental research. In addition, the program will serve as a preparatory step for entry into various graduate programs. Information on admission to this program is available from the Dean's Office.

3.3 International Dentist Degree Program (IDDP)

The Faculty of Dentistry, University of Manitoba, offers the International Dentist Degree Program (IDDP) to graduates of international dental programs that are not accredited by the Commission on Dental Accreditation of Canada. After a 4 to 6 week summer orientation program, students enter the 3rd year of the regular dental program of the Faculty. Upon satisfactory completion of the 3rd and 4th years of the dental program, IDDP participants will be awarded the Doctor of Dental Medicine (DMD) degree. All graduates of DMD programs in Canada, once having passed the National Dental Examining Board of Canada (NDEB) examinations, are eligible for licensure/registration as a dentist in all provinces in Canada.

Requirements for admission/entrance to the IDDP program include: the successful completion, within two years prior to the application deadline, of the Eligibility Examination, sponsored by the Commission on Dental Accreditation of Canada; submission of notarized official transcripts of diploma and dental school grades; letters of good standing, from appropriate licensing body; autobiographical sketch; and references.

Applicants, whose first language is not English, must also complete an English language requirement.

Competitive applicants in a given competition will be invited to an on-site assessment held over a one week period at the Faculty of Dentistry. This assessment will, normally, be held mid-December preceding entry into the program. This assessment consists of a personal interview, an oral communications test and a psychomotor skill assessment.

Information on admission to this program is available from the Dean's Office.

SECTION 4: Program Requirements and Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Faculty of Dentistry has regulations and requirements, published below that apply specifically to its students.

4.1 Textbooks and Instruments

Expenditures for textbooks may amount to approximately \$3,300 over the four-year undergraduate program. Each student, on registering, will be provided with a microscope. Otherwise, students are responsible for the purchase of instruments as may be necessary or required. Over the four years of dentistry, the cost of such instruments is approximately \$21,778 (see fee schedule); the bulk of the expenditure is incurred in the first two or three years. Dental Kits are the property of Dental students. The Faculty is unable to accept returns of any student kit or kit items should a student leave the Faculty for whatever reason.

4.2 Immunization Policy

All students enrolled in the Faculty of Dentistry must be immunized against the following diseases: diphtheria/tetanus, polio, rubella, measles, mumps, chicken pox and hepatitis B. Students must be tested for tuberculosis if a suspected exposure occurs. Students who cannot be immunized because of allergies or for other reasons must provide a physician's certificate to verify these reasons.

Before the first day of classes, all students must complete the University of Manitoba Immunization Record Form provided by the Admissions Office. A physician or nurse must sign immunization records. All students are responsible for updating their immunizations as needed.

Students will not be permitted to attend clinics until all immunization requirements are up-to-date.

Arrangements for immunization against hepatitis B for all first year students are made by the Dean's Office with the cost of the immunization being approximately \$80. Students will receive further details during the first week of classes. Second, third and fourth year students, as well as staff who wish to be immunized, are asked to contact the Dean's Office.

4.3 CPR Certification Policy

Accepted candidates will be required to show proof of CPR (Basic Rescuer) certification. This certification must be maintained up to the date of graduation. Arrangements are made, early in the academic year, to certify and re-certify students in CPR. Certification is valid for a two-year period.

4.4 Financial Aid

A number of loan and bursary funds, including 12 new bursaries for first year students, are available to dental students. Applications and further information are available in the Dean's Office.

4.5 Attendance

See the chapter, General Academic Regulations and Requirements. The Faculty of Dentistry has additional regulations that can be found in the Student Handbook, available in the Dean's Office.

4.6 Voluntary Withdrawal

Students intending to withdraw from a portion or all of their courses must report immediately in person or in writing to the Dean's Office to have a course withdrawal form processed. No fees will be refunded without the authorization of the dean. See chapter, on General Academic Regulations and Requirements.

Students who withdraw from the Faculty of Dentistry without notice will be considered to have terminated their connection with the faculty. If a subsequent application for registration is approved, they will be required to conform to the rules and regulations, fee schedules, sequence of courses, etc., in effect at the time of such subsequent application.

In cases where a student is obliged to withdraw after the final date of withdrawal published in the *Calendar* because of ill health or other sufficient reasons, their cases will be considered by the dean of the faculty.

4.7 Required Withdrawal

The Senate of the university has approved bylaws granting certain faculties and schools the authority to require a student to withdraw on the basis of unsuitability for the practice of the profession to which the program of study normally leads. Senate has approved such a bylaw for the Faculty of Dentistry, and it is available in the Dean's Office.

4.8 Decisions Concerning Academic Promotions

The letter grade "D" is the lowest acceptable level of performance in each undergraduate course leading to the degree of D.M.D. when the work of any given year is being taken for the first time. (In the case of a repeated year, the minimum passing grade in each course is "C".)

A student who has a failing grade registered against him/her may not register for the program of the subsequent year, but may, at the discretion of Dental Faculty Council, be permitted to repeat the failed year.

A minimum sessional GPA of 2.0 in each year is required to qualify a student for standing in that year.

A student who fails to obtain a minimum sessional GPA of 2.0 and who is not granted supplemental privileges will be considered to have failed the year.

Except by special permission of Dental Faculty Council, no student may repeat more than one year in Dentistry, nor may any year be repeated more than once.

The work requirements of any repeated year may be modified, even increased, at the discretion of the Dental Faculty Council.

The passing grade in each course of a repeated year in Dentistry is "C".

If a student receives an "F" grade in a fourth year clinical course, they will be required to register and pay a fee for the entire repeated year, and the work in that year may be modified or even increased by Dental Faculty Council.

4.9 Incomplete Standing in the Faculty of Dentistry

The incomplete "I(F)" designation is restricted to clinical courses.

Successful completion of course requirements is through extended clinics rather than supplemental assessment.

A student who is unable to complete the quantitative clinical requirements in a course by the end of the academic year may apply for an incomplete grade classification ["I(F)"] and extension of time. Details of this application procedure can be found in Dentistry's "Student Handbook".

4.10 Supplemental Examinations

A "Supplemental Examination" is an examination which may be offered as a privilege to a student who has failed a course or failed to achieve a satisfactory result. Such examinations are offered in order to grant the student an opportunity to rectify the inadequacy without repeating the course.

Information on Supplemental Examinations can be found in the chapter, General Academic Regulations and Requirements at the beginning of this *Calendar*. Specific information on The Faculty of Dentistry's supplemental privileges can be found in Dentistry's "Student Handbook" available in the Dean's Office.

4.11 Honours and Awards

The top 20 per cent of each class who have a minimum GPA of 3.5 will qualify for the Dean's Honour List.

To qualify for Graduation with Honours, a candidate for the D.M.D. degree must qualify for the Dean's Honour List in both third and fourth year.

A student who repeats a year at his/her own request, i.e., not at the request of Dental Faculty Council, is not eligible for the Dean's Honour List or to receive any awards for the work in that repeated year.

The following policy applies to the eligibility of part-time students for academic awards: in allocating any award, the only academic performance of a student to be considered is that attained during the year(s) for which the award is made. Therefore, a part-time student is not eligible for any purely academic award, other than one in an individual course. However, a part-time student who is carrying 80 per cent or more of the normal course load for the year is eligible for any award where conditions other than academic merit apply, and further, subject to the provisions set forth above, any part-time student is eligible for any award in the individual courses taken in the year for which the award is made.

SECTION 5: Program Outline and Course Descriptions

5.1 First Year

100.105	Cell and Tissue Biology
100.106	Head, Neck and Nervous System 1
100.107	Head, Neck and Nervous System 2
100.108	Human Growth and Development
100.109	Development, Structure and Function of Oral Tissues
101.102	Orthodontics 1
102.107	Dental Materials 1
102.110	Operative Dentistry 1
102.111	Dental Anatomy and Occlusion
102.112	Introduction to Dentistry
103.102	Periodontology
103.114	Radiology 1
066.101	Early Clinical Experience

5.2 Second Year

100.207	Structure and Function of Major Organ Systems
100.209	Cariology and Plaque Associated Diseases
100.210	Pathology and Microbiology 1
100.215	Nutrition in Dentistry
101.202	Orthodontics 2
101.207	Pediatric Dentistry 1
101.213	Dental Public Health
102.202	Dental Materials 2
102.203	Removable Partial Denture Prosthesis
102.204	Complete Denture Prosthesis
102.205	Operative Dentistry 2
102.206	Endodontology 1
102.214	Fixed Partial Denture Prosthesis 1
103.201	Oral Pathology
103.202	Pain and Anxiety Control
103.212	Periodontology
103.218	Radiology 2
066.243	Introduction to Comprehensive Care

5.3 Third Year

100.302	Pathology and Microbiology 2
100.306	Pharmacology and Dental Therapeutics
101.304	Orthodontics 3
101.305	Pediatric Dentistry 2
101.314	a) Dental Public Health b) Preventive Dental Science
102.302	Operative Dentistry 3
102.304	Fixed Partial Denture Prosthesis 2
102.305	Endodontology 2
102.309	Complete and Removable Partial Dental Prosthesis
103.303	Medicine
103.320	Oral Diagnosis and Radiology
103.321	Oral and Maxillofacial Surgery
103.322	Periodontology
103.323	Pain and Anxiety Control

5.4 Fourth Year

101.405	Pediatric Dentistry 3
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101.406	Orthodontics 4
101.408	Community Dentistry Externship
102.406	Endodontics
102.416	Dental Jurisprudence
102.417	Practice Management
103.408	Psychiatry
103.413	Hospital Dentistry
103.420	Oral Diagnosis and Radiology
103.421	Oral and Maxillofacial Surgery
066.401	General Practice Clinic
066.402	Interdisciplinary Case Studies

5.5 Course Descriptions

Oral Biology

100.105 Cell and Tissue Biology Structure, function and chemical composition of eucaryotic cells and bacteria will be studied. Molecular interactions within and between cells and the immune system will be described in detail. Lectures and Laboratories: 84 hours.

100.106 Head, Neck and Nervous System 1 Gross anatomy of the head and neck are described and observed by regional dissection. Overviews of the nervous system and surface anatomy of the mouth are included. Lecture, Laboratories and Demonstrations: 91 hours.

100.107 Head, Neck and Nervous System 2 An introduction to the structure and function of the central and peripheral nervous systems and associated structures, the neurophysiology of the stomatognathic system, pain and analgesics. Lectures and Laboratories: 61 hours.

100.108 Human Growth and Development Development from the origin of the reproductive cells through fertilization, embryology, birth, growth and aging. Particular emphasis is given to development and growth of the head and neck. Lectures: 50 hours.

100.109 Development, Structure and Function of Oral Tissues A study of development, structure and function of hard and soft oral tissues, the role of organic constituents in them, and their importance to the practice of dentistry. Lectures and Laboratories: 79 hours.

100.207 Structure and Function of Major Organ Systems This course emphasizes the basic structure at both organ and cellular levels of a number of organ systems and an understanding of their role in total body function. Lectures and Laboratories: 75 hours.

100.209 Cariology and Plaque Associated Diseases A study of the various dietary, host and microbial factors involved in the etiology of dental caries and periodontal disease, and a discussion of the various methods of plaque control. Lectures: 75 hours.

100.210 Pathology and Microbiology 1 Study of the basic mechanisms of microbial pathogenicity and general pathology as they relate to dentistry and dental treatment. Includes the pathogenesis of bacterial, viral and fungal infections and the aetiology of neoplastic, inflammatory and metabolic diseases. Lectures: 35 hours.

100.215 Nutrition in Dentistry The course covers the role of nutrition in general health and disease with emphasis on the prevention and management of oral problems in Dentistry. Lectures: 25 hours.

100.302 Pathology and Microbiology 2 A study of selected infectious diseases and the application of general diagnostic pathology to dental practice. Lectures: 35 hours.

100.306 Pharmacology and Dental Therapeutics A discussion of the basic pharmacology of local and systemic therapeutic agents and their potential impact on the treatment of dental patients. Lectures: 35 hours.

Preventive Dental Science

101.102 Orthodontics 1 A series of seminars and tutorials designed to introduce the student to: growth and development of craniofacial structures, relationship of craniofacial growth to general body growth, cephalometric and facial analysis, etiology and classification of malocclusion, development of the dentition and preliminary wire bending and manipulation in orthodontics. Seminars: 24 hours; Tutorials: 12 hours.

101.202 Orthodontics 2 A series of lectures and laboratories to introduce the student to: clinical protocol for examination, diagnosis and treatment planning of malocclusions, concepts of occlusion and biomechanics of orthodontic therapy, and fabrication of orthodontic appliances. Lectures: 14 hours; Laboratories: 30 hours.

101.207 Pediatric Dentistry 1 A series of lectures and laboratories to introduce the student to: the fundamental principles of dental growth and development of children, introduction to operative dentistry and preventive techniques commonly used in dentistry for children. Lectures: 10 hours; Laboratories: 30 hours.

101.213 Dental Public Health A series of lectures dealing with dental epidemiology, demography, water fluoridation, and dental health education, program planning and evaluation. The organization of the Canadian health care system is examined with special reference to dental care and aboriginal health issues. Lectures: 15 hours.

101.304 Orthodontics 3 A series of seminars covering the analysis, diagnosis, treatment planning, and mechanotherapy using records of selected cases. The clinical component consists of the diagnosis and treatment planning for individuals seeking orthodontic treatment. The clinical experience includes exposure to removable and fixed appliance mechanotherapy, screening of patients seeking orthodontic care and follow-up of retention of completed cases. Seminars: 14 hours; Clinic: 75 hours.

101.305 Pediatric Dentistry 2 A series of seminars and clinics to give the student a

basic understanding and some clinical experience with: clinical procedures, emergency treatment, psychological management, preventive medical considerations and the provision of total dental care to pediatric patients. Lectures, Seminars and Clinics: 103 hours.

101.314 (a) Dental Public Health The course focuses on the social and psychological variables that impact on dental care for specific age and disease-related issues in the population. Patient utilization rates and program organization are reviewed. Lectures: 15 hours.

(b) Preventive Dental Science Techniques and therapy used to prevent dental diseases are covered. The application of these modalities to specific patient categories follows. Lectures: 15 hours.

101.405 Pediatric Dentistry 3 This course consists of clinical experience including exposure to common pediatric dentistry problems, caries preventive and control procedures, routine conservative procedures and the dental treatment of children in community-based clinics. Clinic: 90 hours.

101.406 Orthodontics 4 This course consists of seminars on special topics related to the provision of orthodontic therapy. In addition, the clinical component including the diagnosis and treatment planning for individuals seeking orthodontic treatment as well as the continuation of treatment commenced in 103.304. Clinical seminars cover the analysis, diagnosis, treatment planning, mechanotherapy and post-treatment evaluation of previously treated cases. Lectures: 12 hours; Clinic: 75 hours.

101.408 Community Dentistry Externship This clinical program is centred in community clinics in Winnipeg and northern Manitoba. The clinics serve elderly, aboriginal, low income or northern patients. Health education seminars may be a requirement at some sites, prepared and delivered by the student interns. 4 week rotation.

Restorative Dentistry

102.107 Dental Materials 1 This course introduces the materials commonly used in dental practice. Composition, chemistry, properties, manipulation and manipulative variables are covered by lecture, laboratory exercises and demonstrations. Lectures: 15 hours; Laboratories: 30 hours.

102.110 Operative Dentistry 1 A lecture and laboratory course introducing the fundamentals of tooth restoration. Hand and rotary instrumentation, principles of tooth preparation and restoration with silver amalgam and cast gold inlays. Lectures: 31 hours; Laboratory: 119 hours.

102.111 Dental Anatomy and Occlusion A lecture and laboratory/seminar course introducing dental terminology, dental morphology and comparative anatomy in first term and the relationships of morphology to functional occlusion in second term. Lectures: 45 hours; Laboratory/Seminar: 128 hours.

102.112 Introduction to Dentistry A series of lectures and seminars which introduce the student to the profession, its structure and governance and prevention of dental disease most commonly treated by dental professionals. Lectures: 20 hours; Laboratories: 22 hours.

102.202 Dental Materials 2 This course develops a scientific basis for the selection, application, manipulation and clinical performance of dental materials. The relationship between the properties of a material and its manipulation, application and clinical behaviour is developed. Lectures: 30 hours.

102.203 Removable Partial Denture Prosthesis The didactic portion of this course presents the principles for the treatment of partially edentulous patients. The procedures and techniques founded on the basic principles make up the laboratory exposure. Lectures: 19 hours; Laboratories: 66 hours.

102.204 Complete Denture Prosthesis The didactic portion of this course presents the principles for the treatment of edentulous patients. Emphasis is placed on techniques of treatment in the laboratory component. Lectures: 22 hours; Laboratories: 78 hours.

102.205 Operative Dentistry 2 A lecture and laboratory course presenting modern and advanced techniques in tooth restoration. Composite resins, adhesion to tooth structure, esthetic restorations and protection of tooth vitality. Introduction to clinical treatment modalities and treatment delivery. Lectures: 24 hours; Laboratory: 78 hours.

102.206 Endodontology 1 Introduction to pulp and periapical pathology. The majority of the teaching is directed at the understanding and actual performance of practical endodontic techniques. Lectures: 12 hours; Laboratories: 36 hours.

102.214 Fixed Partial Denture Prosthesis 1 This course consists of lecture and laboratory instruction introducing basic techniques of crown and bridge construction based on classical concepts. Lectures: 21 hours; Laboratories: 141 hours.

102.302 Operative Dentistry 3 This course consists of lecture and clinic components emphasizing diagnosis, treatment planning and the application of fundamental principles of operative dentistry. A review of the literature dealing with current restorative materials and techniques is also included. Lectures: 29 hours; Clinic: 114 hours.

102.304 Fixed Partial Denture Prosthesis 2 Introduction to clinical practice. Variations encountered clinically are treated to comply with basic principles. Diagnosis and treatment-planning to resolve problems of occlusion are discussed. Clinical treatment includes usage of current materials. Lectures: 30 hours; Clinic: 84 hours.

102.305 Endodontology 2 This course emphasizes the rationale and biologic basis for the practical techniques previously taught. Techniques are discussed in greater detail and are applied to treatment of patients. The second part of the course deals with pulp biology to prepare the student for understanding the rationale behind pulpal protection, prevention and treatment of pulpal disease. Lectures: 20 hours; Clinic: 72 hours.

102.309 Complete and Removable Partial Denture Prosthesis This course consists of a series of lectures and clinics. Theories of applied prosthodontics are discussed and applications of this knowledge are made concurrently through the clinical treatment

of patients. Lectures: 47 hours; Clinic: 76 hours.

102.406 Endodontics Seminars Seminars designed to enhance the clinical endodontics experience with literature review of diagnosis, more complex treatment methods and materials, case selection and student presentations. Seminars: 16 hours.

102.416 Dental Jurisprudence This course covers the fundamental legal concepts of professional interest, the extent of legal responsibilities to patients, the constitution of malpractice, the roles of the expert witness, contracts, etc. Lectures: 17 hours.

102.417 Practice Management The management, evaluation, economics, organization, design, location, selection and marketing of a dental practice are covered by lectures and seminars. In addition, ethical considerations of dental practice, the options available to new dental graduates and the role of professional associations are discussed. Lecture and Seminars: 58 hours.

Dental Diagnostic And Surgical Sciences

103.102 Periodontology A laboratory course designed to introduce students to periodontal examination procedures and to basic periodontal instrumentation. Laboratory: 30 hours.

103.114 Radiology A series of lectures which introduces the student to: the elementary principles of dental radiology; radiation physics, radiation biology, imaging techniques, x-ray equipment, radiation protection. Lectures: 16 hours.

103.201 Oral Pathology A series of lectures emphasizing recognition, description, etiopathogenesis, clinical and/or radiographic features, biologic behaviour, treatment and/or management of oral and paraoral pathologic conditions. Lectures: 76 hours.

103.202 Pain and Anxiety Control A series of lectures to introduce the student to: local anaesthetics, local anaesthesia techniques, avoidance and management of complications and selection of appropriate drugs and techniques. Lectures: 15 hours.

103.212 Periodontology An introductory course with emphasis on periodontal structures in health and disease, the etiology and diagnosis of periodontal disease, as well as the role of occlusion. Lectures: 23 hours.

103.218 Radiology A series of lectures in the theoretical and practical principles of radiographic interpretation of common oral pathologic conditions as well as selected examples of pathologic conditions exhibiting important radiographic principles. Lectures: 16 hours.

103.303 Medicine Lectures or seminars describing the basic mechanisms, symptoms, diagnosis, and management of various disease processes included in internal medicine and their dental correlations. Lectures: 30 hours.

103.320 Oral Diagnosis and Radiology This course includes a lecture component covering history-taking, clinical examination, diagnosis and treatment of soft and hard tissue lesions, emergency treatment, dental treatment of patients with systemic disease, and clinical experience. Lectures: 32 hours; Clinic: 48 hours.

103.321 Oral and Maxillofacial Surgery This course consists of lectures, seminars and clinics, covering all aspects of oral and maxillofacial surgery with an emphasis on those procedures performed by the general practitioner. Lectures/Seminars: 30 hours; Clinics: 18 hours.

103.322 Periodontology This combined didactic and clinical course is designed to provide experience which will allow students to apply their earlier and current didactic learning to the clinical environment. The lecture periods concern themselves principally with verbal descriptions of treatment modalities and techniques, including non-surgical, surgical intervention and temporomandibular joint problems. Inter-relationships with other clinical disciplines and dental implantology also receives considerable attention. Lectures: 26 hours; Minimum Clinical Experience: 70 hours.

103.323 Pain and Anxiety Control This course consists of lectures/seminars and clinical experience in: physiology of pain and psychology of anxiety, management of medical emergencies, parenteral injections, and therapeutics of the various modalities of pain and anxiety control. Lectures and Clinical Experiences/Seminars: 30 hours.

103.408 Psychiatry This course is a series of lectures covering: consideration of personality development, the measurement of intelligence, ego defenses, normal and abnormal psychodynamics, psychological problems which initiate and sustain dental pathology, and handling practice psychiatry problems in dental practice. Lectures: 14 hours.

103.413 Hospital Dentistry This course is designed to provide the student with a familiarization with hospital protocol, reinforcement of understanding in medicine, surgery, pharmacology and therapeutics, the dental treatment of medically compromised patients at the Health Sciences Centre, and handicapped patients in other institutional settings. 1 week rotation.

103.420 Oral Diagnosis and Radiology This clinical course is designed to give the student clinical experience with: treatment planning; diagnostic techniques, differential diagnosis, emergency treatment and non-surgical management related to oral pathologic conditions. Clinical Experience: 60 hours.

103.421 Oral and Maxillofacial Surgery This course consists of lectures, seminars and clinics covering all aspects of oral and maxillofacial surgery with an emphasis on those procedures performed by the general practitioner. Lectures: 15 hours; Clinics: 18 hours.

General Faculty

066.101 Early Clinical Experience A series of lectures and clinical participation sessions designed to introduce the student to clinical dentistry and the relevance of basic science courses in the dental curriculum. Lectures: 35 hours; Clinics: 45 hours.

066.243 Introduction to Comprehensive Care This course in an introduction to an integrated, patient-centered program with patient needs as the primary focus. The course will introduce students to clinical protocol and patient record documentation. Students will receive required experience in comprehensive treatment planning as well as in basic treatments in periodontics, operative dentistry, and pain control. This

course is evaluated on a pass/fail basis. Clinic: 63 hours; Seminars: 21 hours.

066.401 General Practice Clinic This course consists of an integrated, patient-centered clinical program with patient needs as the primary focus. Patients will be assigned to students and organized to provide the required clinical experiences typical of a contemporary general dental practice. Clinic: 418 hours.

066.402 Interdisciplinary Case Studies Case-based, problem-solving tutorials designed to enable the student to obtain, organize and critically evaluate information in order to resolve interdisciplinary clinical problems using contemporary models of clinical decision-making. Seminars: 40 hours.

Faculty of Education

Dean's Office/Student Services

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Dean: John Wiens

Associate Deans: Zana Lutfiyya, TBA

Executive Assistant to the Dean: Michele Rogalsky

Coordinator/Administrative Support for Academic Programs & Student Services (Graduate) Coordinator: Louise Graham

Student Services Coordinator, Undergraduate Programs and Administrative Assistant, Faculty Accessibility Initiatives: Rosanna Caruso

Student Advisor: Luna Jackson

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-

SECTION 1: Academic Staff

Curriculum, Teaching and Learning

Dean Emeritus

MacPherson, E.D., B.A., M.A. (UBC), Ph.D. (Washington State).

Professors Emeriti

Osborne, K.W., B.A.(Hons.) (Oxford), B.Ed., M.A. (Manitoba); **Trosky**, O., B.A., B.Ed., M.Ed. (Manitoba), Ph.D. (Toronto).

Senior Scholars

Connor, S., B.Sc., B.Ed. (Manitoba), Ph.D. (Texas); **Irvine**, J., B.A., B.Paed., B.Ed., M.Ed. (Manitoba); **Spencer**, P., B.A., B.Ed., M.Ed., Ed.D. (New York).

Professors

Cap, O., B.A. (Quebec), M.Ed. (Rutgers), Ph.D. (Ohio State); **Chinien**, C., B.Ed., M.Ed., Ph.D. (Ohio State); **Harvey**, D.A., B.A. (Bemidji), M.Sc. (Western Illinois State), P.E.D. (Indiana); **Hlynka**, L.D., B.Sc., B.Ed. (Manitoba), M.A. (Minnesota), Ph.D. (Michigan State); **Jenkinson**, D.H., B.A., B.Ed. (Manitoba), B.L.S., M.Ed. (Alberta), Ph.D. (Minnesota); **Stinner**, A.O., B.A., B.Sc., B.Ed. (Alberta), M.Sc. (York), Ed.D. (Toronto); **Straw**, S.B., B.A., M.A. (Missouri), Ph.D. (Minnesota).

Associate Professors

Johns, B.A., B.S. (Indiana), M.A. (Michigan State); **Kanu**, Y., B.A., Dip.Ed., M.Ed. (Sierra Leone), Cert.Curr.Dev.Soc.St. (Leeds), B.Litt. (Birmingham), Ph.D. (Alberta); **Lewthwaite**, B., B.Sc., B.Ed. (Saskatchewan), M.Ed. (Massey), Sc.Ed.D. (Curtin); **Mason**, R., B.Ed., M.A. (Ed.) (Calgary), Ph.D. (Alberta); **Morin**, F., A.C.M., (Affiliate Teacher)(Toronto), B.P.E., M.Ed. (Manitoba), Ph.D. (North Dakota); **Schulz**, R., B.A. (Manitoba), M.Ed. (Queen's), Ph.D. (North Dakota); **Serebrin**, W., B.A., B.Ed. (Dalhousie), Ph.D. (Indiana).

Assistant Professors

Kouritzin, S., B.A., M.A., Ph.D. (UBC); **Linklater**, F., B.Mus. (Brandon), M.Mus. (North Texas), Ph.D. (Michigan); **MacPherson**, S., B.A., Ph.D. (UBC); **McMillan**, B.A., B.Sc. (Wisconsin), B.Sc.(Hons.), M.Sc., Ph.D. (Manitoba); **Rosenstock**, S.A., B.A. (Manitoba), M.A. (North Dakota), Ph.D. (Ohio State); **Smith**, K., B.F.A., Cert.Ed. (Manitoba), M.Ed. (UBC), Ph.D. (Manitoba); **Wares**, A., B.A. (Maine), B.Sc. (Dakota), M.Sc., Ph.D. (Illinois State); **Welsh**, J.C., B.Sc., B.Ed. (Manitoba), M.A., Ph.D. (Minnesota).

Instructors

Bochonko, H., B.A., M.A. (Michigan); **Coffman**, E., B.F.A. (Goshen College), M.Ed. (Manitoba); **Fecyk-Lamb**, R., B.A.(Hons.)(Ottawa), B.Ed. (Manitoba), M.Ed. (OISE, Toronto); **MacKay**, T., B.A. (Regina), B.Ed. (Lakehead), M.Ed. (Manitoba); **Sadowy**, P., B.Ped., M.Ed. (Manitoba).

Educational Administration, Foundations, and Psychology

Dean Emeritus

Stapleton, J.J., B.S. (Iona), M.T.S. (C.U.A.), M.A., Ph.D. (Toronto).

Senior Scholar

Poonwassie, D., B.A. (Manitoba), B.Ed., M.Ed., Ph.D. (Oregon).

Professors Emeriti

Poonwassie, D., B.A. (Manitoba), B.Ed., M.Ed., Ph.D. (Oregon); **Riffel, J.A.**, B.A., M.Ed. (Saskatchewan), Ph.D. (Alberta); **Wilson, K.**, M.A. (Sheffield), M.Ed. (Manitoba), Ph.D. (Michigan State).

Professors

Bartell, R., B.A., M.A. (Hebrew University, Jerusalem), Ph.D. (Chicago); **Chinien, C.**, B.Ed., M.Ed., Ph.D. (Ohio State); **Clifton, R.A.**, B.Ed., M.Ed. (Alberta), Ph.D. (Toronto), Ph.D. (Stockholm); **Freeze, D.R.**, B.A., B.Ed. (Queen's), M.A., Ph.D. (Victoria); **Levin, B.**, B.Ed. (Manitoba), M.Ed. (Harvard), Ph.D. (OISE); **Long, J.C.**, B.Ed. (Alberta), M.Ed. (Calgary), Ph.D. (Alberta); **Magsino, R.**, B.A. (Magna Cum Laude), B.Sc., Ed. (Magna Cum Laude) (Luzonian), M.Ed. (Sydney), M.A., Ph.D. (Wisconsin); **Schulz, W.E.**, B.A. (Winnipeg), B.Ed. (Manitoba), M.Ed., Ph.D. (Wyoming); **Seifert, K.L.**, B.A. (Swarthmore), M.A., Ph.D. (Michigan); **Stapleton, J.J.**, B.S. (Iona), M.T.S. (C.U.A.), M.A., Ph.D. (Toronto); **Wiens, J.R.**, B.A., B.Ed., M.Ed. (Manitoba), Ph.D. (Simon Fraser); **Young, J.C.**, B.A., M.A. (Durham), P.G.C.E. (Cambridge), M.Ed. (Queen's), Ph.D. (Toronto).

Associate Professor

Lutfiyya, Z.M., B.A. (Manitoba), M.S., Ph.D. (Syracuse).

Assistant Professors

Creamer, D.G., B.Sc., B.Ed. (St. Mary's), M.Div. STB. (Regis College), M.Ed., Ed.D. (OISE); **Evans, C.**, B.Sc., M.Cl.Sc. (Western), Ph.D. (Manitoba); **Mandzuk, D.**, B.Ed., M.Ed., Ph.D. (Manitoba); **Mani, P.**, B.Ed. (Alberta), M.Ed. (Ottawa), Ph.D. (Victoria); **Piquemal, N.**, DEUG, Licence, Maitrise, D.E.A. (Strasbourg), Ph.D. (Alberta); **Renaud, R.**, B.A. (Hons.), M.A., Ph.D. (Western Ontario).

Division of Postsecondary Studies

Professors

Clifton, R.A., B.Ed., M.Ed. (Alberta), Ph.D. (Toronto), Ph.D. (Stockholm); **Kirby, D.M.**, B.Sc., Ed.Cert. (London), M.Ed. (Memorial), Ph.D. (London); **Morphy, D.R.**, B.A. (Alberta), M.A. (Calgary), Ph.D. (Michigan State); **Perry, R.P.**, B.A. (UBC), M.Sc., Ph.D. (Calgary); **Roberts, L.W.**, B.A., M.A., Ph.D. (Alberta), **Straw, S. B.**, B.A., M.A. (Missouri), Ph.D. (Minnesota).

Associate Professors

Kristjanson, C., BPE, M.Ed., Ph.D. (Manitoba); **Taylor, K.L.**, B.Sc., B.Ed. (Memorial), M.A. (Dalhousie), Ph.D. (Ottawa).

Assistant Professors

Kops, W.J., B.A., M.B.A. (Manitoba), Ed.D. (Toronto); **Schonwetter, D.J.**, B.Th. (CMBC), B.A., M.A., Ph.D. (Manitoba).

SECTION 2: The Faculty of Education and the Teaching Profession

The educational objective of the Faculty of Education is to prepare students for a career in the teaching profession. Attaining the B.Ed. degree leads to professional certification by Manitoba Education and Youth and the opportunity to attain initial employment as a classroom teacher in Manitoba and elsewhere. Those desiring other roles in education can achieve the professional requirements via the Post Baccalaureate Certificate in Education (PBCE) or graduate degrees in education (M.Ed. or Ph.D.).

Teacher education in Manitoba dates to 1882, but the Faculty of Education was not created until 1935. Initially charged with offering programs that led to secondary school teaching certificates and Master of Education degrees, in 1965, through amalgamation with the Manitoba Teacher's College, the faculty had its mandate enlarged to include the elementary certification programs. From 1986 to 1998, the four year Bachelor of Education was the prerequisite degree for professional certification; however, effective May, 2003, all future Manitoba teachers must graduate from 150 credit hour teacher education programs and hold two degrees, one of them a B.Ed. The faculty has, therefore, introduced a two-year Bachelor of Education degree which is completed following the awarding of an initial degree from another faculty or university.

2.1 Professional Teacher Certification Requirements for Manitoba Education

During the final year of the B.Ed. degree, the university will provide a list of potential Bachelor of Education graduates to the Professional Certification and Student Records Unit, Manitoba Education and Youth. That office will contact each student to request the following information:

- Photocopy of proof of Canadian citizenship or landed immigrant status;
- Photocopy of Social Insurance Number;
- Photocopy of documentary proof of change of name, if applicable;
- Official transcripts. After each convocation, the Faculty of Education will forward official transcripts to Manitoba Education and Youth;
- Cheque or money order for \$50, payable to the Minister of Finance, to cover the certification fee.
- Signed Investigation Authorization and a cheque or money order for \$10 payable to the Minister of Finance, to cover the Criminal Records check.

Students who receive the B.Ed. degree are recommended for certification by the university, and, if they meet all certification requirements, they will receive the Professional Certificate. This certificate is permanent and entitles the holder to teach any subject, at any level (K - S4), in Manitoba.

Contact the Professional Certification and Student Records Unit at toll free 1-800 667 2378 in Manitoba, or 1-204 773 2998 or E-mail: ksmiard@gov.mb.ca, or write to Box 700, Russell, Manitoba, R0J 1W0 for further information about certification.

2.2 Overview of Programs

The Faculty of Education offers programs at both the undergraduate and graduate levels leading to the following degrees and certificates: the Bachelor of Education degree (see below); the Post-Baccalaureate Certificate in Education (see Section 9.0); the Certificate in Teaching English as a Second Language (CTESL); the Master of Education degree and the Doctor of Philosophy (see *Graduate Calendar*).

All courses offered by the Faculty of Education are designated "Education" courses and are distinguished from courses offered by other faculties or schools of the university which are designated "Non-Education" courses.

After-Degree Bachelor of Education: Early Years, Middle Years (Including a Weekend College Middle Years Scheduling Option) and Senior Years

Following a first degree, the After-Degree Bachelor of Education program consists of 60 credit hours (two years) of course work taken within the Faculty of Education and leads to general certification and a Bachelor of Education degree. The Weekend College Middle Years scheduling option takes three years of study to complete 60 credit hours. Unless otherwise stated, the Weekend College scheduling option follows the same regulations as Middle Years. The Faculty anticipates an intake to the Weekend College Middle Years Scheduling Option every two years. The next proposed intake will be September 2003.

Bachelor of Music/Bachelor of Education Integrated

A program leading to general certification and preparing teachers for Senior Years Music. Both degrees are awarded upon completion of the program.

Bachelor of Human Ecology/Bachelor of Education Integrated

A program leading to general certification and preparing teachers for Senior Years Home Economics. Both degrees are awarded upon completion of the program.

Post Baccalaureate Certificate in Education (PBCE)

Designed for teacher professional development, the PBCE is a 30 credit hour program following the completion of an undergraduate degree, normally a B.Ed.

Certificate in Teaching English as a Second Language (CTESL)

The Continuing Education Division, in collaboration with the Faculty of Education, offers a 15 credit hour (200 hour) Certificate in Teaching English as a Second Language. Education students may take courses in this program to fulfil Education complementary course requirements of their B.Ed. CTESL courses include: 132.182 Language and Content Instruction of ESL/

Bilingual Students (3), 132.162 Principles and Procedures of Second Language Teaching (3), 132.186 Practicum in Teaching English as a Second Language (TESL) (3), 132.164 Teaching ESL Vocabulary and Pronunciation (3), 132.165 Teaching ESL Grammar (3), 132.166 Computers in Second Language Teaching (3). For further information, contact Timothy MacKay, 474-6039, mackayt@ms.umanitoba.ca or Heather McIntosh, 474-8402, heather_mcintosh@umanitoba.ca.

Special Students

The Faculty of Education does not admit students to this category.

Students Enrolled in Other Faculties/Schools

Students currently enrolled in other faculties/schools at the University of Manitoba may take a maximum of six credit hours of Education complementary courses (see Section 8). Students who hold a first degree may take a maximum of six credit hours of 500-level courses. The maximum credits a non-Education student may take is six credit hours.

Visiting Students

See the chapter, Registration and Fees, of this *Calendar* and contact the Student Services Office, Faculty of Education, for admission procedure.

SECTION 3: Admission to the Faculty of Education

Degrees Offered

3.1 After Degree Bachelor of Education

The Bachelor of Education program is a two year program following the completion of a first degree of at least 90 credit hours (three years in duration). See admission requirements for detailed information.

3.2 Integrated Degrees: Human Ecology and Music

The Faculty of Human Ecology and the School of Music each offer a degree program that integrates the requirements of its degree program with those of the Faculty of Education. See section 5 and 6 or the chapters for the Faculty of Human Ecology and the School of Music for information. The integrated programs are five years in length. Students are awarded both degrees upon completion.

3.3 Post Baccalaureate Certificate in Education

Designed for teacher professional development, the Post Baccalaureate Certificate in Education is a 30 credit hour program following completion of a Bachelor's degree, normally a B.Ed.

SECTION 4: After-Degree Bachelor of Education

Early Years, Middle Years (Including a Weekend College Scheduling Option) and Senior Years

4.1 Admission Requirements

A first degree of a minimum of 90 credit hours and the requirement for teachable subjects as follows:

- 30 credit hours in a teachable major,
- 18 credit hours in a teachable minor.

Other requirements

Minimum GPA for consideration: 2.0 with a minimum grade of C in each teachable major/minor course. The GPA is calculated on the basis of the courses used toward the teachable major and minor.

An interview and experience profile.

References and a criminal record self-declaration.

Selection criteria: 57.1% on GPA; 14.3% on experience profile and interview; and 28.6% on writing skills.

To be eligible for this program, applicants must have a conferred first degree from a recognized institution by October of the year of application.

The Weekend College Middle Years scheduling option may not admit students each year; however, an intake of students is anticipated for September, 2003.

Special Consideration Category

The Faculty of Education has a Special Consideration Category. The Faculty recognizes the importance of providing the highest quality of education to all students in Manitoba via a teaching force that is fully representative of the cultural, ethnic and racial diversity of the province.

As the largest teacher education institution in the province, the Faculty recognizes its responsibility to facilitate the development of such a teaching force.

Furthermore, the Faculty recognizes the need to ensure that its recruitment and admission policies and procedures do not inappropriately obstruct the achievement of such a goal, but rather actively promote its attainment.

In keeping with the above, the Faculty will admit up to 10 percent of the After Degree B.Ed. applicants under this category. The Special Consideration Category includes: Canadian Aboriginal peoples, members of a visible minority or persons with disabilities.

Canadian Aboriginal Peoples – An aboriginal person is either one who by birth is a Registered Indian as provided for in the Indian Act, or who is an Indian person without legal status by the Indian Act, or who is a Metis, or who is an Inuit person.

Visible Minority – Persons other than Aboriginal Peoples who, because of their colour, are a visible minority in Canada.

Persons with Disabilities – Persons with disabilities are those who would consider themselves disadvantaged by reason of any physical, intellectual, mental, sensory or learning impairment.

Information on admission within this category is included in the admissions bulletin.

All admission requirements are described in detail in an admissions bulletin that includes application deadline dates and application forms. This material is available from Enrolment Services, 424 University Centre. The detailed admission information is also posted on the university website.

Early Years (Kindergarten - Grade 4)

Applicants must have two teachable subjects. One area must be from English, Geography, History, Mathematics, or Science. See table below.

NOTE: Potential applicants in the process of completing their first degree are advised that meeting the teachable major/minor requirements for Education may not meet the requirements for a first degree in their home faculty. Applicants are advised to consult the chapter of this *Calendar* for their current faculty.

Teachable Subject	Major (30 credit hours)	Minor (18 credit hours)	Major/Minor Notes
Art	/	/	
English (Language Arts)	/	/	
French	/	/	
Geography	/	/	6 credit hours of Canadian or North American Geography are required in the major or minor
History	/	/	6 credit hours of Canadian or North American History are required in the major or minor
Mathematics	/	/	Major or minor may include combinations of courses from the departments of Mathematics and Statistics (with a minimum of 6 credit hours above the 100 level)
Music	/	/	
Native Studies	no major	/	May include 6 credit hours of a First Nations language course

Physical Education	/	/	All Physical Education courses at the University of Manitoba are identified with department number 057. Recreational Studies courses (123) are not acceptable
Science	/	/	Major or minor may include a combination from Environmental and Geological Science courses in the Faculty of Environment and Science courses from different departments in the Faculty of Science (excluding Mathematics and Statistics).
Second Language	/	/	Major or minor in a language other than English or French
Social Studies	no major	/	Include: 6 credit hours in Geography; 6 credit hours in History, 6 credit hours in another Social Science
Drama/Theatre	/	/	

Middle Years (Grades 5 – 8)

Applicants must have two teachable subjects. One area must be from English, Geography, History, Mathematics, or Science. See table below.

NOTE: Potential applicants in the process of completing their first degree are advised that meeting the teachable major/minor requirements for Education may not meet the requirements for a first degree in their home faculty. Applicants are advised to consult the chapter of this *Calendar* for their current faculty.

Teachable Subject	Major (30 credit hours)	Minor (18 credit hours)	Major/Minor Notes
Art	/	/	Effective for 2004/05 application year, applicants must possess a minimum of 18 credit hours of studio courses for a major and 12 credit hours of studio courses for a minor.
Computer Science	/	/	
English (Language Arts)	/	/	
French	/	/	
Geography	/	/	6 credit hours of Canadian or North American Geography are required in the major or minor
History	/	/	6 credit hours of Canadian or North American History are required in the major or minor
Human Ecology (Home Economics)	/	/	
Mathematics	/	/	Major or minor may include combinations of courses from the departments of Mathematics and Statistics (with a minimum of 6 credit hours above the 100 level)
Music	/	/	Effective for 2004/05 application year, applicants must possess a major or minor in different areas of specialization. These include: choral, instrumental or early/middle general music
Native Studies	no major	/	May include 6 credit hours of a First Nations language course
Physical Education	/	/	All Physical Education courses at the University of Manitoba are identified with department number 057. Recreational Studies courses (123) are not acceptable

Science	/	/	Major or minor may include a combination from Environmental and Geological Science courses in the Faculty of Environment and Science courses from different departments in the Faculty of Science (excluding Mathematics and Statistics). 6 credit hours must be above the 100 level.
Second Language	/	/	Major or minor in languages other than English or French
Social Studies	no major	/	Include: 6 credit hours in Geography; 6 credit hours in History, 6 credit hours in another Social Science
Drama/Theatre	/	/	

Senior Years (S1 – S4)

Applicants must have two teachable subjects; one Major and one Minor. See table below.

NOTE: Potential applicants in the process of completing their first degree are advised that meeting the teachable major/minor requirements for Education may not meet the requirements for a first degree in their home faculty. Applicants are advised to consult the chapter in this *Calendar* for their current faculty.

Teachable Subject	Major (30 credit hours)	Minor (18 credit hours)	Major/Minor Notes
Art	/	/	Effective for 2004/05 application year, applicants must possess a minimum of 18 credit hours of studio courses for a major and 12 credit hours of studio courses for a minor.
Biology	/	/	
Chemistry	/	/	
Computer Science	/	/	
English (Language Arts)	/	/	
French	/	/	
General Science	/	/	Major or minor may include a combination from Environmental and Geological Science courses in the Faculty of Environment and Science courses from different departments in the Faculty of Science (excluding Mathematics and Statistics). 6 credit hours must be above the 100 level.
Geography	/	/	
History	/	/	
Human Ecology (Home Economics)	/	/	Students with a major and a minor in Human Ecology must have two different areas of concentration
Mathematics	/	/	Major or minor may include combinations of courses from the departments of Mathematics and Statistics, (with a minimum of 6 credit hours above the 100 level)
Music	/	/	Effective for 2004/05 application year, applicants must possess a major and/or minor in different areas of specialization. These include: choral, instrumental or early/middle general music
Physical Education	/	/	All Physical Education courses at the University of Manitoba are identified with department number 057. Recreational Studies courses (123) are not acceptable
Physics	/	/	
Second Language	/	/	Major or minor in languages other than English or French
Drama/Theatre	/	/	

4.1.1 Adult Criminal Records Self Declaration

The Minister of Education and Youth for the Province of Manitoba requires that background checks be conducted on all candidates for teacher education in Manitoba and on all applications for certification for this province. Accordingly, all applicants to Bachelor of Education programs will be required to complete the "Adult Criminal Records Self-Declaration" form as a condition of final acceptance to the program. Only adult criminal records must be disclosed, and the existence of such a record will not automatically exclude applicants. Applicants should also be aware that the Board of Teacher Certification will also require students graduating from the Bachelor of Education program to undergo a criminal record check as part of the certification process. Information on the Adult Criminal Records Self-Declaration is included in the admission bulletin available from the Enrolment Services/Admissions, 424 University Centre and the website: http://www.umanitoba.ca/student/admissions/guide/other_programs.shtml.

4.2 Admission Procedure

Application forms are available from the Faculty of Education, 230 Education Building, or Enrolment Services/Admissions, 424 University Centre, or at the website: http://www.umanitoba.ca/student/admissions/guide/other_programs.shtml. Completed applications with supporting documentation must be submitted by February 1.

4.3 Program Requirements

REMINDER: While Education student advisors are available to clarify faculty and university regulations and degree requirements, it is the student's responsibility to ensure that degree and program requirements are met.

Returning students planning to take School Experience (132.196, 132.197, 132.198, 132.296, 132.297, or 132.298) during the upcoming Regular Session must make application for a School Placement no later than February 1. Forms will be available from the Student Services Office, Room 230 Education Building, Faculty of Education, beginning December 15. Failure to apply for School Placement by February 1 may result in students being denied a placement.

Early Years: Year 1

Course No.		Credit Hours
132.100	Early Years Philosophy and Practice 1	1
132.101	Early Years Curriculum and Instruction in Language and Literacy 1	3
132.102	Early Years Curriculum and Instruction in Music and Movement 1	1
132.103	Early Years Curriculum and Instruction in Art and Drama 1	2
132.104	Early Years Curriculum and Instruction in Social Studies 1	1
132.105	Early Years Curriculum and Instruction in Mathematics 1	2
132.106	Early Years Curriculum and Instruction in Science and Health 1	2
132.196	Early Years School Experience 1	6
132.199	Teacher and Technology	3
129.180	Psychology of Learning and Instruction 1: Theory and Practice	3
129.181	School and Society 1: The Social Foundations of Education	3
	Complementary Course	3
Total credit hours		30

Early Years: Year 2

132.200	Early Years Philosophy and Practice 2	1
132.201	Early Years Curriculum and Instruction in Language and Literacy 2	3
132.202	Early Years Curriculum and Instruction in Music and Movement 2	2
132.203	Early Years Curriculum and Instruction in Art and Drama 2	1
132.204	Early Years Curriculum and Instruction in Social Studies 2	2
132.205	Early Years Curriculum and Instruction in Mathematics 2	2
132.206	Early Years Curriculum and Instruction in Science and Health 2	2

132.207	Early Years Curriculum and Instruction Children's Literature	1
132.208	Early Years Multi-Language Development	1
132.296	Early Years School Experience 2	6
129.280	Psychology of Learning and Instruction 2: Inclusive Special Education	3
129.281	School and Society 2: The Administrative Foundations of Education	3
	Complementary Course	3
Total credit hours		30

Middle Years: Year 1

132.110	Introduction to Teaching Language Arts in the Middle Years	3
132.111	Introduction to Teaching Social Studies in the Middle Years	1
132.112	Teaching Drama in the Middle Years	1
132.113	Introduction to Teaching Science in the Middle Years	1
132.114	Introduction to Teaching Mathematics in the Middle Years	3
132.197	Middle Years School Experience 1	3
132.199	Teacher and Technology	3
129.180	Psychology of Learning and Instruction 1: Theory and Practice	3
129.181	School and Society 1: The Social Foundations of Education	3
129.280	Psychology of Learning and Instruction 2: Inclusive Special Education	3
129.281	School and Society 2: The Administrative Foundations of Education	3
	Complementary Course	3
Total credit hours		30

Middle Years: Year 2

132.210	Teaching Language Arts in the Middle Years	3
132.211	Teaching Social Studies in the Middle Years	3
132.212	Teaching Art in the Middle Years	2
132.213	Teaching Science in the Middle Years	3
132.214	Teaching Mathematics in the Middle Years	3
132.215	Teaching Physical Education in the Middle Years	2
132.240	Teaching in the Middle Years	2
132.297	Middle Years School Experience 2	9
	Complementary Course	3
Total credit hours		30

Weekend College Middle Years Scheduling Option

Classes are held on Saturdays (9am – 4pm) and most Sundays (9am – 12pm). Over the three years of the program, students must spend a total of 24 weeks in schools to complete their School Experience requirements.

Year 1

September -December

129.180	Psychology of Learning and Instruction 1: Theory and Practice	3
129.181	School and Society 1: The Social Foundations of Education	3
132.197	Middle Years School Experience 1 (First block - 2 weeks)	3
132.199	Teacher and Technology	3

January -April

132.110	Introduction to Teaching Language Arts in the Middle Years	3
132.114	Introduction to Teaching Mathematics in the Middle Years	3
132.197	Middle Years School Experience 1 (Second block - 4 weeks)	3

May-June

132.111	Introduction to Teaching Social Studies in the Middle Years	1
132.112	Teaching Drama in the Middle Years	1
132.113	Introduction to Teaching Science in the Middle Years	1
Total Credit Hours		21

Year 2		
September -December		
132.210	Teaching Language Arts in the Middle Years	3
132.212	Teaching Art in the Middle Years	2
132.214	Teaching Mathematics in the Middle Years	3
132.297	Middle Years School Experience 2 (First block - 4 weeks)	9
January -April		
132.211	Teaching Social Studies in Middle Years	3
132.213	Teaching Science in Middle Years	3
132.297	Middle Years School Experience 2 (Second block - 4 weeks)	9
	Complementary Course	3
Total Credit Hours		26

NOTE: 132.297 Middle Years School Experience continues into year three.

Year 3

September- December		
132.297	Middle Years School Experience 2 (First block - 1 week)	1
129.280	Psychology of Learning and Instruction 2: Inclusive Special Education	3
129.281	School and Society 2: The Administrative Foundations of Education	3
132.240	Teaching in the Middle Years	2
132.297	Middle Years School Experience 2 (Second block - 4 weeks)	9
January -April		
132.215	Teaching Physical Education in the Middle Years	2
132.297	Middle Years School Experience 2 (Third block - 5 weeks)	5
	Complementary Course	3
Total Credit Hours		13

Senior Years

Year 1

Curriculum and Instruction (select two from the following - one for the teachable Major and one for the teachable Minor) 6

NOTE: Students with a major/minor combination of History/Geography; Art/Music/Theatre; any two of the Sciences, will complete three credit hours of Curriculum and Instruction courses for their major/minor and 3 credit hours of a complementary education course of their choosing. For students admitted September 2003 or later, 132.180 Recent Developments in Learning and Teaching Senior Years Mathematics is a pre- or corequisite for the Curriculum and Instruction course 132.125 Teaching Mathematics in Senior Years 1.

132.120	Teaching the Arts in Senior Years for (Art, Music and Theatre teachable majors and minors)	3
132.121	Teaching English Language Arts in Senior Years 1	3
132.123	Teaching Social Studies in Senior Years (for Geography and History teachable majors and teachable minors)	3
132.124	Teaching Human Ecology in Senior Years 1	3
132.125	Teaching Mathematics in Senior Years 1	3
132.126	Teaching Physical Education/Health Education in Senior Years 1	3
132.127	Teaching Senior Years Science (for Biology, Chemistry, Computer Science, General Science and Physics teachable majors and teachable minors)	3
132.128	L'enseignement du français de base au Niveau Secondaire 1	3
132.135	Teaching a Heritage, Aboriginal or International Language 1	3
	and <i>all of the following:</i>	
132.150	Education in the Senior Years	3
132.151	Principles and Processes of Teaching	3
132.198	Senior Years School Experience 1	6
132.199	Teacher and Technology	3
129.180	Psychology of Learning and Instruction 1: Theory and Practice	3

129.181	School and Society 1: The Social Foundations of Education	3
	Complementary Course	3
Total credit hours		30
Year 2		
Curriculum and Instruction (select two from the following one for the teachable Major and one for the teachable Minor)		6
Courses 132.232 Teaching Physics in Senior Years and 132.233 Teaching Computer Science in Senior Years are offered every second year. In the years the courses are offered, Year 1 students must take both the Year 1 and Year 2 courses.		
132.220	Teaching Art in Senior Years	3
132.221	Teaching English Language Arts in Senior Years 2	3
132.222	Teaching Geography in Senior Years	3
132.223	Teaching History in Senior Years	3
132.224	Teaching Music in Senior Years	3
132.225	Teaching Drama and Theatre in Senior Years	3
132.226	Teaching Biology in Senior Years	3
132.227	Teaching Chemistry in Senior Years	3
132.228	Teaching General Science in Senior Years	3
132.229	Teaching Human Ecology in Senior Years 2	3
132.230	Teaching Mathematics in Senior Years 2	3
132.231	Teaching Physical Education/Health Education in Senior Years 2	3
132.232	Teaching Physics in Senior Years	3
132.233	Teaching Computer Science in Senior Years	3
132.234	L'enseignement du français de base au Niveau Secondaire 2	3
132.235	Teaching a Heritage, Aboriginal or International Language 2	3
	and <i>all the following:</i>	
132.250	Themes in Senior Years Education	3
132.251	Language and Literacy Across the Curriculum	3
132.298	Senior Years School Experience 2	6
129.280	Psychology of Learning and Instruction 2: Inclusive Special Education	3
129.281	School and Society 2: The Administrative Foundations of Education	3
	Complementary Courses	6
Total credit hours		30

SECTION 5: Bachelor of Music/ Bachelor of Education Integrated

5.1 Admission Requirements

Successful completion of second year in the School of Music with a minimum cumulative Grade Point Average of 2.0 by August of year of application is required for admission. Applicants are required to complete an Adult Criminal Records Self Declaration form (see Section 4.1.1. Adult Criminal Records Self Declaration).

Other Requirements

- An interview and experience profile.
 - Three References
- Selection Criteria: 57.1% on GPA; 14.3% on interview; and 28.6% on writing skills test.

5.2 Admission Procedure

Application forms are available from the Admissions Office, Enrolment Services, 424 University Centre, Room 230 Faculty of Education or General Office, School of Music. The completed application must be returned to the Enrolment Services by February 1, 2003.

5.3 Program Requirements

REMINDER: While Education student advisors are available to clarify faculty and university regulations and degree requirements, it is the student's responsibility to ensure that degree and program requirements are met.

Students choose either:

- 1.) Music specialization for their teachable major and a teachable minor subject from the Senior Years (See section 4 of this Calendar) or

2.) two Music specializations.

Students planning to take School Experience (132.194, 132.195) during the 2003 Spring Session must make application for a School Placement no later than November 1. Forms will be distributed during the first week of classes in September. Failure to apply for School Placement by November 1 may result in students being denied a placement.

Students planning to take 132.298 School Experience during the upcoming Regular Session must make application for a School Placement no later than February 1. Forms will be available from the Student Services Office, Room 230 Education Building, Faculty of Education, beginning December 15. Failure to apply for School Placement by February 1 may result in students being denied a placement.

Year 1: School of Music

033.107	Introduction to the History of Music	3
033.108	History of Music 2	3
033.111	Music Theory 1	3
033.112	Music Theory 2	3
033.118	Ensemble	2
033.119	Ensemble	2
033.138	Basic Musical Skills 1	2
033.139	Basic Musical Skills 2	2
033.140	Major Practical Study	6
004.1XX	English (Any Course Meeting Written English Requirement)	3
033.323	Acoustics of Music (Meets Mathematics Requirement)	3
Total credit hours		32

Year 2: School of Music

033.207	History of Music 3	3
033.208	History of Music 4	3
033.211	Music Theory 3	3
033.212	Music Theory 4	3
033.218	Ensemble	2
033.219	Ensemble	2
033.238	Basic Musical Skills 3	2
033.239	Basic Musical Skills 4	2
033.240	Major Practical Study	6
033.246	Conducting	3
	Teachable Minor* or second Music specialization**	6
Total credit hours		35

NOTE: Apply to Integrated Program During Year 2. Deadline date to apply is February 1.

Year 3: Faculty of Education/Music Program

033.318	Ensemble	2
033.319	Ensemble	2
033.347	Major Practical Study	6
033.396	Music of the 20th Century 1	3
	Music Specialization	9
132.120	Teaching the Arts in Senior Years	3
132.160	Teaching General Music	3
	Teachable Minor* or second Music specialization**	6
Total credit hours		34

Intersession

132.194	Integrated Programs School Experience 1	3
132.152	Education in the Senior Years Integrated Programs 1	2

Year 4: Faculty of Education/Music Program

033.397	Music of the 20th Century 2	3
033.418	Ensemble	2
033.419	Ensemble	2
033.447	Major Practical Study	6
132.224	Teaching Music in Senior Years	3
	or	
132.216	Teaching Music in Early/Middle Years	3
	Music Specialization	12
	Teachable Minor* or second Music specialization**	6
Total credit hours		34
132.153	Education in the Senior Years Integrated Programs 2	1
132.195	Integrated Programs School Experience 2	3

Year 5: Faculty of Education/Music Program

132.298	Senior Years School Experience 2	6
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129.180	Psychology of Learning and Instruction 1: Theory and Practice	3
129.181	School and Society 1: The Foundations of Education	3
132.199	Teacher and Technology	3
129.280	Psychology of Learning and Instruction 2: Inclusive Special Education	3
129.281	School and Society 2: The Administrative Foundations of Education	3
132.250	Themes in Senior Years Education (for Early/Middle Years specialization, students may take a 3 credit hour Education complementary course)	3
132.251	Language and Literacy Across the Curriculum (for Early/Middle Years specialization, students may take a 3 credit hour Education complementary course)	3
	Non-Music Year 1 Teachable Minor Curriculum and Instruction, or Education Complementary course	3
Total credit hours		30
Total Program hours		174

Students who complete the above program of studies satisfactorily receive a Bachelor of Music degree and a Bachelor of Education degree. Students are expected to maintain academic standards consistent with the granting of the degrees in non-integrated programs.

*For listing of teachable minors, see Senior Years teachable major/minor chart in section 4.

Where two areas of music specialization have been selected to fulfil the requirements of two teachables, three credit hours of coursework common to both areas will be counted to satisfy requirements of both areas.

****Specialization: Instrumental Music**

033.369	Percussion Techniques	3
033.378	Woodwind Techniques	3
033.379	Brass Techniques	3
033.388	Jazz Ensemble Techniques	3
033.477	Band and Orchestral Techniques 1	3
033.478	Band and Orchestral Techniques 2	3
	Music Education Elective	3
Total credit hours		21

Specialization: Choral Music

033.377	Vocal Techniques	3
033.388	Jazz Ensemble Techniques	3
033.415	Choral Repertoire	3
033.475	Choral Techniques 1	3
033.476	Choral Techniques 2	3
	Music Education Electives	6
Total credit hours		21

Specialization: Early/Middle Years Music

033.313	Music for Children 1	6
033.372	Classroom Instruments (Students may substitute with a Music Education elective)	3
033.373	Early Musical Development	3
033.377	Vocal Techniques	3
	Music Education Electives	6
Total credit hours		21

Music Education Electives

033.309	Introduction to Ethnomusicology	3
033.313	Music for Children 1	6
033.314	Music for Children 2	6
033.360	Conducting	3
033.363	Music Theory 5	3
033.369	Percussion Techniques	3
033.372	Classroom Instruments	3
033.373	Early Musical Development	3
033.377	Vocal Techniques	3
033.378	Woodwind Techniques	3
033.379	Brass Techniques	3
033.380	String Techniques	3
033.388	Jazz Ensemble Techniques	3
033.415	Choral Repertoire	3
033.435	Music for Children 3	6

033.475	Choral Techniques 1	3
033.476	Choral Techniques 2	3
033.477	Band and Orchestral Techniques 1	3
033.478	Band and Orchestral Techniques 2	3

Features

Music 72 credit hours; Area of Music Specialization 21 credit hours
 Education 60 credit hours; Written English 3 credit hours
 Teachable Minor or second Music Specialization 18 credit hours

SECTION 6: Bachelor of Human Ecology/Bachelor of Education Integrated

6.1 Admission Requirements

Successful completion of two years (at least 66 credit hours) of the comprehensive major in Human Ecology with a minimum cumulative Grade Point Average of 2.0 is required for admission. A grade of C or better is required in all courses which apply to the major and minor. Applicants are required to complete an Adult Criminal Records Self Declaration form (see Section 4.1.1 Adult Criminal Records Self Declaration).

6.2 Admission Procedure

Application forms are available from the Enrolment Services/Admissions, 424 University Centre, Room 230 Faculty of Education or General Office, Faculty of Human Ecology. The application must be returned to the Enrolment Services/Admissions Office by May 1.

6.3 Program Requirements

REMINDER: While Education student advisors are available to clarify faculty and university regulations and degree requirements, it is the student's responsibility to ensure that degree and program requirements are met.

NOTE: Apply to Integrated Program During Year 2 of Human Ecology. The deadline for applications is May 1.

Students planning to take School Experience (132.194, 132.195) during the 2003 Spring Session must make application for a School Placement no later than November 1. Forms will be distributed during the first week of classes in September. Failure to apply for School Placement by November 1 may result in students being denied a placement.

Students planning to take 132.298 School Experience during the upcoming Regular Session must make application for a School Placement no later than February 1. Forms will be available from the Student Services Office, Room 230 Education Building, Faculty of Education, beginning December 15. Failure to apply for School Placement by February 1 may result in students being denied a placement.

Course No.		Credit Hours
Year 1: Faculty of Education/Human Ecology Program (Year 3 Human Ecology)		
028.310	Communication for Professional Practice	3
030.216	Principles of Food Preparation and Preservation	3
064.224	Textile Product Development: Construction Basics	3
132.124	Teaching Human Ecology in Senior Years 1	3
	Human Ecology Electives*	6
	Free electives (any faculty including Education Complementary courses)	6
Total credit hours		24
Intersession		
132.194	Integrated Programs School Experience 1	3
132.152	Education in the Senior Years Integrated Programs 1	2
Year 2: Faculty of Education/Human Ecology Program (Year 4 Human Ecology)		
028.408	Current Issues in Human Ecology	3
	Human Ecology Electives	12
132.229	Teaching Human Ecology in Senior Years 2	3
	Education Complementary Course	3

Free electives (any faculty including Education complementary courses)	6	
Total credit hours	27	
Intersession		
132.153	Education in the Senior Years Integrated Programs 2	1
132.195	Integrated Programs School Experience 2	3
Year 3: Faculty of Education/Human Ecology Program (Year 5 Human Ecology)		
132.298	Senior Years School Experience 2	6
129.180	Psychology of Learning and Instruction 1: Theory and Practice	3
129.181	School and Society 1: The Social Foundations of Education	3
132.199	Teacher and Technology	3
129.280	Psychology of Learning and Instruction 2: Inclusive Special Education	3
129.281	School and Society 2: The Administrative Foundations of Education	3
132.250	Themes in Senior Years Education	3
132.251	Language and Literacy Across the Curriculum	3
	Education Complementary course or non-Human Ecology Year 1 teachable minor Curriculum and Instruction	3
Total Credit hours	30	
Total Program hours	156	
*Human Ecology Electives: At least 12 credit hours must be at the 300 or 400 level.		

NOTE:

In addition to Human Ecology teachable, students may choose a teachable minor from the Senior Year teachable minors listed in Section 4 of this chapter.

Students who complete the above program of studies satisfactorily receive a Bachelor of Human Ecology degree and a Bachelor of Education degree. Students are expected to maintain academic standards consistent with the granting of the degrees in non-integrated programs.

SECTION 7: Academic Regulations for Bachelor of Education

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Faculty of Education has regulations and requirements, published below, that apply specifically to its students.

7.1 Academic Regulations for All Bachelor of Education Programs

(See also sections 7.2, 7.3)

Academic Requirement for Graduation

A Cumulative Grade Point Average of 2.0 is required for graduation in the Bachelor of Education.

Academic Standing

A minimum Grade Point Average of 2.0 must be maintained in the Bachelor of Education for clear standing. A grade of "D" is considered a passing grade for Education courses.

Additional Academic Considerations

Each student in the Faculty of Education is presumed to be generally suited to a teaching program. Should this prove not to be the case, the Faculty reserves the right, at any time, to require a student to withdraw from the Bachelor of Education degree program. Unsatisfactory performance in School Experience courses may be considered reason to require a student to withdraw from the faculty.

Appeal Procedures

The general university policy for appeal of assigned grades applies to the Faculty of Education. See the chapter, General Academic Regulations and Policy, of this Calendar, Appeals of Assigned Grades. Information about admission decision appeals may be found in the chapter, Admissions.

Application Deadline for School Placement

Returning students planning to take School Experience (132.196, 132.197, 132.198, 132.296, 132.297 or 132.298) during the upcoming Regular Session must make application for a School Placement no later than February 1. Forms will be available from the Student Services Office, Room 230 Ed-

ucation Building, Faculty of Education beginning December 15. Failure to apply for School Placement by February 1 may result in students being denied a placement.

Integrated B.Mus./B.Ed. and B.H.Ec./B.Ed. students planning to take School Experience (132.194, 132.195) during the 2004 Spring Session must make application for a School Placement no later than November 1. Forms will be distributed during the first week of classes in September. Failure to apply for School Placement by November 1 may result in students being denied a placement.

Assessment of Student Academic Performance

Academic performance is assessed at the end of each regular session in which the student is registered.

Based on the Cumulative Grade Point Average (CGPA) attained in these courses, the following decisions with respect to the student's eligibility to continue as a Faculty of Education student will be made. Normally,

- The student with a minimum CGPA of 2.0 is eligible to proceed;
- The student with a CGPA of 1.5 to 1.99 is placed on academic probation; and
- The student with a CGPA of less than 1.5 is placed on academic suspension.

Attendance at Class

Regular attendance is expected of all students in all courses. An instructor can initiate procedures to debar a student from attending classes and from final examinations where unexcused absences exceed three hours of scheduled classes in any one term.

Continuing Students

Individuals who have registered in the Faculty of Education, but have not been in attendance for up to five years, should consult the chapter, Admissions, in this Calendar. Individuals who have not been in attendance for five or more years must reapply to the Faculty of Education. Re-admission to the program will be subject to compliance with existing program requirements.

Dean's Honour List

Students registered in a minimum of 24 credit hours during the regular session and who achieve a sessional Grade Point Average of 3.5 or better will be included in the Dean's Honour List.

Debarment

See the chapter, General Academic Regulations and Requirements, Attendance at Class and Debarment.

Degree with Distinction

A student graduating from the Bachelor of Education program will have the degree granted "With Distinction" if a minimum Cumulative Grade Point Average of 3.80 has been attained on all courses that are used for credit towards the B.Ed. degree. This distinction will be noted on the parchment and on the student's transcript.

Gold Medal

The Gold Medal is awarded each year to the B.Ed. graduate who has the highest Cumulative Grade Point Average (minimum 3.75) in the last 60 credit hours of the B.Ed. degree and who has completed at least 80 per cent of what is considered to be the normal full course load in each of the last two years of the program.

Grading Scale

Effective in 2000-2001 academic session, the Faculty of Education adopted the following grading scale:

Letter Grade	Grade Point	Level of Achievement	Percentage Range
A+	4.50	Exceptional	95 and above
A	4.00	Excellent	90-94
B+	3.50	Very Good	85-89
B	3.00	Good	80-84
C+	2.50	Satisfactory	75-79
C	2.00	Adequate	70-74
D	1.00	Marginal	60-69

F 0.00 Failure Below 60

Incompletes

See the chapter, General Academic Regulations and Requirements, Academic Evaluation.

Part-Time Programs

Opportunities for part-time study are available in all streams as well as the integrated programs. In any of the program streams, the curriculum and instruction courses and the practicum experience for each year must be taken concurrently. Normally, all Year 1 course requirements must be completed before proceeding to Year 2. Integrated B.Mus./B.Ed. and B.H.Ec./B.Ed. students must complete Years 1 to 4 inclusive before proceeding to Year 5. When exceptions are permitted, they would normally only be allowed as a result of scheduling conflicts, unavailability of courses scheduled on a rotating basis, compassionate grounds or other exceptional circumstances.

Repeating a Course

Required courses which receive a grade of "F" must be repeated. Complementary courses which receive a grade of "F" must be repeated or replaced with other complementary courses. Courses which receive a "D" grade may be repeated; however, courses in which a grade of "C" or higher is obtained may only be repeated with the consent of the Associate Dean, Undergraduate Programs. When a course is repeated, the higher grade achieved will be used in calculating the Cumulative Grade Point Average.

The following required Education courses may be repeated only once:

132.194	Integrated Programs School Experience 1
132.195	Integrated Programs School Experience 2
132.196	Early Years School Experience 1
132.296	Early Years School Experience 2
132.197	Middle Years School Experience 1
132.297	Middle Years School Experience 2
132.198	Senior Years School Experience 1
132.298	Senior Years School Experience 2
All Curriculum and Instruction Courses	

Early Years and Middle Years students who fail a school experience course will normally be required to repeat all of the Curriculum and Instruction courses related to that year's practicum.

Weekend College Middle Years students who fail Curriculum and Instruction course(s) may not be able to complete their program through this scheduling option, given that a new intake is every other year.

Senior Years and Integrated B.Mus./B.Ed. and B.H.Ec./B.Ed. students who fail a school experience course will normally be required to repeat the Curriculum and Instruction courses associated with that practicum. Students who fail a Curriculum and Instruction course will normally be required to repeat the practicum course associated with that curriculum area.

Statute of Limitation

The normal maximum time allowed for the completion of the B.Ed. degree is six years from the date of admission. (This regulation applies to those admitted September, 2002 or later.)

Supplemental Examinations

Supplemental examinations are not permitted in education courses.

University Written English and Mathematics Requirement for Students in the Integrated B.Mus./B.Ed. and B.H.Ec./B.Ed.

All students admitted since September, 1997, are required to complete the university written English and Mathematics requirement. This requirement is described in the chapter, General Academic Regulations and Requirements.

Voluntary Withdrawals

See the chapter, General Academic Regulations and Requirements.

Authorized Withdrawals (AWs) may be permitted on medical or compassionate grounds, subject to satisfactory documentation. AWs will not be counted toward the 30 credit hour limit. Students must contact an Education Student Advisor to initiate an authorized withdrawal.

7.2 Academic Regulations for the After-Degree Bachelor of Education

Early Years, Middle Years (*Including a Middle Years Weekend College Scheduling Option*) and Senior Years (*see also 7.1*)

Maximum Course Load (excluding Weekend College Middle Years Scheduling Option)

The After-Degree B.Ed. Program requires 60 credit hours of Education courses. A normal course load would be 30 credit hours per year. Students who want to take more than the maximum number of credit hours may do so with the permission of the Associate Dean, Undergraduate Programs, providing that they have the necessary prerequisites and there are no timetable conflicts with required courses.

Students in the Senior Years Stream may request written permission to complete additional Curriculum and Instruction courses, provided they have previously completed the course requirements for this additional major/minor. Where permission is granted, students may substitute this credit for three credit hours of complementary course work as outlined in their program plan. Students who choose to take more than the required two Curriculum and Instruction courses in their program have no guarantee that a practicum teaching experience will be provided in that additional teachable area.

Transfer of Credit

Students may transfer a maximum of five full courses (30 credit hours) from another recognized university or college toward the After-Degree B.Ed. provided the courses are acceptable to the Bachelor of Education program.

Those students who are currently in the program and wish to register for a course at another university or college must complete an "Application for Letter of Permission" prior to registering.

7.3 Academic Regulations for the Integrated B.Mus./B.Ed. and B.H.Ec./B.Ed. (*see also 7.1*)

Major/Minor Academic Requirements

Students must achieve a grade of C or greater in all courses which apply to the major and minor.

Transfer of Credit

Students may transfer a maximum of ten full-course equivalents (60 credit hours) from another recognized university or college toward the four year Bachelor of Education degree provided the courses are acceptable to the Bachelor of Education program. Those students who are currently in the program and wish to register for a course at another university or college must complete an "Application for Letter of Permission" prior to registering.

SECTION 8: Complementary Courses

Not all courses are offered every year. The schedule of courses currently available is published in the *Registration Guide*.

- 129.150 Aboriginal Education
- 129.151 Foundations of Moral and Religious Education
- 129.152 Recent Developments in Educational Administration and Foundations
- 129.153 Recent Developments in Educational Psychology
- 129.154 Cross-Cultural Education
- 129.155 Communication and Interpersonal Relationships in Education
- 132.160 Teaching General Music
- 132.162 Principles and Procedures of Second Language Teaching
- 132.164 Teaching ESL Vocabulary and Pronunciation
- 132.165 Teaching ESL Grammar
- 132.166 Computers in Second Language Teaching
- 132.167 English for NNS (Non-Native Speaking) Teachers of ESL
- 132.168 Media Literacy
- 132.170 Teaching Canadian Studies
- 132.171 Literature for Adolescents
- 132.172 Literature for Children
- 132.173 Art Across the Curriculum
- 132.174 Drama Across the Curriculum
- 132.175 Basic Experiences in Movement and Dance Education

- 132.176 Historical Development of Physical Science Up to the 20th Century
- 132.177 Historical Development of Physical Science in the 20th Century
- 132.178 Integration of Technological Literacy Across the K-12 Curriculum
- 132.180 Recent Developments in Learning and Teaching Senior Years Mathematics
- 132.181 Computer-Based Multimedia in Education
- 132.182 Language and Content Instruction of ESL/Bilingual Students
- 132.183 La pédagogie du français de base aux niveaux intermédiaire et de la jeune enfance
- 132.184 Recent Developments in CTL 1 (Different topics are offered under these course numbers)
- 132.185 Recent Developments in CTL 2 (Different topics are offered under these course numbers)
- 132.186 Practicum in Teaching English as a Second Language
- 132.216 Teaching Music in Early/Middle years

SECTION 9: Post-Baccalaureate Certificate in Education

NOTE: Courses in this program may not be used to fulfil the degree requirements of the Bachelor of Education program.

The Faculty of Education offers a Post-Baccalaureate Certificate in Education (PBCE) designed for teachers and other professionals.

The unique features of the PBCE program are that students can: design their own program of study and tailor it to their own areas of interest; take courses at the Faculty of Education as well as at other faculties and schools at the U of M or other approved institutions; and can transfer up to three credit hours of approved professional development courses offered by other agencies or organizations. A wide selection of courses is available through Summer Session, distance education, via the internet and summer institutes.

The PBCE is recognized by Manitoba Education and Youth for salary classification purposes. To move to Class 7, teachers must hold a master's degree from a recognized institution. Further, the PBCE program provides the opportunity for teachers to follow courses of study leading to the special education and special education coordinator certificates, and to partial fulfilment of the requirements of the school administrators' (Level 1) and principals' (Level 2) certificates, all of which are issued by Manitoba Education and Youth. For information regarding specialist certificates, contact: Professional Certification and Student Records Unit, Manitoba Education and Youth, Box 700, Russell, Manitoba, R0J 1W0; telephone toll-free at 1 800 667 2378, or 1 204 773 2998, or e-mail: ksismard@edu.gov.mb.ca.

9.1 Admission Requirements

Applicants for Admission must possess:

- A Bachelor of Education degree and one of the following types of certificates granted by Manitoba Education and Youth: General Certificate, Limited Certificate, or Clinicians' Certificate; or equivalent from other provinces [See note 1 on teacher certification] or a bachelor's degree and two years of appropriate teaching/work experience (see note 2);
- A Grade Point Average of 2.00 in the bachelor's degree (including any after degree certification program).

Note 1:

Teacher Certification

The majority of applicants will possess a valid teaching certificate before being admitted to the Post Baccalaureate Certificate Program.

The granting of a certificate to teach in the public schools of Manitoba is the prerogative of Manitoba Education and Youth and is based on a recognized program of teacher education. Individuals wishing to apply for such certification should contact the Office of Administration and Professional Certification, Manitoba Education and Youth.

Note 2:

Prior to submitting the application form, non-certified teachers must write to the Faculty of Education for permission. The request should include the intent to apply to the program, a brief statement as to educational plans,

and a resume showing evidence of two years of appropriate full-time teaching or work experience.

9.2 Admission Procedure

Applications may be obtained from the Student Services Office, Faculty of Education. Completed applications must be returned to Enrolment Services/Admissions Office, 424 University Centre by:

April 1 for first registration in Intercession and Summer Evening Sessions

June 1 for first registration in Summer Day Session

August 1 for first registration in Term 1 of the Regular Session

December 1 for first registration in Term 2 of the Regular Session

9.3 Program Requirements

REMINDER: While Education student advisors are available to clarify faculty and university regulations and degree requirements, it is the student's responsibility to ensure that certificate and program requirements are met.

The Post-Baccalaureate Certificate in Education consists of 30 credit hours of coursework, subject to the following regulations:

a) A minimum of 12 credit hours must be taken in the Faculty of Education at the 500-level;

b) A maximum of 18 credit hours may be taken outside the Faculty of Education at the introductory or higher level of which six credit hours may be taken at the 100-level. In the case of language study other than English or French, six credit hours may be taken at both the 090-level and the 100-level provided both are in the same language;

c) A maximum of three credit hours may be earned through approved external professional courses. These courses are offered by professional groups, and credit may be arranged where prior approval has been given to the course sponsor. Effective January, 2000, students applying for transfer of credit for external professional courses must do so within 24 months of course completion.

d) Subject to approval by the Faculty, a maximum of 12 credit hours of courses, including those in c) above, may be transferred into the PBCE program from an approved institution.

9.4 Academic Standing

Academic performance is normally assessed at the completion of nine credit hours of course work and at the end of every session thereafter. A minimum grade of "C" is required for each course that is to be included in the student's certificate program. In addition, a student must maintain a minimum cumulative Grade Point Average of 2.00 to continue in the program. A student whose cumulative Grade Point Average falls below 2.00 will be placed on academic suspension for two years.

9.5 Maximum Time Limits

The maximum time allowed for completing the PBCE is nine years. In addition, a student will not be permitted to count toward the certificate any course completed more than nine years prior to the completion date of the certificate.

SECTION 10: Course Descriptions

10.1 Department of Curriculum, Teaching and Learning

Acting Head: TBA

Office: 261 Education Building

Telephone: 204 474 9014

Curriculum: Teaching and Learning

Early Years — Curriculum and Instruction Year 1 Courses:

An introductory, interdisciplinary study of Curriculum and Instruction in Early Years education (Kindergarten to Grade 4) which is comprised of and developed through the following courses:

132.100 Early Years Philosophy and Practice 1 (1) Students may not hold credit for both 132.100 and the former 063.105. *Corequisite:* 132.101, 132.102, 132.103, 132.104, 132.105, 132.106, 132.196; *pre- or corequisite:* 129.180, 129.181, 132.199.

132.101 Early Years Curriculum and Instruction in Language and Literacy 1 (3) Students may not hold credit for both 132.101 and the former 063.106. *Corequisite:* 132.100, 132.102, 132.103, 132.104, 132.105, 132.106, 132.196; *pre- or corequisite:* 129.180, 129.181, 132.199.

132.102 Early Years Curriculum and Instruction in Music and Movement 1 (1) Students may not hold credit for both 132.102 and the former 063.107. *Corequisite:* 132.100, 132.101, 132.103, 132.104, 132.105, 132.106, 132.196; *pre- or corequisite:* 129.180, 129.181, 132.199.

132.103 Early Years Curriculum and Instruction in Art and Drama 1 (2) Students may not hold credit for both 132.103 and the former 063.108. *Corequisite:* 132.100, 132.101, 132.102, 132.104, 132.105, 132.106, 132.196; *pre- or corequisite:* 129.180, 129.181, 132.199.

132.104 Early Years Curriculum and Instruction in Social Studies 1 (1) Students may not hold credit for both 132.104 and the former 063.109. *Corequisite:* 132.100, 132.101, 132.102, 132.103, 132.105, 132.106, 132.196; *pre- or corequisite:* 129.180, 129.181, 132.199.

132.105 Early Years Curriculum and Instruction in Mathematics 1 (2) Students may not hold credit for both 132.105 and the former 081.105. *Corequisite:* 132.100, 132.101, 132.102, 132.103, 132.104, 132.106, 132.196; *pre- or corequisite:* 129.180, 129.181, 132.199.

132.106 Early Years Curriculum and Instruction in Science and Health 1 (2) Students may not hold credit for both 132.106 and the former 081.106. *Corequisite:* 132.100, 132.101, 132.102, 132.103, 132.104, 132.105, 132.196; *pre- or corequisite:* 129.180, 129.181, 132.199.

132.110 Introduction to Teaching Language Arts in the Middle Years (3) An overview of curriculum, instructional approaches, and techniques relevant to language literacy education at the Middle Years level, with emphasis on oracy and reading instruction. Students may not hold credit for both 132.110 and the former 063.120. *Corequisite:* 132.111, 132.112, 132.113, 132.114, 132.197; *pre- or corequisite:* 129.180, 129.181, 129.280, 129.281, 132.199.

132.111 Introduction to Teaching Social Studies in the Middle Years (1) A study of the fundamentals of social studies education in the Middle Years, with particular emphasis on the goals, curriculum approaches, content, and initial planning issues. Students may not hold credit for both 132.111 and the former 063.121. *Corequisite:* 132.110, 132.112, 132.113, 132.114, 132.197; *pre- or corequisite:* 129.180, 129.181, 129.280, 129.281, 132.199.

132.112 Teaching Drama in the Middle Years (1) An overview of the teaching strategies appropriate to teaching drama in the Middle Years. Students may not hold credit for both 132.112 and the former 063.122. *Corequisite:* 132.110, 132.111, 132.113, 132.114, 132.197; *pre- or corequisite:* 129.180, 129.181, 129.280, 129.281, 132.199.

132.113 Introduction to Teaching Science in the Middle Years (1) This course will explore Middle Years science curricular content and issues. It will also provide teaching and learning models and tools for structuring science knowledge and drawing relationships among theory, evidence, and values in Science. Students may not hold credit for both 132.113 and the former 081.120. *Corequisite:* 132.110, 132.111, 132.112, 132.114, 132.197; *pre- or corequisite:* 129.180, 129.181, 129.280, 129.281, 132.199.

132.114 Introduction to Teaching Mathematics in the Middle Years (3) An overview of Middle Years mathematics curricula. Students may not hold credit for both 132.114 and the former 081.121. *Corequisite:* 132.110, 132.111, 132.112, 132.113, 132.197; *pre- or corequisite:* 129.180, 129.181, 129.280, 129.281, 132.199.

132.120 Teaching the Arts in Senior Years (3) For specialists in art, drama and music and those without a specialist background, the course will address common elements and issues in arts education at the Senior Years level. Senior Years: *corequisite:* 132.150, 132.198, Curriculum and Instruction for major/minor; *pre- or corequisite:* 129.180, 129.181, 132.151, 132.199; Integrated B.H.Ec./B.Ed.: *prerequisite:* Year 1-4 inclusive.

132.121 Teaching English Language Arts in Senior Years 1 (3) The course will introduce students to the history, theories, principles, and practices of teaching English language arts at the Senior Years level. Senior Years: *corequisite:* 132.150, 132.198, Curriculum and Instruction for major/minor; *pre- or corequisite:* 129.180, 129.181, 132.151, 132.199; Integrated B.Mus/B.Ed. and B.H.Ec./B.Ed.: *prerequisite:* Year 1-4 inclusive.

132.123 Teaching Social Studies in Senior Years (3) A study of theoretical and practical issues relating to the curriculum, resources, instructional approaches and evaluation processes relevant to the teaching of social studies at the Senior Years level. Includes the exploration of current issues and trends in Canadian social studies. Senior Years: *corequisite:* 132.150, 132.198, Curriculum and Instruction for major/minor; *pre- or corequisite:* 129.180, 129.181, 132.151, 132.199; Integrated B.Mus/B.Ed. and B.H.Ec./B.Ed.: *prerequisite:* Year 1-4 inclusive.

132.124 Teaching Human Ecology in Senior Years 1 (3) The study of curriculum and instructional approaches relevant to the teaching of human ecology at the Senior Years level. Senior Years: *corequisite:* 132.150, 132.198, Curriculum and Instruction for major/minor; *pre- or corequisite:* 129.180, 129.181, 132.151, 132.199.

132.125 Teaching Mathematics in Senior Years 1 (3) A study of curriculum and instructional approaches relevant to teaching mathematics at the Senior Years level. Senior Years: *corequisite:* 132.150, 132.198, Curriculum and Instruction for major/minor; *pre- or corequisite:* 129.180, 129.181, 132.151, 132.199; 132.180; Integrated Mus/ B.Ed. and B.H.Ec./B.Ed.: *prerequisite:* Year 1-4 inclusive.

132.126 Teaching Physical Education/Health Education in Senior Years 1 (3) A study of curriculum and instructional approaches relevant to the teaching of physical education and health education at the Senior Years level. Senior Years: *corequisite:*

132.150, 132.198, Curriculum and Instruction for major/minor; *pre- or corequisite*: 129.180, 129.181, 132.151, 132.199; Integrated B.Mus/B.Ed. and B.H.Ec./B.Ed.: *pre-requisite*: Year 1-4 inclusive.

132.127 Teaching Senior Years Science (3) General principles of science education, conceptual development, cognitive and learning theories, scientific literacy, the nature of science, contextual teaching, and the science-technology-society connection are presented and discussed. Emphasis will be placed on using conceptual development models to help science teachers present concepts and topics. Senior Years: *corequisite*: 132.150, 132.198, Curriculum and Instruction for major/minor; *pre- or corequisite*: 129.180, 129.181, 132.151, 132.199; Integrated B.Mus/B.Ed. and B.H.Ec./B.Ed.: *pre-requisite*: Year 1-4 inclusive.

132.128 L'enseignement du français de base au Niveau Secondaire 1 (3) Ce cours examine les principes fondamentaux et la mise en pratique de l'enseignement et l'apprentissage du français langue seconde au niveau secondaire. L'accent est mis sur les pratiques pédagogiques de l'approche communicative expérientielle. Senior Years: *corequisite*: 132.150, 132.198, Curriculum and Instruction for major/minor; *pre- or corequisite*: 129.180, 129.181, 132.151, 132.199; Integrated B.Mus/B.Ed. and B.H.Ec./B.Ed.: *pre-requisite*: Year 1-4 inclusive.

132.135 Teaching a Heritage, Aboriginal, or International Language 1 (3) Curriculum principles and procedures in teaching a language other than English or French. Senior Years: *corequisite*: 132.150, 132.198, Curriculum and Instruction for major/minor; *pre- or corequisite*: 129.180, 129.181, 132.151, 132.199; Integrated B.Mus./B.Ed. and B.H.Ec/B.Ed.; *pre-requisite*: Year 1-4 inclusive. Early/Middle Years: Complementary course; *pre-requisite*: 18 credits in a language other than English or French. Not to be held with the former courses 132.122, 063.409, or 063.323.

132.150 Education in the Senior Years (3) An examination of the assumptions about and goals of Senior Years education, the role of the Senior Years teacher, and the Senior Years curriculum in the schools. *Corequisite*: 132.198, curriculum and instruction for major/minor; *pre- or corequisite*: 129.180, 129.181, 132.151, 132.199.

132.151 Principles and Processes of Teaching (3) This foundational course is required for all Senior Years students. In it, students will develop richer orientations to the teaching processes of organizing and leading learning in Senior Years classrooms. Students may not hold credit for both 132.151 and the former 081.317.

132.152 Education in the Senior Years Integrated Programs 1 (2) An examination of the assumptions about and goals of Senior Years education, the role of the Senior Years teacher, and the Senior Years curriculum in the schools. For students in the integrated B.Ed. programs. Students may not hold credit for both 132.152 and 132.150. *Corequisite*: 132.194.

132.153 Education in the Senior Years Integrated Programs 2 (1) An examination of the assumptions about and goals of Senior Years education, the role of the Senior Years teacher, and the Senior Years curriculum in the schools. For students in the integrated B.Ed. programs. Students may not hold credit for both 132.153 and 132.150. *Pre-requisite*: 132.152. *Corequisite*: 132.195.

132.160 Teaching General Music (3) A study of teaching music in Early and Middle Years schools. For both classroom teachers and Music specialists, the course covers all traditional areas of music instruction as well as music's role across the curriculum.

132.162 Principles and Procedures of Second Language Teaching (3) Examination of principles and demonstration of procedures for developing basic second language knowledge and skills in various contexts, e.g., ESL, EFL, AL, HL, IL.

132.164 Teaching ESL Vocabulary and Pronunciation (3) Systematic and principled procedures for teaching English vocabulary, and for teaching comprehensible and acceptable English pronunciation (vowels, diphthongs, semi-vowels, consonants, stress, rhythm, and intonation).

132.165 Teaching ESL Grammar (3) Examination of English sentence and discourse grammar, and demonstration of procedures of teaching grammar in communicative and academic contexts.

132.166 Computers in Second Language Teaching (3) Concepts and methodology in computer assisted language learning (CALL), with emphasis on using the Internet.

132.167 English for NNS (Non-Native Speaking) Teachers of ESL (3) English language development for non-native speaking teachers of English as a second language. Focus is on teacher classroom and professional English.

132.168 Media Literacy (3) This course will examine the role of the media in society and assist educators in all disciplines and levels to help students develop an informed and critical understanding of the mass media; including television, film, popular music, news, and advertising, etc. Students may not hold credit for both 132.168 and the former 063.162.

132.170 Teaching Canadian Studies (3) An introduction to Canadian Studies as a school subject, K-S4, touching on recent developments, and concentrating on questions of program development, teaching strategies, and resources. Students may not hold credit for both 132.170 and the former 063.214.

132.171 Literature for Adolescents (3) A survey of the literature available for adolescents. The course includes reading and discussion of the literature, and consideration of techniques for encouraging extensive reading. Students may not hold credit for both 132.171 and the former 063.204.

132.172 Literature for Children (3) A survey of the literature available for children. The course includes reading and discussion of the literature, and consideration of techniques for encouraging extensive reading. Students may not hold credit for both 132.172 and the former 063.212.

132.173 Art Across the Curriculum (3) This course will emphasize the importance of visual learning and its potential for teaching in the various curriculum areas at all levels. Opportunities for studio work, discussion and planning will be provided.

132.174 Drama Across the Curriculum (3) For all students, specialist and non-specialist, who wish to develop a greater understanding and practice of drama in the

classroom across the curriculum.

132.175 Basic Experiences in Movement and Dance Education (3) A study of teaching movements/dance education in Early (K-4) and Middle Years (5-8) schools. For both classroom teachers and physical education specialists, the course covers all traditional areas of movement instruction as well as movements' role across the curriculum. Students may not hold credit for both 132.175 and the former 081.212 and 081.213.

132.176 Historical Development of Physical Science up to the 20th Century (3) The major ideas and discoveries in science of the Ionians and the Greeks, the scientific revolution of the 16th and 17th centuries, and the 'modern' period of science, up to the end of the 19th century will be explored with an emphasis on science education and scientific literacy. Students may not hold credit for both 132.176 and the former 081.203.

132.177 Historical Development of Physical Science in the 20th Century (3) An examination of Mendeleev's periodic table of the elements, the discovery of X-rays, radioactivity and the electron, early quantum theory, Einstein's Theory of Relativity, the Bohr-Rutherford atom, and wave-particle duality. Case histories will be emphasized and the implications for science education and scientific literacy explored. Students may not hold credit for both 132.177 and the former 081.203. *Pre-requisite*: 132.176.

132.178 Integration of Technological Literacy Across the K-12 Curriculum (3) Training teachers to analyze subject matter content, to identify potential to teach about technological principles within the content area, and to develop specific teaching and learning interventions to infuse technological literacy across content. Students may not hold credit for both 132.178 and the former 081.153.

132.180 Recent Developments in Learning and Teaching Senior Years Mathematics (3) The study of selected topics in mathematics in Senior Years. Students may not hold credit for both 132.180 and the former 081.302.

132.181 Computer-Based Multimedia in Education (3) An examination of computers in education focusing on the utilization and creation of educational computer-based multimedia. Students may not hold credit for both 132.181 and the former 081.156. *Pre-requisite*: 132.199; 081.182; 081.218; 043.306; 074.126; 063.322 or written permission of the instructor.

132.182 Language and Content Instruction of ESL/Bilingual Students (3) Principles and procedures of teaching ESL/bilingual students in subject-area classrooms, using content-based language instruction and language sensitive content instruction. Students may not hold credit for both 132.182 and the former 132.161 or 063.152.

132.183 La pédagogie du français de base aux niveaux intermédiaire et de la jeune enfance (3) Ce cours examine les principes fondamentaux et la mise en pratique de l'enseignement de l'apprentissage du français langue seconde au niveau intermédiaire ainsi qu'au niveau de la jeune enfance. L'accent est mis sur les pratiques pédagogiques de l'approche communicative expérientielle. *Pre-requisite*: 18 credit hours of French or permission of instructor.

132.184 Recent Developments in CTL 1 (3) The study of selected topics in curriculum, teaching and learning.

132.185 Recent Developments in CTL 2 (3). The study of selected topics in curriculum, teaching and learning.

132.186 Practicum in Teaching English as a Second Language (TESL) (3)

Practical second language teaching experiences, including: observing recorded and live teaching, planning lessons and units, micro and live teaching, and reflective practice. May not be held with the former 132.163. *Pre- or corequisites*: 132.162, 132.164, and 132.165.

132.194 Integrated Programs School Experience 1 (3) For students in the Integrated Bachelor of Human Ecology/Bachelor of Education and Bachelor of Music/Bachelor of Education programs. Practical teaching experience in schools under the guidance and supervision of faculty members and collaborating teachers. *Pre-requisite*: 132.120 for Integrated B.Mus./B.Ed. and 132.124 for Integrated B.H.Ec/B.Ed. *Corequisite*: 132.152.

132.195 Integrated Programs School Experience 2 (3) For students in the Integrated Bachelor of Human Ecology/Bachelor of Education and Bachelor of Music/Bachelor of Education programs. A continuation of practical teaching experience in schools under the guidance and supervision of faculty members and collaborating teachers. *Pre-requisite*: 132.194; *corequisite*: 132.153.

132.196 Early Years School Experience 1 (6) Practical teaching experience in Early Years schools under the guidance and supervision of faculty members and collaborating teachers. The practicum will be closely integrated with the study of curriculum and instruction at the Early Years level. Students may not hold credit for both 132.196 and the former 063.190. *Corequisite*: 132.100, 132.101, 132.102, 132.103, 132.104, 132.105, 132.106; *pre- or corequisite*: 129.180, 129.181, 132.199.

132.197 Middle Years School Experience 1 (3) Practical teaching experience in Middle Years schools under the guidance and supervision of faculty members and collaborating teachers. The practicum will be closely integrated with the study of curriculum and instruction at the Middle Years level. Students may not hold credit for both 132.197 and the former 063.191. *Corequisite*: 132.110, 132.111, 132.112, 132.113, 132.114; *pre- or corequisite*: 129.180, 129.181, 129.280, 129.281, 132.199.

132.198 Senior Years School Experience 1 (6) Practical teaching experience in the schools under the guidance and supervision of faculty members and collaborating teachers. The practicum will be closely integrated with the study of curriculum and instruction at the Senior Years level. *Corequisite*: 132.150, Curriculum and Instruction courses for the major and minor; *pre- or corequisite*: 129.180, 129.181, 132.151, 132.199.

132.199 Teacher and Technology (3) An introduction to educational and information technology in the classroom. Focus will be on the utilization of technology, the de-

velopment of information skills for teachers and critical analyses of the potential of educational technology. Students may not hold credit for both 132.199 and the former 081.182 or 081.218.

Early Years — Curriculum and Instruction Year 2 Courses:

An advanced interdisciplinary study and application of curriculum, instructional approaches and techniques relevant to Early Years education (Kindergarten to Grade 4) which is comprised of and developed through the courses listed below.

132.200 Early Years Philosophy and Practice 2 (1) *prerequisite:* successful completion of year one; *corequisite:* 132.201, 132.202, 132.203, 132.204, 132.205, 132.206, 132.207, 132.208, 132.296; *pre- or corequisite:* 129.280, 129.281.

132.201 Early Years Curriculum and Instruction in Language and Literacy 2 (3) *prerequisite:* successful completion of year one; *corequisite:* 132.200, 132.202, 132.203, 132.204, 132.205, 132.206, 132.207, 132.208, 132.296; *pre- or corequisite:* 129.280, 129.281.

132.202 Early Years Curriculum and Instruction in Music and Movement 2 (2) *prerequisite:* successful completion of year one; *corequisite:* 132.200, 132.201, 132.203, 132.204, 132.205, 132.206, 132.207, 132.208, 132.296; *pre- or corequisite:* 129.280, 129.281.

132.203 Early Years Curriculum and Instruction in Art and Drama 2 (1) *prerequisite:* successful completion of year one; *corequisite:* 132.200, 132.201, 132.202, 132.204, 132.205, 132.206, 132.207, 132.208, 132.296; *pre- or corequisite:* 129.280, 129.281.

132.204 Early Years Curriculum and Instruction in Social Studies 2 (2) *prerequisite:* successful completion of year one; *corequisite:* 132.200, 132.201, 132.202, 132.203, 132.204, 132.206, 132.207, 132.208, 132.296; *pre- or corequisite:* 129.280, 129.281.

132.205 Early Years Curriculum and Instruction in Mathematics 2 (2) *prerequisite:* successful completion of year one; *corequisite:* 132.200, 132.201, 132.202, 132.203, 132.204, 132.206, 132.207, 132.208, 132.296; *pre- or corequisite:* 129.280, 129.281.

132.206 Early Years Curriculum and Instruction in Science and Health 2 (2) *prerequisite:* successful completion of year one; *corequisite:* 132.200, 132.201, 132.202, 132.203, 132.204, 132.205, 132.207, 132.208, 132.296; *pre- or corequisite:* 129.280, 129.281.

132.207 Early Years Curriculum and Instruction Children's Literature (1) *prerequisite:* successful completion of year one; *corequisite:* 132.200, 132.201, 132.202, 132.203, 132.204, 132.205, 132.206, 132.208, 132.296; *pre- or corequisite:* 129.280, 129.281.

132.208 Early Years Multi-Language Development (1) *prerequisite:* successful completion of year one; *corequisite:* 132.200, 132.201, 132.202, 132.203, 132.204, 132.205, 132.206, 132.207, 132.296; *pre- or corequisite:* 129.280, 129.281.

132.210 Teaching Language Arts in the Middle Years (3) A study of curriculum, instructional approaches, and techniques relevant to language and literacy at the Middle Years level, with emphasis on writing instruction, the teaching of literature, and writing across the curriculum. *Prerequisite:* successful completion of year one; *corequisite:* 132.211, 132.212, 132.213, 132.214, 132.215, 132.240, 132.297.

132.211 Teaching Social Studies in the Middle Years (3) A study of curriculum and instruction in Middle Years social studies education, with particular emphasis on its theories, developments, instruction approaches, evaluation, and contemporary issues. *Prerequisite:* successful completion of year one; *corequisite:* 132.210, 132.212, 132.213, 132.214, 132.215, 132.240, 132.297.

132.212 Teaching Art in the Middle Years (2) An overview of art processes and teaching strategies appropriate for Middle Years students, with an emphasis on general visual awareness, art appreciation and art production. *Prerequisite:* successful completion of year one; *corequisite:* 132.210, 132.211, 132.213, 132.214, 132.215, 132.240, 132.297.

132.213 Teaching Science in the Middle Years (3) This course will examine learning in Middle Years science from multi-perspectives. Contemporary teaching and learning models will be assessed. Unit and lesson plans will be developed using multi-voices in science. *Prerequisite:* successful completion of year one; *corequisite:* 132.210, 132.211, 132.212, 132.214, 132.215, 132.240, 132.297.

132.214 Teaching Mathematics in the Middle Years (3) A study of instructional approaches needed to teach mathematics at the Middle Years level. *Prerequisite:* successful completion of year one; *corequisite:* 132.210, 132.211, 132.212, 132.213, 132.215, 132.240, 132.297.

132.215 Teaching Physical Education in the Middle Years (2) This course introduces students to the rationale for, and methods of, teaching of health and physical education in the Middle Years grades. *Prerequisite:* successful completion of year one; *corequisite:* 132.210, 132.211, 132.212, 132.213, 132.214, 132.240, 132.297.

132.216 Teaching Music in Early/Middle Years (3) The specialized study and application of curriculum, instructional approaches and techniques relevant to music education at the early and middle years levels (K-8). This course is intended for music specialists (music majors/minors, or with permission of instructor). *Prerequisite:* 132.120 and 132.194 or permission of instructor.

132.220 Teaching Art in Senior Years (3) A study of curriculum and instruction approaches relevant to teaching the visual arts at the Senior Years level. *Prerequisite:* successful completion of year one, 132.120; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251.

132.221 Teaching English Language Arts in Senior Years 2 (3) The course will extend

further the groundwork undertaken in the previous introductory course into the understanding and application of the principles and practices of teaching English language arts at the Senior Years level. *Prerequisite:* successful completion of year one, 132.121; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251.

132.222 Teaching Geography in Senior Years (3) A study of curriculum and instructional approaches relevant to the teaching of geography at the Senior Years level. *Prerequisite:* successful completion of year one, 132.123; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251.

132.223 Teaching History in Senior Years (3) A study of curriculum, instructional approaches relevant to the teaching of history at the Senior Years level. *Prerequisite:* successful completion of year one, 132.123; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251.

132.224 Teaching Music in Senior Years (3) A study of curriculum, instructional approaches and techniques relevant to the teaching of music at the Senior Years level. Senior Years: *prerequisite:* successful completion of year one, 132.120; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor *pre- or corequisite:* 129.280, 129.281, 132.251; Integrated B.Mus./B.Ed.: *prerequisite:* 132.120, 132.152, 132.194.

132.225 Teaching Drama and Theatre in Senior Years (3) A study of curriculum and instructional approaches relevant to the teaching of drama and theatre at the Senior Years level. *Prerequisite:* successful completion of year one, 132.120; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251.

132.226 Teaching Biology in Senior Years (3) A study of curriculum and instructional approaches relevant to the teaching of biology at the Senior Years level. *Prerequisite:* successful completion of year one, 132.127; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251.

132.227 Teaching Chemistry in Senior Years (3) A study of curriculum and instructional approaches relevant to the teaching of Chemistry at the Senior Years level. *Prerequisite:* successful completion of year one, 132.127; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251.

132.228 Teaching General Science in Senior Years (3) The study of curriculum and instructional approaches relevant to the teaching of general science at the Senior Years level. *Prerequisite:* successful completion of year one, 132.127; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251.

132.229 Teaching Human Ecology in Senior Years 2 (3) A continuation of the study of curriculum and instructional approaches relevant to the teaching of human ecology at the Senior Years level. Senior Years: *prerequisite:* successful completion of year one, 132.124; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251; Integrated B.H.Ec./B.Ed.: *prerequisite:* 132.124, 132.152, 132.194.

132.230 Teaching Mathematics in Senior Years 2 (3) A continuation of the study of curriculum and instructional approaches relevant to teaching mathematics at the Senior Years level. *Prerequisite:* successful completion of year one, 132.125; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor *pre- or corequisite:* 129.280, 129.281, 132.251.

132.231 Teaching Physical Education/Health Education in Senior Years 2 (3) A continuation of the study of curriculum and instructional approaches relevant to the teaching of physical education and health education at the Senior Years level. *Prerequisite:* successful completion of year one, 132.126; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251.

132.232 Teaching Physics in Senior Years (3) A study of curriculum and instructional approaches relevant to the teaching of physics at the Senior Years level. *Prerequisite:* successful completion of year one, 132.127; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251. Offered 2001-02 and every other year thereafter.

132.233 Teaching Computer Science in Senior Years (3) A study of curriculum and instructional approaches relevant to the teaching of computer science at the Senior Years level. *Prerequisite:* successful completion of year one, 132.127; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251. Offered 2002-2003 and every other year thereafter.

132.234 L'enseignement du français de Base au Niveau Secondaire 2 (3) La deuxième partie du cours constitue un approfondissement des éléments-clés ainsi qu'une introduction aux nouveaux sujets particuliers en vue de développer chez l'étudiant une philosophie personnelle de l'enseignement du français langue seconde. *Prerequisite:* successful completion of year one, 132.128; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251.

132.235 Teaching a Heritage, Aboriginal, or International Language 2 (3) Curriculum applications and practice in teaching a language other than English or French. Senior Years: *prerequisite:* successful completion of year 1, 132.135 or 132.122; *corequisite:* 132.250, 132.298, Curriculum and Instruction for Year 2 major/minor; *pre- or corequisite:* 129.280, 129.281, 132.251; Early/Middle Years: Complementary Course; *prerequisite:* 132.135 or the former 132.122.

132.240 Teaching in the Middle Years (2) Examines the assumptions underlying the goals of Middle Years education. Topics include unit and lesson planning, special top-

ics in adolescent development, classroom management, student evaluation, and integrating curriculum. *Prerequisite:* successful completion of year one; *corequisite:* 132.297, 132.210, 132.211, 132.212, 132.213, 132.214, 132.215.

132.250 Themes in Senior Years Education (3) Examination of selected themes or issues relevant to Senior Years education, and the development of the beginning teacher's personal professional identity. Course activities will be co-ordinated with in-school experiences and will vary from year to year. Senior Years; *Prerequisite:* successful completion of year one; *corequisite:* 132.298, six credit hours year 2 curriculum and instruction courses specific to major and minor. Integrated B.Mus./B.Ed and B.H.Ec./B.Ed.: *prerequisite* successful completion of years 1-4.

132.251 Language and Literacy Across the Curriculum (3) An introduction to language as a medium of teaching and learning and how teachers of all content areas can apply language to enhance students' understanding of subject area content. Integrated B.Mus./B.Ed and B.H.Ec./B.Ed.: *prerequisite* successful completion of years 1-4.

132.296 Early Years School Experience 2 (6) A continuation of practical teaching experience in Early Years schools under the guidance and supervision of faculty members and collaborating teachers. The practicum will be closely integrated with the study of curriculum and instruction at the Early Years level. *Prerequisite:* successful completion of year one; *corequisite:* 132.200, 132.201, 132.202, 132.203, 132.204, 132.205, 132.206, 132.207, 132.208; *pre- or corequisite:* 129.280, 129.281.

132.297 Middle Years School Experience 2 (9) A continuation of practical teaching experience in Middle Years schools under the guidance and supervision of faculty members and collaborating teachers. The practicum will be closely integrated with the study of curriculum and instruction at the Middle Years level. *Prerequisite:* successful completion of year one; *corequisite:* 132.210, 132.211, 132.212, 132.213, 132.214, 132.215, and 132.240.

132.298 Senior Years School Experience 2 (6) A continuation of practical teaching experience under the guidance and supervision of faculty members and collaborating teachers. The practicum will be closely integrated with the study of curriculum and instruction at the Senior Years level. Senior Years; *prerequisite:* successful completion of year 1; *corequisite:* 132.250 and six credit hours year 2 curriculum and instruction courses specific to major and minor; *pre- or corequisite:* 129.280, 129.281, 132.251; Integrated B.Mus./B.Ed. and B.H.Ec./B.Ed.: *prerequisite:* successful completion of years one to four inclusive; *corequisite:* 129.180, 129.181, 129.280, 129.281, 132.250 (Early/Middle Years Music specialization take an Education complementary course), 132.251 (Early/Middle Years Music specialization take an Education complementary course), 132.298; *pre- or corequisite:* 132.199

Ungrouped Courses

132.594 Instructional Product Development (3) Systematic development of an instructional product. Includes needs assessment, goal setting, writing objectives, task analyses, product development, evaluation techniques. Not to be held with the former 081.532. Not currently offered.

Educational Technology

132.584 Internet Pedagogy (3) Theory and practice of teaching and learning with the Internet. Focus on instructional applications of the Internet, for all levels from K-12 as well as adult, post-secondary and training settings. Current research will be examined and monitored for its relevance to this fast-changing field.

132.585 Theory and Practice of Designing and Developing Web-based Courses (3) Theory and practice of the design, development and evaluation of on-line web-based distance education courses for K-12 through adult/post-secondary programs.

132.586 Project Management in Education and Training (3) Theory and practice of project management principles in education and training. Emphasis on application of concepts and procedures of educational project management including planning and proposal creation for developmental and/or research activities in educational agencies.

English as a Second Language

132.551 ESL Materials Development and Practicum (3) A general survey of published ESL instructional materials will form the basis for students to develop lesson materials to be demonstrated in a supervised practicum. Students may not hold credit for both 132.551 and the former 063.587. *Pre- or corequisite:* one or more of former 063.322, 132.549 or the former 063.509, 132.550 or the former 063.586 or instructor's permission.

132.552 Grammar in ESL Learning and Instruction (3) A survey of English grammar and its applications to teaching all levels of ESL, from beginning to very advanced. Lectures, readings, group discussions, and demonstrations are designed to develop knowledge and skills necessary to teach oral and written grammar in traditional and innovative ways. Students may not hold credit for both 132.552 and the former 063.596.

132.553 ESL and Content Instruction (3) Principles and procedures of teaching ESL/bilingual students in subject-area classrooms, using content-based language instruction and language sensitive content instruction.

132.554 Vocabulary and Pronunciation Instruction (3) Principles and procedures in teaching English vocabulary and pronunciation for effective communication (sounds, spellings, word and sentence stress, rhythm, intonation, connected speech, integration). Not to be held with 132.164.

132.558 Fundamentals of ESL (English Second Language) Instruction (3) Examination of principles and demonstration of procedures for teaching ESL in Canada and EFL overseas. Not to be held with the former courses 132.550 or 063.586.

132.583 Developing ESL/Bilingual Literacies (3) A focus on the theoretical and practical aspects of teaching literacy foundations and/or English language literacy to adult and adolescent English language learners. Definitions, assessment, and instructional

strategies will be examined with a view to meeting the diverse needs of ESL/bilingual learners.

Expressive Arts

132.501 Theory and Practice of Teaching Dramatic Arts (6) The theory and practice of standard and innovative techniques of directing high-school plays, with emphasis on the application of theories of grouping, movement, and speech in actual directing and acting experiences. Enrolment limited. Students may not hold credit for both 132.501 and the former 063.510.

132.504 Theory and Practice of Teaching Art (Elementary) (6) The theory and practice of teaching Art in the Elementary School will be examined through an inquiry into both the development of the child through his/her art expression and related curricular experiences. Students may not hold credit for both 132.504 and the former 063.518.

132.506 Theory and Practice of Teaching Art in the Senior Years 1 (3) An overview of major aspects of Art Education in the context of Senior Years 1 curriculum through a study of current theory, a variety of studio areas and related aesthetic concepts. Students may not hold credit for 132.506 and the former 063.546.

132.507 Theory and Practice of Teaching Art in the Senior Years 2 (3) An examination of major aspects of art education in the context of the Senior Years 2 curriculum through an in-depth study of selected theoretical topics, studio areas and related aesthetic concepts. Students may not hold credit for 132.507 and the former 063.547.

132.512 Music in the Early Years/Middle Years School 1 (3) A course to assist classroom teachers plan for music making activities based on knowledge and proficiency in the use of Orff instruments and recorder. Students may not hold credit for both 132.512 and the former 063.552.

132.513 Music in the Early Years/Middle Years School 2 (3) A course to assist classroom teachers plan for music making activities based on knowledge and proficiency in the use of a wide range of string instruments (guitar, baritone ukulele, dulcimer, etc.). Students may not hold credit for both 132.513 and the former 063.553.

132.514 Special Methods in Music 1 (3) An advanced study of the Orff method as it applies to Early and Middle Years schools with emphasis on ensemble performance. The course is designed for the music specialist. Students may not hold credit for both 132.514 and the former 063.554.

132.515 Special Methods in Music 2 (3) An advanced study of the Kodaly method as it applies to Early and Middle Years schools with emphasis on the contributions of the method to fine choral performance. The course is designed for the music specialist. Students may not hold credit for both 132.515 and the former 063.555.

132.516 School Band (3) An advanced study of the methods for initiating and continuing a band in Middle and Senior Years schools with emphasis on the contributions of a band program to Middle Years education. Students may not hold credit for both 132.516 and the former 063.556.

132.519 School Music Productions (3) A study of the principles and procedures for presenting school music productions. Students may not hold credit for both 132.519 and the former 063.559.

132.524 Music: Advanced Vocal Methods (3) Advanced methods for group instruction in voice related to the Senior School music option. Students may not hold credit for both 132.524 and the former 063.564.

132.525 Music: Advanced Choral Methods (3) Advanced methods in choral instruction and conducting through a study of choral literature related to school music programs. Students may not hold credit for both 132.525 and the former 063.565.

Library Science

132.555 Library Reference and Informational Materials (6) Principles of reference and research with special emphasis on interdisciplinary investigation; the problems of access to information; types of reference sources, their evaluation and selection for library reference collections; services to library users. Students may not hold credit for both 132.555 and the former 063.541.

132.556 School Library Organization and Administration (6) A critical examination of the implications of current theories of education for school libraries and an analysis of basic problems in organization and administration, including budget, collections, staff, quarters, and services to teachers and pupils. Students may not hold credit for both 132.556 and the former 063.542.

Mathematics

132.576 Recent Developments in Mathematics Education (3) Reading and research in mathematics education (selected topics).

132.577 Diagnosis and Remediation in Elementary School Mathematics (3) Diagnostic and remedial methods in elementary school mathematics. Students may not hold credit for both 132.577 and the former 081.558.

Readings in Curriculum

132.520 Readings in Curriculum, Teaching and Learning 1 (3) Readings and research in special areas of curricular study related to curriculum, teaching and learning.

132.521 Readings in Curriculum, Teaching and Learning 2 (3) Readings and research in special areas of curricular study related to curriculum, teaching and learning.

132.522 Recent Developments in Curriculum, Teaching and Learning 1 (3) An opportunity to examine the theoretical bases for, and practical application of, recent or emerging developments in the area.

132.523 Recent Developments in Curriculum, Teaching and Learning 2 (3) A continuation of certain topics of 132.522 to extend and develop the study previously un-

dertaken in these areas.

132.547 Recent Developments in Curriculum: Mathematics and Natural Sciences 1 (3) This course will provide an opportunity to examine the theoretical bases for, and practical application of, recent or emerging developments in the area.

132.548 Recent Developments in Curriculum: Mathematics and Natural Sciences 2 (3) A continuation of certain topics of 132.547 to extend and develop the previous study undertaken in these areas.

Reading/Language Arts

132.533 Teaching Language and Literacy in the Content Areas (3) An examination of approaches to literacy in the content areas (science, mathematics, social studies, etc.); emphasis on strategies for reading, writing, and studying, materials and material assessment, procedures, and supporting research. Students may not hold credit for 132.533 and either the former 132.531 and 063.571.

132.534 Foundations of Literacy (3) Nature of literacy in relation to various dimensions of human development and instruction such as language, vision, hearing, cognition, motivation, and instructional focus. Students may not hold credit for 132.534 and either the former 132.526 or 063.566.

132.535 Current Issues in Language and Literacy (3) A special topics course designed to update students on the most recent developments in Language and Literacy Education.

132.536 Children's Literature (3) The nature and psychology of literature for children in the elementary grades. Areas for consideration include an examination of materials, use of evaluative criteria to assess the materials, and research findings concerning development, interest and use of the material. Students may not hold credit for both 132.536 and the former 063.544.

132.537 Adolescent Literature (3) The nature and psychology of literature for students in Grades 7-12. Areas for consideration include an examination of materials, use of evaluative criteria to assess the materials, and research findings concerning development, interest and use of the material. Students may not hold credit for both 132.537 and the former 063.545.

132.538 Theory and Practice in Written Composition (3) A course designed to explore the nature of written composition and to provide practice in various types of writing. Students may not hold credit for both 132.538 and the former 063.584.

132.539 The Teaching of Written Composition (3) A course designed to assist teachers in organizing and implementing writing programs. Consideration will be given to motivational strategies, useful writing activities and exercises, and practice in editing and evaluation. Students may not hold credit for both 132.539 and the former 063.585.

132.540 Diagnostic and Remedial Techniques in Language Arts (6) Diagnosis and correction at the classroom level. Opportunities for detailed analysis of diagnostic instruments. Practical aspects include diagnosis of language arts problems, prescriptions, and correction on the basis of evaluation. Students may not hold credit for both 132.540 and the former 063.599.

132.582 Literacy in Adult Education (3) A study of both theoretical and practical aspects of teaching adult literacy with emphasis first on assessment measures to inform instruction and second on designing programs in both reading and writing to meet the diverse needs of adult learners.

Science

132.578 Theory of Teaching Science: Elementary (3) Approaches to the teaching and learning of elementary science (K-8). Elementary science curriculum and instruction will be studied in terms of the nature of science, and the nature of the learner, as well as goals, objectives, content, organization and evaluation. Students may not hold credit for both 132.578 and the former 081.546.

132.579 Theory of Teaching Science: Secondary (3) Approaches to the teaching and learning of Science, Grades 7-12. Objectives, content, and organization of science curriculum will be studied from the viewpoint of Science teachers. Students may not hold credit for both 132.579 and the former 081.547.

Social Studies

132.557 Recent Developments in Teaching History (3) A study of approaches that have been taken to curriculum development in history, focusing on specific curriculum projects. Emphasis will be on curricular rather than instructional concerns. Students may not hold credit for both 132.557 and the former 063.580.

132.559 The Theory and Development of Geographic Education (3) A consideration of the nature and development of geography, with particular reference to its place in the secondary school curriculum. Students may not hold credit for both 132.559 and the former 063.582.

132.563 The Teaching of Canadian Studies in Schools (3) An examination of current issues related to the teaching of Canadian studies in the public schools, including a critical appraisal of programs, materials, teaching strategies and related issues. Students may not hold credit for both 132.563 and the former 063.591.

132.566 Theoretical Foundations of Social Studies (3) This course examines recent developments in social studies education. It aims to familiarize students with the debates, the research and the innovations (successful and otherwise) that have characterized social studies curriculum to approximately Grade Four, with particular reference to the implications of social studies teachers of the characteristics of students at those levels. Students may not hold credit for both 132.566 and the former 063.594.

132.567 The Teaching of Social Studies in the Early Years (3) This course concentrates on the teaching of social studies in schools from Kindergarten to approximately Grade Four, with particular reference to the implications of social studies teachers of

the characteristics of students at those levels. Students may not hold credit for both 132.567 and the former 063.595.

Technical/Vocational

132.510 Developing Competency Skills in Enterprise Education 1 (3) Promotes the development and integration of skills of creativity, innovation, self-reliance and responsibility in students, within the framework of an enterprise education/entrepreneurship paradigm. Participants develop teaching strategies and materials and learn to integrate these skills into current educational practices. *Corequisite:* 132.511.

132.511 Developing Competency Skills in Enterprise Education 2 (3) This course continues the promotion and application of student competency skills, within the framework of an enterprise education/entrepreneurship paradigm. Participants plan and organize a school, community or business venture, develop plans for the promotion and marketing of the product or service, arrange financial support, and make a presentation of their venture plan to a panel of evaluators. *Corequisite:* 132.510.

132.569 Seminar in Business Education (6) Curriculum development; methodologies; evaluation and measurement; research. Students may not hold credit for both 132.569 and the former 081.514.

132.570 Seminar in Industrial Education (6) Curriculum development; advanced techniques; current trends; research. Students may not hold credit for both 132.570 and the former 081.515.

10.2 Department of Educational Administration, Foundations, and Psychology

Head: TBA

Office: 204 Education Building

Telephone: 204 474 9018

Educational Administration, Foundations, and Psychology

129.150 Aboriginal Education (3) A study of fundamental issues, philosophies, and models of Aboriginal education. Cultural, spiritual, social, and political perspectives regarding Aboriginal education will be critically explored.

129.151 Foundations of Moral and Religious Education (3) Examination of the theory and practice of moral and religious education, including curricular and pedagogical issues in both humanistic and religious perspectives.

129.152 Recent Developments in Educational Administration and Foundations (3) Topics will vary depending on the needs and interests of students, and will include specialized topics in educational administration and foundations.

129.153 Recent Developments in Educational Psychology (3) Topics will vary depending on the needs and interests of students, and will include specialized topics in educational psychology not studied in regular program courses.

129.154 Cross-Cultural Education (3) An examination of teacher attitudes, teaching techniques and curricular modifications which will facilitate learning in cross-cultural situations. Studies will focus on accommodation among cultural groups in rural and urban centres. Students may not hold credit for both 129.154 and the former 116.303.

129.155 Communication and Interpersonal Relationships in Education (3) The purpose of this course is to help teacher candidates increase their awareness, understanding, and proficiency in communication and interpersonal relationships. Emphasis in this course is on the integration of theory, research, and practice in the areas of communication and interpersonal relationships.

129.180 Psychology of Learning and Instruction 1: Theory and Practice (3) An examination of theoretical concepts and practical issues related to the learning and development of learners as individuals in classrooms and other settings. Students may not hold credit for both 129.180 and the former 043.202.

129.181 School and Society 1: The Social Foundations of Education (3) An examination of educational ideas and practices, especially schooling, in the context of a diverse society. The course focuses upon understanding schooling through historical, philosophical, sociological and cross-cultural perspectives. Students may not hold credit for both 129.181 and the former 116.101 or 037.101.

129.280 Psychology of Learning and Instruction 2: Inclusive Special Education (3) An examination of concepts and issues related to meeting the diverse needs of all students including methods and resources for accommodating student diversity in classrooms and schools. Students may not hold credit for both 129.280 and 043.305. *pre- or corequisite:* 129.180.

129.281 School and Society 2: Administrative Foundations of Education (3) An examination of the form, functioning, and organizational aspects of contemporary schooling in Canada in the context of legislation, policy and public expectations. Students may not hold credit for both 129.281 and the former 116.301 or 059.301. *pre- or corequisite:* 129.181.

Adult Education

129.530 Introduction to Adult Education (3) An introduction to adult education, with particular attention being given to the characteristics and needs of the adult-learner, and to the current issues concerning adult education. Students may not hold credit for both 129.530 and the former 116.532.

Early Years Education

129.590 Education and the Developmental Process 1 (3) A survey of the developmental process from conception to pubescence. Specific emphasis will be placed upon biological foundations, cognitive development, and social aspects of behaviour as related to the educational process. Students may not hold credit for both 129.590 and the former 043.506.

129.591 Education and the Developmental Process 2 (3) A study of growth and development in the postpubescent period with specific emphasis on implications for the secondary school. Students may not hold credit for both 129.591 and the former 043.507.

129.592 Children's Play (3) The role of play in children's learning, including historical aspects of play; play as intrinsic to the child's development; conceptual, perceptual, linguistic, physical attributes of play; and the delineation of work and play. Students may not hold credit for both 129.592 and the former 043.529.

129.593 Observing Child Behaviour (3) The use of qualitative observation techniques, especially in educational settings, to understand children's behaviour, thinking, and motivations. Students may not hold credit for both 129.593 and the former 043.530.

129.594 Language and Symbolic Process (3) The focus in this course is on the role of symbolic learning in the development of the young child. A study of theories on symbol formation is intended to serve as a framework for examining the emergence of representational capacities in movement, gesture, play, drawing and three dimensional media. *Prerequisite:* former 043.307. Not currently offered.

Educational Administration

129.501 Introduction to Educational Administration (3) A study of the basic concepts, tasks and processes of administration as they apply to education. Students may not hold credit for both 129.501 and the former 116.501.

129.502 Principles of Curriculum Development (3) An examination of approaches to curriculum design. Influences on the design process, and aspects of implementation. Emphasis is given to teacher participation in creating curriculum. Students may not hold credit for both 129.502 and the former 116.502.

129.503 Management of Educational Institutions (3) A study of basic patterns of organization and the administrator's role in educational institutions. The focus is on decision making, communicating, planning and evaluating in educational institutions. Students may not hold credit for both 129.503 and the former 116.503.

129.504 Personnel Administration in Education (3) An examination of the administrator's relationships with other personnel in education, with emphasis on personnel policy, staff development and motivation. Students may not hold credit for both 129.504 and the former 116.504.

129.506 Principles of Instructional Supervision (3) An analysis of theoretical models of instruction and supervision and their application in education. Students may not hold credit for both 129.506 and the former 116.506.

129.507 Organizational Behaviour in Educational Institutions (3) A study of theory and research in the socio-behavioural sciences which concern the behaviour of individuals and groups in organizational settings. Attention is given to the implications of such theory and research for administration in educational institutions. Students may not hold credit for both 129.507 and the former 116.507.

129.508 Recent Developments in Educational Administration 1 (3) An opportunity to examine the theoretical bases for, and application of, recent or emerging developments in educational administration.

129.509 Recent Developments in Educational Administration 2 (3) A continuation of certain topics of 129.508 to extend and develop studies previously undertaken in these areas.

129.510 Issues in the Administration of Education (3) An analysis of issues in the administration of educational organizations. Students may not hold credit for both 129.510 and the former 116.510.

Educational Psychology

129.570 Social Psychology of Education (3) An examination of the influence of social factors on the individual's achievement and adjustment in school. Additional emphasis will be placed upon the functioning of small groups and interaction in the classroom together with an analysis of the social structure of the school and the teacher's social role. Students may not hold credit for both 129.570 and the former 043.508.

129.571 Readings in Educational Psychology 1 (3) Directed readings and study of topics in various aspects of education from the psychological viewpoint.

129.572 Readings in Educational Psychology 2 (3) Directed readings and study of topics in various aspects of education from the psychological viewpoint.

129.573 Recent Developments in Educational Psychology 1 (3) An opportunity to examine the theoretical bases for, and practical application of, recent or emerging developments in this area.

129.574 Recent Developments in Educational Psychology 2 (3) An opportunity to examine the theoretical bases for, and practical application of, recent or emerging developments in this area.

129.575 Psychology of Learning in Educational Contexts (3) An examination of basic theories of learning as applied to classroom instruction, and as used for designing curricula. Emphasis will be given to cognitive information processing, through behaviourist, developmental, and psychosocial explanations of learning will also be covered. Students may not hold credit for 129.575 and the former 043.543. *Prerequisite:* 129.180, 017.120, the former 043.202 or equivalent.

129.576 Psychology of Instruction in Educational Contexts (3) Designed primarily, although not exclusively, for classroom teachers and school personnel. A critical examination of major theoretical foundations and models of instruction. The course aims at the integration and application of traditional and emerging approaches and strategies of classroom instruction. Students may not hold credit for 129.576 and the former 043.544. *Prerequisite:* 129.180 or 017.120, the former 043.202, or equivalent.

Guidance and Counselling

129.548 Counselling Skills (3) Emphasis will be on the development of counselling skills such as attending and listening, reflection of content and feelings, feedback and self-disclosure, focusing and summarization. Students may not hold credit for both 129.548 and the former 129.556 or 043.516. *Pre- or corequisite:* 129.550 or the former 043.509.

129.549 Field Placement in Counselling (3) A field-based counselling situation for students to apply counselling skills under qualified professionals in the field, and supported by university instructors. Students may not hold credit for both 129.549 and the former 129.556 or 043.516. *Pre- or corequisite:* 129.550 or the former 043.509 and 129.548.

129.550 Theories and Issues in School Counselling (3) A study of the philosophy and theories of counselling, issues in school guidance and counselling. Students may not hold credit for both 129.550 and the former 043.509.

129.551 Elementary School Counselling (3) An examination of the role and functions of the counsellor in the elementary school. Students may not hold credit for both 129.551 and the former 043.510. *Pre- or corequisite:* 129.550 or the former 043.509.

129.553 Secondary School Counselling (3) A study of counselling as related to secondary-school practice. Emphasis on the secondary-school counsellor's role and functions. Examination of the various counsellor services: educational, orientation, staff, etc. Students may not hold credit for both 129.553 and the former 043.511. *Pre- or corequisite:* 129.550 or the former 043.509.

129.554 Groups in Guidance (3) A study of groups, group leadership and related skill development, especially as related to a counsellor's functioning in the schools. Students may not hold credit for both 129.554 and the former 043.512. *Pre- or corequisite:* 129.550 or the former 043.509.

129.555 Psychology of Human Relationships (3) A study of interpersonal relationships. A laboratory approach is used to increase the personal sensitivity of the participants to people. Particularly suitable for teachers, school administrators, and other professionals. Students may not hold credit for both 129.555 and the former 043.515.

129.557 Family Life Education (3) A study of human sexuality and family relationships. Consideration is given to research findings, teaching resources and the methods, development, and cooperation with home and community. Students may not hold credit for both 129.557 and the former 043.517.

129.558 Career Development (3) Study and application of theories of career development, occupational choice, and decision making; evaluation and design or self-knowledge programs in counselling for decision. Students may not hold credit for both 129.558 and the former 043.513 or the former 043.545.

129.559 Career Information (3) A study of work, local employment, and training; analysis of career information; evaluation and design of career resource centres; a development study of career education. Students may not hold credit for both 129.559 and the former 043.514 or 043.546.

Inclusive Special Education

129.560 Introduction to Inclusive Special Education (6) A survey course for educators interested in inclusive special education—legislative, pedagogical, attitudinal and systemic barriers to inclusion and exemplary inclusive provisions are covered. Students may not hold credit for both 129.560 and the former 043.518.

129.561 Field Experience in Inclusive Special Education (6) A field-based situation for full and part-time students to apply inclusive special education skills under the supervision of qualified school staff and supported by professional peer mentors and university instructors. Approximately 160 hours of field-based service required. Students may not hold credit for both 129.561 and the former 043.523. *Pre- or corequisite:* 129.560 or the former 043.518 or equivalent, 129.563 or the former 043.536 or equivalent and 129.566 or the former 043.539 or equivalent.

129.562 Teaching Children Through Alternative and Augmented Communication (3) An examination of alternative and augmented communication issues, services, supports, and inclusive teaching and learning strategies. Students may not hold credit for both 129.562 and the former 043.533.

129.563 Assessment and Instruction in Inclusive Special Education (6) An examination of curriculum-based and classroom-based assessment to guide the instruction of students experiencing learning or behavioural difficulties in inclusive classrooms. Students may not hold credit for both 129.563 and the former 043.536. *Pre- or corequisite:* 129.560 or the former 043.518 or equivalent.

129.564 Inclusive Special Education: Early and Middle Years (3) This course is designed for educators responsible for the integration of students with special learning needs into the early and/or middle years classroom. Students may not hold credit for both 129.564 and the former 043.537.

129.565 Inclusive Special Education: High School and Transition to Adult Life (3) This course is designed for those responsible for the education of students with special learning needs into high school. Students may not hold credit for both 129.565 and the former 043.538.

129.566 Organization and Delivery of Resource Program and Support Services (3) A critical study of the nature of resource teacher programs and an analysis of factors influencing program development and effectiveness. Students may not hold credit for both 129.566 and the former 043.539. *Pre- or corequisite:* 129.560 or the former 043.518.

129.567 Strategies for Organizing Inclusive Classrooms and Schools (3) An examination of the organization and implementation of school-wide supports for access, learning, socialization, behaviour, family liaison, clinical engagement, and community services. Organizational strategies to enhance consultation, cooperation, collaboration and professional development are included. Students may not hold credit for both 129.567 and the former 043.540. *Pre- or corequisite:* 129.560 or the former

043.518 or equivalent and 129.563 or the former 043.536 or equivalent.

129.568 Promoting Responsible Behaviour in Educational Settings (3) The course is designed to provide teachers with an understanding of the needs of children who display maladaptive behaviours in a school setting. Conceptualization of behaviour disorders, identification/assessment procedures, and intervention strategies will be studied. The purpose of the course is to enable teachers to generate intervention strategies which are appropriate in an educational setting. Students may not hold credit for both 129.568 and the former 043.542. *Pre- or corequisite:* 129.560 or the former 043.518 or equivalent.

Instructional Design and Evaluation

129.580 Introduction to Educational Research (3) A study of scientific inquiry in the field of education. Research and statistical methods are surveyed within the context of educational research. Particularly recommended for students interested in the evaluation and application of research findings. Students may not hold credit for both 129.580 and the former 043.503.

129.581 Theory of Test Construction (3) Particular attention is given to problems of item analysis, validity, reliability, and test evaluation in the educational setting. Norm and criterion referenced tests are considered. Students may not hold credit for both 129.581 and the former 043.504.

129.582 Test Administrative Analysis (3) An overview of test classification and factors affecting test scores together with an analysis of the testing situation. Specific problems of test administration in schools will be treated. Students may not hold credit for both 129.582 and the former 043.505.

129.585 Computer Application in Education 2 (3) An advanced course dealing with tutorial applications of computers in both regular and special education classrooms. Students may not hold credit for both 129.585 and the former 043.526. *Prerequisite:* the former 081.528, or consent of instructor, or the former 043.306.

Post-Secondary Education

129.540 The Development of Higher Education (3) A survey of the development of structures, philosophies and curricula of higher education, especially in Canada. Students may not hold credit for both 129.540 and the former 116.528.

129.541 Contemporary Issues in Higher Education (3) An analysis of contemporary problems and issues in higher education. Students may not hold credit for both 129.541 and the former 116.529.

129.542 Teaching and Learning in Post-Secondary Institutions (3) An analysis of the

various aspects of post-secondary instruction, including the design and implementation of curriculum and instruction; the evaluation of courses, programs, instructors and students; and staff development. Consideration will be given to the role of the teacher in a variety of institutional settings. Students may not hold credit for both 129.542 and the former 116.530.

Social Foundations of Education

129.520 Readings in Educational Foundations (3) Readings and research in selected areas of the study of education.

129.521 Recent Developments in Educational Foundations 1 (3) An opportunity to examine the theoretical bases for, and application of, recent or emerging developments in educational foundations.

129.522 Alternatives in Education (6) A study of educational alternatives through an analysis of their historical and philosophical backgrounds, their form in a variety of settings, and their value in contemporary education. Students may not hold credit for both 129.522 and the former 116.524.

129.523 Studies in International Education (3) An examination of educational issues and practices in other countries, especially those of the third world. Emphasis will be given to teaching and administration in developing countries. Students may not hold credit for both 129.523 and the former 116.525.

129.524 Problems in Cross-Cultural Education (3) A study of selected problems encountered by cultural minorities in various educational settings. Students may not hold credit for both 129.524 and the former 116.531.

129.525 Perspectives on the Education of Minorities in Canada (3) An examination of the nature of Canadian social development within the framework of a pluralistic society. Questions of intergroup relations, immigration policy, ethnic cohesion, and tensions of integration versus assimilation will be examined as they relate to the history of Canadian education. Students may not hold credit for both 129.525 and the former 116.516.

129.526 Education in the Middle Ages (3) A study of the development of education from classical times to the end of the Middle Ages. Students may not hold credit for both 129.526 and the former 116.518. Not currently offered.

129.527 Education from the Renaissance (3) A study of the development of education from the Renaissance to modern times. Students may not hold credit for both 129.527 and the former 116.519. Not currently offered.

Faculty of Engineering

General Office

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Dean: Douglas Ruth

Associate Deans: Ron Britton (Design Engineering); Rudy Schilling (Building Initiative); Brian Stimpson (Undergraduate); Douglas Thomson (Research)

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SECTION 1: Academic Staff

Biosystems Engineering

Biosystems Engineering academic staff are appointed by the Faculty of Agricultural and Food Science

Dean Emeritus

Laliberte, G.E., B.E., M.Sc. (Manitoba), Ph.D. (Colorado State), PEng.

Professor Emeritus

Muir, W.E., B.E. (Saskatchewan), M.S. (Illinois), Ph.D. (Saskatchewan), PEng

Professors

Britton, M.G., B.E. (Saskatchewan), M.Sc. (Manitoba), Ph.D. (Texas A and M), PEng.; **Cenkowski**, S., B.Sc., M.Sc. (Technical Univ.), Ph.D., Sc.D. (Agric. Univ.), PEng.; **Jayas**, D.S., B.Sc. (G.B.Pant), M.Sc. (Manitoba), Ph.D. (Saskatchewan), P.Ag., PEng.; **Zhang**, Q., B.Sc. (Hefei Polytechnical), M.Sc., Ph.D. (Pennsylvania State), PEng.

Associate Professor

Sri Ranjan, R., B.Sc. (Peradeniya), M.Sc., Ph.D. (Colorado State), PEng.

Assistant Professors

Chen, Y., B.Sc., M.Sc. (China), Ph.D. (McGill), PEng.; **Cicek**, N., B.Sc. (Bosphorus), M.Sc., Ph.D. (Cincinnati); **Mann**, D.D., B.Sc., M.Sc., Ph.D. (Manitoba), PEng.; **Paliwal**, J., B.Sc. (G.B.Pant), M.Sc., Ph.D. (Manitoba)

Senior Instructor

Dick, J.K., B.Sc., M.Sc., Ph.D. (Manitoba) P.Eng.

Civil Engineering

Professors Emeriti

Baracos, A., M.Sc.(C.E.) (Alberta), M.E.I.C., P.Eng.; **Morris**, G.A., M.Sc. (Manitoba), Ph.D. (Illinois), M.E.I.C., P.Eng.

Professors

Britton, M.G., B.E. (Saskatchewan), M.Sc. (Manitoba), Ph.D. (Texas A. & M.), P.Eng.; **Clayton**, A., B.Sc.(C.E.), M.Sc. (Saskatchewan), P.Eng; **Mufti**, A.A., B.Eng. (Karachi), M.Eng., Ph.D. (McGill) P.Eng.; **Oleszkiewicz**, J.A., M.Sc. (Wroclaw), M.Sc., Ph.D. (Vanderbilt), P.Eng.; **Polyzois**, D., B.A.Sc., M.A.Sc., Ph.D.(C.E.) (Toronto), P.Eng.; **Shah**, A.H., B.E. (Poona), M.Sc. (Stanford), Ph.D. (Berkeley), P.Eng.; **Stimpson**, B., B.Sc., M.Sc., D.I.C., Ph.D. (London), P.Eng.; **Woodbury**, A.D., B.Sc.(Geophys.), M.Sc.(Geol.), Ph.D. (UBC), P.Eng.

Associate Professors

Doering, J.C., B.Sc.(Hons.) (Queen's), Ph.D. (Dalhousie), P.Eng.; **Rasmussen**, P.F., M.Sc., Ph.D. (Denmark).

Assistant Professors

Alfaro, M., B.Sc. (Philippines), M.Eng. (Thailand), Ph.D. (Saga, Japan) P.Eng.; **Blatz**, J.A., B.Sc.(C.E.), Ph.D. (Manitoba) P.Eng.; **Gorczyca**, B., M.Sc. (Poland), M.Sc., Ph.D. (Toronto) P.Eng.; **Rattanawangcharoen**, N., B.Eng. (Chiang Mai), M.Sc. (Asian Inst. of Tech.), Ph.D. (Manitoba); **Shalaby**, A., B.Sc.(C.E.), M.Sc. (Cairo), Ph.D. (Carleton) P.Eng.; **Snelgrove**, K., B.Eng. (Memorial), M.A.Sc., Ph.D. (Waterloo) P.Eng.; **Svecova**, D., M.Sc. (Slovakia) M.Sc., Ph.D. (Carleton).

Senior Instructors

Frye, M.J., B.Sc., M.Sc., Ph.D.(Manitoba), P.Eng., **Hutchinson**, R.L., B.Sc.(C.E.), M.Sc., PhD. (Manitoba) P.Eng.;

Electrical and Computer Engineering

Dean Emeritus

Kuffel, E., B.Sc., M.Sc., Ph.D.(E.E.) (Dublin), D.Sc.(E.E.) (Manchester), P.Eng..

Professors Emeriti

Bridges, E., M.Sc.(E.E.) (Manitoba), P.Eng.; **Kao**, K.C., B.Sc.(E.E.) (Nanking), M.Sc. (Michigan), Ph.D., D.Sc. (Birmingham), F.Inst.P., F.I.E.E., C.Eng., P.Eng.; **Martens**, G.O., B.Sc.(E.E.) (Manitoba), M.A.Sc. (Toronto), Ph.D. (Illinois), P.Eng.; **McMath**, J.P.C., B.Sc.(E.E.) (Alberta), P.Eng.; **Swift**, G.W., M.Sc.(E.E.) (Alberta), Ph.D. (Illinois Institute of Technology),

P.Eng.; **Tarnawecki**, M.Z., M.Sc.(E.E.) (Manitoba), P.Eng.; **Wexler**, A., B.Sc.(E.E.) (Manitoba), Ph.D., D.I.C. (London) F.R.S.A., P.Eng..

Distinguished Professors

Card, H.C., B.Sc.(E.E.), M.Sc. (Manitoba), Ph.D. (Manchester), P.Eng.; **Shafai**, L., B.E.Sc. (Tehran), M.A.Sc., Ph.D. (Toronto), F.I.E.E.E., P.Eng.;

Professors

Alfa, A.S. B.Eng. (Ahmadu Bello), M.Sc. (Manitoba), Ph.D. (New South Wales); **Bridges**, G.E.J., B.Sc.(E.E.), M.Sc., Ph.D. (Manitoba), P.Eng.; **Ciric**, I.M.R., B.Sc., Dipl.Ing., Ph.D., Dr.Ing. (Bucharest), F.I.E.E.E.; **Gole**, A.M., B.Tech. (Bombay), M.Sc.(EE), Ph.D. (Manitoba), P.Eng.; **Kinsner**, W., M.Sc. (Wroclaw-Breslau), Ph.D. (McMaster), P.Eng.; **Lehn**, W.H., B.Sc.(E.P.) (Manitoba), M.Sc.(E.E.) (Massachusetts), P.Eng.; **McLeod**, R.D., B.Sc. (E.E.), M.Sc., Ph.D. (Manitoba); **Menzies**, R.W., B.Sc.(E.E.) (Hons.) (McMaster), Ph.D. (St. Andrews), P.Eng.; **Onyshko**, S., M.Sc. (Alberta), Ph.D. (Washington), P.Eng.; **Pawlak**, M., M.S. (Control and Comp Eng.), Ph.D. (Comp Eng.) (Wroclaw); **Raghuveer**, M.R., B.Sc.(Hons.), B.Eng. (India), M.Sc. (Manitoba), Ph.D. (Windsor), P.Eng.; **Shweddyk**, E., M.Sc.(E.E.) (Manitoba), Ph.D. (New Brunswick), P.Eng.; **Thomson**, D.J., B.Sc.(E.E.), M.Sc. (Manitoba), Ph.D. (Stanford).

Associate Professors

Annakage, U., B.Sc. (Moratuwa), M.Sc., Ph.D. (Manchester); M.Sc.; **Buchanan**, D.A., B.Sc.(Manitoba), M.Sc. (Manitoba), Ph.D. (Durham); **Lovetri**, J., B.Sc., M.Sc. (Manitoba), Ph.D. (Ottawa); **Peters**, J.F., B.A. (California), M.S. (Santa Clara), Ph.D. (Kansas).

Assistant Professors

Ferens, K. B.Sc. (Manitoba), Ph.D. (Manitoba); **Hossain**, E., B.Sc., M.Sc. (Bangladesh), Ph.D. (Victoria); **McNeill**, D., B.Sc., M.Sc. Ph.D. (Manitoba); **Moussavi**, Z., B.Sc. (Sharif U.), M.Sc. (Calgary), Ph.D. (Manitoba); **Shafai**, C., B.Sc.(E.E.) (Manitoba), M.Sc. (Manitoba), Ph.D. (Alberta); **Thomas**, G. B.S.E.E. (ITSEM, Mexico), M.Sc., Ph.D. (Texas-El Paso); **Yahampath**, P., B.Sc., (Moratuwa), M.Sc. (Trondheim), Ph.D. (Manitoba).

Mechanical and Industrial Engineering:

Professors Emeriti

Azad, R.S., B.Sc.(Hons.), Ph.D. (Nottingham), PEng; **Chant**, R. E., B.Eng., M.Eng. (Mech.) (McGill), F.E.I.C., M.C.S.M.E., PEng; **Hawaleshka**, O., B.Eng. (McGill), M.Eng. (McGill), **Shewchuk**, J., B.Sc. (Saskatchewan), M.Sc. (Saskatchewan), Ph.D. (Pennsylvania State); **Sims**, G.E., B.Sc. (M.E.) (Manitoba), M.Sc. (Birmingham), Ph.D. (London), C.S.M.E., PEng; **Tangri**, K. K., B.Sc. (Punjab), B.Sc. (Met. Eng.) (B.H.U., India), M.Sc., Ph.D. (Missouri), P.Eng.

Chair Professors

Chaturvedi, M.C., B.Sc. (Met.) (Banara) M.Met., Ph.D. (Sheffield), P.Eng; **Jayaraman**, R., M.Sc. (Wayne State), Ph.D. (Northwestern).

Professors

Balakrishnan, S., B.Tech., M.Tech. (IIT, Madras), Ph.D. (M.E.) (Manitoba), PEng; **Bassim**, M.N., B.Sc. (Cairo), M.Sc., Ph.D. (Virginia), PEng; **Cahoon**, J.R., B.Sc. (Met.E.), M.Sc., Ph.D. (Alberta), PEng, FASM; **Chaturvedi**, M.C., B.Sc. (Met.) (Banara) M.Met., Ph.D. (Sheffield), P.Eng; **Poppellwell**, N., B.Sc.(Hons.) (Math.) (Leeds), M.Sc., Ph.D. (Southampton), PEng; **Ruth**, D.W., B.Sc. (M.E.), M.Sc. (M.E.) (Manitoba), Ph.D. (Waterloo), PEng; **Sepehri**, N., B.Sc. (Iran), M.A.Sc., Ph.D. (UBC), PEng; **Soliman**, H.M., B.Sc. (M.E.) (Assiut), M.S., Ph.D. (M.E.) (Kansas), PEng; **Strong**, D., B.Sc. (E.E.) (Toronto), M.Sc. Aerophysics (Toronto), Ph.D. Indus. Eng. (Toronto), PEng; **Thornton-Trump**, A. B., B.Sc. (UBC), M. Sc., Ph.D. (Waterloo), P.Eng.

Associate Professors

Chatoorgoon, V.R., M.S. (California), B.Sc. (Manchester, UK), Ph.D. (Toronto); **Derksen**, R., B.Sc., M.Sc., Ph.D. (Manitoba), PEng; **Jayaraman**, R., M.Sc. (Wayne State), Ph.D. (Northwestern); **Naterer**, G.F., B.Math (Waterloo), M.A.Sc. (M.E.) (Waterloo), Ph.D. (M.I.E.) (Waterloo); **Ormiston**, S.J., B.Sc. (Manitoba), M.A.Sc., Ph.D. (Waterloo), PEng; **Richards**, N.L., Ph.D. (Aston), Dip.Met.Class I (West Glamorgan); **Schilling**, R.H., B.Sc. (M.E.) (Manitoba), PEng; **Wu**, C.Q., B.Sc. (Beijing), M.Sc. (UBC), Ph.D. (Manitoba), P.Eng.

Assistant Professors

Birouk, M., M.Sc., Ph.D. (M.E.) (Orléans); **Fraser**, D. W., B.Sc., M.Sc. (M.E.) (Manitoba) Ph.D. (M.E.) (Toronto); **Peng**, Q. B.Eng. M.Eng. (Xian Jiaotong Univ.), Ph.D. (Birmingham, UK); **Singh**, M.N., B.Sc. (Calgary), M.A.Sc. (Waterloo), Ph.D. (Waterloo); **Tachie**, M. F., M.Sc. Ph.D. (M.E.)

(Saskatchewan); **Wang**, G., B.Sc. (H.U.S.T.) (China), M.Sc. (H.U.S.T.) (China), Ph.D. (Victoria) P.Eng.

SECTION 2: The Profession of Engineering

Engineers use fundamental principles and energy sources from the natural world and direct them to the benefit of people. They interpret science in terms of material human needs and manage personnel, money, and materials. The profession is involved in all aspects of construction and manufacturing, including conceptualization, design, preparation of plans and specifications, and fabrication of products to meet predetermined standards of reliability and performance. Engineers acquire competence through instruction in basic sciences, mathematics, and engineering sciences; by introduction to the processes of synthesis and design; by complementary studies in the humanities, social sciences, and management; and by learning from the skills and experience of more senior engineers during the early years of employment.

The educational objective in the Faculty of Engineering is to prepare students for positions of leadership in a world where engineering, science, and management are of major importance.

SECTION 3: Admission to the Faculty of Engineering

3.1 Degrees Offered

Bachelor of Science in Engineering (Biosystems)

Bachelor of Science in Engineering (Civil)

Bachelor of Science in Engineering (Computer)

Bachelor of Science in Engineering (Electrical)

Bachelor of Science in Engineering (Manufacturing)

Bachelor of Science in Engineering (Mechanical)

Minimum time to graduation: Four years (One year in Preliminary Program for direct admission students or in Preliminary Program courses (or equivalent) taken while in University I, plus three years in a departmental program.)

The following is a summary of the admission requirements. Equivalent academic courses completed at recognized universities elsewhere will be considered. All admission requirements, as well as application deadline dates and forms, are included in an applicant information bulletin that is available from the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

3.2 Course requirements for Admission:

Direct admission into the Faculty of Engineering from high school:

Applicants who have completed Chemistry 40S, Mathematics 40S (pre-calculus), and Physics 40S with a minimum overall average of 85 per cent, and no grade lower than 60 per cent in any one course, may be admitted to Engineering directly from high school.

From University 1:

At least eight courses of the following courses or their equivalent, each with a minimum grade of "C", and a minimum Grade Point Average of 2.0:

Chemistry 002.130

Computer Science 074.101

Engineering 130.112

Engineering 130.118

Engineering 130.135

Engineering 130.140

English 004.131W

Mathematics 136.151M (136.150M or 136.153M), and 136.171M (136.170M or 136.173.M)

Philosophy 015.129

Physics 016.105 and Physics 016.107

Other requirements

The university written English and mathematics requirements are satisfied by including the English and mathematics courses from the above list in the University 1 year.

Chemical Engineering and Geological Engineering at the University of North Dakota

The University of Manitoba has an agreement with the University of North Dakota, Grand Forks, N.D., which allows students to obtain a degree in chemical engineering from the University of North Dakota by taking the Preliminary Engineering program at the University of Manitoba and three years at the University of North Dakota. The chemical engineering program at the University of North Dakota is accredited by the Accreditation Board for Engineering and Technology in the United States and is recognized by the Association of Professional Engineers and Geoscientists of Manitoba. Information on this program may be obtained from the general office, 349 Engineering Building.

An agreement has also been reached whereby an accredited degree in Geological Engineering can be obtained from the University of North Dakota by transferring there after completing the first two years of courses in the Faculty of Engineering at the University of Manitoba. Contact the Department of Civil Engineering for details.

SECTION 4: Academic Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Faculty of Engineering has regulations and requirements, published below, which apply specifically to its students. Notwithstanding the regulations given in this section, the Faculty Council of Engineering reserves the right to rule on individual cases in exceptional circumstances.

4.1 Foreign Language Requirements for coop and Non-coop Students

There are some opportunities for undergraduate coop and non-coop students to work in foreign countries. However, there are foreign language requirements that must be fulfilled before placement can be considered. Students interested in foreign work assignments should acquaint themselves with these language requirements by consulting with their department head as soon as possible after their entry into the Faculty of Engineering.

4.2 Professional Registration

In order to practice engineering in any province or territory in Canada, it is necessary to be a member of the professional engineering association of that province or territory. The requirements for membership are acceptable academic preparation and a subsequent period of acceptable engineering experience gained under the supervision of a registered professional engineer. The undergraduate programs in Biosystems, Civil, Computer, Electrical, Manufacturing, and Mechanical Engineering are accredited by the Canadian Engineering Accreditation Board (CEAB), reflecting acceptable academic preparation for membership in the association of professional engineers in any province or territory in Canada. Through a mutual recognition agreement, the programs are recognized as satisfying accreditation requirements in the United States, the United Kingdom, Ireland, New Zealand, Australia, and Hong Kong.

Graduates of an accredited program are eligible to apply for membership as an engineer-in-training, in the association of professional engineers in their province of residence in Canada. After a period of acceptable experience, they are eligible to apply to the association for registration as a professional engineer in that province.

4.3 Student Schedules

Students will progress through the various engineering programs subject to pre- and corequisite requirements and the seven-year rule (Section 4.6). Five courses per term (10 courses per session) are the nominal load; this schedule will allow completion in five years. An accelerated schedule is available for those students capable of completing six courses per term (12 courses per session); this schedule will allow completion in four years.

Information on nominal and accelerated schedules may be obtained from the Faculty of Engineering departmental offices. For students entering engineering in or after the fall of 1998, the upper year programs will consist of the courses listed under the various department headings.

4.4 Students Transiting to Departments

Students will be accepted into department programs based on the following criteria. Direct entry students who have completed all 13 Preliminary

program courses with no "D" or "F" grades within a time frame, from the beginning of a regular academic session (September) to the end of the immediately following Intersession, will be admitted to their program of choice, subject only to the enrolment cap of that program. If the enrolment cap is exceeded, students will be admitted on a competitive basis based on the average of the best eight marks in courses in the Preliminary program. Students with less than 13 (direct entry or University I) but eight or more required courses will be admitted to programs on a competitive basis. Applicants will be ranked based on the average of the best eight marks that they have achieved on courses in the Preliminary program or University I required courses (excluding 130.113 Introduction to Engineering).

4.5 Grading and Assessment

All grades awarded by instructors for undergraduate courses offered in the Faculty of Engineering are reviewed by examiners' boards, which comprise all of the instructors in the student's program year. After approval by department councils, they are presented to the Faculty Council of Engineering for acceptance.

Sessional Grade Point Average (SGPA)

The SGPA is computed from all of the grades in all courses completed during a given academic session.

Cumulative Grade Point Average (CGPA)

The CGPA is computed from the grades obtained in all courses taken as part of an engineering program. Where a course has been repeated or replaced by an approved equivalent course only the highest grade shall be included in the computation.

Evaluation Grade Point Average (EGPA)

The EGPA is computed from all grades in all courses taken since the previous calculation of an EGPA or, for newly admitted students, since their admission to the faculty. The calculation of an EGPA is subject to the following rules:

- An EGPA is calculated and an academic evaluation is performed only if a minimum of 21 credit hours have been completed since the previous evaluation.
- Transfer credits are not included in the calculation of the EGPA.
- All evaluations of academic status are based on the EGPA.

Dean's Honour List

Students who achieve an EGPA of 3.50 or better with a minimum of 28 credit hours during the last two regular academic study terms will be included on the Dean's Honour List. For graduating students who were on the Dean's Honour List in the previous evaluation the minimum requirement of 28 credit hours may be waived provided an EGPA of 3.50 or better is maintained. In exceptional circumstances, the dean may recommend to the Faculty Council that students be included on the Dean's Honour List, even though the student has not satisfied either one of the above conditions.

Awards

A number of scholarships, bursaries and other academic awards are available to Engineering students. Information on them is available in the Awards Office, 422 University Centre, and in the general office of Engineering, 349 Engineering Building

4.6 Requirements for the Bachelor's Degree

For students first registered in Engineering in September 1998 or thereafter, the requirement for a Bachelor of Science degree in Engineering is a grade of "C" or better in all required and elective courses in the student's program. All other students are governed by the rules in effect at the time of their first registration in Engineering. (**Note:** Admission to Graduate Studies requires graduating from Engineering with a minimum CGPA of 3.0 or equivalent over the last 2 previous years of full-time study [60 credit hours]).

The candidate must complete at least 50 per cent of an engineering degree program as a full-time student in the Faculty of Engineering. Unless otherwise approved by the dean of Engineering, students must complete all degree requirements within seven calendar years after being accepted into an Engineering department.

An engineering student who has fulfilled the requirements for graduation except for a failing grade in one course may apply for a special examination in that course, to be completed within three months of planned fulfillment of degree requirements. If granted, a special examination shall be

given before July 15, and, if successful, the student would graduate in October. This privilege applies only to courses offered by the Faculty of Engineering.

Degree with Distinction

A student who on graduation achieves a Cumulative Grade Point Average of 3.80 or higher is awarded the degree "With Distinction."

Criteria for Medal Awards

The Program Gold Medal in each program will be awarded at spring Convocation to the student who has completed that program in the past academic year (including October and February Convocation) with the highest Cumulative Grade Point Average (CGPA) subject to the following conditions:

- A minimum CGPA of 3.80, and;
- A minimum of 20 one-term courses, or equivalent, during the final four regular academic session terms of her/his program.

These rules are consistent with the criteria for the university gold medal for the Faculty of Engineering. A Faculty of Engineering program gold medal will be awarded in the Engineering program in which the university gold medal is awarded.

4.7 Categories of Student

A student shall normally register for three to six courses in a term (six to 12 per session). Registration for more than six or fewer than three courses in a term must be approved by the department head or, in the preliminary program, by the associate dean (undergraduate programs).

Full-Time Student: For students registered in the faculty prior to September 1997, full-time students are those who are registered in at least 60 per cent of the credit hours specified for the regular academic session of their specific programs. For students first registered in engineering in September 1997 or thereafter, full-time students are those registered in at least 21 credit hours. All other students are part-time students.

4.8 Student Progress and Academic Status

Student Progress

Normally progress through the program depends upon the student's academic status after April examinations each year. The records of all students are subject to review by the Faculty Council of Engineering; the Council reserves the right to use its discretion respecting student progress and academic status.

Good Academic Standing

An engineering student who has an EGPA of 2.00 or better is in good academic standing.

Academic Probation

On the first occasion that an engineering student has an EGPA between 1.00 and 1.99 inclusive, the student is placed on academic probation.

Ineligible to Register in Engineering Courses for One Year

Engineering students who have never been on probation and have an EPGA of less than 1.00, or engineering students who have been on probation at any time in their program and have an EGPA of less than 2.00, but greater than 1.00, will be ineligible to register in Engineering courses for one year. After one academic year of rustication, written application for reinstatement may be submitted to the associate dean (undergraduate programs). Applications must be made by August 15 for reinstatement by September 1.

Ineligible to Proceed in Engineering

Engineering students who have been on probation at any time in their program and have an EGPA of less than 1.00, or engineering students who have been reinstated and have an EGPA of less than 2.00 will be ineligible to proceed in Engineering.

Maximum Number of Credit Hours Repeated during One's Academic Program

The number of credit hours repeated or replaced in an engineering program cannot exceed 40. Repeated or replaced credit hours do not include Voluntary Withdrawal (VW), Authorized Withdrawal (AW), or Special Student (SS) credit hours.

4.9 Course Selection

When arranging a program of study, a student must satisfy the following requirements:

- All prerequisite and corequisite course requirements must be met.
- All previously failed compulsory courses must be repeated.
- Students are not normally allowed to repeat courses graded "C" or higher, except under special circumstances with the approval of the department head.
- Failed elective courses may be repeated or replaced with alternative elective courses.

All grades remain on the student's record and are included in SGPA and EGPA computations.

Prerequisite Course: A prerequisite course must have been completed with a "C" grade or better before a subsequent course can be attempted. Under exceptional circumstances, a course instructor may waive, subject to approval by the department head (or designate), a prerequisite requirement.

Corequisite Course: A corequisite course must be taken concurrently or before its companion course. Under exceptional circumstances, a course instructor may waive, subject to approval by the department head (or designate), a corequisite requirement.

4.10 Examinations

Deferred Examinations

Deferred Examinations (see *Chapter, General Academic regulations and Requirements* of this Calendar for details) are normally scheduled to take place within 30 working days from the end of the examination series from which the examination was deferred. The date of the deferred examination for a particular course will be set by the Dean's Office no later than January 15, May 15 or July 7, and in consultation with the instructor.

Special Examinations

A student who has attempted to meet all requirements for the degree and has a single failure in that final session can apply for a special examination in that course. Special examinations will not be given for any other reason. A special examination may also be given on the recommendation of a Board of Examiners under exceptional circumstances. A special examination is given in addition to the regular examination. The grades from both examinations are retained on the student's record, and both are used in the calculation of SGPA and EGPA. The results of special examinations must be reported to the Faculty Council of Engineering. The special examination privileges apply only to courses offered by the Faculty of Engineering.

Supplemental Examinations

The Faculty of Engineering does not provide supplemental examinations.

Challenge for Credit

None of the courses offered in Engineering may be challenged for credit.

4.11 Appeals

Students who feel that they have received unfair treatment in a course should appeal to the instructor. If the matter is not thereby resolved, it should be raised with the department head, or in the general office of the faculty. Students wishing to appeal their academic status should write to the Secretary, Committee on Standing and Appeals, 349 Engineering before August 15th. Information regarding this process is available from the general office, 349 Engineering Building.

4.12 Withdrawal from Courses

After the registration revision period, the student is allowed a limited number of voluntary withdrawals from courses to a maximum in the degree program of 40 credit hours. For documented medical or compassionate reasons, authorized withdrawals that do not count towards this maximum may be permitted. The responsibility for initiating withdrawals rests solely with the student, and no voluntary withdrawals are permitted after the deadlines for voluntary withdrawal without academic penalty (See the chapter, *General Academic Regulations and Requirements*, of this *Calendar*.)

A student who, after registering for Intersession/Summer Session, becomes ineligible to proceed or ineligible to register in Engineering is withdrawn from his or her Intersession/Summer Session program.

4.13 Attendance

When the number of undisclosed absences recorded against a student in the Faculty of Engineering in any course exceeds 10 per cent of the number of lectures and laboratories for that course the instructor may report the case to the dean of Engineering. When a student's attendance or work continues to be unsatisfactory, the instructor has the authority to exclude the student from classes, or examinations, or both. Such cases shall be reported to the Faculty Council of Engineering at the first opportunity. Students who are excluded from an examination for inadequate attendance in a compulsory course are required to repeat the course.

4.14 Use of Calculating Devices

For courses offered by the Faculty of Engineering in which the use of devices capable of calculations is permitted in tests or examinations, such devices must be incapable of receiving and/or transmitting signals. Instructors wishing to restrict devices to certain capabilities must inform students, in writing, within the first week of term. Questions concerning the suitability of any given device should be directed to the course instructor(s).

4.15 Complementary Studies Electives

Complementary studies electives are an integral part of the curriculum. Their purpose is to broaden the student's experience beyond the purely scientific and technical content of engineering. They include studies in engineering economics and the impact of technology on society, as well as the central issues, methodologies and thought processes characteristic of the humanities and social sciences. Opportunities for development of the student's oral and written communication skills are also provided. The coursework requirements may vary from one department to another. XXX.09X courses will not be allowed as complementary studies electives. 099.111 Introduction to University may not be used for credit in the Faculty of Engineering.

4.16 Management Minor

The minor in Management offered by the Faculty of Management is available to Engineering students. The minor consists of any 18 credit hours of Management courses; students must meet all prerequisite requirements. Depending on the approval of the Engineering department, courses used for the minor may also be used to fulfil course requirements in Engineering. Admission requirements for the minor are based on all courses transferred to Engineering or completed while in Engineering; the requirements are a minimum of 30 credit hours with a minimum Cumulative Grade Point Average (CGPA) of 3.00. Up to 10 spaces are available each year for Engineering students on a competitive basis. Applications can be made in the Engineering general office up to May 30th.

4.17 Arts Minor

A minor in Arts is available to Engineering students. The minor consists of 18 credit hours of Arts courses, including a minimum of 6 credit hours in the Humanities and six credit hours in the Social Sciences; students must meet all pre-requisite requirements. Depending on the approval of the Engineering department, courses used for the minor may also be used to fulfil course requirements in Engineering.

SECTION 5: Program Requirements

5.1 Engineering Access Program

The Engineering Access Program (ENGAP) recognizes that students of Aboriginal ancestry are challenged with geographic and economic barriers, and/or lack of access to academic preparation, which may make them unable to meet the faculty's admission requirements. ENGAP serves as a specifically designed post-secondary program that provides an opportunity for students to complete their Bachelor of Science degree in Engineering. The program accomplishes this objective by offering upgrading courses in mathematics, chemistry, physics and English, as well as providing advising/counselling supports. Students who do meet the regular requirements may still wish to join the program to benefit from these other supports. For information phone (204) 474 9872 or toll-free in Manitoba 1 800 432 1960, extension 9872; fax (204) 474 7518, or e-mail hran@ms.umanitoba.ca.

5.2 Preliminary Engineering Program

General Office: 349 Engineering Building

Telephone: (204) 474 9807

E-mail: eng_info@umanitoba.ca

Website: www.umanitoba.ca/faculties/engineering

The Preliminary Engineering program is common to all programs in engineering. Students may select one of the following programs on completion of a minimum of eight courses in the Preliminary program: Biosystems, Civil, Computer, Electrical, Industrial, and Mechanical Engineering. Entrance into these programs will be competitive. The Preliminary program is as follows:

Course No.		Credit Hours
002.130	Chemistry	3
016.105	Physics	3
016.107	Physics	3
074.101	Computer Science	3
130.112	Thermal Sciences	4
130.113	Introduction to Engineering	1
130.118	Introduction to Electric Circuits	4
130.135	Engineering Statics	4
130.140	Engineering Design	4
136.151	Applied Calculus 1 or equivalent	3
136.171	Applied Calculus 2 or equivalent	3
015.129	Critical Thinking 1	3
004.131	Literary Topics 1	3

NOTE: It is strongly recommended that students register in 130.113 before selecting a departmental program.

University Written English and Mathematics Requirements

All students are required to complete the university written English and mathematics requirement within the first 60 credit hours of their program. This requirement is described in the chapter, General Academic Regulations and Requirements, of this *Calendar*. In the Engineering programs the mathematics requirement is satisfied by one of 136.151 or 136.171, and the written English requirement by 004.131.

5.3 Engineering Core Program Course Descriptions

Common courses taken by all engineering students occur in the Preliminary Program and within departmental programs. Descriptions of common courses taught by the Faculty of Engineering (130.112, 130.113, 130.118, 130.135, 130.140, 130.201) are listed below.

130.112 Thermal Science (3-1.5T:0-0) 4 or (0-0:3-1.5T) 4 Properties of pure substances; First Law for Closed Systems; First Law for Open Systems; Second Law; Heat Transfer; Psychrometry. Not to be held with 025.100. *Prerequisites:* A minimum grade of 60% in pre-calculus Mathematics 40S, or the former Mathematics 40S (300), Physics 40S, and Chemistry 40S.

130.113 Introduction to Engineering (1-0:0-0)1 or (0-0:1-0) 1 The Engineering Profession from the Perspective of Students and Practising Professionals. Academic, Legal and Ethical Considerations. *Prerequisite:* Acceptance to Engineering or permission of the Instructor.

130.118 Introduction to Electric Circuits (3-1.5T:0-0)4 or (0-0:3-1.5T) 4 Resistors; DC Circuits; Circuit Theorems and Analysis Methods; Energy Storage Elements; RC and RL Circuit Transient Response; Alternating Current Steady State Circuit Analysis; Power in AC Circuits. *Corequisite:* 136.171. Not to be held with 024.210. *Prerequisites:* A minimum grade of 60% in pre-calculus Mathematics 40S, or the former Mathematics 40S (300), Physics 40S, and Chemistry 40S.

130.135 Engineering Statics (3-1.5T:0-0)4 or (0-0:3-1.5T) 4 Statics of Particles; Rigid Bodies, Equilibrium of Rigid Bodies; Analysis of Structures; Distributed Forces. Not to be held with 023.135. *Prerequisites:* A minimum grade of 60% in pre-calculus Mathematics 40S, or the former Mathematics 40S (300), Physics 40S, and Chemistry 40S.

130.140 Engineering Design (2-4L:0-0)4 or (0-0:2-4L) 4 The Creative Process; The Design Process; Working in a Team; Drawing, Sketching and Drafting; Descriptive Geometry; Design Studio; Graphics Tutorials. *Prerequisites:* A minimum grade of 60% in pre-calculus Mathematics 40S, or the former Mathematics 40S (300), Physics 40S, and Chemistry 40S.

130.201 Technical Communications (formerly 024.101)(1-3:0-0)3 or (0-0:1-3)3 Students work collaboratively in teams and develop strong project management skills. Focus is on the connection between engineering and communication design; the importance of audience analysis; a clear definition of the technical issues and the criteria by which to measure a design or solution; well-designed graphic aids which support the text; and clear writing and speaking. *Prerequisite:* University 1 English Literary Topics [or equivalent].

Descriptions of common courses taught to all engineering students by other faculties are found in their respective chapters of this *Calendar* as follows:

Faculty of Science: 002.130, 005.222, 016.105, 016.107, 074.101, 136.151, 136.171, 136.210, 136.211, and 136.212.

Faculty of Arts: 004.131, and 15.129.

5.4 Biosystems Engineering Degree

General Office: 425D Engineering Building

Telephone: 474 6033

Fax: 474 7512

Website: www.umanitoba.ca/faculties/afs/biosystems_engineering/

Head: Q. (Chong) Zhang

The Department of Biosystems Engineering offers a fully accredited degree program in Biosystems Engineering. The program is designed to give students knowledge of the basic principles of engineering and, in particular, an adequate training and education in the fundamentals and professional applications of Biosystems Engineering. The program is offered in both a traditional and a cooperative education format. The department offers an Environmental Engineering option in both traditional and cooperative education formats. With the appropriate selection of elective courses the bachelor's degree in Biosystems Engineering meets the requirements for admission to the Faculty of Medicine.

Biosystems Engineering emphasizes the application of engineering principles to biologically based systems (plants, animals, and microorganisms). The main areas of emphasis are environmental engineering, bioprocess engineering, biomedical engineering, and agricultural engineering (farm machinery, animal and plant production systems, water management, bioenvironmental controls, and light-frame buildings).

The undergraduate curriculum in Biosystems Engineering is an academic program in the Faculty of Engineering. Students wishing to study in the program in Biosystems Engineering must be admitted to the Faculty of Engineering. They are required to complete the Preliminary Engineering Program as a prerequisite to the courses in Biosystems Engineering.

Biosystems Engineering Degree Program

Students are encouraged to consult the department for eight- and ten-term program models. Students are strongly encouraged to follow the model programs when possible, as timetabling and course offerings are based on these program models.

Environmental Option

The departments of Biosystems Engineering and Civil Engineering offer an option in Environmental Engineering and it provides an opportunity for students to focus on environmental engineering related courses. Successful completion of the option in Environmental Engineering will be indicated on graduates' transcripts. Students selecting the environmental option within the Biosystems Engineering department will have the knowledge to solve problems associated with the natural environment (groundwater contamination, soil degradation, pollution of rivers and lakes, air pollution, environmental impact assessment) as well as the built environment (building air quality, temperature and humidity control). Biosystems Engineering students will gain a thorough understanding of the fundamental concepts and interactions between biology, engineering science and engineering design to prepare them well for a career in environmental engineering.

Preliminary Engineering Program

Common to all engineering programs (see Section 5.2 for details).

Departmental Program

Course No.		Credit Hours
002.131	University Chemistry 1	3
005.222	Engineering Statistics	3
136.210	Mathematical Methods for Engineers 1	4
136.211	Mathematical Methods for Engineers 2	4
136.212	Introduction to Numerical Methods for Engineers	4
023.279	Fluid Mechanics	4
023.280	Solid Mechanics 1	4
	or	
025.222	Stress Analysis and Design 2M	4
023.371	Finite Element Analysis	4
023.378	Solid Mechanics 2	4
	or	
025.350	Stress Analysis and Design 3M	3
023.405	Engineering Economics	3
024.368	Introduction to Digital Systems	4
025.212	Mechanics of Machines	4
025.348	Dynamics	3
034.211	Transport Phenomena	3
034.258	Biosystems Engineering Design Trilogy 1	4

034.332	Engineering Properties of Biological Materials	4
034.324	Loads and Light Structural Frames	4
034.358	Biosystems Engineering Design Trilogy 2	4
034.327	Instrumentation and Measurement for Biosystems	4
034.458	Biosystems Engineering Design Trilogy 3	4
034.424	Graduation Project	3
034.439	Unit Operations 1	4
040.406	Physical Properties of Soil	3
060.210	General Microbiology A	3
065.220	Principles of Plant and Animal Physiology	4
065.237	Principles of Ecology	3
071.201	Biosystems for Engineers	3
130.201	Technical Communications	3
	One course in Technology and Society	3

Electives

	One Complementary Studies Elective	3
	Four Biosystems Engineering Design Electives (see list below)	16
	Two Free Electives	6-8
	Total credit hours for graduation	169 to 172

Biosystems Engineering Design Electives

These electives are offered in alternate years:

034.412	Drainage System Design	4
034.418	Irrigation System Design	4
034.440	Unit Operations 2	4
034.442	Crop Preservation	4
034.446	Air Pollution Assessment and Management	4
034.448	Environmental Impact Assessment	4
034.453	Analysis and Design of Biomachinery	4
034.454	Controlled Environment Production Systems	4
034.456	Structural Design in Wood	4
034.457	Manure Management	4

Biosystems Engineering Science Electives

These electives are offered in alternate years:

034.208	Agricultural Survey Systems	3
034.445	Radiation Processing of Food and Other Agricultural Commodities	4

Environmental Option

The students can enter the Environmental Engineering option after the completion of 60 credit hours. Students taking the Environmental Engineering option in Biosystems Engineering are required to select the following courses as their electives:

015.275	Environmental Ethics (as a Complementary Studies Elective)	3
023.369	Environmental Engineering Analysis	4
023.370	Environmental Engineering Design	4
034.448	Environmental Impact Assessment	4
	or	
023.410	Engineering Management and the Environment	4
	Three Biosystems Engineering Design Electives	12

Admissions to Medicine

The bachelor's degree in Biosystems Engineering provides the background to meet eligibility requirements for admission into the Faculty of Medicine. Students planning to apply for entrance to Medicine after completing the B.Sc. in Biosystems Engineering are advised to take 002.221 and 002.222 Organic Chemistry as their two free electives. They will also need to take 002.236 Biochemistry 1 and 002.237 Biochemistry 2 as additional courses.

Cooperative Education Program in Biosystems Engineering

Coordinator: M.G. (Ron) Britton

The cooperative education program is an approach to education in which academic study is complemented and enriched with practical work experience. A student alternates periods of attendance in university with periods of employment in industry or government. The work terms provide the students with practical experience, help to finance their education, and provide guidance for further career specialization.

A student on good academic standing may apply to enter the cooperative program format in Biosystems Engineering after completing 80 credit

hours. Acceptance into the program is dependent upon the student's receiving a job placement through the office of cooperative education in Biosystems Engineering. Students may seek employment on their own, but must consult with the coop coordinator before doing so. Once a job placement has been secured through the office, the student is accepted into the program and enrolls in the course 034.355 Cooperative Work Study 1 (and subsequently, 034.455 Cooperative Work Study 2) for the specific work term (W1, winter, summer; W2, summer, fall) of employment.

In order to stay in the cooperative program format in Biosystems Engineering, a student must maintain a minimum GPA of 2.00 and must obtain a grade of "pass" for each work term report. All rules and regulations of the Faculty of Engineering apply. Students, who do not maintain these standards, may not remain in the cooperative format program and may be transferred back into the traditional program format or required to withdraw completely.

The course and grade requirements for completion of the cooperative program are the same as those for the traditional program. However, in order to satisfy course prerequisite needs, and the timetable, course arrangements of a student in the cooperative program may differ from those of a student in the traditional program.

Each successfully completed work term and its corresponding work term report carries one credit hour. Work term reports are given grades of "Pass" or "Fail." The coop office assigns faculty advisors to mark work term reports. A graduate who successfully complete both work terms and the required work term reports will have the words "Cooperative Education Option" placed on their diploma.

Course Descriptions Biosystems Engineering

034.208 Agricultural Survey Systems (2-3:0-0) 3 Survey systems and techniques applicable to agriculture; use of level, transit and tape; theory of errors and error judgement; mapping.

034.211 Transport Phenomena (3-0:0-0) 3 Principles of heat transfer, solar radiation, psychometrics, molecular diffusion, mass transfer and refrigeration and their application to biosystems. Prerequisite: 130.112.

034.258 Biosystems Engineering Design Trilogy 1(3-3:0-0) 4 Biosystems Engineering and its place in the professions of engineering and agronomy. Design concepts, with an emphasis on team building and technical communication skills. Philosophy of project planning. Preparation of a conceptual design by teams in response to design assignment submitted by industry. Written report presented orally. Prerequisite: 130.140. . Not to be held with the former 034.214.

034.332 Engineering Properties of Biological Materials (0-0:3-2) 4 Engineering properties of biological and interacting materials within the system. Relationship between composition, structure, and properties of plant, animal, and human tissues. Definition and measurement of mechanical, thermal, electromagnetic, chemical and biological properties and their variability. Use of these properties in engineering calculations. Prerequisites: 136.210 (or the former 006.260), 023.280 or 025.222, 034.258 (or the former 034.214). Not to be held with the former 034.323.

034.324 Loads and Light Structural Frames (3-2:0-0) 4 Estimating loads applied to structural frames. Frame analysis with emphasis on rural and suburban light frame structures. Prerequisites: 023.378 or 025.350, 034.258 (or the former 034.214). Corequisite: 006.270 or 136.212.

034.358 Biosystems Engineering Design Trilogy 2(3-3:0-0) 4 Advanced design concepts associated with Biosystems Engineering, with emphasis on the principles of safety and human factors engineering. Theory of project planning. Preparation of a preliminary design by design teams in response to a design assignment submitted by industry. Written report with engineering drawings presented orally. Prerequisites: 034.258 (or the former 034.214). Not to be held with the former 034.326.

034.327 Instrumentation and Measurement for Biosystems (0-0:3-3) 4 Basic instrumentation for measuring electrical and nonelectrical quantities associated with biosystems engineering and industry; transducers for automatic control. Prerequisites: 006.261 or 136.211, 130.118.

034.355 Cooperative Work Study 1 (0) 1 Work assignment in business, industry, or government for Cooperative education students in Biosystems Engineering. Requires a written report covering the work completed during a minimum 25-week work period. Available from January to August. (Pass/Fail grade only)

034.412 Drainage System Design (0-0:3-2) 4 Analysis of precipitation and runoff. Design of surface and subsurface drainage systems including depth, determination of suitable spacing, grade and size. Corequisite: 040.406 or 023.373. Not offered in 2003-2004.

034.458 Biosystems Engineering Design Trilogy 3 (3-3:0-0) 4 Advanced design concepts, with emphasis on the principle of quality control. Application of project planning techniques. Principles of owning and operating an engineering consulting company. Preparation of a final design by design teams in response to a design assignment submitted by industry. Written report with cost of services rendered, presented orally. Prerequisite: 034.358 (or the former 034.326). Not to be held with the former 034.413.

034.418 Irrigation System Design (0-0:3-2) 4 Design of irrigation systems including precipitation analysis. Determination of irrigation depth and interval. Selection of sprinklers, laterals, mainline, suction line, and pump. Corequisite: 040.406 or

023.373 or consent of instructor. Not offered in 2003-2004.

034.424 Graduation Project (3) Either an independent or a directed study including at least one of: a comprehensive literature review, an experimental research project, or an engineering design problem. The project is to be concluded by a formal report or thesis. Corequisites: 130.201, approval of department.(Pass/Fail grade only)

034.439 Unit Operations 1 (3-2:0-0) 4 Equipment and systems used in handling, mixing, size reduction, separation and size enlargement of value-added food products. Prerequisites: 023.279 or 025.226, 034.327. Corequisites: 034.332 (or the former 034.323), 034.358 (or the former 034.326).

034.440 Unit Operations 2 (0-0:3-2) 4 Physical and mechanical operations for process and equipment design for handling, processing, and distribution of foods and food products. Prerequisites: 034.211, 034.332 (or the former 034.323). Not offered in 2003-2004.

034.442 Crop Preservation (0-0:3-3) 4 Biological and physical deterioration during storage. Methods of preserving and storing cereals, oilseeds, and other agricultural crops. Prerequisite: 034.211. Offered in 2002-2003 and alternate years thereafter.

034.445 Radiation Processing of Food and Other Agricultural Commodities (0-0:3-2) 4 An introduction to the scientific principles underlying the radiation processing of food and other agricultural commodities; its development and implementation within the context of societal needs and concerns. Prerequisites: 071.201 or 071.125 and 002.130 or the former 002.123 or 002.127. Not offered in 2003-2004.

034.446 Air Pollution Assessment and Management (0-0:3-3) 4 Air pollutant sources and characteristics, their impact on the environment, their behaviour in the atmosphere. Methods of sampling and measurement and the basic technological alternatives available for separation/removal and control. Particular problems of regional interest are discussed. Corequisites: 023.279 or 025.226. Not offered in 2003-2004.

034.448 Environmental Impact Assessment (0-0:3-2) 4 Basic methodologies for conducting impact assessments, including physical, chemical and ecological impacts. Prerequisites: approval of department. Not offered in 2003-2004.

034.453 Analysis and Design of Biomachinery (0-0:3-2) 4 Design of machines for bioprocessing; traction mechanics and tractor chassis mechanics; power transmission components; functional requirements for field and process machines; fluid power hydraulics. Prerequisite: 034.3358 (or the former 034.326). Offered in 2003-2004 and alternate years after.

034.454 Controlled Environment Production Systems (0-0:3-2) 4 Thermal and functional design of plant and animal production systems. Prerequisites: 034.211, 065.220. Offered in 2003-2004 and alternate years after.

034.455 Cooperative Work Study 2 (0) 1 Work assignment in business, industry, or government for Cooperative education students in Biosystems Engineering. Requires a written report covering the work completed during a minimum 25-week work period. Available from May to December. (Pass-Fail grade only)

034.456 Structural Design in Wood (0-0:3-2) 4 Design using wood as a structural material in light-frame buildings. Consideration of design constraints associated with sawn lumber as well as based composite materials. Emphasis on use of computer based design aids. Prerequisites: 023.344 or 034.324.

034.457 Manure Management (0-0:3-2) 4 Manure characteristics, equipment design for manure collection and storage, open-lot handling, liquid-solid separation, biological treatment, pumping, land application and utilization. Environment issues, such as odour and water pollution associated with manure management will be discussed. Prerequisites: 023.279 or 025.226. Offered in 2003-2004 and alternate years after.

5.5 Civil Engineering

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(204) 474-8212

Assoc. Head: Dr. Robin L. Hutchinson
(204) 474-7374

Admin. Assist: Norma Lindsay
(204) 474-9220

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The Department of Civil Engineering offers a fully accredited degree program in Civil Engineering. The program is designed to give students knowledge of the basic principles of engineering and, in particular, an adequate training and education in the fundamentals and professional applications of Civil Engineering. The program is offered in both a traditional and a cooperative education format. The department offers an Environmental Engineering Option in both the traditional and cooperative education formats.

Civil engineering involves the planning, design, supervision of construction and management of infrastructure facilities essential to modern life in both the public and private sectors — facilities that vary widely in nature, size and scope: space structures and launching facilities, bridges, buildings, transportation networks, water treatment and distribution facilities, waste treatment and waste containment projects, dams, tunnels, hydroelectric and irrigation projects, power transmission and communication towers, offshore structures, and pipelines, are a few examples. Civil Engineers are at the forefront of the application of advanced technologies and

materials, and computer-aided engineering. Advanced technologies such as fibre optic sensors, global positioning systems, intelligent transportation systems, and geographical information systems are fundamental to modern civil engineering projects. Modern engineering materials such as fibre reinforced composites are increasingly used by civil engineers in design and construction.

Civil Engineering Degree Program

Admin. Assist: Norma Lindsay
(204) 474-9220

Students are to consult with the department for model four- and five-year programs. Students are expected to follow the model programs when possible, as timetabling and course offerings are based on these model programs.

Environmental Engineering Option

An option in Environmental Engineering is offered by the departments of Civil Engineering, and Biosystems Engineering to respond to the changing needs of society and it provides an opportunity for students to focus on environmental engineering related courses. Successful completion of the option in Environmental Engineering will be indicated on graduation transcripts.

Geomatics Engineering

The Department of Civil Engineering at the University of Manitoba and the Department of Geomatics Engineering at the University of Calgary operate a joint program in Geomatics Engineering. The first year is taken at Manitoba, and the last years are taken at the University of Calgary. The program leads to a Bachelor of Science degree in Geomatics Engineering at the University of Calgary. For information contact Civil Engineering (204) 474 9220.

Geological Engineering

After two years at the University of Manitoba (Preliminary Year plus one year in Civil Engineering) a student may transfer to the University of North Dakota to complete a Geological Engineering Degree. The Geological Engineering curriculum at the University of North Dakota gives the student a strong background in engineering and geology that serves as a foundation for meaningful professional practice. Geological Engineering encompasses: exploration and extraction of mineral and energy resources; geomechanics; hydrogeology; reclamation and contaminant remediation; environmental site assessment; and natural hazard investigation. These areas of expertise span the gap between civil, mining, environmental engineering and geology. The program is accredited by action of the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. Courses in the curriculum are arranged and integrated to provide the student with progressive preparation for engineering evaluation and design. To facilitate the transition from student to professional, the senior year has a capstone experience that incorporates student creativity and sociological and engineering criteria into a major design project.

Student Support

Summer employment for a limited number of undergraduate students may be offered by the Department of Civil Engineering. Typical duties include assisting academic staff members with their research projects.

Laboratory Safety

Students entering Civil Engineering are required to attend a seminar on laboratory safety. The seminar will normally be held in September. Information may be obtained from Civil Engineering (204) 474 9220.

Preliminary Engineering Program

Common to all Engineering programs. (See Section 5.2 for details.)
Civil Engineering Program and Environmental Engineering Option

Common Core Program

Course No.		Credit Hours
005.222	Introduction to Probability and Statistics	3
007.225	Geology for Engineers	4
023.276	Introduction to Environmental Engineering	5
023.277	Civil Engineering Materials	5
023.278	Civil Engineering Systems	4
023.279	Fluid Mechanics	4
023.280	Solid Mechanics 1	4
023.281	Surveying and GIS Applications (see Note 1)	4
023.369	Environmental Engineering Analysis	4
023.370	Environmental Engineering Design	4
023.371	Finite Element Analysis	4
023.373	Geotechnical Materials and Analysis	4
023.374	Hydraulics	4
023.375	Hydrology	4
023.376	Structural Analysis	4
023.377	Structural Design 1	4
023.378	Solid Mechanics 2	4
023.379	Transportation Engineering 1	4
023.405	Engineering Economics	3
023.422	Geotechnical Design	4
023.425	Groundwater Hydrology	4
023.433	Graduation Project	4
023.438	Infrastructure Engineering and Construction Management	4
023.439	Structural Design 2	4
023.440	Transportation Engineering 2	4
023.446	Technology, Society and the Future	3
023.459	Design Project	6
130.201	Technical Communications	3
136.210	Mathematical Methods for Engineers 1	4
136.211	Mathematical Methods for Engineers 2	4
136.212	Introductory Numerical Methods for Engineers	4
xxx.xxx	Complementary Studies Elective (see Note 2)	3
Plus 3 of the following technical electives (see Note 3)		
023.403	Structural Design 3	4
023.404	Structural Dynamics	4
023.410	Engineering Management and the Environment	4
or		
034.448	Environmental Impact Assessment	4
023.418	Environmental Systems	4
023.420	Groundwater Contamination	4
023.423	Geotechnical Engineering	4
023.433	Graduation Project	4
023.435	Hazardous Waste Treatment	4
023.441	Transportation Systems	4
023.442	Highway Pavement Design	4
023.447	Watershed Processes	4
Environmental Option		
015.275	Environmental Ethics	3
023.410	Engineering Management and the Environment	4
or		
034.448	Environmental Impact Assessment	4
040.450	Remediation of Contaminated Land	3
Plus 1 of the following Technical Electives:		
023.418	Environmental Systems	4
023.420	Groundwater Contamination	4
023.435	Hazardous Waste Treatment	4
023.447	Watershed Processes	4
034.446	Air Pollution Assessment and Management	4
040.409	Chemical Analysis of Soils	3

1) Surveying and GIS Applications: Students are required to complete a two-week (full-time) course in Surveying and GIS Applications, following the end of the April examination period. Students must register for it during intersession.

2) Students may take any course from the Faculty of Arts or Faculty of Management, at the 100 level or above, as a complementary studies elective. However, 099.111 Introduction to University, may not be used for credit in the Faculty of Engineering.

3) Students may take one technical elective course with a significant engineering science and/or design component from another department, subject to the approval by the head (or designate) of Civil Engineering.

Cooperative Education Option in Civil Engineering

Chair Coop Committee: Dr. James Blatz

(204) 474-9816

Coordinator: K. Anderson

(204) 474-6251

The Department of Civil Engineering offers Civil and Environmental students a cooperative education option. The coop program provides a combination of education and experience by alternating academic terms with work terms.

Students generally apply for the coop program in their fourth term of engineering studies. Entry into the program is competitive. Acceptance is based on EGPA and general aptitude, and is contingent upon receiving a work term placement through the coop office. Students are required to complete at least 80 credit hours of engineering study before their first work term. The Department of Civil Engineering reserves the right to determine and select the best-qualified applicants. Students who are unable to maintain the standards of the coop program will be transferred back into the regular program.

The course and grade requirements for completion of the Cooperative Education Option are the same as those required for the regular program. However, in order to satisfy course prerequisite requirements, timetables may differ from the regular program. Coop students are evaluated in the same manner as regular students and all rules and regulations of the Faculty of Engineering apply.

Work term reports must be completed at the end of each work term. Each successfully completed work term and its corresponding work term report carries one credit hour. Work term reports are assigned a letter grade. Coop graduates completing at least three work terms will have the Cooperative Education Option acknowledged on their B.Sc. (C.E.) graduation parchment.

See the coop coordinator for model program.

Course Descriptions Civil Engineering

023.276 Introduction to Environmental Engineering (3-3T:0-0) 5 An overview of the generic approach used to solve environmental process engineering problems. Topics include characterization of the polluted material, identification of environmental quality or treatment goals, and the identification of possible mitigation or treatment technologies. Topics are discussed within the context of water, air, or land systems. *Prerequisite:* 002.130. Not to be held with 023.272.

023.277 Civil Engineering Materials (0-0:3-3L) 5 Principles of testing; testing standards; instrumentation; data acquisition systems; mechanical properties of steel, iron, cement, concrete, asphalt, wood and composites; classification and particle size analysis of soils and aggregates. *Prerequisite:* 130.135. *Corequisite:* 023.280. Not to be held with 023.230.

023.278 Civil Engineering Systems (3-1.5T:0-0) 4 Introduction to applied systems analysis approach. Use of applied systems analysis in Civil Engineering. Optimization techniques: linear programming; dynamic programming; other techniques. Evaluation: decision analysis. *Prerequisite:* 136.171. Not to be held with 023.270.

023.279 Fluid Mechanics (3-3L:0-0) 4 Definition of fluid; fluid properties; variation of pressure in a fluid; hydrostatic forces; buoyancy; kinematics of flow; control volumes; continuity; Bernoulli's equation; momentum equation; energy equation; flow in closed conduits; open channel flow. *Prerequisite:* 130.135. Not to be held with 023.361.

023.280 Solid Mechanics 1 (3-2T:0-0) 4 Analysis of deformable bodies; stress and strain in three dimensions; equilibrium equations and strain-displacement relations; constitutive relations and mechanical behaviour of materials; radially symmetric and plane problems in elasticity; relevant experimental demonstrations. *Prerequisite:* 130.135. Not to be held with 023.226.

023.281 Surveying and GIS Applications (4) Role of surveying in civil engineering; surveying field notes; chaining; lead instrument, notes, profiles, cross-sections, plotting; transit and theodolites, vertical and horizontal curves; introduction to Global Positioning System (GPS). (Inter-session). Not to be held with 023.223.

023.356 Engineering Cooperative Education Assignment 1 (1) Special work assignment in business, industry, or government for cooperative education students. Requires submission of a written report covering the work completed during the four-month professional assignment.

023.357 Engineering Cooperative Education Assignment 2 (1) See 023.356 for course description.

023.369 Environmental Engineering Analysis (3-2L:0-0) 4 Introduction to environmental engineering analysis concept; risk assessment; colloidal dispersions; mass balances, reaction kinetics and reactor design principles. Water pollution and water quality in rivers and lakes. Physical, chemical and biological unit operations and processes applied in water and/or wastewater treatment. Meteorology and air pollution;

atmospheric dispersion. Solid waste management issues. *Prerequisites:* 023.276, 005.222. Not to be held with 023.349.

023.370 Environmental Engineering Design (0-0:3-2T) 4 Design principles are developed for water, solid/soil and air pollution control. Application of the principles in design projects which may include surface and groundwater remediation, solid waste management, landfilling, soil remediation and site assessment; municipal and industrial wastewater treatment; odour and air pollution abatement facilities. *Prerequisite:* 023.369. Not to be held with 023.485.

023.371 Finite Element Analysis (3-1.5T:0-0) 4 One-dimensional analysis of fluid flow, seepage and heat transfer; truss, beam and frame elements; two-dimensional problems; isoparametric elements and Gauss quadrature; time-dependent problems, diffusion, consolidation, and time integration methods; introduction to commercial packages; solution of problems in civil engineering (seepage, dams, pavements). *Prerequisites:* 023.279, 023.280. Not to be held with 023.424.

023.373 Geotechnical Materials and Analysis (3-1.5T:0-0) 4 Soil and rock properties: laboratory and field techniques; in situ states of stress and consolidations; constitutive models; stress beneath loaded areas and around tunnels; analysis of simple retaining structures and slopes; stability and settlement of shallow and deep foundations in soil and rock. *Prerequisites:* 007.225, 023.277, 023.280. Not to be held with 023.492.

023.374 Hydraulics (3-1.5T:0-0) 4 Hydraulics of uniform and gradually varied flow; backwater computation and classification of surface water profiles; hydraulics jumps, spillways, and stilling basins; flow over weirs; hydraulic models; theory of turbo-machinery. *Prerequisite:* 023.279. Not to be held with 023.494.

023.375 Hydrology (3-1.5T:0-0) 4 Basic hydrological processes; precipitation; evapotranspiration; infiltration and runoff; analytical methods; hydrograph theory and application; application to reservoir design; project floods and flow forecasting; statistical analysis. *Prerequisite:* 005.222. Not to be held with 023.331.

023.376 Structural Analysis (3-1.5T:0-0) 4 Different structural forms and load distribution, analysis of cables; statically determinate curved, beams and frames; influence lines; energy methods and deflections of structures; flexibility and stiffness methods; computer-aided structural analysis; introduction to structural dynamics. *Prerequisite:* 023.280. Not to be held with 023.345.

023.377 Structural Design 1 (0-0:3-1.5T) 4 Introduction to design of steel structures; loading, structural configurations; design of simple members and connections; building code requirements. *Prerequisites:* 023.277, 023.378. Not to be held with 023.344.

023.378 Solid Mechanics 2 (0-0:3-2T) 4 St. Venant torsion and torsional stresses in circular shafts; torsion of non-circular sections; classical beam theory; determination of bending stresses and deflections; beams with complex cross-sections; statically indeterminate beams; buckling of beam-columns. *Prerequisite:* 023.280. Not to be held with 023.227.

023.379 Transportation Engineering 1 (3-1.5T:0-0) 4 Introduction to transportation. Overview of Canada and U.S. transport systems. Fundamentals of transport systems analysis. Introduction to sequential demand modelling. Analysis and evaluation of uninterrupted flow on highways. Basics of geometric design of highways. Basics of design of at-grade intersections. Introduction to computer applications in transportation engineering. Basics of pavement engineering and design. *Prerequisites:* 023.281, 023.277, 023.278, 005.222. Not to be held with 023.350.

023.403 Structural Design 3 (0-0:3-1.5T) 4 Prestressed concrete structures; fibre-reinforced concrete structures; bridge loading, analysis and design in steel and concrete; special topics in structural engineering. *Corequisite:* 023.439. Not to be held with 023.474. Offered every year.

023.404 Structural Dynamics (0-0:3-1.5T) 4 Dynamic loads in civil engineering; overview of structural dynamics; single-degree-of-freedom systems; free-vibration, harmonic, periodic and impulsive loads; multi-degree-of-freedom systems; distributed systems; beam vibrations; steady-state vibrations of foundations; introduction to earthquake engineering; elastic waves in soils, response and design spectrums; wind vibrations. *Prerequisite:* 023.376. Not to be held with 023.469.

023.405 Engineering Economics (0-0:3-1T) 3 Introduction to engineering economics. Time value of money and discounted cash flow calculations. Comparing alternatives. Replacement analysis and life-cycle costing. Public sector engineering economy studies. Private sector engineering economy studies. Before and after-tax analysis. Applications in cost-estimating. Applications in asset management systems. Basic accounting. Accommodating capital limitations. Dealing with inflation. Dealing with risk and uncertainty. *Prerequisite:* 023.278, 005.222. Not to be held with 023.483.

023.410 Engineering Management and the Environment (0-0:3-1.5T) 4 Teams of students apply environmental management techniques, such as: impact assessment, site assessment, and auditing to selected engineering construction projects and operations; several oral and written reports are required. *Corequisite:* 023.370. Not to be held with 023.401.

023.418 Environmental Systems (0-0:3-1.5T) 4 Development of a river water quality model; waste allocation modelling; modelling of the sites selection process; analysis of environmental impact using technical and non-technical (i.e. sociological, ethical, aesthetic) parameters. *Prerequisites:* 023.278, 023.369, 023.375. Not to be held with 023.496.

023.420 Groundwater Contamination (0-0:3-1.5T) 4 Introduction to the principles of groundwater chemistry; chemical evolution of natural groundwater flow systems; sources of contamination; mass transport processes; hydrochemical behaviour of contaminants; nuclear waste disposal; non-aqueous phase organics; aquifer remediation. *Prerequisites:* 23.425, 136.210, 007.225. Not to be held with 023.363.

023.421 Engineering Cooperative Education Assignment 5 (1) See 023.356 for course description.

023.422 Geotechnical Design (3-2T:0-0) 4 Site characterization; design and construc-

tion of surface footings, deep foundations, tunnels, earth and rock support systems; design and remediation of slopes; frozen soils and foundation design; geosynthetics and geofabrics in geotechnical construction; reinforced earth; geoenvironmental issues; tailing dams, clean-up, and remediation. *Prerequisite:* 023.373. Not to be held with 023.488.

023.423 Geotechnical Engineering (0-0:3-2T) 4 Case-history approach to geotechnical engineering practice from civil and mining engineering; relationship between predicted and observed behaviour; surface and shallow footings; propped walls and bulkheads; rock and soft ground tunneling; deep foundations; rock and soil slopes; culverts; geoenvironmental problems. *Prerequisite:* 023.373.

023.425 Groundwater Hydrology (0-0:3-1.5T) 4 Introduction to theory of groundwater flow; flow nets; regional groundwater flow; well hydraulics; role of groundwater in geologic and engineering processes; multiphase flow. *Prerequisites:* 136.211, 007.225. Not to be held with 023.362.

023.433 Graduation Project (4) The student will undertake an original study involving engineering design, procedure, or experimental investigation that emphasizes the student's initiative and judgement. The student must demonstrate an ability to plan, conduct and formally report on the study by written thesis and oral presentation. *Prerequisite:* Completion of 120 credit hours, 130.201. Not to be held with 023.482.

023.435 Hazardous Waste Treatment (0-0:3-2T) 4 Sources and classification of hazardous and industrial wastes. Overview of the waste management problem. Theory and applications of various physical, chemical, and thermal, waste treatment processes. Waste elimination options and strategies. *Prerequisite:* 023.369. Not to be held with 023.402.

023.438 Infrastructure Engineering and Construction Management (0-0:3-1.5T) 4 Infrastructure engineering; drainage systems, maintenance engineering and management. Construction and project management; workplace health and safety, construction site field trips, construction equipment, temporary facilities, project management. Elements of law for civil engineers. *Prerequisites:* 023.405. *Corequisite:* 023.374.

023.439 Structural Design 2 (3-1.5T:0-0) 4 Design in reinforced concrete; properties of materials; ultimate strength design; analysis and design of sections in bending; shear and development considerations; short- and long-term deflection; sections subjected to bending and axial stresses; design of simple floor systems; column footings. *Prerequisite:* 023.277, 023.376, *Corequisite:* 023.377. Not to be held with 023.493.

023.440 Transportation Engineering 2 (3-1.5T:0-0) 4 Fundamentals of traffic control for highways. Capacity and level of service analysis on urban streets. Urban supplement to geometric design guide for Canadian roads. Modelling vehicle performance. Elements of railway engineering. Design for trucks. Transportation systems management. Application of intelligent transportation systems. Basic pavement design methods. Introduction to pavement management systems. Highway accidents and design for safety. Legislative and policy framework for transportation engineering. *Prerequisite:* 023.379. Not to be held with 023.484.

023.441 Transportation Systems (0-0:3-1.5T) 4 Contemporary approaches to transportation planning. Data for transportation planning. Advanced demand analysis and modelling. Illustrative transport planning studies. Planning and design for public passenger transportation. Planning and design for barrier-free transportation and transport of disabled persons. Goods movement and trucking studies. Planning and design for motor carrier operations. Planning and design for grain handling and transportation. Transport planning in developing countries. Evaluating transport plans and projects. Transport and the environment. Transport and energy. Vehicle operating costs and engineering unit cost models. *Prerequisite:* 023.379. Not to be held with 023.486.

023.442 Highway Pavement Design (0-0:3-1.5T) 4 Soil classification and properties; soil-moisture-density-strength relationships; earthwork operations and specifications; soil stabilization; granular bases; surface drainage; structural design of flexible and rigid pavements. *Prerequisites:* 023.277, 023.379.

023.446 Technology, Society, and the Future (0-0:3-0) 3 Impact of technology and technological change on society - past, present, future; specific technologies, e.g. construction, machine power, computers, communications, medical, military: the process of technological change; invisible effects of technology; technology and resource use; sustainable development, limits to growth and the role of technology. *Prerequisite:* 004.131 or 004.132. Not to be held with 023.265.

023.447 Watershed Processes (0-0:3-1.5T) 4 Rainfall-runoff processes, flood routing; characteristics and mechanics of flow in (natural) channels; computer modelling of watershed hydrology and hydraulics; influence of man-made structures; river morphology, sediment transport prediction, design of a stable channel; river ice processes. *Prerequisites:* 023.279, 023.375. Not to be held with 023.495.

023.459 Design Project (2-6T:0-0) 6 An interdisciplinary project-based course involving engineering design, teamwork and delivered in studio format. Students are expected to work in pre-assigned teams under the guidance of professional engineers on a pre-determined project. Lecture material will cover project management, construction, environmental and economic issues. Each team will be required to give an oral presentation of their design project. *Prerequisite:* 023.377 and 023.370.

023.490 Engineering Cooperative Education Assignment 3 (1) See 023.356 for course description.

023.491 Engineering Cooperative Education Assignment 4 (1) See 023.356 for course description.

5.6 Electrical and Computer Engineering

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Head: R.W. Menzies

Associate Head (Computer Engineering): W. Kinsner

Associate Head (Electrical Engineering): J. LoVetri

The Department of Electrical and Computer Engineering offers two fully accredited degree programs, one in Electrical Engineering and one in Computer Engineering. Both programs may include an industry internship. The programs are designed to give students knowledge of the basic principles of engineering and, in particular, an adequate training and education in the fundamentals and professional applications of Electrical and Computer Engineering. It is recommended that students entering Electrical or Computer Engineering acquire their own computer.

Industry Internship Program (IIP)

Coordinator: M. Labiuk

The Department of Electrical and Computer Engineering offers an Industry Internship Program. This program is designed to complement and enrich the academic program with practical work experience. Preceding the final year, a student in either the Electrical Engineering or the Computer Engineering program has the option of spending a continuous work term period of 12 to 16 months in industry. This work term provides the student with practical experience, helps to finance the student's education, and provides guidance for further career specialization.

A student in good academic standing, who will have completed 120 credit hours of the academic program by the end of the session, may apply to participate in the Industry Internship Program. Acceptance in 024.472 Industry Internship is dependent upon the student receiving job placement.

Satisfactory work reports, which will be evaluated by faculty members in the Department of Electrical and Computer Engineering, are required upon returning in order to have this participation recorded in the student's transcript.

Graduation Thesis

Students must be in their final graduating year to register for 024.400, Graduation Thesis. The thesis work is to be a significant design experience based on the knowledge and skills acquired in the program and gives students an exposure to the concepts of engineering design in a team environment. Students are required to demonstrate within a fixed time period, an ability to organize, conduct and report on an original study of an electrical/computer-engineering project. The requirement consists of four parts: a project proposal, progress reports, a formal report, and an oral presentation.

The format to be used for the project proposal, the progress reports, and the formal report; as well as the guidelines for the oral presentation, is available from the Department. Normal due dates for the various components of the thesis are outlined with the rules and regulations. Students should be aware that failure to meet the department deadlines would carry the penalty of a failing thesis grade.

Electrical Engineering Degree Program

The program in Electrical Engineering has a core-plus-elective structure. The core develops the necessary base in mathematics, the physical sciences, dynamics, thermodynamics, electric fields and circuits, and fundamental professional courses focused on energy conversion and transmission, electronics, materials and devices, communications, and control systems. The final year includes a graduation thesis, control systems, and communication systems as core requirements, with the remaining program based on electives. A certain level of specialization is possible through the selection of elective courses offered in the final year.

The student's program must include a three credit hour complementary studies elective. Courses in engineering economics, technical writing, and engineering law, the environment and society are compulsory.

Students are encouraged to consult with the department for model four- and five-year programs. Students are strongly encouraged to follow the model programs when possible, as timetabling and course offerings are based on these.

Preliminary Engineering Program

Common to all Engineering programs. (See Section 5.2 for details.)

Departmental Program

Course No.		Credit Hours
005.222	Contemporary Statistics for Engineers	3
136.210	Mathematical Methods for Engineers 1	4
136.211	Mathematical Methods for Engineers 2	4
136.212	Introductory Numerical Methods for Engineers	4
136.310	Mathematical Methods for Engineers 3	3
136.311	Mathematical Methods and Complex Analysis	4
136.312	Applied Discrete Mathematics	3
023.405	Engineering Economics	3
024.213	Electric Fields	4
024.216	Electronics 2E	5
024.222	Digital Logic Systems	5
024.226	Circuits and Transmission Lines	4
024.353	Network Theory	4
024.359	Electromagnetic Theory	4
024.360	Physical Electronics	4
024.361	Microprocessing Systems	4
024.365	Electric Machines (see Note 7)	5
024.367	Electronics 3E	4
024.369	Engineering Law, the Environment and Society	3
024.371	Design of Engineering Software	4
024.378	Signal Processing 1	4
024.372	Electric Power and Machines	4
024.400	Graduation Thesis (see Note 1)	6
024.415	Control Systems	4
024.424	Microprocessor Interfacing	4
024.426	Communications Systems	4
024.483	Signal Processing 2	4
130.201	Technical Communications	3
Technical Electives (5 Required) (see Notes 3,4)		
024.414	Power Transmission Lines	4
024.416	Control Engineering	4
024.419	Solid State Electronics	4
024.420	Electric Filter Design	4
024.425	Digital Communications	4
024.427	Antennas	4
024.428	Engineering Electromagnetics	4
024.429	Microwave Engineering	4
024.430	Electrical Energy Systems 1	4
024.431	Electrical Energy Systems 2	4
024.437	Power Electronics	4
024.439	Engineering Computations 4E	4
024.440	Biomedical Engineering	4
024.442	Digital Control	4
024.458	Optoelectronics	4
024.475	Contemporary Topics in Electrical Engineering (See Note 8)	4
024.476	Contemporary Topics in Electrical Engineering (See Note 8)	3
024.477	Contemporary Topics in Electrical Engineering (See Note 8)	4
024.478	Contemporary Topics in Electrical Engineering (See Note 8)	3
025.486	Engineering Design (see Note 6)	5
Computer Engineering Courses (1 required)		
024.376	Digital Systems Design 1	4
024.377	Digital Systems Design 2	4
024.444	Computer Vision	4
024.474	Digital Systems Implementation	4
Complementary Studies Elective (1 required) (see Note 2)		
Total credits for Graduation		177-180

NOTES:

1. Course continuing through both terms. Credit on completion of course.
2. The complementary studies elective can be any course at the 100 level or above from either the faculties of Arts or Management. However, 099.111 Introduction to University, may not be used for credit in the Faculty of Engineering.
3. The Department of Electrical and Computer Engineering does not guarantee that all elective courses will be offered every session or that it will be possible to fit courses

into all of the many possible timetable combinations of students taking the programs. The term in which an elective course is offered is specified each year in the *Registration Guide*.

4. There may be a maximum limit set on the number of students allowed to take a particular elective in a session. Similarly, there may be a minimum limit and if registration is below the minimum, the elective will be cancelled and those registered will be required to transfer to another elective before the deadline date for course changes.
5. Students are urged to discuss their program of courses with members of the instructional staff toward the end of their third year to obtain advice concerning the best choice of electives for their needs.
6. Subject to the approval of course instructor.
7. A certificate in Cardiopulmonary Resuscitation (CPR) is required as a prerequisite for this course. The three hour course is available through Occupational Health and Safety; telephone (204) 474 6438.
8. Requires permission of the Department.

Computer Engineering Degree Program

The program in Computer Engineering has a core-plus-elective structure. The core develops the necessary base in mathematics, physical sciences, computer science, circuits and systems, fundamental professional courses such as digital logic, discrete mathematics, electronics, microprocessors, operating systems, software engineering, and compiler design. The final year core includes the graduation thesis.

Some specialization is possible in either the software or the hardware area through the selection of technical electives in the final year.

The student's program must include a specified number of complementary studies electives. Courses in engineering economics, technical writing, and engineering law, the environment and society, are compulsory.

Students are encouraged to consult with the department for model four- and five-year programs. Students are strongly encouraged to follow the model programs when possible, as timetabling and course offerings are based on these.

Preliminary Engineering Program

Common to all Engineering Programs. (See Section 5.2 for details.)

Department Program

Course No.		Credit Hours
005.222	Contemporary Statistics for Engineers	3
136.210	Mathematical Methods for Engineers 1	4
136.211	Mathematical Methods for Engineers 2	4
136.212	Introductory Numerical Methods for Engineers	4
136.310	Mathematics 3	3
136.311	Complex Analysis	4
136.312	Discrete Mathematics	3
023.405	Engineering Economics	3
024.216	Electronics 2E	5
024.222	Digital Logic Systems	5
024.226	Circuits and Transmission Lines	4
024.361	Microprocessing Systems	4
024.367	Electronics 3E	4
024.369	Engineering Law, the Environment and Society	3
024.370	Telecommunication Network Engineering	4
024.374	System Engineering Principles 1	4
024.375	System Engineering Principles 2	4
024.376	Digital Systems Design 1	4
024.377	Digital Systems Design 2	4
024.378	Signal Processing 1	4
024.400	Graduation Thesis (See Note 1)	6
024.415	Control Systems	4
or		
024.426	Communication Systems	4
024.424	Microprocessor Interfacing	4
024.451	Engineering Algorithms	3
024.474	Digital Systems Implementation	4
024.483	Signal Processing 2	4
074.102	Computer Science 2	3
074.214	Data Structures and Algorithms	3
074.343	Introduction to Operating Systems	3
130.201	Technical Communications	3
Computer Engineering Electives (2 required) (see Notes 3,4)		6 to 8
024.425	Digital Communications	4
024.442	Digital Control	4
024.444	Computer Vision	4
024.446	Parallel Processing	4

024.447	Simulation and Modeling	4
Computer Science (Math) Courses (1 required)		
074.215	Object Orientation	3
074.216	Programming Practices	3
074.301	Distributed Computing	3
074.319	Introduction to Artificial Intelligence	3
074.329	Introduction to Compiler Construction	3
074.338	Databases Concepts and Usage	3
074.349	Computer Graphics 1	3
074.371	User Interfaces	3
074.430	Computer Networks	3
074.436	Machine Learning	3
074.449	Computer Graphics 2	3
136.252	Math Elements for Computer Graphics	3
Electrical Engineering Courses (1 required)		
024.213	Electric Fields	4
024.360	Physical Electronics	4
024.372	Electric Power and Machines	4
024.439	Engineering Computations IVE	4
024.440	Biomedical Engineering	4
024.415	Control Systems	4
024.426	Communication Systems	4
Complementary Studies Elective (1 required) (see Note 2)		
Total credits for Graduation		172-173

NOTES:

1. Course continuing through both terms. Credit on completion of course.
2. The complementary studies elective can be any course at the 100 level or above from either the faculties of Arts or Management. However, 099.111, Introduction to University, may not be used for credit in the Faculty of Engineering.
3. The Department of Electrical and Computer Engineering does not guarantee that all elective courses will be offered every session or that it will be possible to fit courses into all of the many possible timetable combinations of students taking the programs. The term in which an elective course is listed each year in the *Registration Guide*.
4. There may be a maximum limit on the number of students allowed to take an elective in a particular session. Similarly, there may be a minimum limit and if registration is below the minimum, the elective will be cancelled for the session, and those registered will be required to transfer to another elective before the deadline date for course changes.
5. Students are urged to discuss their program of courses with members of the instructional staff toward the end of their third year to obtain advice concerning the best choice of electives for their needs.

Course Descriptions Electrical and Computer Engineering

024.213 Electric Fields (3-1.5:0-0) 4 Fundamental laws of field theory; Maxwell's equations in integral and point form. *Corequisite:* 136.310 or the former 006.360.

024.216 Electronics 2E (0-0:3-3) 5 Characteristics of integrated circuits and transistors; design of DC and AC amplifiers in the steady state. *Prerequisite:* 130.118. *Corequisite:* 136.211 or the former 006.261.

024.222 Digital Logic Systems (3-3:0-0) 5 Boolean algebra and logic primitives, network simplification techniques, physical realizations, number systems and codes; analysis and design of asynchronous and synchronous sequential circuits; applications to computation, measurements, and control.

024.226 Circuits and Transmission Lines (0-0:3-1.5) 4 The application of circuit concepts: AC power, frequency and transient response, instrumentation, transmission lines as lumped element models, transmission line behaviour. *Prerequisite:* 130.118 *Corequisite:* 136.211. Not to be held with 024.221 or 024.366.

024.353 Network Theory (0-0:3-1.5) 4 Application of the Laplace Transform in the analysis of linear time-invariant networks, poles, zeros and frequency response; natural frequencies; general network theorems; two ports; energy and passivity. *Prerequisite:* 024.226, *co-requisite:* 136.311.

024.359 Electromagnetic Theory (0-0:3-1.5) 4 Electrostatics; magnetostatics, Maxwell's equations and time-varying electromagnetic fields; polarization, boundary value problems; reflection and refraction; Poynting vector. *Prerequisite:* 024.213.

024.360 Physical Electronics (0-0:3-1.5) 4 Basic solid state theory; properties of semiconductors; principles of metal-semiconductor junctions, p-n junctions and transistors; optoelectronic processes. *Prerequisites:* 016.107 or 016.353, 136.310 or the former 006.360, and 024.367.

024.361 Microprocessing Systems (0-0:3-1.5) 4 Fundamentals of microprocessors and microcomputers; data flow; machine programming; architectures and instructions sets; stacks, subroutines, I/O, and interrupts; interfacing fundamentals; designing with microprocessors. *Prerequisite:* 024.222.

024.365 Electric Machines (0-0:3-3) 5 Continuation of 024.372, including steady state and transient performance and introductory power systems theory. *Prerequisite:* 024.372 and a certificate in CPR.

024.367 Electronics 3E (3-1.5:0-0) 4 Continuation of 024.216, including device models, feedback, regulators, frequency effects, oscillators, and bistability and gates. *Prerequisite:* 024.216.

024.368 Introduction to Digital Systems (3-1.5:0-0) 4 Numeric systems and computer arithmetic. Digital logic, gates, flip flops and tristate devices. Sequential and combinational circuits. Decoders, encoders and multiplexing. Microprocessor structures.

Introduction to I/O devices and data acquisition. Not to be held with 024.361. *Prerequisite:* 130.118.

024.369 Engineering Law, the Environment and Society (0-0:3-0) 3 Engineering law: public responsibility and liability of the Professional Engineer; patents, copyrights, trademarks, designs, contracts; environment ethics: energy choices, depleting resources and growth of demand.

024.370 Telecommunication Network Engineering (0-0:3-1.5) 4 This course will introduce modem concepts in telecommunications, including LANs, WANs, telephone networks, wireless and mobile networks, and Internet networks. Focus will be on design engineering, and management of networks, and on network programming for client server architectures. *Prerequisite:* 074.214 or the former 074.206.

024.371 Design of Engineering Software (3-1.5:0-0) 4 This course will introduce various practical tools and techniques for developing engineering software. Topics to be covered include: Object oriented analysis and design, data structures, network programming, graphical user interfaces, and software engineering. *Prerequisite:* 074.101.

024.372 Electric Power and Machines (3-1.5:0-0) 4 Principles and applications of electric power, energy conversion and machines. *Prerequisite:* 130.118.

024.374 Systems Engineering Principles 1 (3-1.5:0-0) 4 Complexity and other system measures and analysis, system architectures and architectural elements for embedded systems, hardware and software, incremental design elaboration. Coding, testing, debugging, verification and validation. Project planning, cost analysis and maintenance. Real-time systems, graphical user interfaces and computational models. *Prerequisite:* 074.214 or the former 074.206. Not to be held with 024.445.

024.375 Systems Engineering Principles 2 (0-0:3-1.5) 4 Reliability measures and analysis, software system architectures, system metrics, system verification for embedded systems. Coding practices for large scale embedded system development. Real-time systems, graphical user interfaces, and computational models. *Prerequisite:* 024.374

024.376 Digital Systems Design 1 (0-0:3-1.5) 4 Register-transfer and control-sequence design using a hardware description language. Design of finite-state machines with data path definitions and algorithmic state machine charts. Hardware-software co-design. *Prerequisite:* 024.424. Not to be held with 024.423.

024.377 Digital Systems Design 2 (3-1.5:0-0) 4 Executable system specification and a methodology for system partitioning and refinement into system-level components. Models and architectures, specification languages, translation to an HDL, system partitioning, design quality estimation, specification refinement into synthesizable models. *Prerequisite:* 024.424 and 136.312.

024.378 Signal Processing 1 (0-0:3-1.5) 4 Introduction to signals and systems; spectral analysis (Fourier Series) of continuous-time periodic signals; spectral analysis of aperiodic signals (Fourier Transform); the impulse response and convolution operator; frequency analysis of linear time-invariant systems; applications to filtering, communications systems, and biological systems; A/D conversion; sampling. Laboratory periods will be used to give students hands-on experience in programming many of the techniques covered in the theoretical parts of the course. *Prerequisites:* 024.226 and 136.310.

024.400 Graduation Thesis (0-3:0-3) 6 Both terms. The engineering curriculum must culminate in a significant design experience which is based on the knowledge and skills acquired in earlier course work and which preferably gives students an exposure to the concepts of team work. A research project may be interpreted as engineering design provided it can be clearly shown that the elements of design, as noted in the definition, are fulfilled in the completion of the project. *Prerequisites:* registration in the program in Electrical or Computer Engineering and 130.201 or the former 024.101.

024.414 Power Transmission Lines; Field Effects and Insulation Coordination (0-0:3-1.5) 4 AC and DC transmission line corona and its environmental effects. Electric field calculations; design methods to reduce electric field. Electrostatic and electromagnetic effects. Insulation design for power frequency, switching and lightning induced surges. Insulation coordination - conventional and probabilistic methods. Power apparatus testing - criteria and significance. *Prerequisite:* 024.372.

024.415 Control Systems (3-1.5:0-0) 4 Principal methods of analysis and design for feedback control systems. *Prerequisite:* 024.378 or the former 024.358.

024.416 Control Engineering (0-0:3-1.5) 4 Design of control systems by frequency domain and root locus method; state equations; introduction to nonlinear analysis. *Prerequisite:* 024.415.

024.419 Solid State Electronics (3-1.5:0-0) 4 Microelectronic fabrication principles. Bipolar and FET structures: discrete devices and integrated LSI logic and memory cells. Lasers, LEDs, displays, optical and infrared photodetectors, photovoltaic solar cells, magnetic bubbles. Introduction to VLSI systems. *Prerequisite:* 024.367.

024.420 Electric Filter Design (3-1.5:0-0) 4 Realizability theory, approximation of filtering characteristics, ladder networks and transmission zeros, active RC filter design with regard to sensitivity minimization, phase-shifting and time-delay filters, impulse response of filters, rudiments of digital filters. *Prerequisite:* 024.353.

024.424 Microprocessor Interfacing (3-1.5:0-0) 4 Interfacing of microcomputers to the external world: interfacing of I/O devices with minimum hardware and software; data acquisition with and without microprocessors; data communication, transmission and logging with small computers. *Prerequisite:* 024.216 and 024.361.

024.425 Digital Communications (0-0:3-1.5) 4 Transmission of digital data; error rates, interference. Information measures, information rate and channel capacity. Coding. *Prerequisite:* 024.426 and 024.483 or the former 24.373.

024.426 Communications Systems (3-1.5:0-0) 4 Development and applications of random processes. Analysis and comparison of modulation schemes: AM, FM, PM, PCM. *Prerequisites:* 024.378 or the former 024.358 and 005.222.

024.427 Antennas (3-1.5:0-0) 4 Radiation fundamentals, linear antennas, point source arrays, aperture antennas, antenna impedance, antenna systems. Prerequisite: 024.359.

024.428 Engineering Electromagnetics (0-0:3-1.5) 4 Plane, cylindrical and spherical waves, introduction to scattering and diffraction, waveguides, transmission line applications. Prerequisite: 024.359.

024.429 Microwave Engineering (3-1.5:0-0) 4 Microwave circuit analysis; passive and active devices; communication system power budget and signal-to-noise ratio calculations. Prerequisite: 024.359.

024.430 Electrical Energy Systems 1 (3-1.5:0-0) 4 Power system component modeling and computational methods for system problems such as load flow, faults, and stability. Prerequisite: 024.365.

024.431 Electrical Energy Systems 2 (0-0:3-1.5) 4 Generating stations. Power system stability and optimal operation. EHV-ac and HVDC power transmission. Power system protective relaying and reliability evaluation. Prerequisite: 024.430.

024.437 Power Electronics (0-0:3-1.5) 4 Thyristor device theory and operation, controlled rectifiers and line-commutated inverters, and forced commutation as applied to d/c choppers and a/c variable frequency and voltage inverters. Prerequisites: 024.365 and 024.367.

024.439 Engineering Computations 4E (0-0:3-1.5) 4 Development and application of numerical methods for the solution of electrical and computer engineering problems. Optimization techniques. Finite difference, finite element and boundary element methods. Solution of large systems of linear and non-linear equations. Prerequisite: 136.311 or the former 006.343.

024.440 Biomedical Engineering (0-0:3-1.5) 4 Introduction for senior Engineering students to the solution of medical and biological problems using engineering techniques and equipment. Prerequisites: 024.353 and 024.378 or the former 024.358.

024.442 Digital Control (0-0:3-1.5) 4 Mathematical modelling of sampling switches. Z-transforms. Response and stability of systems involving sampling. Design of digital compensators. Prerequisites: 024.483 or the former 024.373 and 024.415.

024.444 Computer Vision (3-1.5:0-0) 4 Image formation and sensing, image compression, degradation and restoration, geometrical and topological properties, pattern classification, segmentation procedures, line-drawing images, texture analysis, 3-D image processing. Prerequisite: 024.378 or the former 024.358.

024.446 Parallel Processing (0-0:3-1.5) 4 Classification of parallel processors, SIMD vs. MIMD, multiprocessing Vs parallel processing, interconnection topology, communications, and node complexity, pipelining and vector processors, array processors, connection machines, multiprocessors, data flow and VLSI algorithmic machines. Prerequisites: 074.214 or the former 074.206 and 024.376 or the former 024.423.

024.447 Simulation and Modelling (3-1.5:0-0) 4 Monte Carlo Methods, random processes, simulation of complex systems in the design of computer systems. Use of statistical interference and measures of performance in hardware and software systems. Prerequisites: 005.222 or the former 005.250 and 074.214 or the former 074.206.

024.451 Engineering Algorithms (3-0:0-0) 3 Numerical algorithms, optimization, statistical description of data random number generation, string processing, geometric algorithms, algorithm machines, dynamic programming and NP complete problems. Prerequisite: 074.214 or the former 074.206. Corequisite: 136.310 or the former 6.360.

024.458 Optoelectronics (0-0:3-1.5) 4 Basic theory of quantum mechanics; solution of Schrodinger equations; interaction of radiation with matter; masers and lasers; propagation, modulation, excitation and detection in optical waveguides; introduction to fiber and integrated optics. Prerequisite: 024.360.

024.472 Industry Internship Supervised work experience, normally of 12-16 month's duration, concluded by a work report. (Pass-Fail grade only).

024.474 Digital Systems Implementation (0-0:3-1.5) 4 Implementation methodologies and technologies for digital systems, including VLSI implementations, PCB implementations, and rapid prototyping (FPGA). Prerequisite: 024.424. Not to be held with 024.450.

024.475 Topics in Electrical Engineering 1 (3-1.5:0-0) 4 This course will cover contemporary topics in Electrical Engineering via lectures and laboratory sessions. The specific topics and a detailed course outline will be available at the time of registration. Prerequisite: Permission of the Department.

024.476 Topics in Electrical Engineering 2 (3-0:0-0) 3 This lecture based course will cover contemporary topics in Electrical Engineering. The specific topics and a detailed course outline will be available at the time of registration. Prerequisite: Permission of the Department.

024.477 Topics in Electrical Engineering 3 (0-0:3-1.5) 4 This course will cover contemporary topics in Electrical Engineering via lectures and laboratory sessions. The specific topics and a detailed course outline will be available at the time of registration. Prerequisite: Permission of the Department.

024.478 Topics in Electrical Engineering 4 (0-0:3-0) 3 This lecture based course will cover contemporary topics in Electrical Engineering. The specific topics and a detailed course outline will be available at the time of registration. Prerequisite: Permission of the Department.

024.483 Signal Processing 2 (3-1.5:0-0) 4 Representation of discrete-time signals and systems in the time and frequency domains; the z-transform; application to various discrete-time linear time-invariant systems; design of digital filters. Laboratory periods will be used to give students hands-on experience in programming many of the techniques covered in the theoretical parts of the course. Prerequisite: 024.378 or the former 024.358.

5.7 Mechanical and Industrial Engineering

General Office: 356 Engineering Building

Telephone: (204) 474 9804 / 6630

Fax: (204) 275 7507

Website:

www.umanitoba.ca/faculties/engineering/mech_and_ind/dept.htm

Head: S. Balakrishnan

Associate Head: S. Ormiston

Associate Head: N. Richards

The Department of Mechanical and Industrial Engineering offers a fully accredited degree program in Mechanical Engineering. The program is designed to give students an understanding of the basic principles of engineering, and in particular, an adequate training and education in the fundamentals and their applications. The department offers an Aerospace Engineering Option within the Mechanical Engineering program.

The Department of Mechanical and Industrial Engineering has introduced a new program in Manufacturing Engineering in September, 2001. This replaces the Industrial Engineering Program. The entrance to the program will be upon completion of the second year Mechanical Engineering program. The new program will be reviewed by Canadian Engineering Accreditation Board during the winter session of 2003. Interested students are urged to contact the department for details.

Mechanical Engineering Degree Program

The program in Mechanical Engineering provides the education required by those who wish to practice in Mechanical Engineering that embraces, among other subdivisions, the design of mechanical devices and systems, manufacturing engineering and management, computer-aided design and computer-aided manufacturing, power generation and utilization, air conditioning, the material sciences, and the aeronautical sciences. The program places special emphasis on the use of computers in solving engineering problems.

The program offers a basic training in the sciences, mathematics and fundamental engineering subjects followed by more specialized subjects related directly to mechanical engineering discipline. Students are allowed to choose three technical electives to suit their career objectives and are also required to take one complementary studies electives related to social issues. During the program, arrangements are made for conducted visits to local power and industrial plants.

Upon completion of the preliminary engineering program, students may enter the mechanical engineering program or the mechanical engineering program with aerospace option or the manufacturing engineering program. The students are urged to consult appropriate program requirements shown for each program/option.

Cooperative Education Programs in Mechanical and Manufacturing Engineering

Director: Prof. D. Strong

Coordinator: Evelyn McFarlane

The Cooperative Education Program is one in which academic study is complemented and enriched with practical work experience. Following the second term of second year Mechanical Engineering, a student alternates periods of attendance at the university with periods of employment in industry or government. The process of placing a student recognizes the requirements of both the employer and the student. The work terms provide the students with practical experience, assistance in financing their education and guidance for future career specialization.

The Department of Mechanical and Industrial Engineering offers students the choice of a traditional program and a cooperative program in all of their programs. A schedule listing the work terms and academic terms for these programs is available from the coop coordinator.

Students who have successfully completed all courses in first year and first term of second year of engineering are eligible to enter the program and apply for job placement. Admission to coop occurs during the first academic term of second year. Acceptance into the program is dependent upon the student receiving a job placement through the Cooperative Education office in Mechanical and Industrial Engineering. Students may seek employment on their own, but must consult with the general office before doing so. Once a job placement has been secured through the office, the student is accepted into the program and enrolls in the course 025.205, Mechanical Engineering Cooperative Education Assignment (and subsequently, 025.305, 025.405 and 025.406) for the specific work term of em-

ployment. Corresponding courses for the Manufacturing Engineering program are: 025.391, 025.392, 025.491 and 025.492.

In order to stay in the cooperative program, a student must maintain a minimum Cumulative Grade Point Average of 2.00 and must obtain a grade of "Pass" for each work term report. All rules and regulations of the Faculty of Engineering apply. Students who do not maintain these standards, may not remain in the cooperative program and may be transferred back into the traditional program or required to withdraw completely.

The course and grade requirements for completion of the cooperative program are the same as those for the traditional program. However, in order to satisfy course prerequisite needs, the timetable and course arrangements of a student in the cooperative program may differ from those of a student in the traditional program.

Each successfully completed work term and its corresponding work term report are rated at one credit hour. The requirement to take the fourth year Graduation Thesis is waived for those students successfully completing at least three work terms. The Coop office assigns faculty advisors to mark work term reports. Graduates who successfully complete at least three work terms and the required work term reports will have the words "Cooperative Education Option" printed on their diplomas.

A student who is employed for a fourth work term may or may not submit a fourth work term report. The student is however encouraged to submit one. The Coop program fee payment for the fourth work term is mandatory if the student's employment with the company for the fourth work term was arranged through the Coop office located in the Department office. This includes employment secured by the re-hiring of the same student from his/her previous work term. The grade for a fourth work term in which a report was not submitted will be based on an evaluation of the student's performance during that work term.

If the coop student secures employment for the fourth work term at a company for which he/she was not yet employed then the student need not register for the fourth work term nor submit a report.

A student who has completed a degree in one of these programs, and then decides to register for a second degree in the other, will be permitted to enter the Coop program only after the student has completed one academic term in the program in which a second degree is pursued.

Mechanical Engineering Industry Internship Program (MEIIP)

The Mechanical Engineering Department offers an Industry Internship Program in Mechanical Engineering. Upon successful completion of 120 credit hours, a student has the opportunity of spending a continuous work term period of twelve to sixteen months in industry. Interested students may apply in the first term of third year. After an internship placement has been secured the student registers for course 025.493. One technical report is submitted upon completion of the internship. A student who has successfully completed an IIP will not be exempt from completing an undergraduate thesis. Students can obtain additional information from the coop studies coordinator.

Second Degree in Mechanical and Manufacturing Engineering

Those students who have already completed a degree in Mechanical Engineering and who are seeking a second degree in Manufacturing Engineering or the Aerospace Option should consult the Mechanical and Industrial Engineering office for details.

Mechanical Engineering Program

Preliminary Engineering Program

Common to all Engineering Programs. (See Section 5.2 for details).

Departmental Program:

Course No.	Credit Hours
002.224 Applied Chemistry for Engineers	3
005.222 Contemporary Statistics for Engineers	3
023.405 Engineering Economics (former 23.483)	3
024.368 Introduction to Digital Systems	4
Or	
024.372 Electric Power and Machines	4
025.212 Mechanics of Machines	4
025.220 Thermodynamics 2M	4
025.222 Stress Analysis and Design	4

025.226 Introduction to Fluid Mechanics	3
025.227 Principles of Engineering Materials	4
025.229 Manufacturing Engineering	3
025.230 Introduction to Production and Manufacturing (former 025.217)	3
025.342 Vibrations and Acoustics	4
025.343 Measurement and Control	4
025.347 Heat Transfer	3
025.348 Dynamics	3
025.349 Advanced Fluid Mechanics and Design	3
025.350 Stress Analysis and Design 3M	3
025.353 CAE Design and Analysis	3
025.354 Modern Engineering Materials	4
025.416 Mechanical Graduation Thesis (See Note 4)	3
025.450 Mechanical Engineering Lab	4
025.465 Machine Design 4M	4
025.468 Energy Conversion Utilization	4
025.482 Computational Thermofluids	3
025.486 Engineering Design	5
076.243 Ecology, Technology and Society	3
130.201 Technical Communications	3
136.210 Mathematical Methods for Engineers 1	4
136.211 Mathematical Methods for Engineers 2	4
136.212 Introductory Numerical Methods for Engineers	4
136.310 Mathematical Methods for Engineers 3	3
One Complementary Studies Elective	3/4
Three Technical Electives	3/4
Total credit hours	116-120

(excluding preliminary engineering program)

NOTES:

- Students are required to select either 024.372 Electric Power and Machines or 024.368 Introduction to Digital Systems.
- A student's selection and timetabling of electives are subject to the following conditions:
 - Only one complementary elective required upon completion of Critical Thinking (015.129) and English (004.131) in the preliminary program.
 - The complementary studies electives can be any course at the 100-level, or above, from the faculties of Arts or Management. However, 099.111, Introduction to University, may not be used for credit in the Faculty of Engineering.
 - Three Technical Electives of three or four credit hours each are required. Those students in the Aerospace option are required to take only two technical electives.
- For courses continuing through both terms, credit is given on completion of course.
- For those students graduating in December, register in the L01 (first term) section of 025.416, and if graduating in May, register in the L02 (second term) section of 025.416.

Technical Electives in Mechanical Engineering

Course No.	Credit Hours
025.352 Aerodynamics	4
025.355 Robotics and Computer Numerical Control	4
025.356 Modeling and Analysis of Manufacturing Systems	3
025.357 Manufacturing Automation	4
025.358 Production Planning and Control	3
025.359 Systems Simulation and Facilities Planning	3
025.360 Manufacturing Processes: Applied Fundamentals (see Note 5. below)	3
025.417 Program Management and Systems Engineering	3
025.418 Analysis and Design of Aerospace Structures	3
025.419 Aerospace Materials and Advanced Manufacturing Processes	3
025.420 Gas Turbine Propulsion Systems	4
025.429 Internal Combustion Engines	3
025.441 Air Conditioning	4
025.443 Boundary Layer	4
025.444 Comp Fluid Flow	4
025.445 Aircraft and Spacecraft Dynamics (former 025.351)	3
025.453 Strength of Materials 4M	3
025.455 Noise Control	4
025.456 Selected Topics in Fluid Mechanics	4
025.462 Corrosion of Metals and Alloys	4
025.467 Applied Linkage Synthesis	3
025.469 Topics in Heat Transfer and Energy	3
025.470 Thermal Systems Design	3

025.478	Quality Assurance in Industry	3
025.481	Automotive Engineering and Design	3
025.487	Fracture and Failure of Engineering Materials	4
025.490	Mechatronics Systems Design	4
025.496	Manufacturing Process I	4
025.497	Manufacturing Process II	4

NOTES:

1. The Department of Mechanical and Industrial Engineering may not be able to offer all technical electives listed above. Students are urged to consult the Mechanical and Industrial Engineering office for a current list of technical electives.
2. Core courses in Manufacturing Engineering that are not part of the core program in Mechanical Engineering will be accepted as technical electives in Mechanical Engineering. Similarly, core courses in Mechanical and Manufacturing Engineering that are not part of the core program in the Aerospace option, will be accepted as technical electives in the Aerospace option. The associate head of Mechanical and Industrial Engineering must approve these electives.
3. There will normally be a minimum registration limit of six students for each technical elective. If registration is below the minimum, the elective will be cancelled for the session, and those registered will be required to transfer to another course before the course-changing date.
4. Students are urged to discuss their elective courses with members of the instructional staff toward the end of their second year, in order to obtain advice concerning the best choice of electives to meet their needs.
5. 025.360 will be offered through Red River College as an equivalent course. Credit, therefore, will be granted upon completion of the RRC course. Students should consult the department regarding scheduling.

Aerospace Engineering Option

The Department of Mechanical and Industrial Engineering implemented an Aerospace option in the 1996-97 academic session. It is open to all students in the Mechanical Engineering program and requires two years to complete after second year Mechanical Engineering. The option consists of six courses. These courses are 025.352, 025.417, 025.418, 025.419, 025.420 and 025.445. These courses replace an equivalent number of courses in the Mechanical Engineering curriculum.

Preliminary Engineering Program

Common to all Engineering programs. (See Section 5.2 for details.)

Departmental Program

Course No.		Credit Hours
002.224	Applied Chemistry for Engineers	3
005.222	Contemporary Statistics for Engineers	3
023.405	Engineering Economics (former 023.483)	3
025.212	Mechanics of Machines	4
025.220	Thermodynamics 2M	4
025.222	Stress Analysis and Design	4
025.226	Introduction to Fluid Mechanics	3
025.227	Principles of Engineering Materials	4
025.229	Manufacturing Engineering	3
025.230	Introduction to Production and Manufacturing (former 025.217)	3
025.343	Measurements and Control	4
025.347	Heat Transfer 3M	3
025.348	Dynamics	3
025.349	Advanced Fluid Mechanics	3
025.350	Stress Analysis and Design 3M	3
025.352	Aerodynamics	4
025.353	CAE Design and Analysis	3
025.354	Modern Engineering Materials	4
025.416	Graduation Thesis (See Note 4 in Mechanical Engineering program)	3
025.417	Program Management and Engineering Systems	3
025.418	Analysis and Design of Aerospace Structures	3
025.419	Aerospace Materials and Advanced Manufacturing Processes	3
025.420	Gas Turbine Propulsion Systems	4
025.445	Aircraft and Spacecraft Dynamics (former 25.351)	3
025.450	Mechanical Engineering Laboratory	4
025.486	Engineering Design	5
076.243	Ecology, Technology and Society	3
130.201	Technical Communications	3
136.210	Mathematical Methods for Engineers 1	4
136.211	Mathematical Methods for Engineers 2	4
136.212	Introductory Numerical Methods for Engineers	4
136.310	Mathematical Methods for Engineers 3	3
	One Complementary Studies Elective	3/4
	Two Technical Electives	3/4

NOTES:

1. Only one complementary elective required upon completion of Critical Thinking (015.129) and English (004.131 or 004.132) in the preliminary program.
2. Minimum of 6 credit hours of technical electives.
3. Core and technical elective courses from the Mechanical and Manufacturing Engineering programs (with the exception of courses from List B of technical electives for manufacturing engineering), that are not included in the Aerospace Option, may be taken as technical electives.

Mechanical Engineering and Aerospace Option Coop Courses

025.205	Mechanical Engineering Coop Education Assignment 1
025.305	Mechanical Engineering Coop Education Assignment 2
025.405	Mechanical Engineering Coop Education Assignment 3
025.406	Mechanical Engineering Coop Education Assignment 4

Manufacturing Engineering Degree Program

The program in Manufacturing Engineering comprises a thorough study in the engineering sciences followed by courses directly related to the field. The students will acquire creative and analytic skills to apply scientific approach to study macro/micro components of manufacturing systems. Advanced technologies such as robots, computer controlled machine tools, automation, mechatronics, production control methods and analysis of manufacturing systems and processes will be emphasized. Students are allowed to choose 2 to 3 technical electives to suit their career objectives. One complimentary elective related to social issues will also be part of the course requirements. During the course of study, students will participate in projects in cooperation with local engineering industries.

Preliminary Engineering Program

Common to all Engineering programs. (See Section 5.2 for details.)

Departmental Program

Course No.		Credit Hours
005.222	Contemporary Statistics for Engineers	3
023.405	Engineering Economics (former 023.483)	3
024.368	Digital Systems	4
or		
024.372	Electric Power and Machines	4
025.212	Mechanics of Machine	4
025.220	Thermodynamics 2M	4
025.222	Stress Analysis and Design	4
025.226	Introduction to Fluid Mechanics	3
025.227	Principles of Engineering Materials	4
025.229	Manufacturing Engineering	3
025.230	Introduction to Production and Manufacturing	3
025.342	Vibrations and Acoustics	4
025.343	Measurement and Control	4
025.348	Dynamics	3
025.350	Stress Analysis and Design IIIM	3
025.354	Modern Engineering Materials	4
025.355	Robotics and Computer Numerical Control	4
025.356	Modeling and Analysis of Manufacturing Systems	3
025.357	Manufacturing Automation	4
025.358	Production Planning and Control	3
025.359	Systems Simulation and Facilities Planning	3
025.416	Graduation Thesis Project	3
or		
	Technical Elective #3	
025.465	Machine Design 4M	4
025.468	Energy Conservation and Utilization	4
025.486	Engineering Design	4
025.490	Mechatronics Systems Design	4
025.496	Manufacturing Process I	4
025.497	Manufacturing Process II	4
076.243	Ecology, Technology and Society	3
130.201	Technical Communications	3
136.210	Mathematical Methods for Engineers 1	4
136.211	Mathematical Methods for Engineers 2	4
136.212	Introductory Numerical Methods for Engineers	4
136.310	Mathematical Methods for Engineers 3	3
	One complementary studies elective	3/4
	Three technical electives or two technical electives and a graduation thesis project	3/4

NOTES:

1. Students are required to select either 024.372 Electric Power and Machines or 024.368 Introduction to Digital Systems.
2. The one required complementary studies elective may be any course at the 100 level or above from the Faculty of Arts or the Faculty of Management. However, 099.111, Introduction to University, may not be used for credit in the Faculty of Engineering.
3. Technical electives in Manufacturing Engineering: Students are required to take a total of three technical electives (one from List A, and two from list B) from the approved list of technical electives for manufacturing engineering. If the student elects to do a thesis (25.416), then only two technical electives are required (one from List A, and the other from List B).

Technical Electives in Manufacturing Engineering

Course No. Credit Hours
Choose two from List A and one from List B or one from List A, one from List B and a graduation thesis project (025.416).

LIST A

024.368	Introduction to Digital Systems	4
	or	
024.372	Electric Power and Machines	4
024.424	Microprocessor Interfacing	4
025.347	Heat Transfer	3
025.349	Advanced Fluid Mechanics and Design	3
025.352	Aerodynamics	4
025.353	Computer-Aided Engineering Design and Analysis	3
025.360	Manufacturing Processes: Applied Fundamentals (see note 4. below)	4
025.416	Graduation Thesis	3
025.417	Program Management & Systems Engineering	3
025.419	Aerospace Materials	3
025.420	Gas Turbine Propulsion Systems	4
025.429	Internal Combustion Engines	3
025.441	Air Conditioning	3
025.445	Aircraft and Spacecraft Performance and Dynamics	3
025.455	Noise Control	4
025.462	Corrosion of Metals and Alloys	4
025.467	Applied Linkage Synthesis	4
025.469	Topics in Heat Transfer and Energy	3
025.470	Thermal Systems Design	3
025.481	Automotive Engineering and Design	3
025.487	Fracture and Failure of Engineering Materials	3
034.439	Unit Operations 1	3
064.342	Apparel Manufacturing	4

List B

009.110	Introduction to Financial Accounting	3
118.221	Fundamentals of Marketing	4
118.324	Selected Topics in Marketing	3
153.306	Workplace Health and Safety	3
	or	
153.307	Labour Relations and Occupational Safety and Health Law	3

Notes:

1. Core or technical elective courses in Mechanical Engineering that are not part of the core program in Manufacturing Engineering will be accepted as technical electives in Manufacturing Engineering.
2. The Department of Mechanical and Industrial Engineering may not be able to offer all of the technical electives that are shown. Students are urged to consult the Mechanical Engineering office for a list of technical electives that will be offered in that year.
3. There will normally be a minimum registration limit of six students for each technical elective. If registration is below the minimum, the elective will be cancelled for the session, and those registered will be required to transfer to another course before the final date for registration revisions.
4. 025.360 will be offered through Red River College as an equivalent course. Credit, therefore, will be granted upon completion of the RRC course. Students should consult the department regarding scheduling.

Manufacturing Engineering Coop Courses

025.391	Manufacturing Engineering Coop Education Assignment 1
025.392	Manufacturing Engineering Coop Education Assignment 2
025.491	Manufacturing Engineering Coop Education Assignment 3
025.492	Manufacturing Engineering Coop Education Assignment 4

Course Descriptions Mechanical and Industrial Engineering

(T = Tutorial, L = Labs)

025.205 Mechanical Engineering Coop Education Assignment 1 (1) Special work as-

ignment in business, industry, or government for cooperative education students. Requires submission of a written report covering the work completed during the four-month professional assignment, and in-depth presentation of related engineering problems. (Pass/Fail grade only)

025.212 Mechanics of Machines (3-3T:0-0) 4 Graphical and analytical techniques for determining velocity, acceleration, and forces in mechanical linkages, cams, and gear trains. Computer solutions for kinematic design. Prerequisites: 016.105, 130.135 and 074.101.

025.220 Thermodynamics 2M (3-2T:0-0) 4 Cycles, compressors, transient flow processes, irreversibility and availability, thermodynamic relations, departure charts, gas mixtures, psychrometry, combustion. Prerequisites: 130.112, 136.151 and 136.171.

025.222 Stress Analysis and Design 2M (3-2T:0-0) 4 Axial and torsional loading-stress, strain and deformation in statically determinate and indeterminate systems. Thermally induced stress. Stresses in beams under pure bending and bending with shear. Reinforced beams. Stresses under combined loading. The transformation of plane stress and Mohr's circle. Instability and columns. Prerequisites: 016.105, 130.135 and 136.171.

025.226 Introduction to Fluid Mechanics (0-0:3-1T) 3 Fundamental concepts used in analysis of fluid behaviour, pressure in stationary fluids, forces on submerged surfaces, buoyancy, integral methods, the Bernoulli equation, pipeline analysis. Prerequisite: 136.210. Corequisite: 136.211.

025.227 Principles of Engineering Materials (0-0P:3-1.5L) 4 Relationship of physical and mechanical properties of metals, alloys, polymers, glasses and ceramics to bonding, molecular structure and microstructure. Effect of environment including stress and temperature on short and long term behaviour. Prerequisite: 002.130.

025.229 Manufacturing Engineering (3-1.5L:0-0) 3 A study of the various ways of shaping and fabricating components. An introduction to manufacturing systems, production systems and automation. Plant tours.

025.230 Introduction to Production and Manufacturing (0-0 :3L-1.5T) 3 The objective of this course is to introduce the fundamental principles a manufacturing engineer needs to know in managing a production facility. Manufacturing and important related processes are described, along with the quality within a timeframe. The basic techniques for maintaining control and solving manufacturing problems are described, and the students will be given a number of industrial problems to solve.

025.305 Mechanical Engineering Coop Education Assignment 2 (1) Special work assignment in business, industry, or government for cooperative education students. Requires submission of a written report covering the work completed during the four-month professional assignment, and in-depth presentation of related engineering problems. (Pass/Fail grade only)

025.340 Analysis and Design of Work (3-3L:0-0) 4 An overview of the human aspects of work methods, work measurement, and physical and physiological considerations in work design. Problems relating to human-machine interfaces and physical and environmental effects on human performance. Quantitative techniques used in the design of work places. Prerequisite: 025.217.

025.341 Engineering operations Research 1 (0-0:3-0) 3 Linear programming, graphical and simplex methods, duality and sensitivity analysis, revised simplex method, transportation, assignment and transshipment, integer programming, applications of operations research in engineering optimization, LINDO computer package.

025.342 Vibrations and Acoustics (0-0:3-3T) 4 Vibrations and computer simulations of single-degree-of-freedom systems, viscous and friction damping, MD of systems and modal analysis, measurement and sources of noise, noise control. Prerequisites: 025.212 and 025.348, 136.310,.

025.343 Measurements and Control (0-0:3-1.5L) 4 Mathematical modelling of mechanical systems. Feedback systems and stability. Digital control; analog to digital and digital to analog control systems. Prerequisites: 136.310 and 130.118.

025.347 Heat Transfer 3M (0-0:3-1T) 3 Steady-state and transient heat conduction, fins. Forced and free convection, laminar and turbulent conditions, internal and external flows. Heat exchangers. Radiation properties and exchange. Prerequisites: 136.310 and 130.112.

025.348 Dynamics (3-3T:0-0) 3 Kinematics and kinetics of a system of particles. Extension to three-dimensional, rigid-body motions involving Euler's equations, bearing reactions and balancing. Prerequisites: 025.212 and 136.171.

025.349 Advanced Fluid Mechanics and Design (3-3T:0-0) 3 Dimensional analysis and similitude, flow measurement, differential analysis. Introduction to boundary-layer theory. Design of flow systems and devices. Prerequisite: 025.226. Corequisite: 136.310.

025.350 Stress Analysis and Design 3M (3-1T:0-0) 3 Strength and stability of columns, torsion of thin-walled members, unsymmetric loading and shear centres, beam deflection and energy methods. Time and temperature behaviour of materials, design against fatigue and creep. Prerequisites: 136.211, 025.222.

025.352 Aerodynamics (0-0:3-1.5) 4 Aeronautical definitions, compressible flow, plane normal shock waves, Mach. no. and shock waves in two-dimensional flow, potential flow theory in two-dimensional and axisymmetric flows. Two-dimensional wing theory, finite wing theory panel methods, elements of boundary layer theory. Compressibility and wings, wing design, flow control. Prerequisite: 025.349.

025.353 Computer-Aided Engineering Design and Analysis (0-0:3-3T) 3 Overview of numerical techniques for CAD; principles of computer graphics; geometric modeling; introduction to finite element analysis and development of integrated CAD systems; coursework includes design labs and a comprehensive design project. Prerequisites: 025.222, 074.101 and 136.310.

025.354 Modern Engineering Materials (3-1.5L:0-0) 4 A study of the relationship between the mechanical properties of metallic materials and microstructure. The development and manipulation of microstructures through thermomechanical treatments

to obtain desired properties. The selection of materials for given applications. Prerequisite: 025.227.

025.355 Robotics and Computer Numerical Control (3L-3P:0-0) 4 This course builds up a foundation in the area of Computer Aided Manufacturing (CAM) such as computer numerically controlled machine tools and robotics. Intense hands on experience are provided in the laboratory sessions on part programming using Computer aided design (CAD) packages and robots to demonstrate application in the area of CAM. Several case studies and industrial applications will be discussed. (Not to be held with the former 025.484)

025.356 Modeling and Analysis of Manufacturing Systems (3L-1.5T:0-0) 3 The objective of this course is to develop the ability to formulate and analyze problems that will be encountered in a manufacturing system. The skills acquired will allow the students to approach problems from an optimization perspective. The students will be provided experience in related software packages. Prerequisites: 025.230 or 025.217, and 005.222. (Not to be held with the former 025.341)

025.357 Manufacturing Automation (0-0:3L-3P) 4 This course builds upon the foundation developed in a previous course: namely Robotics and Computer Numerical Control. The course covers a wide variety of topics in the area of computer controlled automation. The students are provided with hands on experience in design for automation. It will synthesize several aspects associated with integrated operation of computer controlled automated devices. Prerequisite: 025.355. (Not to be held with the former 025.485)

025.358 Production Planning and Control (0-0:3L-1.5T) 3 The course covers topics such as: Group technology, Just-in-Time, Computer aided process planning, Statistical Process Control and Manufacturing Planning and Control. Issues related to the integration of several areas that fall with CIM are emphasized. Systems approach is introduced. Prerequisite: 025.230. (Not to be held with the former 025.485)

025.359 Systems Simulation and Facilities Planning (0-0:3L-1.5T) 3 The objective of this course is to introduce simulation for manufacturing operations and the concepts of facilities location and layout. The students will learn how to program WITNESS, a simulation language, and through simulation, explore the effects of facility planning; resource availability e.g., machines and quality related problems on manufacturing productivity and timing. (not to be held with the former 025.471)

025.360 Manufacturing Processes: Applied Fundamentals (2L-2P:0-0) 3 or (0-0:2L-2P) 3 The course will give students hands on experience with numerous manufacturing processes, machines and systems by having them build a miniature Sterling engine, for example. Using CNC mills, lathes, conventional machine shop equipment and hand tools, the students will manufacture engine components, assemble them and trouble shoot any problems. The object of the course is to provide Mechanical and Manufacturing students with a hands-on-exposure to the application of basic manufacturing process tools. The course will be offered in collaboration with the Mechanical and Manufacturing and Communications department, Red River College.

025.391 (Industrial) Manufacturing Cooperative Education Assignment 1 (1) Special work assignment in business, industry, or government for cooperative education students. Requires submission of a written report covering the work completed during the four-month professional assignment, and in-depth presentation of related engineering problems. (Pass/Fail grade only).

025.392 (Industrial) Manufacturing Cooperative Education Assignment 2 (1) Special work assignment in business, industry, or government for cooperative education students. Requires submission of a written report covering the work completed during the four-month professional assignment, and in-depth presentation of related engineering problems. (Pass/Fail grade only).

025.405 Mechanical Engineering Coop Education Assignment 3 (1) Special work assignment in business, industry, or government for cooperative education students. Requires submission of a written report covering the work completed during the four-month professional assignment, and in-depth presentation of related engineering problems. (Pass/Fail grade only)

025.406 Mechanical Engineering Coop Education Assignment 4 (1) Special work assignment in business, industry, or government for cooperative education students. Requires submission of a written report covering the work completed during the four-month professional assignment, and in-depth presentation of related engineering problems. (Pass/Fail grade only)

025.416 Graduation Thesis (0-0:0-0) 3 Each graduating student must submit a satisfactory thesis on a subject which will be designated or approved by the head of the department. These are to be handed in to the Department of Mechanical and Industrial Engineering office by the designated deadline. Prerequisite: 130.201 and eligible to graduate.

025.417 Program Management and Systems Engineering (3-0:0-0) 3 Authority and support controlling the logical relationship among the many simultaneous activities involved in the systems engineering process. Study of the steps required to produce a coordinated functioning system with a minimum of undesirable side effects. Prerequisite: 025.229.

025.418 Analysis and Design of Aerospace Structures (0-0:3-0) 3 Methodology and techniques for design of aerospace structures and components to preclude failure with minimum weight, cost and resource consumption. Analysis of structural, air, gust and maneuver loads. Prerequisite: 025.350.

025.419 Aerospace Materials and Advanced Manufacturing Processes (0-0:3-0) 3 Properties of aerospace structural materials including glass and graphite fibre composites, light metal alloys and high strength steels. Properties of high temperature materials; superalloys, ceramics, intermetallic compounds, metal matrix composites. Specialized methods for manufacture of these materials. Prerequisite: 025.354.

025.420 Gas Turbine Propulsion Systems (0-0:3-0) 4 Gas turbine systems, shaft power cycles, gas turbine propulsion cycles, centrifugal compressors, axial flow compressors, combustion systems, design performance predictions, off-design operations and

transient behaviour of gas turbines. Design performance predictions. Prerequisites: 025.347 and 025.352.

025.421 Introduction to Avionics (0-0:3-0) 3 Types and function of aircraft instrumentation for navigation and communication. Navigational systems. Avionics data and information types. Signal carriers; data bus, fibre optics.

025.422 Selected Topics in Aerospace Structural Design (0-0:3-0) 3 Review of aeroelasticity, detailed study of flight loads. Unsteady aerodynamic derivatives, compressibility effects. Design and analysis of composite structures; fibre composites, honeycomb structures. Prerequisites: 025.350, 025.351 and 025.352.

025.423 Industrial Process Control (0-0:3-0) 3 Discrete time models; process control algorithms; control of systems with process delay; minimum variance control; parameter identification; process instrumentation and applications; supervisory control of process; productivity and cost analysis. Prerequisite: 025.343.

025.429 Internal Combustion Engines (0-0:3-0) 3 Thermodynamics of internal combustion engine cycles; fuels and lubricants; supercharging; carburetion; valving; manifold; combustion chamber ignition and fuel injection; engine performance and testing; free piston engines. Prerequisite: 025.220.

025.437 Nuclear Energy (3-0:0-0) 3 Reactor design. CANDU power plants, American reactors, SLOWPOKE heating systems, reactor safety, nuclear wastes, fusion, gas-cooled reactors, breeder reactors. Prerequisite: 025.220.

025.441 Air Conditioning (0-0:3-3T) 4 Psychrometric processes, equipment selection, and the design of heating and cooling systems for typical buildings. Prerequisite: 025.220.

025.443 Boundary Layer (0-0:3-1T) 4 Laminar and turbulent incompressible boundary-layer; theory with discussion of transition, separation, boundary-layer control, experimental methods and computational techniques. Prerequisites: 025.349 and 136.310 (not to be held with the former 006.360).

025.444 Compressible Fluid Flow (0-0:3-1T) 4 Review of basic thermodynamic relations, speed of sound, isentropic flow in nozzles; normal and oblique shock waves, Prandtl-Meyer expansion, perturbation velocity potential; flow in ducts with friction, heat addition. Prerequisites: 136.310 (not to be held with the former 006.360), and 025.349.

025.445 Aircraft and Spacecraft Performance and Dynamics (3-0:0-0) 3 A study of the morphology of aerospace vehicles; basic components and their functions. Aircraft performance; drag, thrust, lift, basics of orbital mechanics. Prerequisite: 025.352.

025.447 Mechanical Vibrations (0-0:3-0) 3 Nonlinear vibrations; mathematical theory for lumped vibratory systems; response of systems to nonharmonic excitation; solutions by Laplace transforms and Fourier analysis; introduction to the matrix formulation of vibration problems and vibration of distributed systems. Prerequisite: 025.342.

025.448 Industrial Engineering Topics (0-0:3-0) 3 Coverage of several of the more commonly used industrial engineering methods such as motion and time study including plant layout, critical path method, and balance sheet analysis. Prerequisite: 025.217 (not to be held with the former 025.230).

025.449 Automatic Controls (0-0:3-3T) 3 Analysis of control systems and components, feedback and stability criteria with applications to hydraulic and pneumatic systems. Prerequisite: 025.343.

025.450 Mechanical Engineering Laboratory 4M (3-0:0-3L) 4 Advanced laboratory course on measurements and experimentation; with comprehensive experiments and an experimental project. Prerequisites: 130.201 (not to be held with the former 024.101) and 025.343.

025.453 Strength of Materials 4M (0-0:3-0) 3 Stress and strain in three dimensions; thick-walled cylinders; beams on elastic foundations; unsymmetrical bending and sheet-stringer construction; curved beams. Additional topics such as the analysis of fiber-composite materials; techniques in experimental stress analysis and studies in metallic fatigue may be presented. Prerequisite: 025.350.

025.455 Noise Control (0-0:3-3L) 4 An elective course open to all branches of Engineering; a recommended course for students taking Air Conditioning. Wave propagation, transducers and measurement techniques, psycho-acoustic criteria, legislation, techniques of noise and vibration control.

025.456 Selected Topics in Fluid Mechanics 4M (0-0:3-3T) 4 Topics may include: wind tunnel design; experimental techniques; some exact solutions of the conservation equations; fundamentals of turbulence; secondary flows; fluidization; elementary meteorology; fluidics; other topics of current interest. Prerequisites: 136.310 (not to be held with the former 006.360), and 025.349.

025.459 Techniques in Industrial Engineering (0-0:3-0) 3 Systems engineering, basic deterministic models, optimal solutions, linear methods, transportation and cost assignment matrices, network analysis, flow under capacity restraints, scheduling, and multi-stage decision processes. Prerequisite: 025.217, 025.341 and 025.476.

025.462 Corrosion of Metals and Alloys (0-0:3-1.5L) 4 Electrochemical basis of corrosion, corrosion prevention by cathodic protection, inhibitors, alloying and heat treatment, passivation, stress corrosion cracking, corrosion fatigue; ionic and electronic conduction; oxidation of metals and alloys. Prerequisite: 025.354.

025.465 Machine Design 4M (3-3T:0-0) 4 Stress analysis and the design of various machine elements; shafts and couplings, springs, threaded fasteners and power screws, clutches and power transmission components; spur, bevel, worm and helical gears; lubrication; journal and roller bearings. Prerequisites: 025.212 and 025.350.

025.467 Applied Linkage Synthesis (0-0:3-0) 3 Graphical, analytical and computer techniques for the analysis and design of mechanisms to produce a desired set of motion characteristics; design of linkages, double lever, slider and dwell mechanisms; cognate linkages. Kinetic synthesis tasks function generation, path generation and motion generation. Prerequisite: 025.212.

025.468 Energy Conservation and Utilization (0-0:3-3T) 4 Energy supply and demand, advanced thermodynamic cycles, conventional energy sources, alternative energy, conservation of energy, environmental considerations. Prerequisite: 025.220.

025.469 Topics in Heat Transfer and Energy (0-0:3-0) 3 Some combination of the following advanced topics: conduction heat transfer, radiation, heat-exchanger design, two-phase phenomena, fluidization, alternative energy, energy conservation. Other topics of current interest may also be included. Prerequisite: 025.347.

025.470 Thermal Systems Design (0-0:3-0) 3 Modelling of thermal systems; system simulation; design applications of optimization methods: Lagrange multipliers, search methods, and dynamic geometric and linear programming. Prerequisite: 025.220.

025.471 Engineering Systems Simulation (0-0:3-2L) 4 Fundamentals of modeling methods useful for industrial and production engineering problems. Financial, discrete and continuous as well as computer-animated modelling using selected simulation languages.

025.475 Industrial Engineering Graduation Thesis (0-0:0-0) 3 Each graduating student must submit a satisfactory thesis on an industrial engineering subject which will be designated or approved by the head of the department. These are to be submitted to the Department of Mechanical Engineering office by the designated deadline. Prerequisite: 130.201 and eligible to graduate.

025.476 Engineering Operations Research 2 (0-0:3-3) 3 Nonlinear programming, goal programming, dynamic programming, Markov process, queuing theory, inventory models, decision analysis, network models, applications of operations research to engineering problems, GINO computer package. Prerequisites: 005.222 (not to be held with the former 005.250 or 025.221) and 025.341 or 025.356.

025.478 Quality Assurance in Industry (3-0:0-0) 3 Modern applications of quality assurance/control techniques for industrial engineers: organization, sampling, reliability, corporate product responsibility; examples from local industry. Prerequisite: 005.222 (not to be held with the former 005.250 or 025.221).

025.481 Automotive Engineering and Design (0-0:3-3L) 3 Introduction to the design of passive suspension systems; control of active suspension systems; tire dynamics; ergonomics, safety and crash dynamics; automotive lighting and digital display trains. Prerequisite: 025.350. Corequisite: 025.342

025.482 Computational Methods for Thermofluids (3-2T:0-0) 3 General conservation equations; specific forms of the conservation equations and energy equations; finite difference methods; one dimensional steady problems; one dimensional unsteady problems; two dimensional steady problems; two dimensional unsteady problems; convection, solution for the flow field. Prerequisites: 136.310, 136.212, 025.347 and 025.349.

025.484 Computer-Aided Manufacturing and Robotics (3-3L:0-0) 4 An introduction to computer numerical control for manufacturing, manual and CAD/CAM systems for programming, two and two and a half dimensional machining, process control using logic controllers; industrial robotics, implementation and applications, case studies in computer controlled manufacturing, concepts and application of CIM technology.

025.485 Computer Integrated Manufacturing and Automation (0-0:3-3L P) 4 Various aspects of integrated cells, design, implementation; computer controlled automation, control aspects and application; flexible manufacturing system; process control using logic controllers; communication networks for manufacturing. Prerequisites: 025.484.

025.486 Engineering Design (3-3T:0-0) 5 Design projects; teams of students prepare written and oral design reports on solutions to specific problems from Manitoba industries; series of seminars by invited speakers. Prerequisite: eligibility for graduation in the current academic year or registered in third year Industrial Cooperative Education Program, 130.201 (not to be held with the former 024.101).

025.487 Fracture and Failure of Engineering Materials (3-0:0-0) 4 Criteria for crack initiation and propagation leading to structural failure. Fracture mechanics and fracture toughness phenomena. Effects of structure geometry, loading rate, environment, temperature, composition and microstructure on material integrity. Prerequisite: 025.354.

025.488 Facilities Planning (0-0:3-0) 3 The course will cover material in the following areas: location of plant with multi-plant operation, locational dynamics and transportation model, computerized layout planning, allocation models, facility redesign, plant maintenance and personnel planning. Prerequisites: 025.341.

025.490 Mechatronics System Design (3L-3P:0-0) 4 The course covers topics in the analysis of control systems and components with the goal to provide students with tools and an understanding of issues related to integrating mechanical, electronic and software components towards building mechatronic devices. Hands-on-experience is provided in the laboratory sessions on simulation and actual computer control of various devices. Problems considered would include application to fluid power systems, systems integration and validation. The focus is placed on learning to work with real hardware. Prerequisite: 025.343.

025.491 Cooperative Education Assignment 3 (1) Special work assignment in business, industry, or government for cooperative education students. Requires submission of a written report covering the work completed during the four-month professional assignment, and in-depth presentation of related engineering problems. (Pass/Fail grade only.)

025.492 Industrial Cooperative Education Assignment 4 (1) Special work assignment in business, industry, or government for cooperative education students. Requires submission of a written report covering the work completed during the four-month professional assignment, and in-depth presentation of related engineering problems. (Pass/Fail grade only.)

025.493 Mechanical Engineering Industry Internship (IIP) Supervised work experience normally of 12-16 months duration, concluded by a work report. (Pass/Fail grade only.)

025.494 Production and Manufacturing Control Lab. 1 (0-3L:0-0)2 This laboratory course has been designed to support some of the topics covered in the core industrial engineering courses and is open-ended in nature. The students work in-group. The three topics covered in the laboratory session are facility layout and job design, queuing system analysis, and logic control applications. Students must complete both 025.494 and 025.495. Corequisite: 025.484.

025.495 Production and Manufacturing Control Lab. 2 (0-0:0-3L) 2 This laboratory course has been designed to support some of the topics covered in the core industrial engineering courses and is open-ended in nature. The students work in-group. The Three topics covered in the laboratory session are activity analysis and costing, three-dimensional CAD/CAM, and human-machine interfacing. Students must complete both 025.494 and 025.495. Prerequisite: 025.494.

025.496 Manufacturing Process I (3L-3P:0-0) 4 This course will introduce additional topics in the area of manufacturing processes that have not been covered in the introductory course "Manufacturing Engineering". Advanced topics in the area of metal cutting, joining processes and finishing systems will be dealt with. The lecture material will be supplemented by hands-on-experience using the facility at Red River College. Prerequisite: 025.229.

025.497 Manufacturing Process II (0-0:3L-3P) 4 Non-metals such as plastics, composites and ceramics will be covered in this course. Introductory material in wood processing, gluing and finishing systems will also be covered. Rapid prototyping and product development with hands-on-experience on related processes will be provided using the facility at Red River College/University of Manitoba. Prerequisite: 025.496.

Faculty of Environment

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SECTION 1: Environmental Education

Although the Faculty is new, the University of Manitoba has a long history of research and education on the environment, particularly as it relates to Earth, environment, sustainable development, resources and linkages to human activity. We are committed to advancing knowledge of the environment, encompassing the action and interaction of all aspects of the Earth – water, air, land and energy – and life.

The Faculty promotes broad-based, interdisciplinary work on environmental issues; creates opportunities for interaction among students and faculty from different disciplinary backgrounds; and promotes the creation of an environmentally responsible campus. The following is not a comprehensive list, but does highlight some of our research facilities and topics

Local

- Innovation in developing sustainable agriculture practices, assessing the impact of agricultural practices on surface and groundwater quality, genetically modified organisms, pesticide toxicity to humans and other organisms, soil erosion, and land resource management.
- Episodic flooding and response efforts afford numerous opportunities for studies relating to hydrology, water quality, and human factors related to evacuation/dislocation and loss of personal property.
- Manitoba's large aboriginal population is actively involved in the promotion of traditional ecological knowledge. Research programs investigate the connections among culture, economy and ecology in First Nations communities.
- The Manitoba boreal forest is one of the last remaining, almost pristine, boreal forests in the world. Research/study opportunities range from habitat protection to sustainable forest management.
- The province has a rich history of mining, with numerous active and retired sites. Exploration, resource extraction, and remediation efforts are all areas of investigation.
- Several research field stations, including: Oak Hammock Marsh and Fort Whyte centers; the Experimental Lakes Area; the Glenlea and Carman agricultural research stations; Delta Marsh, one of the largest wetlands areas in Canada; and the Star Lake field station in the Precambrian Shield; and the Churchill Northern Studies Centre.

National and International

- Common-property theory and community-based resource projects focusing on the human dimensions of sustainable development resource management policy alternatives for oceans, northern and aboriginal resources and international development.
- Establishment of the "ultra-clean trace element laboratory" facility for investigation of environmental chemistry, investigating reactions and biological effects of contaminants in the environment.
- Understanding of the links between the structure of minerals and their occurrence in the Earth, with particular emphasis on the geochemical processes that affect crystallization. Our laboratory facilities for investigating mineral properties are world class.
- The University of Manitoba is actively assessing its own impacts on the environment and is in the process of developing and implementing an Environmental Management System.
- The role of Earth science knowledge in interpretation, planning and management of parks is being used to identify dramatic changes in the way science can be used in park management.
- Opportunities for Arctic research are facilitated by the Centre for Earth Observation Science; extensive instrumentation and access to remote locations affords the opportunity to monitor climate change and predict its impacts. Other Arctic studies include wildlife management and ecotourism.

SECTION 2: Admission to the Faculty of Environment

2.1 Admission from University 1

Most students newly admitted from high school and those who have completed less than 24 credit hours at another post-secondary institution will complete the first year of their degree programs in University 1. In University 1 students will select courses from a wide variety of offerings in Arts, Science and other faculties including Environment. For information about University 1, see the chapter on University 1 in this *Calendar*.

University 1 students are encouraged to apply for admission to a degree program in the Faculty of Environment once they have completed 24 credit hours of course work and have met the minimum entrance requirements of their intended degree program. Students must apply to be considered eligible for admission. Application information is available from the Admissions Office, Enrolment Services, 424 University Centre. This information is also available in the Faculty of Environment general office and is posted on the University's website. (www.umanitoba.ca)

Faculty admission is determined on the basis of a 2.00 Grade Point Average on a minimum of 24 credit hours of course work from a recognized institution. Note: For a student with 24 credit hours applying for entry to the Bachelor of Arts (Geography), the 2.00 Grade Point Average will be calculated on the student's best 12 credit hours.

Degree programs may define additional entrance requirements and students should refer to the appropriate section of this *Chapter* for further details as follows:

- Students seeking admission to the degree programs in Geography should refer to sections 4: Bachelor of Arts in Geography: B.A. Degree Regulations and Program Descriptions.
- Students seeking admission to the degree programs in Environmental Science and Environmental Studies should refer to section 5: Bachelor of Environmental Science and Bachelor of Environmental Studies: B.Env.Sc. and B.Env.St. Degree Regulations and Program Descriptions.
- Students seeking admission to the degree programs in Geology and Geophysics should refer to section 6: Bachelor of Science in Geology and Geophysics: B.Sc. Degree Regulations and Program Descriptions.

2.2 External Transfer Students

Students applying for admission from a recognized university or college are called 'external transfers'. For the University of Manitoba's general policy on external transfer students and advance standing, see the chapter on Admission to the University of Manitoba in this *Calendar*.

To be eligible for admission to the Faculty of Environment, external transfer students must have completed no fewer than 24 hours of university level

coursework and satisfied the minimum performance requirements of the intended degree program. External transfer students who have completed less than 24 credit hours must register in University 1 or the Continuing Education Division to complete required credit hours of course work. Students with more than 24 credit hours who are not admissible to the Faculty of Environment should consider applying to the Faculties of Arts or Science or the Continuing Education Division as their second choice.

Students must apply to be considered eligible for admission. Application information is available from the Admissions Office, Enrolment Services, 424 University Centre. This information is also available in the Faculty of Environment general office and is posted on the University's website (www.umanitoba.ca).

Students on academic suspension as a result of work completed at another post-secondary institution will not normally be considered for admission to the University of Manitoba until the suspension has been served.

Transfer of Credit

Internal: Refer to the General Academic Regulations and Policy, Transfer of Credit in this *Calendar* for further information.

External: See Admissions section of the *Calendar*. Courses completed at an external institution ten years prior to registration in the Faculty of Environment are not considered for transfer credit. Students should contact a student advisor regarding transfer credit policies. All courses transferred will bear the grade and course classification of "TX" (transfer).

2.3 Visiting Students

Visiting students may apply for admission to the Faculty of Environment on the basis of a Letter of Permission from the registrant or appropriate dean of his/her home institution. Certain restrictions may be placed on the kind and number of courses in which they will be allowed to register.

2.4 Second Degree Students

Students possessing a first degree from a recognized university program are eligible for admission as a Second Degree student provided they attained a minimum cumulative Grade Point Average of 2.00.

Second Degree requirements may be shortened by up to 60 credit hours and, once admitted, students will be expected to satisfy all continuation and graduation requirements in the degree program. Second Degree students are not required to satisfy the written English and mathematics requirement. Specific information on degree requirements following completion of first degree is available in the general office.

2.5 Special Students

A Special Student is someone who is not a regular student proceeding towards a degree and is permitted by the Associate Dean, Programs, of the Faculty of Environment to take courses of interest.

After Degree Special Student

Students who have successfully completed a first degree from a recognized university program with a cumulative Grade Point Average of 2.00 or better are eligible for admission as Special Students.

Undergraduate Special Student

Undergraduate students in the Faculty of Environment may take extra courses as Special Students (course classification "SS") but these courses do not count towards the degree nor in the determination of the Grade Point Average. The marks will appear on the student's history and courses taken as a Special Student will count in the student's sessional load. Students may change their course classification from that of a "Regular Student" to a "Special Student" (and vice versa) only until the end of the registration revision period. Courses classified as "special" do not have to be courses that are acceptable for credit in the Faculty of Environment, however, registration in such courses cannot be authorized without the written permission of the department and faculty offering the course. Students registering in "SS" courses must register for those courses after the initial access period.

2.6 Auditing Students

Students who wish to audit courses must have written permission from the instructor of the desired course before they can register. Auditing students must register in person in the Faculty of Environment general office. The Faculty of Environment prohibits auditors from registering in courses until after the initial access period.

SECTION 3: Degree Regulations Applicable to all Programs in the Faculty of Environment

The Faculty of Environment offers degree programs in Environmental Science, Environmental Studies, Geography, Geology, and Geophysics. All students are advised to examine their interests and future goals carefully to make appropriate program choices. Consultation with advising representatives in these degree programs is encouraged.

3.1 Degrees Offered

Bachelor of Arts in Geography (B.A.)

Bachelor of Arts in Geography (B.A.)

Minimum time to graduation: Three years (University 1, plus two years). There is no time limit to complete the degree.

Bachelor of Arts (Advanced)

Minimum time to graduation: Four years (University 1, plus three years). There is no time limit to complete the degree.

Bachelor of Arts (Honours)

Minimum time to graduation: Four years (University 1, plus three years). There is no time limit to complete the degree.

Bachelor of Environmental Science (B.Env.Sc.)

Bachelor of Environmental Science

Minimum time to graduation: Three years (University 1, plus two years). This degree is also called the "General" program. There is no time limit to complete the degree.

Bachelor of Environmental Science (Major)

Minimum time to graduation: Four years (University 1, plus three years). There is no time limit to complete the degree.

Bachelor of Environmental Science (Major Coop)

Minimum time to graduation: Four years (University 1, plus three years). There is no time limit to complete the degree. Participation in the Coop Option may extend the degree by an additional year.

Bachelor of Environmental Science (Honours)

Minimum time to graduation: Four years (University 1, plus three years). There is no time limit to complete the degree.

Bachelor of Environmental Science (Honours Coop)

Minimum time to graduation: Four years (University 1, plus three years). There is no time limit to complete the degree. Participation in the Coop Option may extend the degree by an additional year.

Bachelor of Environmental Studies (B.Env.St.)

Bachelor of Environmental Studies

Minimum time to graduation: Three years (University 1, plus two years). This degree is also called the "General" program. There is no time limit to complete the degree.

Bachelor of Environmental Studies (Major)

Minimum time to graduation: Four years (University 1, plus three years). There is no time limit to complete the degree.

Bachelor of Environmental Studies (Major Coop)

Minimum time to graduation: Four years (University 1, plus three years). There is no time limit to complete the degree. Participation in the Coop Option may extend the degree by an additional year.

Bachelor of Environmental Studies (Honours)

Minimum time to graduation: Four years (University 1, plus three years). There is no time limit to complete the degree.

Bachelor of Environmental Studies (Honours Coop)

Minimum time to graduation: Four years (University 1, plus three years). There is no time limit to complete the degree. Participation in the Coop Option may extend the degree by an additional year.

Bachelor of Science in Geology (B.Sc.)

Bachelor of Science (Major)

Minimum time to graduation: Four years (University 1, plus three years).

Bachelor of Science (Honours)

Minimum time to graduation: Four years (University 1, plus three years).

Bachelor of Science in Geophysics (B.Sc.)

Bachelor of Science (Major)

Minimum time to graduation: Four years (University 1, plus three years).

Bachelor of Science (Honours)

Minimum time to graduation: Four years (University 1, plus three years).

Reminder

It is the student's responsibility to ensure that degree requirements are met. Faculty student advisors and program administrators are available to clarify faculty and university regulations and degree requirements. A final and thorough program check is done after students have registered for their final year or course. The Faculty of Environment is not responsible for those students who do not satisfy degree requirements.

The provision of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies in this *Calendar*, apply to all students. In addition, the Faculty of Environment has regulations and requirements, published below that apply specifically to its students.

3.2 Courses Offered in Other Faculties and Schools Acceptable for Credit in the Faculty of Environment

Students who are registered in the Faculty of Environment may take any course offered by another faculty and school for credit towards their degree, subject to permission from the degree program administrator as well as the student advisor.

3.3 University Written English and Mathematics Requirement

Students are required to complete the University written English and Mathematics requirements as outlined in the Chapter, General Academic Regulations and Requirements of this *Calendar*. These requirements should be completed while in University 1 or in Year 2. The list of courses which satisfy the written English and Mathematics requirements appears in Appendix A of that *Chapter*. Course numbers of designated written English courses are marked with a "W" and designated mathematics courses are marked with an "M".

3.4 Changes in Program Requirements

Once students have successfully completed any portion of a degree program, they will not be required to meet new course requirements subsequently stipulated for that portion of the program, whether the requirements be for the faculty or for an individual degree program.

3.5 Prerequisite, Corequisite, Recommended Courses and Course Availability: Definitions

Prerequisite: If a course is prerequisite to a second course, the prerequisite must be met in order to continue in the second course. The department giving the second course may require a minimum grade of "C" in the first course to register in the second course.

Corequisite: If a first course is a corequisite to a second course, the first course (unless previously completed) must be taken concurrently with the second course.

Recommended: If a course is strongly recommended relative to other courses in a program, a student is advised to take it. The final decision as to whether or not to take the course rests with the student. Students are advised to consult with their degree program representative for guidance.

NOTES: Students who are allowed to enrol in courses or programs provisionally pending satisfactory completion of pre- or corequisites must, if unsuccessful, withdraw or amend their registration accordingly within the stipulated course revision deadline. Those students who do not may be withdrawn automatically and may relinquish the opportunity to add appropriate courses.

Any prerequisite or corequisite may be waived with written consent of the instructor and degree program representative.

Course Availability: All courses listed in this *Calendar* are not offered every year. The course(s) offered for the current academic session are published in the Registration Guide and at the University website (www.umanitoba.ca).

3.6 Repeated Courses and Attempted Credit Hours

Faculty of Environment students are subject to the University of Manitoba General Academic Regulations and Policy, Repeating a Course in this *Calendar*. Each grade received for a repeated course will appear on the transcript and will be included in the calculation of the Grade Point Average, unless otherwise stipulated by the degree program.

There is no limit to the number of credit hours permitted in the degree programs in the B.Env.Sc., B.Env.St., B.Sc. (Geology), and B.Sc. (Geophysics) provided a student does not exceed the credit hour limit of failed and/or repeated courses. Students in the General degree programs are permitted 48 credit hours and those in the Major or Honours degree programs are permitted 18 credit hours of repeated and/or failed courses.

Students in the B.A. (Geography) must satisfy all degree requirements within 138 credit hours of attempts. Students are therefore advised to ensure they do not exceed the maximum number of repeated and/or failed courses. General degree students are permitted 48 credit hours of repeated and/or failed courses and Advanced and Honours degree students are permitted 18 credit hours.

3.7 Voluntary Withdrawals

Faculty of Environment students are limited to 30 credit hours of voluntary withdrawals (VW's) (i.e., courses dropped after the normal registration revision period) in their degree program. When the maximum VW limit is reached, students may decrease their VW count by 6 credit hours for every subsequent 30 credit hours successfully completed after consultation with the student advisor and program administrator.

The responsibility for initiating VW's rests solely with the student. When eligible to do so, voluntary withdrawals must be done through UMREG, otherwise they must be authorized first by the Faculty of Environment general office and then through Student Records. No VW's are permitted after the deadlines posted in the Academic Schedule.

3.8 Authorized Withdrawals

Authorized withdrawals (AW's) from courses after the registration revision period in each term may be granted on the basis of medical and compassionate grounds. A medical certificate signed by a physician or other appropriate professional must document medical grounds. Compassionate reasons will also be considered when supported by appropriate documentation. AW's do not count toward the 30 credit hour voluntary withdrawal limit nor are they recorded on the official transcripts. Students requesting

AW's must see a student advisor in the Faculty of Environment general office.

3.9 Residence Requirements

Students are required to complete a minimum number of credit hours at the University of Manitoba. Students should refer to their degree program in the appropriate section 4, 5 or 6 of this *Chapter* for further information. The courses used to satisfy the residence requirement must be acceptable for credit by the degree program in the Faculty of Environment.

3.10 Letter of Permission to Take Courses at Another University

Students wishing to complete courses at another institution for credit at this university must obtain a Letter of Permission from the Student Records Office prior to registering at that other institution; see the Chapter, General Academic Regulations and Policy in this *Calendar*. The Letter of Permission will not be given to a student on probation or academic suspension. Grades earned in courses at other universities are included in the determination of minimum performance level, contribute to the overall credit hour requirement and are included in the calculation of the cumulative Grade Point Average. These courses, however, are not considered in determining academic awards. These courses will bear the grade and course classification of "TX" (transfer).

Students in an Honours degree program must receive permission from their degree program representative prior to written permission from Student Records.

Students who attend other post-secondary institutions without a Letter of Permission must reapply for admission to the Faculty of Environment before the application deadline and be academically eligible for admission. The penalty for unauthorized or undisclosed attendance may be disciplinary withdrawal or academic suspension.

3.11 Dean's Honour List and Graduating with Distinction or First Class Honours

Dean's Honour List

A student's eligibility for the Dean's Honour List designation is evaluated after the *April examination series* each year.

To qualify for the Dean's Honour List, a student must complete a minimum of 12 credit hours in a four-month academic term, 24 credit hours in an eight-month academic term, and achieve a sessional or cumulative Grade Point Average as specified by the degree program. Where the degree program specifies a number of credit hours in an academic term in excess of this, the assessment for Dean's Honour List shall be based on completion of at least 80 per cent of the workload. The Dean's Honour List designation will appear on the student's transcript of marks.

With Distinction

To obtain a Degree with Distinction, a student must achieve a minimum cumulative Grade Point Average as specified by the degree program calculated on the basis of a minimum number of credit hours of course work. Students should refer to their degree program in section 4, 5, or 6 for further information.

Unless otherwise stipulated, all academic sessions will be considered in descending chronological order. When the last credit hours are found in a session containing more hours than are needed, the best grades from that session will be used for the calculation. The term "Degree with Distinction" will appear both on the parchment and on the student's transcript of marks.

First Class Honours

To graduate with First Class Honours, a student must achieve a minimum cumulative Grade Point Average as specified by the degree program calculated on the basis of a minimum number of credit hours of course work. Students should refer to their degree program in section 4, 5, or 6 for further information. The term "First Class Honours" will appear both on the parchment and on the student's transcript of marks.

3.12 Probation and Academic Suspension

A student in a General degree program, as offered in the B.A. (Geography), B.Env.Sc., or B.Env.St., will be placed **on probation** if, at the point of assessment following the *April or August examination period*, he/she fails to

achieve the required minimum performance level. The notation "On Probation" will be recorded on the student's transcript of marks. A student in a Major degree program in the B.Sc. (Geology), or B.Sc. (Geophysics), will be placed on probation if, at the point of assessment following the *April or August examination period*, he/she fails to achieve the required minimum performance level. The notation "On Probation" will be recorded on the student's transcript of marks.

While on probation, students are permitted to register for one additional session (Note: B.Env.Sc. and B.Env.St. students are permitted to register in two sessions up to a maximum of 30 credit hours in the proceeding Summer and Regular sessions) to attain the minimum performance requirements. Those who fail to meet this standard will be placed on academic suspension for **one calendar year**. The notation, "Academic Suspension for One Year," will be recorded on the student's transcript of marks. A student placed on academic suspension is not allowed to register in the Faculty of Environment during the term of the suspension.

A student will be placed on academic suspension for **two calendar years** under the following circumstances:

- Upon return from one year suspension, the student fails to clear probation at the next point of assessment (see the faculty student advisor for information).
- The faculty student advisor calculates that it is mathematically impossible for the student to clear his/her probationary standing by the following assessment period.
- The student exceeds the maximum number of credit hours of failed and/or repeated courses.
- The student completing the B.A (Geography) cannot meet the degree requirements within the 138 credit hour limit.

The notation, "Academic Suspension for Two Years," will be recorded on the student's transcript of marks.

Those serving two-year suspensions are required to start the degree afresh should they choose to return to the Faculty of Environment. Students may appeal for transfer credit of up to 30 credit hours in courses in which a minimum grade of "C" was achieved.

Students should consult with a student advisor or their degree program representative for further assistance in clearing their probation or suspension.

3.13 Academic Dishonesty

Academic dishonesty is intentional cheating, fabrication, impersonation, or plagiarism. It is also knowingly helping or attempting to help others to be dishonest. Academic dishonesty lowers scholastic quality and defrauds others who will eventually depend on their own knowledge and integrity.

Plagiarism or any other form of cheating on examinations, term tests, or assignments is subject to academic penalty as serious as suspension or expulsion from the faculty or university.

Students who are unsure of what constitutes academic dishonesty should refer to the regulations in General Academic Regulations and Policy, Plagiarism and Cheating in this *Calendar* and consult with a faculty member.

3.14 Termwork and Debarment

A student is responsible for the completion of laboratory work, assignments, tests and other class work as prescribed by the course syllabus. A student who does not meet termwork requirements to the satisfaction of the Associate Dean, Programs, will receive a warning to this effect from the Faculty of Environment. If this warning is ignored, a student may be debarred from the course. Any student debarred from a course receives an automatic grade of "F" in that course.

3.15 Deferred Examinations

A student who is unable to write a final examination because of illness or other disability or compassionate reasons must file an application in the Faculty of Environment general office for a deferred examination. The application must be filed within seven days of the last examination that the student is scheduled to write in that series. Appropriate documentation must be provided that verifies that the incapacity existed at the time the examination was to be written.

A deferred examination is offered in a manner prescribed by the department or program concerned. This is normally written within 30 working days of the last examination in that series.

Students requesting deferred examinations on the grounds that the examinations conflict with vacation or holiday plans shall not be granted deferrals.

A deferred examination is not normally granted to a student who has written the final examination.

3.16 Challenge for Credit

Any student wishing to challenge a course for credit should contact the Faculty of Environment general office.

3.17 Appeals Involving Academic Regulations

The Committee on Student Standing in the Faculty of Environment considers appeals from students who request special consideration with respect to the rules and regulations governing their degree program and qualifications for graduation.

Appeals should be addressed to: The Secretary, Committee on Student Standing, General Office, Faculty of Environment.

3.18 Incidental Fees

Incidental fees are assessed for some courses. This information is available in the Faculty of Environment general office.

SECTION 4: Bachelor of Arts in Geography: B.A. Degree Regulations and Program Descriptions

Acting Head: Richard K. Baydack

Email: baydack@ms.umanitoba.ca

General Office: 211 Isbister Building

Telephone: (204) 474- 9667 or (204) 474-9081

Fax: (204) 474-7699

Website: www.umanitoba.ca/faculties/environment/

Email: geography@umanitoba.ca

4.1 Academic Staff

Distinguished Professor

Smil, V., M.S. (Prague), Ph.D. (Pennsylvania State), F.R.S.C.

Senior Scholars

Brown, W.J., B.Sc.(Hons.), Ph.D. (London); **Catchpole, A.J.W.**, B.Sc.(Hons.), Ph.D. (Durham); **Foster, R.H.**, B.A. (Berkeley), M.A. (San Francisco State), Ph.D. (Berkeley); **Kaye, B.**, B.A. (London), M.A. (Manitoba), Ph.D. (London); **Romanowski, J.I.**, B.A.(Hons.) (McGill), Ph.D. (Washington.); **Stene, L.P.**, B.Sc., M.Sc. (Alberta), Ph.D. (Western Ontario); **Tiwari, R.C.**, M.A. (Agra), Ph.D. (Reading).

Professors

Barber, D.G., B.P.E., M.N.R.M. (Manitoba), Ph.D. (Waterloo), Canada Research Chair; **Brierley, J.S.**, B.A. (Victoria), Dip.Ed. (Oxford), M.A. (Alberta), Ph.D. (Edinburgh); **Gardner, J.S.**, B.Sc. (Hons.) (Alberta), M.Sc., Ph.D. (McGill); **Norton, W.**, B.A.(Hons.), Dip.Ed.(Hull), M.A. (Queen's), Ph.D. (McMaster); **Smith, G.C.**, B.A.(Hons.), M.A. (Reading), Ph.D. (McMaster); **Todd, D.**, B.A.(Hons.), Cert. Ed. (Leeds), M.A. (Queen's), Ph.D. (London School of Economics).

Associate Professors

Baydack, R.K., B.Sc.(Hons.), M.N.R.M. (Manitoba), Ph.D. (Colorado State); **Benbow, S.M.P.**, B.A.(Hons.), Ph.D. (Liverpool); **Sawatzky, H.L.**, B.A.(Hons.) (Manitoba), M.A., Ph.D. (Berkeley).

Assistant Professors

DeVerteuil, G.P., B.A. (McGill), M.A. (British Columbia), Ph.D. (Southern California); **Hallman, B.C.**, B.A., M.A., Ph.D. (Guelph); **Hanesiak, J.M.**, B.Sc. (Winnipeg), M.Sc. (York), Ph.D. (Manitoba); **Papakyriakou, T.N.**, B.Sc. (McMaster), M.Sc. (Queen's), Ph.D. (Waterloo).

Instructor

Iacozza, J., B.A. (McMaster), M.A. (Manitoba).

4.2 Program Information

Geography examines environments created on the earth's surface by nature and by humans. As such, it searches to explain how and why they differ from place to place. It is by emphasizing the spatial consideration that Geography provides its unique contribution to the Faculty of the Environment.

There are four broad categories of courses in the discipline: **Physical** geography is concerned with physical features on and over the globe; **human** geography examines the products of human activity; **regional** geography attempts to achieve a synthesis of physical and human geography; and **techniques** in geography focus on analytic methods.

The attraction of Geography as a discipline lies in its diverse interests, which allows a student to integrate a variety of disciplines. For example, geography embraces the study of weather and climate, population distribution, economic location theory, agricultural systems, landforms or geomorphology, perception of the environment, geography of the elderly, or biogeography. Alternatively, geographers are concerned with human-environment relationships and participate in ecological, regional, or city planning. Despite this diversity, the discipline of geography is linked by one unique thread – the concept of location. Therefore, many analytical themes in the discipline are concerned with identifying distributions of selected elements both in time, and more particularly, in space. Hence, by selecting appropriate courses from within the department, and complementary courses from other academic units of the University, a student can develop a fascinating and exciting degree program that can lead to a challenging and unique career.

Careers that can be pursued upon graduation from geography include a diverse array of possibilities, as the discipline has been described as *'the only subject that gives you carte blanche to look at the whole world and try to make sense of it.'* Therefore, geographers can work in the natural sciences or social sciences, or a combination of both. Geographers identify and analyze the local, regional, national, and global patterns that shape our lives. Although maps and mapping remain the foundation of geographical work, computers, Geographic Information Systems, remote sensing, artificial intelligence, and high-speed communications have become additional techniques for the geographer. Geographic training prepares a student for a career with a variety of employers in the private, government, academic, or non-government sector. For example, private employers need geographers who can recommend optimal locations for enterprises. All levels of government – local, regional, national, or international – employ geographers in a variety of capacities. Academic institutions, whether public schools, colleges, or universities, are experiencing increased interest in this area of study. And non-government organizations, especially those concerned with environmental matters or aboriginal interests, have become increasingly involved with practitioners of geography. In short, career opportunities abound, and are likely to continue expanding.

The General degree in Geography provides students with a basic level of understanding of the discipline and its inter-relationships. This degree is also a useful consideration for students planning to complete the After-Degree Bachelor of Education program (see Faculty of Education section of this *Calendar*). The Advanced degree program in Geography provides opportunities for students who desire a broad geographical education along with a reasonable degree of specialization in a particular field of Geography. Students planning a professional career or a high degree of specialization in Geography are strongly advised to enter the Honours degree program. The Honours degree demands the highest scholastic performance of all programs available. Students are strongly advised to enter an Honours degree program with their admission to the Bachelor of Arts (Geography). Consultation with an academic representative and/or the Acting Head is advised.

Notice:

Effective September 1, 2003 the Faculty of Arts will no longer offer a Bachelor of Arts Major and Honours degree program in Geography. Those Arts students who have declared a General Major, Advanced Major, Honours field or a Minor in Geography prior to September 1, 2003 are invited to transfer to the Faculty of Environment to complete their undergraduate program. Students should consult with the Acting Head and/or a Faculty of Environment advisor for further information.

Students currently admitted to one of these degree programs may elect to continue their degree program in the Faculty of Arts. Arts students will have until April 1, 2008 to complete the degree requirements.

Structure of the B.A. (Geography) Degree Programs

The structure of the B.A. degree in Geography can be summarized as follows:

- A **Geography (Major)** component that varies in credit hour requirement depending on the degree program; 30 credit hours in General; 54 credit hours in the Advanced; and 66 credit hours in the Honours. Students are not permitted to declare a second Major.
- Advanced and General degree students must complete a Minor of 18 credit hours from a department recognized by the Faculty of Environment. Students can declare only one Minor and this can be chosen from one of the other programs in the Faculty of Environment, a department in the Faculty of Arts offering a Minor, a department in the Faculty of Science offering a Minor, or the Minor available through the School of Art, the School of Music or the I.H. Asper School of Business (Faculty of Management). Students in the General program are required to declare this Minor by the time they have completed 51 credit hours of course work; students in the Advanced program must declare a Minor with their admission into the degree program. Students must attain a grade of "C" or better in the Minor prerequisite course(s).
- Students must complete 30 credit hours, with 6 credit hours in each of 5 subject fields. For example: 6 credit hours in Geography, plus 6 credit hours in Environmental Studies, plus 6 credit hours in Geological Sciences, plus 6 credit hours in Anthropology, plus 6 credit hours in Native Studies. General degree students must complete all subject fields within their first 60 credit hours of courses.
- 18 credit hours, with 6 credit hours in each of a Humanity, a Social Science and a Science. Note: Students can satisfy both a Humanity, (or Social Science, or Science) and one of the 5 subject fields required with the same 6 credit hours of courses. For example, 6 credit hours of Geography will satisfy the Social Science in addition to one of the 5 subject fields. Faculty of Environment recognizes courses in Environmental Science and Geological Sciences to satisfy this "science" requirement. *Note: Faculty of Environment courses in Environmental Science and Geological Sciences do not satisfy the University 1 Faculty of Science requirement. Similarly, Faculty of Environment courses in Geography do not satisfy the University 1 Faculty of Arts requirement. For information about University 1, see the Chapter on University 1 in this Calendar.*

Humanities

Course subjects taught by the Faculty of Arts that can be applied to the Humanities requirement include: Asian Studies, Canadian Studies, Catholic Studies, Classical Studies, Drama, English, Film Studies, French, German, Greek, History, Icelandic, Italian, Latin, Native Languages, Native Studies, Near Eastern and Judaic Studies, Philosophy, Polish, Religion, Russian, Spanish, Theatre, Ukrainian, and Yiddish. In addition the following courses may be used: Women's Studies 156.153, 156.253, 156.357, 156.359, and Others 099.114, 099.115, 099.264 and 099.265. Music and History of Art may also be eligible courses. Students should see their degree program advisor for further information.

Social Sciences

All courses taught by Geography are recognized as satisfying the Social Science requirement.

Sciences

All courses taught by Environmental Science and Geological Sciences are recognized as satisfying the Faculty of Environment requirement of 6 hours in Sciences. *Note: Faculty of Environment courses in Environmental Science and Geological Sciences do not satisfy the University 1 Faculty of Science requirement. For information about University 1, see the chapter on University 1 in this Calendar.*

Courses taught by the Faculty of Science can (provided it is acceptable for credit in the Faculty of Science, and is not designated as a service course for another faculty or school) be applied to the Science requirement: Astronomy, Biology, Botany, Chemistry, Computer Science, Mathematics, Microbiology, Physics, Statistics, and Zoology.

The qualifications of the degree programs are summarized as follows:

General

To qualify for the degree Bachelor of Arts (Geography), students must complete 90 credit hours including all course requirements in their Geography general major; a chosen minor field; and the requirements in the five subject fields and areas of Humanities, Social Sciences and Sciences. As well, students must satisfy the Faculty of Environment regulations outlined in

section 3 of this *Chapter*. Minimum performance requirements include passing grades (“D” or better) in each course and a minimum cumulative Grade Point Average of 2.00 on Geography courses as well as the 90 credit hours which constitute the degree. Students must satisfy the degree requirements within 138 credit hours of attempts and cannot exceed 48 credit hours of failed and/or repeated courses.

Advanced

To qualify for the Bachelor of Arts (Geography) with the Advanced degree, students must complete 120 credit hours including all course and performance requirements in their Geography advanced major; a chosen minor field; and the requirements in the five subject fields and areas of Humanities, Social Sciences and Sciences. As well, students must satisfy the Faculty of Environment regulations outlined in section 3 of this *Chapter*. Minimum performance requirements include passing grades (“D” or better) in each course and a minimum cumulative Grade Point Average of 2.00 on Geography courses and the 120 credit hours which constitute the degree. Students must satisfy the degree requirements within 138 credit hours of attempts and cannot exceed 18 credit hours of failed and/or repeated courses.

Honours

To qualify for the Bachelor of Arts (Geography) with the Honours designation, students must complete 120 credit hours including all course and per-

formance requirements in Geography, and satisfy the requirements in the 5 subject fields, and the areas of Humanities, Social Sciences and Sciences. As well, students must satisfy the Faculty of Environment regulations outlined in section 3 of this *Chapter*. Minimum performance requirements include passing grades (“D” or better) in each course and a minimum cumulative Grade Point Average of 3.00 on Geography courses and the 120 credit hours which constitute the degree. Students must satisfy the degree requirements within 138 credit hours of attempts and cannot exceed 18 credit hours of failed and/or repeated courses.

4.3 Entrance Requirements for the B.A. (Geography) Degree Programs

Students are required to attain a minimum cumulative Grade Point Average of 2.00 to be eligible for admission to the B.A. (Geography). Students who are admitted will be placed in the General degree program. Students may be eligible for transfer to either the Advanced or Honours degree program provided they satisfy the entry requirements defined in 4.3.1. To enter the Advanced or Honours degree program, a student must complete an application form available in the Faculty of Environment general office and have it approved by a student advisor.

4.3.1 B.A. (Geography): Entry Requirements

B.A. Degree Program in Geography	Minimum Number of Credit Hours	Minimum Cumulative Grade Point Average	Maximum Credit Hours of Repeated/Failed courses	Subject Fields (min 6 credit hours in each)	Additional Entrance Requirements
General	24	2.00 ²	48	Geography plus 3 other subject fields (see section 4.2 of this <i>Chapter</i>)	grade(s) of “C” in 053.120 (or in each of 053.128 and 053.129) ¹
Advanced	24	2.00	18		
Honours	24	3.00	18		grade(s) of “B” in 053.120 (or each of 053.128 and 053.129) or 3.00 or better in all Geography courses

¹For those students who have taken additional courses in Geography beyond 53.120 (or 053.128 and 053.129), entry requires a minimum 2.00 Grade Point Average or better on all Geography courses.

²Minimum Grade Point Average for entry into the General degree program is calculated using a Minimum Performance Table. For a student applying for entry with 24 credit hours of completed university courses, the Grade Point Average calculation is based on the best 12 credit hours. See 4.3.2 for details.

4.3.2 B.A. (Geography) General Degree Program: Grade Point Average Calculation for Entry, Continuation and Graduation

General degree students in the B.A. (Geography) must attain a minimum 2.00 Grade Point Average at each point of assessment. The Minimum Performance Table listed below is used to determine a student’s eligibility for admission to the Faculty of Environment as well as evaluate a student’s performance after the *April and/or August examination series*.

The Grade Point Average calculation is based on the number of credit hours a student has attempted. For example, a General degree student with 30 credit hours of completed courses must have a 2.00 (“C” average) based on 15 credit hours of their best grades; and a student with 78 credit hours of completed courses will have their best 48 credit hours used to calculate their Grade Point Average.

B.A. (Geography) General Degree Program: Minimum Performance Table

Column 1 Number of Credit Hours Attempted	Column 2 Number of Credit Hours Used in the Calculation of Grade Point Average (only the best grades are included in the assessment)	Column 3 Minimum Grade Point Average (GPA) Required
24	12	2.00
27	12	2.00
30	15	2.00
33	15	2.00
36	18	2.00
39	18	2.00
42	21	2.00
45	21	2.00
48	24	2.00
51	24	2.00

54	27	2.00
57	27	2.00
60	30	2.00
63	33	2.00
66	36	2.00
69	39	2.00
72	42	2.00
75	45	2.00
78	48	2.00
81	51	2.00
84	54	2.00
87	57	2.00
90	60	2.00
93	63	2.00
96	66	2.00
99	69	2.00
102	72	2.00
105	75	2.00
108	78	2.00
111	81	2.00
114	84	2.00
117	87	2.00
120 to 138	90	2.00

4.4 B.A. (Geography) Degree Programs: Continuation and Graduation Minimum Performance Requirements

A student’s academic performance is assessed first with his/her application for admission to the Faculty of Environment and then following each *April and/or August examination series* in which the student is registered. To be in “good standing” and permitted to continue in a degree program, a student must achieve the minimum standards outlined for his/her degree program at each point of assessment. For General degree students, this

includes the Minimum Performance Table as well as the requirements outlined in 4.4.1. Students in the Advanced and Honours degrees are required to satisfy the requirements listed in 4.4.1. Minimum academic perform-

ance is based on cumulative Grade Point Average, number of repeated and/or failed courses; and the ability to satisfy all degree requirements within a limit of 138 credit hours.

4.4.1 Minimum Performance Requirements for the Continuation in, and Graduation from, the Degree Programs in the B.A. (Geography)

Minimum Performance Requirements				Graduation Requirements		
Degree Program (Cr. Hrs.)	Minimum Cumulative Grade Point Average (GPA)	Maximum Cr. Hrs. Failures/ Repeated Courses	Minimum Cumulative GPA in Geography Courses ⁴	Geography Courses Cr. Hr. Requirement (see 4.6 also)	Residency Requirement (Cr. Hrs.) (see section 3.9 also)	Additional Graduation Requirements
General ^{1,2,3} (90)	2.00; see 4.3.2	48	2.00	30	48 cr. hrs. total or the final 30 cr. hrs.	18 credit hours in a minor; maximum 42 cr. hrs. from one department; combined Geography (major) and minor may not exceed 60 cr. hrs; must satisfy requirements within 138 cr. hr. limit.
Advanced ^{1,2} (120)	2.00	18	2.00	54	60	18 credit hours in a minor; maximum 60 cr. hrs. from one department; combined Geography (major) and minor may not exceed 78 cr. hrs.; must satisfy requirements within 138 cr. hr. limit.
Honours ² (120)	3.00	18	3.00	66	60	Must satisfy requirements within 138 cr. hr. limit.

¹General degree students must declare a Minor by the time they have completed 51 credit hours of course work. If a student has not done so, he/she will not be permitted to register for courses until a Minor is declared. Advanced degree students must declare a Minor with their entry into the degree program. The prerequisite grade(s) for the Minor is/are "C".

²All students must satisfy the "W" and "M" requirements by the time they wish to graduate. It is recommended that these requirements be completed within their first 60 credit hours of coursework.

³Within 60 credit hours of courses, General degree students must have completed 6 credit hours in each of 5 subject fields (totaling 30 credit hours). See section 4.2 for details.

⁴General and Advanced degree students are required to maintain a Grade Point Average of 2.00 on the courses defining their Geography Major. Only the higher grade of any course that has been repeated will be used in the calculation and will also exclude any failed course(s). Note: Students must complete all prerequisite courses with minimum "C" grades.

Prior to each registration, Advanced and Honours degree students must have their course selections approved by the program, and then by the student advisor. Students cannot make any subsequent changes without receiving prior permission from the program.

To graduate with a B.A. (Geography) with the intended degree designation, a student must achieve the minimum standards and graduation requirements outlined in 4.4 following either their last *April or August examination series* and satisfy all faculty and degree requirements in Geography as defined in section 4.6 of this *Chapter*.

Students in the Honours and Advanced degree programs who do not meet these minimum performance requirements for continuation or graduation will be withdrawn from their existing program and placed in the General degree provided they satisfy the continuation requirements. Students withdrawn from the Honours degree program may be eligible to enter the Advanced program and are required to submit an application form available in the faculty general office.

Students withdrawn from the Honours degree program as a result of their inability to meet these minimum performance requirements will have the notation, "Required to Withdraw from the Honours Program," recorded on their transcript of marks. Similarly, students withdrawn from the Advanced program will have the notation, "Required to Withdraw from the Advanced Program," recorded on their transcript of marks.

Students who do not meet the minimum performance requirements for the General degree program will be placed on probation or academic suspension as defined in section 3.12 Probation and Academic Suspension in this *Chapter*.

4.5 B.A. (Geography): Dean's Honour List and Graduating with Distinction or First Class Honours

Dean's Honour List

Students enrolled in a minimum of 24 credit hours of course work during the Regular term and who achieve a cumulative Grade Point Average of 3.50 or higher will be placed on the Dean's Honour List.

With Distinction

Students graduating with a B.A. (General) degree will have their degree granted "With Distinction" if they have a minimum cumulative Grade Point Average of 3.80 on all coursework taken at the University of Manitoba and provided a minimum of 60 credit hours of acceptable coursework is completed at the University of Manitoba.

Students graduating with a B.A. (Advanced) degree will have their degree granted "With Distinction" if they have a minimum cumulative Grade Point Average of 3.80 on all coursework taken at the University of Manitoba and provided a minimum of 90 credit hours of acceptable coursework is completed at the University of Manitoba.

First Class Honours

Students in the Honours program will have their degree granted with "First Class Honours" if they have a minimum cumulative Grade Point Average of 3.80 based on a minimum of 90 credit hours of acceptable coursework at the University of Manitoba.

4.6 B.A. (Geography), Program Code: 053

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
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HONOURS¹ 120 CREDIT HOURS (66 credit hours in Geography)

053.120 (or 053.128 and 053.129)	053.222, 053.253	053.368	053.466
Plus 6 credit hours from the Faculty of Arts which may include the "W" course	9 credit hours in Geography courses numbered at the 200 or 300 level;	Plus 18 credit hours in Geography courses numbered at the 200 or 300 level ⁴	12 credit hours in Geography courses numbered at the 400 level
Plus 6 credit hours from the Faculty of Science	12 credit hours in ancillary options ³	6 credit hours in ancillary options ³	6 credit hours in ancillary options ³
Plus 6 credit hours from the Faculty of Arts or Science			

It is recommended that students complete the "W" course in University 1 or Year 2

ADVANCED¹ 120 CREDIT HOURS (54 credit hours in Geography)

053.120 (or 053.128 and 053.129)	053.222, 053.253	053.368	12 credit hours in Geography courses numbered at the 400 level ⁵
Plus 6 credit hours from the Faculty of Arts which may include the "W" course	9 credit hours in Geography courses numbered at the 200 or 300 level ⁵	Plus 6 credit hours in Geography courses numbered at the 300 level ⁵	Plus 6 additional credit hours in Geography
Plus 6 credit hours from the Faculty of Science			
Plus 6 credit hours from the Faculty of Arts or Science			

It is recommended that students complete the "W" course in University 1 or Year 2

GENERAL² 90 CREDIT HOURS (30 credit hours in Geography)

053.120 (or 053.128 and 053.129)	12 credit hours in Geography courses numbered at the 200 level ⁵	12 credit hours in Geography courses numbered at the 300 level ⁵
Plus 6 credit hours from the Faculty of Arts which may include the "W" course		
Plus 6 credit hours from the Faculty of Science which may include the "M" course		
Plus 6 credit hours from the Faculty of Arts or Science		

It is recommended that students complete the "W" and "M" courses in University 1 or Year 2.

Note: 30 credit hours, with 6 credit hours in each of 5 subject fields, must be completed in the first 60 credit hours.

MINOR 18 CREDIT HOURS

053.120 (or 053.128 and 053.129)	6 credit hours in Geography courses numbered at the 200 level	6 credit hours in Geography courses numbered at the 300 level
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NOTES:

¹entry into the Honours and Advanced degree programs is summarized in 4.3.1. The courses required in this program will satisfy "the university" mathematics requirement.

²entry into the General degree program is summarized in 4.3.1 and 4.3.2.

³Ancillary options are chosen in consultation with the department head.

⁴Among the 200 and 300 level courses, at least 6 of the 18 credit hours must be systematic and at least 6 must be area studies. Systematic courses and area studies courses are listed below (see Other, Note 1).

⁵Among the 200 and 300 level courses, at least 12 credit hours must be systematic and at least 6 must be area studies. Systematic courses and area studies courses are listed below (see Other, Note 1). Students wishing to transfer from the General to the Advanced degree program are permitted to take either 053.222 or 053.253 in either third or fourth year.

Other

Where the following notes refer to the Majors, they apply to both General and Advanced degree programs.

1) Courses numbered at the 200 and 300 level are arranged into the following groups Systematics (PS, HS and TS), and Area Studies (A) as follows:

Physical Geography (PS)

053.244	Geography of Natural Hazards	6
053.254	Weather and Climate	3
053.255	Geomorphology	3
053.255F	Géomorphologie	3
053.262	Geography of Environmental Changes	3
053.341F	Géographie de l'eau	3
053.344	Applied Climatology	6
053.358	Landforms	6
053.361	Climatic Change	6
053.362	Geographical Hydrology	6
053.363	Climatology	6

Human Geography (HS)

053.221	Economic Geography	6
053.221F	Géographie économique	6
053.241	Geography of Tourism and Recreation	6
053.243	Political Geography	6
053.248	Population Geography	6
053.248F	Géographie de la population	6
053.252	Geography of Natural Resources	3
053.263	Geography of Culture and Environment	3
053.264	Geography of Culture and Inequality	3
053.265F	Géographie politique I	3
053.266F	Géographie politique II	3
053.342F	L'eau, enjeu géostratégique	3
053.346	Urban Geography	6
053.351	Agricultural Geography	6
053.352	Energy and Society	6
053.353	An Introduction to Land-Resource Management	6

053.354	Regional Development Planning Theory and Practise	6
053.371	Population and the Third World	3
053.372	Refugees, Displacees, Exiles	3
053.380	Geography of Transportation Development	3
053.382F	Les territoires de la Francophonie mondiale	3
053.383F	L'espace Francophone panaméricain	3
053.384F	Les espaces Francophones de l'Afrique, de l'Asie et de l'Océanie	3
Techniques (TS)		
053.222	Introductory Cartography and Map Interpretation	6
053.222F	Introduction à la cartographie et analyse de la carte numérique	6
053.253	Introduction to Scientific Geographic Research	3
053.368 M	Research Methods in Geography	6
053.373	Geographic Information Systems	3
053.374	Field Studies in Geography	6
053.375	Field Studies in Geography	3
Area Studies (Regional) (A)		
053.235	Latin America	6
053.245	The Making of the Prairie Landscape	6
053.246	Geography of Africa	6
053.249	Geography of Modern China	3
053.256	Geography of North America	6
053.257	Geography of Canada	3
053.258	Geography of the United States	3
053.343F	Géographie du Canada	3
053.348	Canadian Problems	3
053.348F	Particularités de la géographie du Canada	3
053.350	A Geography of Europe	6
053.350F	Géographie de l'Europe	6
053.359	Geography of Developing Countries	6
053.359F	Géographie des pays en voie de développement	6
053.360	Geography of Ukraine	3
053.370F	Canada: évolution de l'écoumène	6
053.370	Canada: The Making of the Human Landscape	6
053.374	Field Studies in Geography	6
053.375	Field Studies in Geography	3
053.379	Geography of Russia	6
053.382F	Les territoires de la Francophonie mondiale	3
053.383F	L'espace Francophone panaméricain	3
053.384F	Les espaces Francophones de l'Afrique, de l'Asie et de l'Océanie	3

2) Majors may specialize in Physical, Human or Applied Geography but it is not compulsory for them to do so.

3) Majors wishing to specialize in Physical Geography should take at least three options (18 credit hours) from courses designated 'PS.'

4) Majors wishing to specialize in Human Geography should take at least three options (18 credit hours) from courses designated 'HS.'

5) Majors wishing to specialize in Applied Geography should include 200-level courses from 053.221, 053.222, 053.241, 053.244, 053.248, 053.251, 053.252, 053.253 and 053.262; and 300-level courses from 053.344, 053.346, 053.348, 053.351, 053.352, 053.353, 053.354, 053.358, 053.362, 053.363, 053.368M, 053.371, 053.372 and 053.380.

Honours in Geography may be taken in combination with the program of Central and East European Studies (see the department head), Cross-disciplinary Minor programs are available using 053.346 (Urban Studies program) and 053.359 (Asian Studies program) and 053.235 (Latin American Studies program). In addition, courses 053.245, 053.348 and 053.370 may be used in combination with the Honours, Advanced, and Minor programs in Canadian Studies.

4.7 Geography Course Descriptions

To fulfil prerequisite requirements, a grade of "C" must be achieved, unless otherwise stated, in any course stipulated as a prerequisite to a further course.

All courses are not offered every year. The course schedule for the current academic session is published in the *Registration Guide*.

The letter "F" following course numbers indicates courses given in French at Collège universitaire de Saint-Boniface.

NOTES:

200- and 300-level courses:

● Systematic courses in Physical Geography are designated by (PS) after the title in the descriptions below; Systematic Courses in Human Geography are designated by (HS); Systematic Courses in Techniques are designated by (TS); Area Studies courses are designated by (A).

● See Other, Note 1, above for the listing of all Physical Geography (PS), Human Geography (HS), Techniques (TS) and Area Studies (A) courses.

Students registering in certain courses may be required to pay a portion of the costs associated with field trips. For details, contact the Faculty of Environment general office.

Introductory Courses

053.120 Introductory Geography (6) This course studies aspects of the human and physical worlds and their interrelationships. Students may not hold credit for both 053.120 and 053.129, 053.128, or the former 053.121, 053.124, 053.125 or 053.127.

053.120F Introduction à la géographie (6) Étude des aspects physique et humain du globe et de leur interdépendance. L'étudiant(e) ne peut se faire créditer à la fois le 053.120, le 053.129, le 053.128 ou les anciens 053.121, 053.124, 053.125 et 053.127. Donné au Collège universitaire de Saint-Boniface.

053.128 Introduction to Human Geography (3) This course studies aspects of the human world: population, settlement and resources. Students may not hold credit for both 053.128 and 053.120, or the former 053.124, 053.125, 053.127.

053.128F Introduction à la géographie humaine (3) Étude des divers aspects du milieu humain: la population, l'habitat et les ressources naturelles. L'étudiant(e) ne peut se faire créditer à la fois le 053.128, le 053.120, ou les anciens 053.124, 053.125, 053.127. Donné au Collège universitaire de Saint-Boniface.

053.129 Introduction to Physical Geography (3) This course studies aspects of our physical environment: climate, landforms, soils and vegetation. Students may not hold credit for both 053.129 and 053.120, or the former 053.121.

053.129F Introduction à la géographie physique (3) Étude des divers aspects de l'environnement physique: le climat, le relief, les sols et la végétation. L'étudiant(e) ne peut se faire créditer à la fois le 053.129, le 053.120, l'ancien 053.121. Donné au Collège universitaire de Saint-Boniface.

General Courses

053.221 Economic Geography (HS) (6) An introduction to spatial aspects of economic activities. It includes consideration of natural resource extraction and development, industrial location theory, agriculture, and the basis of regional development. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.221F Géographie économique (HS) (6) Introduction à l'expression spatiale des activités économiques. Le cours traite du concept de ressource, de la localisation et de l'utilisation des ressources naturelles, des théories sur les facteurs de localisation des activités industrielles, de l'agriculture et des fondements du développement régional. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un minimum de 3 crédits de géographie de niveau 100 ou l'autorisation écrite du professeur.

053.222 Introductory Cartography and Digital Map Analysis (TS) (6) Weekly two-hour lab. Study of the production and analysis of maps, including the use of computer mapping technology. The theory and practise of map design and the incorporation of remotely sensed data are introduced. The importance of accurate statistical data representation is emphasized. Students may not hold credit for both 053.222 and the former 053.242. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.222F Introduction à la cartographie et analyse de la carte numérique (TS) (6) Deux heures de laboratoire par semaine. Une étude de la production et de l'analyse de cartes, en tenant compte de la cartographie assistée par ordinateur. Ce cours est une introduction aux techniques de l'expression cartographique et à l'utilisation des données de la télédétection il porte une attention spéciale à la représentation précise des statistiques. L'étudiant(e) ne peut se faire créditer à la fois le 053.222 et l'ancien 053.242. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un minimum de 3 crédits de géographie de niveau 100 ou l'autorisation écrite du professeur.

053.235 Latin America (A) (6) A survey of the principal regions and countries of Latin America. Human occupations, settlement, communication, population problems, and economy will be surveyed. Special emphasis will be given to Mexico. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.241 Geography of Tourism and Recreation (HS) (6) This course treats the economic, social, and physical dimensions of tourism and recreation. It studies forecasting, planning and management, and recreation resources, in both spatial and environmental context. The course focuses on Canadian experience. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.243 Political Geography (HS) (6) A study of the relationships existing between land and the state - its location, boundaries, and regional differences; elements of strength in relation to space, resources, population, and ethnic groups at international, national and local levels. Students may not hold credit for 053.243 and either 053.265 or 053.266. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.244 Geography of Natural Hazards (PS) (6) Physical environmental hazards to

human settlement and economy are examined with particular attention to meteorological, soil erosion, mass wasting, earthquake, and volcanic phenomena. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.245 The Making of the Prairie Landscape (A) (6) Traces the evolution of the cultural landscape of Western Canada including Indian occupancy, environmental perception, urban and rural landscapes, and regional images in art and literature. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.246 Geography of Africa (A) (6) A systematic and regional survey of the contemporary political and economic geography of Africa. Emphasizes the variability and viability of the physical and human resource base, as well as political and social impacts on Africa's development. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.248 Population Geography (HS) (6) An examination of the factors controlling the number and distribution of human population. Variations in fertility, mortality, and mobility will be analyzed and the causes and consequences reviewed. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.248F Géographie de la population (HS) (6) Une étude des facteurs exerçant un contrôle sur l'ampleur et la répartition des populations humaines; l'analyse des variations de fécondité, mortalité et mobilité ainsi que leurs causes et conséquences. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un minimum de 3 crédits de géographie de niveau 100 ou l'autorisation écrite du professeur.

053.249 Geography of Modern China (A) (3) Survey of the People's Republic of China. Discussion of China's population, food and energy production, industrial achievements, and internal politics will be preceded by a description of the country's environmental conditions and resources and concluded by an assessment of China's international position and future prospects. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.252 Geography of Natural Resources (HS) (3) An introduction to the basic concepts of the subject and the distribution of resources. Stress will be placed on Canadian resources and resource requirements but examples from other resource systems will also be used. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.253 Introduction to Scientific Geographic Research (TS) (3) An introduction to the use of scientific methodology in geography and the application of scientific explanatory frameworks to geographic research projects. Data collection procedures are discussed with particular emphasis on measurement, sampling designs, and interview surveying techniques. Students may not hold credit for both 053.253 and the former 053.247. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.254 Weather and Climate (PS) (3) This half-course examines the nature, controls, and observations of weather and the variation of climate in time and space. Students may not hold credit for both 053.254 and the former courses 053.228 and 053.251. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.254F Météorologie et climatologie (PS) (3) Étude de la nature, des contrôles et des observations du temps et des variations spatio-temporelles du climat. L'étudiant(e) ne peut se faire créditer à la fois le 053.254 et les anciens 053.228 et 053.251. (Laboratoire hebdomadaire). Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un minimum de 3 crédits de géographie de niveau 100 ou l'autorisation écrite du professeur.

053.255 Geomorphology (PS) (3) This half-course surveys a broad array of landforms in the world and the geomorphic processes responsible for their creation. Attention is strongly focused on those landform processes originating at the earth's surface. Students may not hold credit for both 053.255 and the former 053.251. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.255F Géomorphologie (PS) (3) Vue d'ensemble des reliefs variés de la surface du globe et des processus géomorphologiques responsables de leur formation. L'étudiant(e) ne peut se faire créditer à la fois le 053.255 et l'ancien 053.251. (Laboratoire hebdomadaire). Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un minimum 3 crédits de géographie de niveau 100 ou l'autorisation écrite du professeur.

053.256 Geography of North America (A) (6) The major regions of Canada and the U.S.A. are studied with respect to geographical patterns of their physical environment, settlement, culture, economic activity, and land use. Students may not hold credit for 053.256 and either 053.257, 053.258 or the former 053.330, 053.343, 053.364 or 053.365. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.257 Geography of Canada (A) (3) A regional study of Canada. Lectures are the same as those given during one term of 053.256. Students may not hold credit for both 053.257 and either 053.256 or the former 053.330, 053.343, and 053.365. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.258 Geography of the United States (A) (3) A regional study of the United States. Lectures are the same as those given in one term of 053.256. Students may not hold

credit for both 053.258 and either 053.256 or the former 053.330, 053.364, and 053.365. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.262 Geography of Environmental Changes (PS) (3) This course will introduce concepts of environmental change and examine in detail past, present and future environmental changes. The human response to, and the role of policy in dealing with environmental change will be discussed. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.263 Geography of Culture and Environment (HS) (3) An introduction to the cultural geographic study of environment, focusing on the evolution of landscape, the creation of regions, and human relationships with nature. Students may not hold credit for both 053.263 and the former 053.260. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.264 Geography of Culture and Inequality (HS) (3) An introduction to the cultural geographic study of human and place inequalities, focusing on behaviour in landscape, group differences, and human identities. Students may not hold credit for both 053.264 and the former 053.261. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.265F Géographie politique I (HS) (3) Étude des relations qui existent entre l'État et son territoire: sa localisation, ses frontières et ses disparités régionales. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un minimum de 3 heures-crédits de niveau 100 ou l'autorisation écrite du professeur.

053.266F Géographie politique II (HS) (3) Étude des rapports de force entre les États et leurs relations à l'espace, aux ressources, à la population et aux groupes ethniques. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 053.265 ou l'autorisation écrite du professeur.

053.341F Géographie de l'eau (PS) (3) L'eau, élément essentiel de la géographie physique: bilan d'eau, cycle hydrologique, infiltration, percolation et écoulement, eaux souterraines, hydrologie fluviale et marine: course d'eau, lacs et océans, environnement. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 053.129 ou l'autorisation écrite du professeur.

053.342F L'eau, enjeu géostratégique (HS) (3) L'eau, un enjeu stratégique d'importance: un survol historique des enjeux liés à l'eau et les enjeux actuels, la répartition inégale de la ressource "eau" et son partage équitable, les solutions techniques, économiques, institutionnelles et juridiques envisagées et le droit international. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans le 053.128 et les deux le 053.265 et le 053.266 (ou le 053.243), ou l'autorisation écrite du professeur.

053.343F Géographie du Canada (A) (3) Étude du Canada par régions. L'étudiant(e) ne peut se faire créditer à la fois le 053.343, le 053.256 ou 053.257 et le 053.370, ainsi que les anciens 053.365 et 053.330. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un minimum de 6 heures-crédits de niveau 100 ou le consentement écrit du professeur.

053.344 Applied Climatology (PS) (6) The application of climatic theory to various phenomena of the earth's surface and human-made environments. Studies bioclimate, hydroclimate, agroclimate, and urban climates. Weekly lab. *Prerequisite:* a grade of "C" or better in one of: 053.120, 053.129, 053.254, or the former 053.121, 053.251 or written consent of department head.

053.346 Urban Geography (HS) (6) The course studies the processes and trends of urbanization; the classification of cities; central-place theory; cities as systems; land-use patterns; social forces and factorial ecology; and urban transport problems. *Prerequisite:* a grade of "C" or better in one of: 053.120, 053.128, or the former 053.124, 053.125, 053.127, or written consent of department head.

053.348 Canadian Problems (A) (3) The geographical basis of selected problems (e.g. regional, urban, rural, resource, land use). *Prerequisite:* a grade of "C" or better in one of: 053.256, 053.257, 053.343, the former 053.330 or 053.365, or written consent of department head.

053.348F Particularités de la géographie du Canada (A) (3) Ce cours aborde des problèmes spécifiques la géographie canadienne: régions, urbanisme, milieu rural, ressources, utilisation du sol. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un des cours suivants: 053.256, 053.257 ou 053.343, les anciens 053.330 ou 053.365, ou l'autorisation écrite du professeur.

053.350 Geography of Europe (A) (6) A survey of the geography of Europe. Emphasis will be placed on the European Union. Several countries will be examined in more detail. *Prerequisite:* a grade of "C" or better in six credit hours in geography at the 100 level or written consent of department head.

053.350F Géographie de l'Europe (A) (6) Vue générale sur la géographie du continent européen et, plus spécifiquement sur l'Union européenne. L'accent sera placé sur quelques pays. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un minimum de 6 heures-crédits de niveau 100 ou le consentement écrit du professeur.

053.351W Agricultural Geography (HS) (6) The course introduces location factors which influence the nature and distribution of farming activity. Study is made of the basic types of farming systems, prior to a detailed study of agriculture of the Prairies. *Prerequisite:* a grade of "C" or better in one of: 053.120, 053.128, 053.221, or the former 053.124, 053.125, 053.127, or written consent of department head.

053.352 Energy and Society (HS) (6) The course reviews in detail the role of energy in modern society. Explanation of basic energy laws and flows in the biosphere precedes discussion of energy resources, technologies, uses, and impacts. *Prerequisite:*

a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.353 An Introduction to Land-Resource Management (HS) (6) A study of the geographical aspects of problems and conflicts arising from land-resource utilization; methods of classifying land resources; elementary physical planning of resource development. *Prerequisite:* a grade of "C" or better in one of: 053.120, 053.128, 053.221, or the former 053.124, 053.125, 053.127, or written consent of department head.

053.354 Regional Development Planning Theory and Practise (HS) (6) The course considers regional disparities in a range of Western economies including Canada. The regional problem is explored theoretically and in the application of policies to alleviate disparities. *Prerequisite:* a grade of "C" or better in one of: 053.120, 053.128, 053.221, or the former 053.124, 053.125, 053.127, or written consent of department head.

053.358W Landforms (PS) (6) Present-day and Pleistocene glacial processes and landforms are examined in one term; slope processes and forms as well as the activities of rivers comprise the other. Human modification of these systems is discussed. Students may not hold credit for both 053.358 or the former 053.340 and 007.349. *Prerequisite:* a grade of "C" or better in one of: 053.120, 053.129, 053.255, or the former 053.121, 053.251 or written consent of department head.

053.359 Geography of Developing Countries (A) (6) The main theme is modernization; examples from South Asia and Africa south of the Sahara. Historical development, population and social problems, land use and conservation, urbanization and industrialization. Students may not hold credit for both 053.359 and the former 053.234. *Prerequisite:* a grade of "C" or better in six credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.359F Géographie des pays en voie de développement (A) (6) Le thème principal sera la modernisation des pays en voie de développement: exemples de l'Asie méridionale et de l'Afrique noire. Seront étudiés les aspects suivants: le développement historique, les problèmes démographiques et sociaux, l'utilisation du sol et la conservation des ressources, l'urbanisation et l'industrialisation. L'étudiant(e) ne peut se faire créditer à la fois le 053.359 et l'ancien 053.234. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans au moins 6 crédits de niveau 100 en géographie ou l'autorisation écrite du professeur ou de la professeure.

053.360 Geography of Ukraine (A) (3) The systematic and regional geography of Ukraine, especially its physical environment, resource base, and population and economic geographies. *Prerequisite:* a grade of "C" or better in six credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.361 Climatic Change (PS) (6) The course focuses upon the nature, evidence, and causes of climatic change, with special reference to the historical and Quaternary periods. *Prerequisite:* a grade of "C" or better in one of: 053.120, 053.129, 053.254, the former 053.121, 053.251 or written consent of department head.

053.362 Geographical Hydrology (PS) (6) Examination of the processes associated with the most vital renewable resource water. The first term concentrates on atmospheric components of the Hydrological Cycle. The physical (geometric, hydraulic and sedimentologic) components of a river system are investigated in the second term. *Prerequisite:* a grade of "C" or better in one of: 053.120, 053.129, 053.254, 053.255, or the former 053.121, 053.126, 053.251 or written consent of department head.

053.363 Climatology (PS) (6) The physical and dynamic basis of climatic systems. Scales of climatic systems and variations. Regional distributions of climates and present-day fluctuations of weather and climate. *Prerequisite:* a grade of "C" or better in one of: 053.120, 053.129, 053.254, or the former 053.121, 053.126, 053.251 or written consent of department head.

053.368M Research Methods in Geography (TS) (6) A study of the process of model building in physical and human geography. The analysis and interpretation of data in testing geographic models. Students may not hold credit for 053.368 and the former 053.247. *Prerequisite:* a grade of "C" or better in 053.253 or written consent of department head.

053.370 Canada: The Making of the Human Landscape (A) (6) Emphasis is on the European settlement of Canada from the early 17th century until Confederation and the impact of this settlement upon the land. Students may not hold credit for 053.370 and the former 053.357, 053.367. *Prerequisite:* a grade of "C" or better in six credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.370F Canada: évolution de l'écoumène (A) (6) Étude de l'impact qu'a eu l'arrivée des Européens, au début du XVII^e siècle, sur les différents aspects de l'environnement canadien; évolution de la nature de l'utilisation de l'espace canadien. L'étudiant(e) ne peut se faire créditer à la fois le 053.370 et les anciens 053.357 et 053.367. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans 6 crédits de géographie de niveau 100 ou l'autorisation écrite du professeur.

053.371 Population and the Third World (HS) (3) This course examines the policies and problems associated with population growth and redistribution in the Third World. *Prerequisite:* a grade of "C" or better in 053.248 or 077.248 or written consent of department head.

053.372 Refugees, Displacees, Exiles (HS) (3) This course surveys the geographic dimensions of the nature, causes and consequences of past and contemporary involuntary migrations. *Prerequisite:* a grade of "C" or better in one of: 053.120, 053.128, 053.248, or the former 053.124, 053.125, 053.127, or written consent of department head.

053.373 Geographic Information Systems (TS) (3) Weekly two-hour lab. An introduction to geographic information systems (GIS) input, processing, output and applications. *Prerequisite:* a grade of "C" or better in six credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.374 Field Studies in Geography (A,TS) (6) A field course designed to introduce students to either a detailed area study or to field techniques employed for specific geographic enquiry. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.375 Field Studies in Geography (A,TS) (3) A field course designed to introduce students to either a detailed area study or to field techniques employed for specific geographic enquiry. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.376 Special Topics in Geography (6) This course will vary from year to year depending on the needs of students and the interests of instructors. *Prerequisite:* written consent of department head.

053.376F Sujets particuliers en géographie (6) Le contenu de ce cours variera d'année en année selon les besoins des étudiantes et des étudiants et la spécialité du professeur. Donné au Collège universitaire de Saint-Boniface. *Préalable:* l'autorisation du professeur ou de la professeure.

053.377 Special Topics in Geography (3) This course will vary from year to year depending on the needs of students and the interests of instructors. *Prerequisite:* written consent of department head.

053.379 Geography of Russia (A) (6) A survey of the territorial changes, resource base, population, settlement and economy of Russia. Regions and peoples traditionally associated with Russia will also be covered where useful for understanding the principal entity. Students may not hold credit for 053.379 and the former 053.355. *Prerequisite:* a grade of "C" or better in six credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.380 Geography of Transportation Development (HS) (3) This course examines the development of selected modes of transportation and their associated route and network development. Emphasis is on the place of transportation in the cultural, economic, and physical landscape of Canada and the United States since 1800. Students may not hold credit for both 053.380 and the former 053.463. *Prerequisite:* a grade of "C" or better in a minimum of three credit hours from Geography courses numbered at the 100 level, or written consent of department head.

053.382F Les territoires de la Francophonie mondiale (A,HS) (3) La mise en place des espaces francophones à travers le monde: le développement et l'éclatement des empires français et belge. La territorialité et l'identité au sein de la francophonie internationale. Répartition géographique et développement institutionnel. Ententes politiques et aspirations territoriales. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans un minimum de six heures-crédits dans un cours de niveau 100.

053.383F L'espace Francophone panaméricain (A,HS) (3) L'étude des communautés francophones des Amériques dans le temps et dans l'espace. La mise en place de la francophonie panaméricaine et les circonstances de son éclatement. Ses enjeux économiques, sociaux, politiques et culturels. Les infrastructures, les institutions et les réseaux francophones. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans 053.382.

053.384F Les espaces Francophones de l'Afrique, de l'Asie et de l'Océanie (A,HS) (3) L'étude des communautés francophones africaines, asiatiques et océaniques. Les étapes de la colonisation et de la décolonisation, l'évolution vers l'indépendance et l'accession au statut d'Etat souverain. La mise en place des infrastructures, des institutions et des réseaux francophones. Donné au Collège universitaire de Saint-Boniface. *Préalable:* une note minimale de C dans 053.382.

Honours Courses

053.441 Rural Land Use (3) This course focuses on the dynamics of change on the rural-urban fringe. It involves seminars and individual field research. *Prerequisite:* written consent of department head.

053.444 Advanced Cartography and Digital Map Analysis (3) The advanced study of the production and analysis of maps using computer mapping technology. The incorporation of remotely sensed data and the role of accurate statistical representation are emphasized. Students may not hold credit for both 053.444 and the former 053.452. *Prerequisite:* written consent of department head.

053.454 Remote Sensing and Its Geographical Applications (3) Weekly two-hour lab. The interpretation of conventional aerial photographs and mosaics; problems of rectification and measurement. Remote-sensing techniques and use and interpretation of satellite photography. *Prerequisite:* written consent of department head.

053.455 Topics in Air Pollution: Climatology, Location, and Planning (3) An introduction to air pollution sources; meteorology of air pollution; calculation of ground concentrations; effects and controls; environmental planning and policy. *Prerequisite:* written consent of department head.

053.456 Techniques in Climatology (3) Instrumentation, the sources of climatic data, and the use of satellite photography, as well methods of analysis and presentation are discussed. *Prerequisite:* written consent of department head.

053.457 Techniques in Geomorphology (3) Weekly seminar session on review of field and laboratory research techniques and selected applications in aspects of geomorphology. *Prerequisites:* written consent of department head.

053.458 Concepts and Methods in Geography (6) This course surveys the historical development of the nature, scope, and methods of human and physical geography. *Prerequisite:* written consent of department head.

053.459 Spatial Analysis (3) A survey of the methodology of spatial pattern analysis through a critical review of the literature dealing with urban systems. Emphasis is placed upon the geographical techniques used to analyze networks, lattices, hierarchies, surfaces, and gradients. *Prerequisite:* written consent of department head.

053.460 Cognitive-Behavioural Geography (3) Theoretical and empirical approaches

to geographic space cognition. People's spatial knowledge of urban areas, regions, and nations is investigated. Policy-making implications of these approaches are assessed. *Prerequisite:* written consent of department head.

053.461 Techniques in Historical Geography (3) The course examines the nature of historical geographical source materials and the research techniques employed in their exploitation. Students will be exposed to specific research problems in the historical geography of Western Canada. *Prerequisite:* written consent of department head.

053.464 Models in Urban Geography (3) The topics covered are: the reviews of land use modelling, the gravity and potential models, and the discrete and dynamic models. *Prerequisite:* written consent of department head.

053.465 Models in Regional Analysis (3) Emphasis is placed on the use of regression techniques in regional analysis including the classical ordinary least squares methods and two-stage least squares. Migration and industrial location models are developed and calibrated using these techniques. *Prerequisite:* written consent of department head.

053.466 Honours Thesis (6) This course involves the production of a thesis under the supervision of a geography faculty member. *Prerequisite:* written consent of department head.

053.467 Selected Issues (3) Intensive study of selected geographic issues. *Prerequisite:* prearranged written consent of an individual instructor and written consent of department head.

053.469 Natural Hazards and Disasters (3) A conceptual and methodological survey of natural hazards. Characteristics and causes of geophysical disasters, human exacerbation of hazards, and human adjustments to and perceptions of natural threats will be studied. *Prerequisite:* written consent of department head.

053.471 Geography of the Elderly and Aging (3) Geographic approaches to the study of the elderly and growing old. Spatial aspects of elderly population distributions, migration moves, housing, daily travel patterns, and service systems are examined. *Prerequisite:* written consent of department head.

053.472 Advanced Methods in Geographic Information Systems (3) Weekly two-hour lab. This course focuses on the practical application of techniques used in Geographic Information Systems (GIS) and the development of techniques used in Geographic Information Systems (GIS) and the development of GIS models. The development, testing and presentation of GIS data, models and results are studied. Students may not hold credit for both 053.472 and the former 053.468. *Prerequisite:* written consent of department head.

SECTION 5: Bachelor of Environmental Science and Environmental Studies: B.Env.Sc. and B.Env.St. Degree Regulations and Program Descriptions

Program Director: Norman R. Hunter

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5.1 Academic Staff

Professors

Hunter, N.R., B.Sc., M.Sc. (Carleton), Ph.D. (New Brunswick); **Robinson, G.G.C.,** B.Sc. (Hons.) (St. Andrew's), Ph.D. (UBC).

Associate Professor

Goldsborough, L.G., B.Sc. (Hons.), Ph.D. (Manitoba).

Assistant Professors

McLachlan, S.M., B.Sc. (Hons.) (McMaster), M.Sc. (Guelph), Ph.D. (York); **Wang, F.,** B.Sc. (Wuhan), Ph.D. (Peking).

Instructor

Hunter, K., B.Sc., M.Sc. (Manitoba) (Instructor II)

5.2 Program Information

The Faculty of Environment offers General, Major, and Honours degree programs leading to a Bachelor of Environmental Science (B.Env.Sc.) and Bachelor of Environmental Studies (B.Env.St.). Through an interdisciplinary approach, environmental issues relating to human population, sustainable resource development, pollution and conservation, environmental health, and endangerment and preservation of species are explored in conjunction

with alternative conditions that have the potential to reverse current trends and contribute to ecological sustainability. Students have access to undergraduate courses offered by Faculties of Agricultural and Food Sciences, Arts, Environment, Law and Science in order to complete their education. They are expected to take many courses outside the Faculty of Environment, enabling them to obtain a truly interdisciplinary education.

The Major and Honours degree programs serve students who desire advanced study in an environmental field. The programs are intended for students interested in professional training and the opportunity for advanced research. Honours degree programs demand higher academic performance and lead most directly to graduate study. Students who are ineligible to enter the Honours degree program in their third year may establish this in the following year on the basis of their improved scholastic performance. See the program administrator for information. The degree programs may be pursued on a full or part-time basis.

The degree programs share a general structure that includes 39 credit hours in a foundation of either introductory Sciences or Social Sciences/Humanities. The Bachelor of Environmental Science foundation includes 002.130, 002.131, 005.200, 001.237 (022.237 or 065.237), 016.102 (or 016.105), 016.103 (or 016.107), 071.125, 007.134 (or 007.123), 128.217, 128.255 (or 002.225), 128.325, and 136.150 (or 136.120, 136.130, 136.151, 136.152, 136.153). The Bachelor of Environmental Studies foundation consists of 053.128 and 053.129 (or 053.120), 053.262, 032.122 and 032.124 (or 032.120), 071.101 (or 071.125), 001.228 (022.229) (or 001.237, 022.237 or 065.237), 3 credit hours of 100 level Geological Sciences, and 15 credit hours of 100 and 200 level courses from 3 subject areas including Anthropology, Economics, History, Philosophy, Political Studies, Sociology, and Women's Studies.

Students complete an environmental core of 27 credit hours that is common to both degrees and includes 005.100, 015.275, 018.239 (061.239), 128.100, 128.200, 128.205, 128.311, 128.315 and 128.411. Students complete a Focus Area that is defined through consultation with the program administrator. Students completing the General degree program are required to complete 9 credit hours; Major and Major Coop students complete 30 credit hours; and Honours and Honours Coop students complete 39 credit hours. Other Focus Area requirements are defined in the graduation requirements in section 5.4.1 in this *Chapter*.

General

To qualify for the degree Bachelor of Environmental Science (General) or Bachelor of Environmental Studies (General), students must complete 90 credit hours including all faculty and degree requirements (including the foundation, environmental core and 9 credit hour Focus Area). Minimum performance requirements include passing grades ("D" or better) in each course and a minimum cumulative Grade Point Average of 2.00 on the 90 credit hours which constitute the degree. There is no limit to the number of credit hours a student completes provided he/she does not exceed 48 credit hours of failed and/or repeated courses.

Major

To qualify for the degree Bachelor of Environmental Science (Major) or Bachelor of Environmental Studies (Major), a student must complete 120 credit hours with a minimum cumulative grade point average of 2.00 on the courses constituting the degree. Students must complete all faculty and degree requirements (including the foundation, environmental core (with minimum "C" grades in 128.100, 128.200, 128.205, 128.311, 128.315, and 128.411) and Focus Area). Focus Area requirements are as follows: 30 credit hours of which 18 credit hours must be completed at the 300 or 400 level; 2.00 cumulative Grade Point Average. Major (Coop) students must attain a minimum overall cumulative Grade Point Average of 2.50 and complete 6 credit hours of coop related courses. There is no limit to the number of credit hours a student completes provided he/she does not exceed 18 credit hours of failed and/or repeated courses.

Honours

To qualify for the degree Bachelor of Environmental Science (Honours) or Bachelor of Environmental Studies (Honours), a student must complete 120 credit hours with a minimum cumulative grade point average of 3.25 on the courses constituting the degree. Students must complete all faculty and degree requirements (including the foundation, environmental core (with minimum "C+" grades in 128.100, 128.200, 128.205, 128.311, 128.315, and 128.411) and Focus Area). Focus Area requirements are as follows: 39 credit hours of which 24 credit hours must be completed at the 300 or 400 level and must include either 128.350 or 128.450; 3.00 cumulative Grade Point Average and minimum "C+" grades. Honours (Coop) students must complete 6 credit hours of coop related courses. There is no

limit to the number of credit hours a student completes provided he/she does not exceed 18 credit hours of failed and/or repeated courses.

Note: Students graduating with a Bachelor of Environmental Studies (B.Env.St.) are required to complete 15 credit hours of 100 and 200 level Social Science/Humanities courses from 3 subject areas including Anthropology, Economics, History, Philosophy, Political Studies, Sociology, and Women's Studies.

Cooperative Education Option

A Cooperative Education Option is available to students registered in either the Major or Honours degree programs in Environmental Science or Environmental Studies. Coop is an arrangement whereby students spend alternating periods in university and employment. There are several advantages to a cooperative education program for students. One benefit is that students are able to acquire both theoretical knowledge and practical experience. This experience assists them in selecting areas of specialization for their senior courses in their chosen Focus Area. As well, Coop assists students in their professional development by enhancing networking opportunities, participation in conferences and workshops and provides the foundation of skills and strategies required in searching and acquiring employment after graduation. Students can also defray some of the costs of their university education through these work term placements. Further information about Cooperative Education and student eligibility is available from the program administrator.

Students electing to participate in the Cooperative Option will be assessed a one time program fee of \$500.00 with their formal application for admission to the Cooperative Option. The program fee covers the registration in 128.398, 128.399, and 128.498. Once a student has accepted a position with a Coop employer, no portion of the program fee will normally be refunded.

The Cooperative Option consists of two employment work terms totaling eight months and six credit hours of mandatory course work. An optional third work term and work term report is available to interested students. Each academic term and each employment term commence in January,

May or September. The work term must provide a minimum of 420 hours of employment. While on an employment term, a Cooperative Option student is not permitted to take more than three additional credit hours of academic work outside of the requirements of the Coop placement.

Students must register in the appropriate 1.5 credit hour Work Term Report concurrently with the employment placement. This is outlined as follows:

Placement Course	Corequisite Report Course
128.398 Coop Work Term 1 (0)	128.391 Coop Work Term Report 1 (1.5)
128.399 Coop Work Term 2 (0)	128.392 Coop Work Term Report 2 (1.5)
<i>Optional</i>	
128.498 Coop Work Term 3 (0)	128.491 Coop Work Term Report 3 (1.5)

Students are required to register in the appropriate Coop courses and pay course fees prior to beginning their placement.

5.3 Entrance Requirements for the B.Env.Sc. and B.Env.St. Degree Programs

Students admitted from University 1 are placed in the Major degree program in either the Bachelor of Environmental Science or Bachelor of Environmental Studies until they have completed a minimum of 48 credit hours after which they can transfer to the General or Honours program; or remain in the Major program. To make such a transfer, students must complete an application form available in the faculty general office.

External transfer students, Second Degree students and those from the Environmental Science Program may be eligible for direct entry into the General or Honours programs. These students should consult with the program administrator and/or student advisor.

5.3 and 5.3 define the entry requirements for the Honours and Honours (Coop), Major and Major (Coop) and General degree programs in the Bachelor of Environmental Science and Bachelor of Environmental Studies, respectively.

5.3.1 Bachelor of Environmental Science (B.Env.Sc.) Entry Requirements

Degree Program in B.Env.Sc.	Minimum Number of Credit Hours	Minimum Cumulative Grade Point Average	Additional Entrance Requirements
Honours	48	3.25	No failures on entry; a grade of "B" or better in 128.100 and 128.200 as well as a minimum "C+" in 071.125 or 002.131 and "C" in the other course.
Honours (Coop) ¹	60	3.25	128.290; students must satisfy the requirements for entry/ continuation in the regular program and (normally) have completed 128.100, 128.200, 128.205, 128.217, 128.255 (002.255), 005.100, 005.200, 001.237 (022.237 or 065.237), 007.134 (or 007.123), 018.239 (061.239), and 071.125.
Major	24	2.00	12 credit hours in 128.100, 128.200, 071.125, 002.130, 002.131, 005.100, 005.200, 136.150 (or 136.120, 136.130, 136.131, 136.151, 136.152, 136.153), 007.134 (or 007.123), 016.102 (or 016.105), 016.103 (or 016.107), with a grade of "C+" or better in six of the 12 credit hours, and a grade of "C" or better in the remaining six credit hours.
Major (Coop) ¹	60	2.50	128.290; students must satisfy the requirements for continuation in the regular program and (normally) have completed 128.100, 128.200, 128.205, 128.217, 128.255 (002.255), 005.100, 005.200, 001.237 (022.237 or 065.237), 007.134 (or 007.123), 018.239 (061.239), and 071.125.
General	48	2.00	

5.3.2 Bachelor of Environmental Studies (B.Env.St.) Entry Requirements

Degree Program in B.Env.St.	Minimum Number of Credit Hours	Minimum Cumulative Grade Point Average	Additional Entrance Requirements
Honours	48	3.25	No failures on entry; a grade of "B" or better in 128.100 and 128.200; 053.128 and 053.129 (or 053.120), 032.122 and 032.124 (or 032.120) with a grade of "C+" or better in six of the 12 credit hours, and a grade of "C" or better in the remaining six credit hours.
Honours (Coop) ¹	60	3.25	128.290; students must satisfy the requirements for entry/ continuation in the regular program and (normally) have completed 128.100, 128.200, 128.205, 053.128 and 053.129 (or 053.120), 032.122 and 032.124 (or 032.120), 007.144 (or other 100 level Geological Sciences), 018.239 (061.239), 005.100, one of 001.228 (022.229) or 001.237 (022.237 or 065.237), and one of 071.101 or 071.125.
Major	24	2.00	12 credit hours taken from 128.100, 128.200, 071.101 (or 071.125), 005.100, and/or 100 and 200 level courses in Geography, Native Studies, Anthropology, Economics, History, Philosophy, Political Studies, Sociology, Women's Studies; with a grade of "C+" or better in six of the 12 credit hours, and a grade of "C" or better in the remaining six credit hours.

Major (Coop) ¹	60	2.50	128.290; students must satisfy the requirements for continuation in the regular program and (normally) have completed 128.100, 128.200, 128.205, 053.128 and 053.129 (or 053.120); 032.122 and 032.124 (or 032.120), 007.144 (or other 100 level Geological Sciences), 018.239 (061.239), 005.100, one of 001.228 (022.229) or 001.237 (022.237 or 065.237), and one of 071.101 or 071.125.
General	48	2.00	

¹Students may be permitted to enter the program without satisfying all requirements listed. Students should consult with the program administrator for further information.

5.3.3 Students Admitted in the Environmental Science Program (ESP) Prior to September 2003

Students admitted to the Environmental Science Program (ESP) prior to September 2003 are invited to transfer to the Bachelor of Environmental Science (B.Env.Sc.) or Bachelor of Environmental Studies (B.Env.St.) to complete their undergraduate program. Students should consult with the program administrator to determine their eligibility for admission to the Honours or Honours (Coop) degree programs. Note: Transferring students are required to adopt the current academic regulations and degree requirements of the B.Env.Sc. or B.Env.St.

Students may elect to complete the remainder of their B.Sc. in Environmental Science (Major) and (Major Coop) degrees. These students will be required to follow the academic and degree regulations established by the Faculty of Science at the time of their admission to the Environmental Science Program. Students completing the Major degree program will be required to complete their degree requirements by April, 2007 and those completing the Major (Coop) by April, 2008. Students who do not satisfy the degree requirements by these dates will be required to consult with a Faculty of Science student advisor before registering in another academic session.

Entry from the National Environmental Education and Training (NEET) Program

Graduates from the National Environmental Education and Training (NEET) Program, with an average of "C+" or better, may enter the Bachelor of En-

vironmental Science Major or Bachelor of Environmental Studies Major degree program. NEET graduates with 60 credit hours of transfer credit will be exempt from completing 128.100, 128.200, 128.311, 128.325, 128.411, 001.237 (022.237 or 065.237), 018.239 (061.239), 6 credit hours of 100 level Native Studies, and 21 credit hours of the Native Studies Focus Area. Students intending to complete one of the other Focus Areas available must consult with the program administrator.

5.4 Minimum Performance Requirements for the B.Env.Sc., B.Env.S.E. Degree Programs: Continuation and Graduation

A student's academic performance will be assessed with his/her application for admission to the Faculty of Environment and following each *April examination series* thereafter. The program administrator must approve a student's registration each Regular and Summer session. Any revisions in this schedule should also be approved prior to the end of the registration revision period.

To be in "good standing" and permitted to continue in a degree program, a student must achieve the minimum standards outlined in 5.4.1 at each point of assessment. This assessment is based on the student's minimum cumulative Grade Point Average; the grades received in each of 128.100, 128.200, 128.205, 128.311, 128.315 and 128.411; and the number of failures and/or repeated courses after admission to the Faculty of Environment.

5.4.1 Minimum Performance Requirements for the B.Env.Sc. and B.Env.St. Degree Programs

Degree Program (Credit Hours)	Minimum Performance Requirements			Graduation Requirements ^{1,2}	
	Minimum Cumulative Grade Point Average (GPA)	Maximum Credit Hours of Failures/ Repeated Courses	Minimum Grade Requirements in 128.100, 128.200, 128.205, 128.311, 128.315 and 128.411	Focus Area (200 Level or Higher)	Coop Option Courses
General (90)	2.00	48		●9 credit hours from the mandatory core of a selected Focus Area	
Major (120)	2.00	18	"C"	●30 credit hours of which 18 must be at the 300 or 400 level; ●minimum cumulative GPA of 2.00.	
Major (Coop) (120)	2.50	18			128.290, 128.390, 128.391, 128.398, 128.392, 128.399; (128.491 and 128.498 are optional)
Honours (120)	3.25	18	128.100 (B) 128.200 (B); "C+" grades in others	●39 credit hours of which 24 must be at the 300 or 400 level; ●completion of 128.350 or 128.450; ●minimum cumulative GPA of 3.00; ●"C+" minimum grade in each course.	
Honours (Coop) (120)	3.25	18			128.290, 128.390, 128.391, 128.398, 128.392, 128.399; (128.491 and 128.498 are optional)

¹Students in the B.Env.St. must complete 15 credit hours of 100 and 200 level courses from 3 subject areas including Anthropology, Economics, History, Philosophy, Political Studies, Sociology and Women's Studies.

²Satisfy the residency requirement for the degree program.

To graduate from either a Bachelor Environmental Science or the Bachelor of Environmental Studies with the intended degree designation, a student must achieve the minimum standards and graduation requirements outlined in 5.4.1 following the final year *April or August examination series* and satisfy all degree course requirements in the foundation, environmental core and Focus Area as defined in section 5.2 of this *Chapter*. In addition,

students must satisfy the residency requirement by completing either a total of 48 credit hours or their last 24 credit hours at the University of Manitoba. These courses must be acceptable for credit in either the Bachelor Environmental Science or the Bachelor of Environmental Studies.

Students who do not meet these minimum performance requirements for continuation or graduation will be required to transfer to the appropriate

program based on their performance and eligibility as defined in 5.4.1. Students who do not meet the minimum performance requirements for the General degree program will be placed on probation or academic suspension as defined in section 3.12 Probation and Academic Suspension in this Chapter.

Students required to transfer out of the Honours degree program will have the statement "Required to Transfer from the Honours Program" recorded on their transcript of marks. Similarly, students required to transfer out of the Major degree program will have the statement "Required to Transfer from the Major Program" recorded on their transcript of marks.

5.5 B.Env.Sc. and B.Env.St.: Dean's Honour List and Graduating with Distinction or First Class Honours

Students enrolled in a minimum of 24 credit hours of course work during the Regular term and achieve a cumulative Grade Point Average of 3.50 or higher will be placed on the **Dean's Honour List**.

To obtain a **Degree with Distinction** a student must achieve a minimum cumulative Grade Point Average of 3.50 on the last 60 credit hours in the degree program.

To graduate with **First Class Honours**, a student must complete at least 24 credit hours in each eight-month academic term and achieve a cumulative Grade Point Average of 3.50, on all courses constituting his/her last two academic years of the Honours degree. The term "First Class Honours" will appear both on the parchment and on the student's transcript of marks.

5.6 Bachelor of Environmental Science⁸, Program Code: 128C

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
HONOURS^{1,2} 120 CREDIT HOURS			
128.100, 128.200, 002.130, 002.131, 071.125	128.205, 128.217, 001.237 (022.237 or 065.237), 128.255 (002.255), 015.275, 018.239 (061.239)	128.311, 128.315, 128.325, 128.411	
Plus 6 credit hours from 005.100, 005.200, 007.134 ³ , 016.102 ⁴ , 016.103 ⁴ , 136.150 ⁵	Plus the remaining courses from 005.100, 005.200, 007.134 ³ , 016.102 ⁴ , 016.103 ⁴ , 136.150 ⁵ not yet taken		
Plus 6 credit hours from the Faculty of Arts which may include the "W" course			
It is recommended that students complete the "W" course in University 1 or Year 2			
Plus a Focus Area defined in consultation with the program administrator. Honours Focus Area requirements are as follows: 39 credit hours of 200 or higher level courses of which 24 credit hours must be at the 300 or 400 level and include either 128.350 or 128.450 ⁷ .			

HONOURS COOPERATIVE OPTION^{1,2,6} 120 CREDIT HOURS			
128.100, 128.200, 002.130, 002.131, 071.125	128.205, 128.217, 001.237 (022.237 or 065.237), 128.255 (002.255), 015.275, 018.239 (061.239), 128.290	128.311, 128.315, 128.325, 128.411	128.390, 128.398, 128.391, 128.399, 128.392 (128.498 and 128.491 are optional)
Plus 6 credit hours from 005.100, 005.200, 007.134 ³ , 016.102 ⁴ , 016.103 ⁴ , 136.150 ⁵	Plus the remaining courses from 005.100, 005.200, 007.134 ³ , 016.102 ⁴ , 016.103 ⁴ , 136.150 ⁵ not yet taken		
Plus 6 credit hours from the Faculty of Arts which may include the "W" course			
It is recommended that students complete the "W" course in University 1 or Year 2			
Plus a Focus Area defined in consultation with the program administrator. Honours Focus Area requirements are as follows: 39 credit hours of 200 or higher level courses of which 24 credit hours must be at the 300 or 400 level and include either 128.350 or 128.450 ⁷ .			

NOTE: The Cooperative Education Option is typically a five-year program.

MAJOR^{1,2} 120 CREDIT HOURS			
128.100, 128.200, 002.130, 002.131, 071.125	128.205, 128.217, 001.237 (022.237 or 065.237), 128.255 (002.255), 015.275, 018.239 (061.239)	128.311, 128.315, 128.325, 128.411	
Plus 6 credit hours from 005.100, 005.200, 007.134 ³ , 016.102 ⁴ , 016.103 ⁴ , 136.150 ⁵	Plus the remaining courses from 005.100, 005.200, 007.134 ³ , 016.102 ⁴ , 016.103 ⁴ , 136.150 ⁵ not yet taken		
Plus 6 credit hours from the Faculty of Arts which may include the "W" course			
It is recommended that students complete the "W" course in University 1 or Year 2			
Plus a Focus Area defined in consultation with the program administrator. Major Focus Area requirements are as follows: 30 credit hours of 200 or higher level courses of which 18 credit hours must be at the 300 or 400 level ⁷ .			

MAJOR COOPERATIVE OPTION^{1,2,6} 120 CREDIT HOURS			
128.100, 128.200, 002.130, 002.131, 071.125	128.205, 128.217, 001.237 (022.237 or 065.237), 128.255 (002.255), 015.275, 018.239 (061.239), 128.290	128.311, 128.315, 128.325, 128.411, 128.390, 128.398, 128.391, 128.399, 128.392, (128.498 and 128.491 are optional)	
Plus 6 credit hours from 005.100, 005.200, 007.134 ³ , 016.102 ⁴ , 016.103 ⁴ , 136.150 ⁵	Plus the remaining courses from 005.100, 005.200, 007.134 ³ , 016.102 ⁴ , 016.103 ⁴ , 136.150 ⁵ not yet taken		
Plus 6 credit hours from the Faculty of Arts which may include the "W" course			
It is recommended that students complete the "W" course in University 1 or Year 2			
Plus a Focus Area defined in consultation with the program administrator. Major Focus Area requirements are as follows: 30 credit hours of 200 or higher level courses of which 18 credit hours must be at the 300 or 400 level ⁷ .			

NOTE: Students in the Major Coop are required to maintain an overall cumulative Grade Point Average of 2.50. The Cooperative Education Option is typically a five-year program.

GENERAL^{1,2} 90 CREDIT HOURS		
128.100, 128.200, 002.130, 002.131, 071.125	128.205, 128.217, 001.237 (022.237 or 065.237), 128.255 (002.255), 015.275, 018.239 (061.239)	128.311, 128.315, 128.325, 128.411
Plus 6 credit hours from 005.100, 005.200, 007.134 ³ , 016.102 ⁴ , 016.103 ⁴ , 136.150 ⁵	Plus the remaining courses from 005.100, 005.200, 007.134 ³ , 016.102 ⁴ , 016.103 ⁴ , 136.150 ⁵ not yet taken	
Plus 6 credit hours from the Faculty of Arts which may include the "W" course		
It is recommended that students complete the "W" course in University 1 or Year 2		
Plus 9 credit hours from a selected Focus Area ⁷ mandatory core approved by the program administrator.		

MINOR 18 CREDIT HOURS		
128.100, 128.200	Plus a minimum of 12 credit hours chosen from 200, 300 or 400 level courses in Environmental Science	
	Note: 001.237 (022.237, or 065.237) is a prerequisite to 128.325. 071.125 (C) and 005.100 are the prerequisites to 001.237 (022.237 or 065.237). 001.228 (022.229) or 001.237 (022.237 or 065.237) is a prerequisite to 128.311.	

NOTES:
¹entry into the degree programs is summarized in 5.3.
²the courses required in this program will satisfy the university mathematics requirement.
³007.123 may be used in place of 007.134.
⁴016.105 and 016.107 may be used in lieu of 016.102 and 016.103, respectively.
⁵136.120, 136.130, 136.131, 136.151, 136.152, or 136.153 may be taken in place of 136.150.
⁶128.391, 128.392, and 128.491 can only be held for credit in the Major and Honours Cooperative Education Option degrees.
⁷Focus Area performance requirements are defined in section 5.4 of this Chapter.
⁸IMPORTANT: The Honours and Major programs need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program.

5.7 Bachelor of Environmental Studies⁸, Program Code: 128T

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
HONOURS^{1,2} 120 CREDIT HOURS			
128.100, 128.200, 053.128 and 053.129 (or 053.120), 032.122 and 032.124 (or 032.120)	128.205, 053.262, 015.275, 018.239 (061.239), 001.228 (022.229) ⁴	128.311, 128.315, 128.411	
Plus 6 credit hours from 005.100, 007.144 ³ and 071.101 ⁴	Plus the remaining courses from 005.100, 007.144 ³ and 071.101 ⁴ not yet taken		
Plus 6 credit hours chosen from the Social Science/Humanities list ⁵	Plus the remaining credit hours in the Social Science/Humanities list ⁵ not yet taken		
Plus a Focus Area defined in consultation with the program administrator. Honours Focus Area requirements are as follows: 39 credit hours of 200 or higher level courses of which 24 credit hours must be completed at the 300 or 400 level and include either 128.350 or 128.450 ⁷ .			

HONOURS COOPERATIVE OPTION^{1,2,6} 120 CREDIT HOURS			
128.100, 128.200, 053.128 and 053.129 (or 053.120), 032.122 and 032.124 (or 032.120)	128.205, 053.262, 015.275, 018.239 (061.239), 001.228 (022.229) ⁴ , 128.290	128.311, 128.315, 128.411	128.390, 128.398, 128.391, 128.392 (128.498 and 128.491 are optional)
Plus 6 credit hours from 005.100, 007.144 ³ and 071.101 ⁴	Plus the remaining courses from 005.100, 007.144 ³ and 071.101 ⁴ not yet taken		
Plus 6 credit hours chosen from the Social Science/Humanities list ⁵	Plus the remaining credit hours in the Social Science/Humanities list ⁵ not yet taken		
Plus a Focus Area defined in consultation with the program administrator. Honours Focus Area requirements are as follows: 39 credit hours of 200 or higher level courses of which 24 credit hours must be completed at the 300 or 400 level and include either 128.350 or 128.450 ⁷ .			
NOTE: The Cooperative Education Option is typically a five-year program.			

MAJOR^{1,2} 120 CREDIT HOURS			
128.100, 128.200, 053.128 and 053.129 (or 053.120), 032.122 and 032.124 (or 032.120)	128.205, 053.262, 015.275, 018.239 (061.239), 001.228 (022.229) ⁴	128.311, 128.315, 128.411	
Plus 6 credit hours from 005.100, 007.144 ³ and 071.101 ⁴	Plus the remaining courses from 005.100, 007.144 ³ and 071.101 ⁴ not yet taken		
Plus 6 credit hours chosen from the Social Science/Humanities list ⁵	Plus the remaining credit hours in the Social Science/Humanities list ⁵ not yet taken		
Plus a Focus Area defined in consultation with the program administrator. Major Focus Area requirements are as follows: 30 credit hours of 200 or higher level courses of which 18 credit hours must be completed at the 300 or 400 level ⁷ .			

MAJOR COOPERATIVE OPTION^{1,2,6} 120 CREDIT HOURS

128.100, 128.200, 053.128 and 053.129 (or 053.120), 032.122 and 032.124 (or 032.120)	128.205, 053.262, 015.275, 018.239 (061.239), 001.228 (022.229) ⁴ , 128.290	128.311, 128.315, 128.411 128.390, 128.398, 128.391, 128.392 (128.498 and 128.491 are optional)
Plus 6 credit hours from 005.100, 007.144 ³ and 071.101 ⁴	Plus the remaining courses from 005.100, 007.144 ³ and 071.101 ⁴ not yet taken	
Plus 6 credit hours chosen from the Social Science/Humanities list ⁵	Plus the remaining credit hours in the Social Science/Humanities list ⁵ not yet taken	

Plus a Focus Area defined in consultation with the program administrator. Major Focus Area requirements are as follows: 30 credit hours of 200 or higher level courses of which 18 credit hours must be completed at the 300 or 400 level⁷.

NOTE: Students are required to maintain an overall cumulative Grade Point Average of 2.50 in the Major Coop Program. The Cooperative Education Option is typically a five-year program.

GENERAL^{1,2} 90 CREDIT HOURS

128.100, 128.200, 053.128 and 053.129 (or 053.120), 032.122 and 032.124 (or 032.120)	128.205, 053.262, 015.275, 018.239 (061.239), 001.228 (022.229) ⁴	128.311, 128.315, 128.411
Plus 6 credit hours from 005.100, 007.144 ³ and 071.101 ⁴	Plus the remaining courses from 005.100, 007.144 ³ and 071.101 ⁴ not yet taken	
Plus 6 credit hours chosen from the Social Science/Humanities list ⁵	Plus the remaining credit hours in the Social Science/Humanities list ⁵ not yet taken	

Plus 9 credit hours from a selected Focus Area⁷ mandatory core approved by the program administrator.

MINOR 18 CREDIT HOURS

128.100, 128.200	Plus a minimum of 12 credit hours chosen from 200, 300 or 400 level courses in Environmental Studies.
	Note: 001.237 (022.237, or 065.237) is a prerequisite to 128.325. 071.125 (C) and 005.100 are the prerequisites to 001.237 (022.237 or 065.237). 001.228 (022.229) or 001.237 (022.237 or 065.237) is a prerequisite to 128.311. 071.125 (C) and 002.131 or 002.132 are prerequisites to 128.218 (01.218, 022.218 or 065.218) and 128.219 (001.219, 022.219 or 065.219).

NOTES:

¹entry into the degree programs is summarized in 5.3.2.

²the courses required in this program will satisfy the university mathematics and written English requirements.

³or any alternate 3 credit hours of geological sciences at the 100 level.

⁴students with an interest in the Conservation Focus Area are advised to complete both 071.125 and 001.237 (022.237 or 065.237) instead of 071.101 and 001.228 (022.229).

⁵to complete the degree requirements, students must complete 15 credit hours of Social Studies/Humanities courses chosen from 3 subject areas taken from the following: 076.120, 076.121, 076.122, 018.120, 018.121, 018.122, 3 or 6 credit hours in History courses numbered at the 100 or 200 level; 015.120, 015.129, 015.132, 015.133, 015.151, 019.150, 019.204, 019.206, 019.207, 077.120, 156.153, 156.154.

⁶128.391, 128.392 and 128.491 can only be held for credit in the Major and Honours Cooperative Education Option degrees.

⁷Focus Area performance requirements are defined in section 5.4.1 of this Chapter.

⁸IMPORTANT: The Honours and Major programs need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program.

5.8 Environmental Science and Environmental Studies Course Descriptions

To fulfil prerequisite requirements, a grade of "C" must be achieved, unless otherwise stated, in any course stipulated as a prerequisite to a further course.

All courses are not offered every year. The course schedule for the current academic session is published in the *Registration Guide*.

NOTE: Students registering in certain courses may be required to pay a portion of the costs associated with field trips. For details, contact the Faculty of Environment general office.

128.100 Environmental Science 1: Concepts (3) This course will introduce students to the conceptual framework of the environment by examining its physical, biological and social components. General topics to be considered will include ecological principles and the responses of natural and managed systems to disturbance; population growth; biodiversity and conservation; and environmental sustainability. Not to be held for credit with or 071.134 or the former 001.337.

128.200 Environmental Science 2: Issues (3) This course will briefly review the major features of the structure and function of natural systems along with the degree to which these have been compromised. The main component of the course, however, will concentration on the identification of the issues that underlie environmental degradation, while exploring alternative conditions that have the potential to reverse current trends and ultimately contribute to ecological sustainability. *Prerequisite:* 128.100.

128.205 Technical Communication Skills in Environmental Science (3)L Lectures and laboratories designed to provide a basic understanding of the methods used in formulation of research questions; search techniques currently available; and the or-

ganization and summarization of information for report, poster and seminar presentations. *Prerequisite:* Permission from the Environmental Science Program.

128.217 Environmental Problem Solving (3) A survey of mathematical and scientific approaches to environmental problems. A multi-disciplinary approach will be taken, using current topical issues as examples. *Prerequisites:* 002.131, 071.125 and one of 016.102 or 136.150 (136.120, 136.130, 136.131, 136.151, 136.152 or 136.153).

128.218 Introductory Toxicology (3) A survey of general principles underlying the effects of toxic substances on biological systems, including consideration of the history, scope and applications of toxicology, the mechanisms of toxic action, and some major types of toxicants. Not to be held with 128.219, 001.218, 001.219, 022.218, 022.219, 065.218, 065.219 or the former 001.337. *Prerequisites:* 071.125 and 002.131 (or the former 002.128) or 002.132.

128.219 Toxicological Principles (1.5) A survey of general principles underlying the effects of toxic substances on biological systems, including consideration of the history, scope and applications of toxicology, the mechanisms of toxic action. Not to be held with 128.218, 001.218, 001.219, 022.218, 022.219, 065.218, 065.219 or the former 001.337. *Prerequisites:* 071.125 and 002.131 (or the former 002.128) or 002.132.

128.255 Environmental Chemistry (3)L An introduction to the chemistry of the environment. Emphasis will be on the composition of the natural environment and the processes of natural and human-introduced chemical species that take place within it. The course will provide students with the chemical basis for understanding the environment and environmental problems. Not to be held with 002.255. *Prerequisite:* 002.131.

128.290 Professional Development in the Environmental Sectors 1 (1.5) Through self directed learning students are introduced to the environmental sectors and issues including workplace health and safety, the respectful workplace, managing workloads and expectations, and professionalism. The course is a mandatory requirement to Cooperative Education Option admission. *Prerequisite:* 128.205.

128.300 Multidisciplinary Topics in Environmental Science 1 (3) Selected topics of

current interest in the Environmental Sciences. Course content to vary with each offering depending on the needs and interests of students and faculty. *Prerequisite:* Permission of the instructor plus a minimum of 60 credit hours of university credit; students not enrolled in the Environmental Science program must obtain permission from their Major/Honours program.

128.301 Field Topics in Environmental Science 1 (1.5) Field and practical experience in selected topics of current interest in the Environmental Sciences, with the content to vary depending on the needs and interests of students and faculty. *Prerequisite:* Permission of the instructor; students not enrolled in the Environmental Science program must obtain permission from their Major/Honours program.

128.302 Extended Field Topics in Environmental Science 1 (3) Field and practical experience in selected topics of current interest in the Environmental Sciences, with the content to vary depending on the needs and interests of students and faculty. *Prerequisite:* Permission of the instructor; students not enrolled in the Environmental Science program must obtain permission from their Major/Honours program.

128.311 Environmental Conservation and Restoration (3)L Environmental conservation and restoration are introduced and approaches based on science and traditional knowledge are contrasted. An emphasis is placed on systems thinking and both local and international case studies. Not to be held with the former 1.355 or 128.310. *Prerequisites:* 001.228 (022.229) or 001.237 (022.237 or 065.237), or permission of the program administrator.

128.315 Environmental Responsibilities (3) Environmental responsibilities in terms of policies, legislation, standards and guidelines are covered through lectures, case study review and discussion. Environmental liability and due diligence are reviewed in relation to responsibilities of organizations and individuals. Strategies to manage environmental liabilities, including environmental assessment, risk assessment, audit, site assessment and management systems are also discussed. *Prerequisite:* 60 credit hours of university course work.

128.325 Environmental Assessment (3)L The theory, principles and practices of environmental assessment as a planning and decision-making process to identify and mitigate adverse effects of development projects. Environmental assessment is defined in the context of federal and provincial legislation, and applicable standards and guidelines. Laboratory assignments involve practical experiences, case study review and basic report preparation. Not to be held with the former 128.320 or 001.356. *Prerequisites:* 061.355 or 128.315, 001.237 (022.237 or 065.237), or permission of the instructor.

128.335 Environmental Management Systems (3) This course provides an introduction to environmental management systems and specific material on the ISO 14001 international EMS standard. Auditing principles and techniques are described with specific guidance on auditing an ISO 14001 EMS. *Prerequisite:* Permission of the instructor; students not enrolled in Environmental Science must obtain permission from their Major/Honours program.

128.350 Project in Environmental Science (3) A research project in any aspect of environmental science, chosen in consultation with the program director and an appropriate supervising faculty member. Written reports and oral presentation on the results of the project will be required. The course is normally available only to final year students in the Environmental Science Program. *Prerequisite:* Permission of the program director.

128.355 Environmental Analysis (3)L An introduction to classical and modern techniques for the sampling, sample pre-treatment, and analysis of chemical substances in aquatic, atmospheric and terrestrial environments and the interpretation of data obtained from such analyses. Not to be held with 002.347 or 002.355. *Prerequisite:* 128.255 (002.255) or permission of the instructor.

128.390 Professional Development in the Environmental Sectors 2 (1.5) Attendance and participation in seminars, conferences and workshops to foster greater interaction between students and practitioners in the environmental sectors. Students improve professional skill sets through assignments and mock interviews. The normal sequence for participation is after completion of 128.398. *Prerequisites:* 128.290; minimum of 60 hours of university credit.

128.391 Coop Work Term Report 1 (1.5) Work term report, completed in conjunction with the coop placement, designed to integrate professional experiences with the concepts and theories explored through academic study. Students must be admitted into the Coop program to be registered, and receive credit. *Prerequisite:* 128.290. *Corequisite:* 128.398.

128.392 Coop Work Term Report 2 (1.5) Work term report completed in conjunction with the coop placement, designed to integrate professional experiences with the concepts and theories explored through academic study. Students must be admitted into the Coop program to be registered, and receive credit. *Prerequisite:* 128.398. *Corequisites:* 128.390 and 128.399.

128.398 Coop Work Term 1 (0) Work assignments in business, industry, research or government for students registered in the Honours or Major Cooperative program. Students must be registered in 128.391 concurrently. *Prerequisite:* 128.290; *Corequisite:* 128.391.

128.399 Coop Work Term 2 (0) Work assignments in business, industry, research or government for students registered in the Honours or Major Cooperative program. Students must be registered in 128.392 concurrently. *Prerequisite:* 128.398; *Corequisites:* 128.390 and 128.392.

128.400 Multidisciplinary Topics in Environmental Science 2 (3) Selected topics of current interest in the Environmental Sciences. Course content to vary with each offering depending on the needs and interests of students and faculty. *Prerequisite:* Permission of the instructor plus a minimum of 60 credit hours of university; students not enrolled in the Environmental Science program must obtain permission from their Major/Honours program.

128.401 Field Topics in Environmental Science 2 (1.5) Field and practical experience in selected topics of current interest in the Environmental Sciences, content to vary depending on the needs and interests of students and faculty. *Prerequisite:* Permission of the instructor; students not enrolled in the Environmental Science program must obtain permission from their Major/Honours program.

128.402 Extended Field Topics in Environmental Science 2 (3) Field and practical experience in selected topics of current interest in Environmental Sciences, with the content to vary depending on the needs and interests of students and faculty. *Prerequisite:* Permission of the instructor, students not enrolled in the Environmental Science program must obtain permission from their Major/Honours program.

128.411 Critical Thinking and the Environment (3)L Topical issues and responses regarding the environment including conservation, management, and policy making are critically evaluated at local, national, and global scales. Term projects emphasizing applied work with environmental organizations and researchers are presented. Not to be held with the former 128.410 or 001.468. *Prerequisite:* 128.311, or consent of the program administrator.

128.421 Environmental Health 1 (3) A comprehensive examination of the relationship between aspects of environmental quality and health impacts, the nature of environmental health hazards, and health risk assessment and management. *Prerequisite:* Permission of the instructor plus a minimum of 60 credit hours of university credit; students not enrolled in Environmental Science must obtain permission from their Major/Honours program.

128.422 Environmental Health 2 (3) Case studies of environmental impacts and health issues will be studied, and problem-solving models will be applied to introduce basic methodologies in environmental health. *Corequisite:* 128.421.

128.450 Project in Environmental Science (6) A research project in any aspect of environmental science or environmental studies, chosen in consultation with the program director and an appropriate supervising faculty member. Written reports and oral presentation on the results of the project will be required. The course is normally available only to final year students in the Environmental Science Program. *Prerequisite:* Permission of the program director.

128.455 Aquatic Chemistry (3) An examination of biogeochemical processes affecting the distribution, speciation and bioavailability of chemical substances in the aquatic environment. The theoretical basis for the chemical behaviour of natural water systems is discussed, as well as the description of processes involved in wastewater treatment. Offered in 2004-05 and in alternate years thereafter. Not to be held with 002.455. *Prerequisite:* one of: 002.347, 128.355 (002.355) or instructor permission.

128.491 Coop Work Term Report 3 (1.5) Work term report, completed in conjunction with the coop placement, which is designed to integrate professional experiences with the concepts and theories explored through academic study. Students must be admitted into the Coop program to be registered, and receive credit. *Prerequisite:* 128.399.

128.498 Coop Work Term 3 (0) Work assignments in business, industry, research or government for students registered in the Honours or Major Cooperative program. Students must be registered in 128.491 concurrently. *Prerequisite:* 128.399; *Corequisite:* 128.491.

128.499 Coop Work Term 4 (0) Work assignments in business, industry, research or government for students registered in the Environmental Science Cooperative program. Requires submission of a written report completed during the four-month professional assignment. Enrolment will be restricted to those students who are able to generate their own cooperative position. (Pass/Fail grade only).

SECTION 6: Bachelor of Science in Geology and Geophysics: B.Sc. Degree Regulations and Program Descriptions

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6.1 Academic Staff

Distinguished Professor

Hawthorne, F.C., B.Sc. (Spec.) (Imperial College), A.R.S.M. (Royal School of Mines), Ph.D. (McMaster), F.R.S.C., F.G.A.C., F.M.S.A., Killam Fellow, Canadian Research Chair.

Professors Emeriti

Brisbin, W.C., B.Sc. (Geol.Eng.) (Manitoba), Ph.D. (UCLA); **Cerný**, P., B.Sc., M.Sc. (Brno), Ph.D. (Czechoslovak Academy of Sciences), F.R.S.C.; **Ferguson**, R.B., B.A., M.A., Ph.D. (Toronto), F.R.S.C.; **Hall**, D.H., B.Sc. (Alberta), M.Sc. (Toronto), Ph.D. (UBC).

Senior Scholars

Moore, W., B.Sc. (Seoul), B.A.Sc. (Elec.Eng.) (Toronto), M.Sc. (Columbia), Ph.D. (UBC), F.R.A.S.; **Turnock**, A.C., B.Sc., M.Sc. (Manitoba), Ph.D. (Johns Hopkins).

Professors

Chow, N., B.Sc. (Calgary), Ph.D. (Memorial); **Clark**, G.S., B.Sc., M.Sc. (New Brunswick), Ph.D. (Columbia); **Elias**, R.J., B.Sc. (Manitoba), M.Sc., Ph.D. (Cincinnati); **Halden**, N.M., B.Sc., Ph.D. (Glasgow); **Last**, W.M., B.Sc. (Wisconsin), M.Sc., Ph.D. (Manitoba) F.G.S.A.; **Sherriff**, B.L., B.Sc. (Leicester), M.Sc. (Brock), Ph.D. (McMaster); **Teller**, J.C., B.Sc. (Cincinnati), M.Sc. (Ohio State), Ph.D. (Cincinnati).

Associate Professor

Ferguson, I.J., B.Sc., Ph.D. (Australian National); **Larocque**, A.C., B.Sc.(Hons.) (Carleton), M.Sc. (Western), Ph.D. (Queen's).

Assistant Professors

Chakmouradian, A., M.Sc., Ph.D. (St. Petersburg State University); **Fredriksen**, A., B.Sc.(McGill), M.Sc.; Ph.D.(UBC).

Instructor

Young, J., B.Sc., M.Sc. (Manitoba) (Instructor II).

6.2 Program Information

The Geological Sciences are defined as those sciences that deal with the history of the Earth and its life, especially that which is recorded in rocks. Different component parts of the Earth system, the *lithosphere*, *biosphere*, *atmosphere* and *hydrosphere*, operate at different length and time scales. During interactions between the spheres there is feedback between the component parts as energy and mass are exchanged, transferred and redistributed. In a geological context the feedback can occur on a global scale, or on very small scales such as that which we see in minerals. More recently humans have become a major force in this Earth system because we have intervened in many of these exchanges.

Considering the Earth's past, geologists typically work with long time scales (in the order of millions to billions of years). We also use Hutton's original philosophy of *uniformitarianism*, stated as "*the present is the key to the past*", to solve geological problems. However, as we see changes at the Earth's surface (our environment) occurring on very short time scales we need to learn to de-convolute the signal of human activity from the Earth's pre-human past. Once we understand and quantify the nature and extent of the Earth's natural evolution as well as our more recent environmental impact, we can use a similar philosophy to help us predict future changes, which might be stated as "*the past is the key to the present as well as the future*".

Geology and Geophysics are the sciences that provide the quantitative data on the physical and chemical behaviour and characteristics of Earth materials—rock, minerals, fluids and gases. These data are desperately needed to model the behaviour of minerals in natural as well as many industrial systems. The theoretical and instrumental expertise needed to tackle many resource extraction, mineral processing and environmental problems is resident in geological science departments. From a broad Earth, environmental and resource perspective our collective future will depend on some form of sustainable use of our Earth's resources and care of the environment. Hence inclusion of the geological science programs within the Faculty.

Professional Registration

The professional practice of geoscience in certain provinces and territories in Canada is governed by provincial/territorial law and is regulated by professional geoscience associations. In Manitoba, the Association of Professional Engineers and Geoscientists (APEGM) regulates professional practice. The requirements for professional registration are acceptable academic preparation and a subsequent period of acceptable geoscience experience. Students considering professional registration should take the B.Sc. (Hons.) degree or B.Sc. Major degree and make appropriate course selections, particularly in the basic sciences. Students should consult with the Department of Geological Sciences. Graduates that do not meet the academic requirements may be required by the professional association to take additional courses or examinations. Current registration information for APEGM is available in the department or from the association.

Geological Sciences Prerequisite Information

To fulfil prerequisite requirements, a grade of "C" must be achieved in any course stipulated as a prerequisite to a further course in Geological Sciences.

6.3 Degree Regulations

6.3.1 Four Year Major Degree

B.Sc. (Major)

The Major programs in Geology and Geophysics are designed for students interested in combining an in-depth study of Geology and Geophysics with broad coverage of another subject or subjects of their choice (Science or non-Science). It does not give professional standing for those planning careers in the Geological Sciences, although such standing can be achieved with a master's degree. Admission to graduate programs may be conditional upon completion of additional courses or require a period of pre-master's study. Students intending to proceed to a Master's degree must consult with the department at the beginning of their second year of undergraduate study and in each subsequent year.

To enter the four year Major in Geophysics, students must have the courses and grades specified below. The four year Major program may be pursued on a part-time basis, although it must be recognized that under those conditions, students would require more than four years to complete degree requirements.

B.Sc. (Major): Academic Regulations

To qualify for the degree Bachelor of Science (Major), a student must complete the equivalent of 120 credit hours with passing grades ("D" or better) in each course and with a minimum cumulative average of 2.00 on the 120 credit hours which constitute the degree. Students must complete the university written English and Mathematics requirement as described in the chapter, General Academic Regulations and Policy, of this *Calendar*.

At least three courses (eighteen credit hours) and up to six courses (36 credit hours) from outside the Faculty of Environment and acceptable in the Faculty of Environment may be taken.

Students admitted to a Major program must complete six credit hours of courses from the Faculty of Arts, 6 credit hours Science and 6 credit hours from either Arts or Science.

Entrance to the Four Year Major

To enter a four year Major program, a student must normally have achieved a minimum grade of "C+" in at least one Geological Science introductory course. In addition, to enter a four year Major program a student shall normally have completed at least 30 credit hours although a student may enter with 24 credit hours completed with the recommendation of the department.

Any student who, prior to being admitted to a four year Major program, has completed more than 30 credit hours will be allowed to apply those excess credit hours which meet the specifications of the program to the four year Major program.

Students must attain a cumulative Grade Point Average of at least 2.00 regardless of the point of entry, and must meet continuation requirements as outlined below.

Continuation in the Four Year Major

To continue in the program, a student must maintain a cumulative Grade Point Average of 2.00 computed on all courses applied to, and accepted in, the program. Assessment for continuation in the program shall be carried out initially following the attempt of 54 credit hours; for Second Degree students the initial assessment shall be carried out following the attempt of 24 credit hours. After the initial assessment, until the completion of degree requirements, a student will be assessed for the 2.00 cumulative Grade Point Average after each April examination series. Students who do not meet this minimum will be required to withdraw from the Major program.

Failed courses: A student who fails or repeats more than 18 credit hours following admission to the program will not be allowed to continue in the program. A student will be required to repeat those failed courses which are specified as required courses for the program; however, with the approval of the department the student may be allowed to substitute a new course for any elective course failed.

Program Approval: The department must approve a student's Major program each session. Students must also obtain departmental approval for any and all revisions to their program.

Residence Requirement for Four Year Major Students

A student must successfully complete a minimum of 60 credit hours at the University of Manitoba. The courses used to satisfy the requirement must be acceptable for credit in the Faculty of Environment.

Recognition of Academic Merit

Dean's Honour List

Students enrolled in 24 credit hours or more who achieve a sessional Grade Point Average of 3.50 or higher during a regular session will be placed on the Dean's Honour List.

Degree with Distinction

To obtain a degree with distinction a student must achieve a minimum 3.50 Grade Point Average on the last 60 credit hours of the program. All sessions, regular and summer, will be considered in descending chronological order. When the last 60 credit hours are found in a session containing more hours than are needed, the best grades from that session will be used for the Grade Point Average calculation.

The term "Degree with Distinction" will appear both on the parchment and on the student's transcript of marks.

6.3.2 Four Year Honours Degree

B.Sc. (Honours)

The Honours programs in the Department of Geological Sciences are the most heavily concentrated programs offered. These programs lead most directly to graduate study and are in most cases prescribed extensively by the department. A student is required to pursue this degree full-time and may be required to achieve higher grade standards than in other degree programs. The programs are regarded as professional training.

A student electing an Honours program will normally begin Honours work in second year and must meet the entrance requirements set out below. Honours work will consist of three years of study in prescribed courses beyond the first year and will lead to the B.Sc.(Hons.) Geology or B.Sc.(Hons.) Geophysics.

To be eligible for any award granted exclusively on the basis of academic performance, a student normally must be enrolled in a full program as defined by the department.

Students must complete the university written English and Mathematics requirement as described in the chapter, General Academic Regulations and Policy, of this *Calendar*.

Entrance to Honours

To enter an Honours degree program in Year 2, a student must have a grade of "B" or better in at least one introductory Geological Sciences course designated by the department. A student is required to have no failures and 12.00 grade points on up to the first 30 credit hours. Any credit hour deficiencies from University 1 and (or) Year 2 must be cleared by the end of summer session following Year 2; that is, students must normally successfully complete 60 credit hours before entry to Year 3 Honours. Where the standard departmental Honours program for second year stipulates more than 30 credit hours, students must successfully complete those credit hours before entry to Year 3 Honours. Students who are ineligible to enter Honours after their first year may establish their eligibility to enter Honours in third year on the basis of their academic performance in second year. See the Department of Geological Sciences advisor for information.

To enter the Honours degree program, a student must complete an application form available in the Faculty general office and have it approved by a student advisor.

Continuation in Honours

A minimum sessional Grade Point Average of 2.00 is required after each April examination series. Students must meet all individual course prerequisites for further study.

NOTE:

Students who do not meet the minimum requirements will be required to withdraw from the Honours program.

The total number of failures and/or repeated courses in Honours may not exceed by more than 18 the total number of credit hours in the student's

Honours program (exclusive of work done outside the prescribed Honours program).

Honours students must complete a minimum of 24 credit hours during each regular session and must complete at least 30 credit hours in each of the last two calendar years of the Honours programs. Deficiencies in credit hours must be cleared in a manner approved by the student's Honours department(s).

A maximum of three summer sessions may be used to complete Honours program requirements.

Program Approval

The department must approve a student's Honours program each session. Students must also obtain departmental approval for any and all revisions to their program.

Residence Requirement for Honours Students

A student must successfully complete a minimum of 60 credit hours (10 full courses) at the University of Manitoba. The courses used to satisfy the requirement must be acceptable for credit in the degree program. Residency requirements apply both to first and second degree students.

Graduation from Honours

To graduate with an Honours degree, a student must obtain a sessional Grade Point Average of 2.00 or higher (with no failures) in Year 4. Also, to qualify for the Honours degree, a student must have a 2.00 cumulative Grade Point Average at the point of graduation, that is, on all courses taken in the degree.

Voluntary Withdrawal from Honours

A student who deletes a course or courses from the Honours program will be reverted to the four year Major program unless the department has authorized the student's continuation in Honours. All Honours programs must contain a minimum of 24 credit hours during each regular session.

Honours students reverting to an alternative degree program must fulfil all academic requirements of that degree.

Recognition of Academic Merit

Dean's Honour List

Students enrolled in 24 credit hours or more who achieve a sessional Grade Point Average of 3.50 or higher during a regular session will be placed on the Dean's Honour List.

First Class Honours

To graduate with First Class Honours the student must complete a minimum of 24 credit hours during the regular session in each of Year 3 and Year 4. First Class Honours will be granted to a student who achieves a cumulative Grade Point Average of 3.50 or higher on all courses taken in Year 3 and Year 4. The specified number of credit hours. The term "First Class Honours" will appear on both the parchment and the student's transcript of marks.

Double Honours Programs

Double Honours programs may be available. Program may be arranged in consultation with the department concerned.

Honours Requirements and Options

To enter any of the Geological Sciences Honours programs, a student must have the courses and grades specified in the charts below for first-year courses, and have satisfied the department or program requirements for entry to the Honours program. Students who do not obtain the entrance requirements for the Honours program in their first year but who are interested in obtaining an Honours degree should consult with the department before registering for their second year.

Honours Geology Options

For students who wish to increase the focus of their knowledge, recommended electives are listed below:

Geology: 007.314, 007.329, 007.342, 007.374, 007.375, 007.381, 007.427, 007.428, 007.429, 007.431, 007.432, 007.433, 007.437, 007.463, 007.466, 007.481, 007.483, or others as approved by the department.

Environmental Geoscience: 001.218 (022.218 or 065.218 or 128.218), 001.237 (022.237 or 065.237), 023.425, 040.350, 040.351, 040.406, 040.409, 040.412, 040.413, 040.450, 007.429, 007.432, 007.437, 007.463, 053.344, 053.361, 128.311, 128.325, or others approved by the

department. (Students are responsible for completion of prerequisites for these courses.)

Students must contact the department during the spring preceding entrance to the Honours program. All course choices in the Honours program should be made after consultation with the coordinator of the Geophysics program.

Honours Geophysics Option

Students who wish to enter the Honours Geophysics Option and have not taken 007.123 may arrange with the department to make up this credit.

6.4 Geological Sciences, Department Code: 007			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
HONOURS GEOLOGY (007G) 129 CREDIT HOURS			
007.123 (B), or 007.124 (B), (or 007.134 (B) or 007.144 (B) and one of: 007.135, 007.136, or 007.137 (B))	007.206, 007.239, 007.244, 007.250, 007.252, 007.253, 007.260, 007.277	007.311, 007.313, 007.331, 007.349, 007.390, 007.430, 007.449 ⁴ , 007.452, 007.467, 007.485 ² , 007.487, 007.489	
Plus 6 credit hours from the Faculty of Arts, which should include the "W" course			Plus 18 credit hours of Geological Sciences electives from the recommended additional electives listed in the text above
Plus 6 credit hours from the Faculty of Science which should include the "M" course.			
Plus 6 credit hours from either the Faculty of Arts or Faculty of Science.			
A Science background is recommended			
It is recommended that students complete the "W" course in University 1 or Year 2			
30 Hours	30 Hours	36 Hours ⁴	33 Hours
HONOURS GEOPHYSICS (007P) 126 CREDIT HOURS			
007.123 (B), or 007.124 (B), (or 007.134 (B) or 007.144 (B) and one of: 007.135, 007.136, or 007.137 (B)), 016.105 (B) or 016.102 (B+), 016.107 (B), 136.151 (B) and 136.171 (B) (or 136.150 (B) and 136.170 (B)) ^{1,6}	007.206, 007.250, 007.253, 016.237, 136.210 ^{3,7} , 136.211 ^{3,7}	007.244, 007.252, 007.313, 007.374, 007.381, 007.425, 007.432, 007.433, 007.467, 007.474 ⁴ , 007.481, 007.483, 007.487, 016.260, 016.261, 016.265, 136.310 ⁵ , 136.311 ^{5,7}	
Plus 6 credit hours from the Faculty of Arts, which should include the "W" course	Plus 9 credit hours of electives, which could include 074.101 (as it must be taken by the end of Year 3)		Plus 3 credit hours of electives as approved by the department
Plus 6 credit hours of electives, which could include 074.101			
It is recommended that students complete the "W" course in University 1 or Year 2			
30 Hours	32 Hours	64 credit hours for Year 3 and 4 ⁴	
FOUR YEAR MAJOR IN GEOLOGY⁸ (007G) 120 CREDIT HOURS			
007.123 (C+), or 007.124 (C+), (or 007.134 (C+) or 007.144 (C+) and one of: 007.135, 007.136, or 007.137 (C+))	007.244, 007.250, 007.252, 007.253, 007.260	007.206, 007.277, 007.311, 007.331, 007.390, 007.430 or 007.452, 007.467, 007.489	
Plus 6 credit hours from the Faculty of Arts, which should include the "W" course.	Plus 18 credit hours of Science electives		Plus 9 credit hours of Geological Sciences electives
Plus 6 credit hours from the Faculty of Science which should include the "M" course.			
Plus 6 credit hours from either the Faculty of Arts or Faculty of Science.			
A Science background is recommended.			
It is recommended that students complete the "W" course in University 1 or Year 2			

FOUR YEAR MAJOR IN GEOPHYSICS^B (007P) 120 CREDIT HOURS

007.123 (C+), or 007.124 (C+), (or 007.134 (C+) or 007.144 (C+) and one of: 007.135, 007.136, or 007.137 (C+)) 016.105 (C+) or 016.102 (B), 016.107 (C), 136.151 (C+) and 136.171 (C) (or 136.150 (C+) and 136.170 (C))^{1,6}

007.206, 007.250, 007.253, 016.237, 136.210^{3,7}, 136.211^{3,7}

007.244, 007.252, 007.313, 007.374, 007.381, 007.481, 016.260, 016.261, 136.310⁵, 136.311^{5,7}

Plus 9 credit hours from: 007.425, 007.426, 007.432, 007.433, 007.474, 007.483

074.101, which must be taken by the end of Year 3

Plus 6 credit hours from the Faculty of Arts, which may include the "W" course

It is recommended that students complete the "W" course in University 1 or Year 2

MINOR

007.123 (C) or 007.124 (C), (or 007.134 (C) or 007.144 (C) and one of: 007.135, 007.136, or 007.137 (C))

Plus 12 credit hours chosen from 200 and 300 level courses

NOTES:

¹136.169 may be taken in place of 136.151 and 136.171.

²Students will register for 007.485 in Year 4, after participating in at least one department field excursion per year. Students should be aware that they will be expected to contribute to transportation and accommodation costs. See the departmental office at the beginning of each year for information.

³136.270 and 136.271 may be taken in place of 136.210 and 136.211. Students should note that 136.130 is a prerequisite to 136.270, and a corequisite to 136.271.

⁴Geology: Year 3-30 hours in Regular Session, six hours (007.449) in following Summer Session. Geophysics: Year 3-28 hours in Regular Session, six hours (007.474) in following Summer Session. 007.449 and 007.474 will normally be taken immediately following the Spring examinations on or about May 1 and will continue for approximately three weeks. Registration will show as Summer Session.

⁵136.370 and 136.381 may be taken in place of 136.310 and 136.311.

⁶The courses required in this program will satisfy the university mathematics requirement.

⁷For the purposes of students in the Geophysics Honours and Major programs, this course will count as the full four credit hours.

⁸IMPORTANT: The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program.

(Letters in brackets indicate the minimum prerequisite standing required for further study.)

6.5 Geological Sciences Course Descriptions

To fulfil prerequisite requirements, a grade of "C" must be achieved in any course stipulated as prerequisite to a further course in Geological Sciences.

All courses are not offered every year. The course schedule for the current academic session is published in the *Registration Guide*.

NOTE: Students registering in certain courses may be required to pay a portion of the costs associated with field trips. For details, contact the department general office.

007.123 Physical and Historical Geology (6)L An introduction to the geological sciences. Approximately two-thirds of the course deals with physical geology. The final third of the course deals with absolute and relative geologic time; the historical development of the earth and, in particular, North America. Not to be held with 007.124, 007.134, 007.135, 007.225 (or the former 007.126 or 007.133).

007.124 Earth and Planetary Science (6) Topics in astronomy and the geological sciences; the Earth in relation to the universe; the age, origin, and evolution of the Earth; environmental phenomena such as earthquakes, volcanoes, seismic sea waves, landslides; oceans and atmosphere. Primarily for students without a strong background in science. Also available by correspondence. Not to be held with 007.134, 007.137, 007.144, 007.225, or the former 007.127. Not available to students who have previously obtained credit in, or are currently registered in 007.123 (or the former 007.132 or 007.133).

007.134 The Dynamic Earth (3)L An introduction to dynamics of the Earth's interior and surface that created the environment in which life evolved and that continue to change the world in which people now live. Taught with 007.225. Not to be held with 007.123, 007.124, 007.144, 007.225 (or the former 007.126, 007.127, 007.132, or 007.133).

007.135 The Evolving Earth (3) An introduction to interpretation of the geologic record, with a survey of the Earth's origin and evolution, its life, and resources through time. Not to be held with 007.123 or the former 007.126 or 007.133. *Prerequisite:* one of 007.124, 007.134, 007.144, 007.225 (or the former 007.127 or 007.132).

007.136 Environmental Earth Science (3) An integrated approach to environmental Earth Science. The effect of Earth's internal processes on the external processes in the atmosphere and hydrosphere. Topics include: the water cycle, weather, climate and climate development, pollution. Not to be held with the former 007.132. *Prerequisite:* one of 007.123, 007.134, 007.144, or 007.225 (or the former 007.126, 007.127, or 007.133).

007.137 The Earth in Space (3) An introduction to astronomy and its emphasis on the Planet Earth and its place in the solar system. The Earth's oceans and atmosphere are covered and compared to those of the Earth's nearest neighbours and to some moons of the outer planets. Not to be held with 007.124. *Prerequisite:* one of 007.123,

007.134, 007.144 or 007.225 (or the former 007.125, 007.127, 007.132, or 007.133).

007.144 Introduction to the Dynamic Earth (3) A non-laboratory introduction to dynamics of the Earth's interior and surface that created the environment in which life evolved and that continue to change the world in which people now live. Not to be held with 007.123, 007.124, 007.134 or 007.225 (or the former 007.126, 007.127, 007.132, or 007.133).

007.206 Introductory Geophysics (3)L An introduction to geophysical exploration, Earth physics, satellite geophysics and remote sensing. Emphasis will be on quantitative modelling and will include geophysical measurements and handling of data. *Prerequisites:* one of 007.123, 007.124, 007.134, or 007.144 (or the former 007.132 or 007.133), three credit hours from 136.130, 136.131, 136.150, 136.151, 136.152 or 136.153, and three credit hours from 016.102 or 016.105; or consent of instructor.

007.239 Environmental Geology (3) Examination of geological processes and material as they interact with human activities, environmental planning, and management. Also available by correspondence. *Prerequisite:* university geology or 053.129 or 053.120 or consent of instructor.

007.244 Structural Geology 1 (3)L Elementary mechanical principles of rock deformation, brittle and continuous deformation, geometry of faults, folds, joints, cleavage, lineations. Descriptive geometric and stereonet solution to structural geologic problems, cross sections, structural contour maps. *Prerequisite:* one of 007.123, 007.124, 007.134, or 007.144 (or the former 007.132 or 007.133).

007.250 Introduction to Mineralogy (3)L An introduction to the chemistry, physics and classification of minerals. Brief, systematic description of about 200 of the most important minerals. Laboratory: hand specimen identification. Not to be held with the former 007.207 or 007.262. *Prerequisite:* one of 007.123, 007.124, 007.134, or 007.144 (or the former 007.132 or 007.133) or consent of instructor.

007.252 Igneous and Metamorphic Petrology (3)L The classification, occurrence and origin of igneous and metamorphic rocks. The study and identification of rocks using hand specimens and thin sections. Not to be held with the former 007.251. *Prerequisite:* 007.250 (or the former 007.207 or 007.262).

007.253 Introductory Sedimentary Petrology and Stratigraphy (3)L An introduction to sedimentary deposits and principles of stratigraphic analysis. Occurrence, classification and origin of sedimentary deposits. Facies concept, stratigraphic classification and correlation. Not to be held with the former 007.251, 007.388 or 007.389. *Prerequisite:* 007.250 (or the former 007.207 or 007.262).

007.257 Energy and Mineral Resources (3) An introduction to the geological factors and processes responsible for the origin, concentration and distribution of fuels, geothermal resources, metallic and nonmetallic minerals. Available by correspondence only. Not to be held with the former 007.255 or 007.256. Not for credit in a Major or Honours program in Geological Sciences. *Prerequisite:* one of 007.123, 007.124, 007.134, or 007.144 (or the former 007.132 or 007.133).

007.260 Optical Mineralogy and Petrography (3)L Use of the petrographic micro-

scope; microscopic recognition of common rock forming minerals and rock textures. Not to be held with the former 007.240. *Prerequisite:* 007.250. *Corequisite:* 007.252 (or the former 007.251).

007.277 Principles of Inorganic Geochemistry (3)L The cosmic abundance of the elements, nucleosynthesis, geological differentiation of the elements; chemical petrology of igneous, metamorphic and sedimentary rocks. An introduction to aqueous and low-temperature geochemistry. Not to be held with the former 007.276. *Prerequisite:* 007.250 (or the former 007.207 or 007.262).

007.311 Petrogenesis of Igneous Rocks (3)L Crystallization processes in magma and resultant textures; physical, chemical, and kinetic processes of magmatic systems. Not to be held with the former 007.309 or 007.344. *Prerequisites:* 007.252 (or the former 007.251), 007.260 (or the former 007.240) and 007.277 (or the former 007.276).

007.313 Communication Methods in the Geological Sciences (3)L Practice in oral and written description of geologic subjects; tools of library and database research; manuscript organization; abstract writing; computer-aided table, figure, and slide preparation. *Pre- or corequisites:* 007.250 (or the former 007.207, 007.262), and 007.244. This course is for students in the Honours Geological Sciences programs only.

007.314 Gemology (3)L An introduction to the scientific study of natural and synthetic gem materials, methods of their identification and principles of gemstone appraisals. Laboratory: identification of gemstones using optical methods. Offered in 2004-2005 and alternate years thereafter. *Prerequisites:* 007.250 and 007.260.

007.329 Metamorphism, Structure and Tectonics (3) Deformation and metamorphism in orogenic terranes, crustal heat flow, and the application of pressure, temperature and time paths to study metamorphic equilibria. Offered in 2003-2004 and in alternate years thereafter. Not to be held with the former 007.312 and 007.373. *Prerequisites:* 007.244, 007.260, and 007.277.

007.331 Paleontology (3)L The study of fossils: invertebrate paleontology, with an introduction to paleontological principles, vertebrate paleontology, and paleobotany. *Prerequisite:* one of 007.123, 007.124, 007.134, or 007.144 (or the former 007.132 or 007.133) or consent of the instructor.

007.342 Engineering Geology (3) Engineering properties of rocks, laboratory testing and site investigations in engineering geology. Rocks as construction materials, engineering geology of tunnels, bridges, dams, reservoirs, shorelines, sanitary landfills, landslides, seismic risk areas, etc. Offered in 2004-2005 and in alternate years thereafter. *Prerequisites:* 007.244, 007.252 and 007.253 (or the former 007.251, 007.388 or 007.389).

007.349 Glacial Geology and Geomorphology (3)L Principles of landform development with emphasis on glacial deposition. Aerial photo and map interpretation in lab. Not to be held with 053.358. *Prerequisite:* 007.253 (or the former 007.251, 007.388 or 007.389).

007.374 Exploration Seismology (3)L Collection of seismic data (land and sea); simple elastic wave theory; geometry of refraction and reflection seismology; rock velocity determination; seismic noise and signal; data corrections; data enhancement techniques; representation of data; survey procedures. Offered in 2004-2005 and in alternate years thereafter. *Prerequisite:* 007.206 and one of 136.150, 136.151, 136.152, 136.153 or 136.169.

007.375 Geology and Geophysics of the Planets (3)L Physical and chemical nature of the inner and outer planets and their satellites, asteroids and meteorites. The application of geophysical, geochemical and petrological techniques to planetology; remote sensing study of geological features of planetary surfaces and atmospheres. Offered in 2003-2004 and in alternate years thereafter. *Prerequisite:* 007.206 or consent of department.

007.381 Applied Geophysics (3)L The application of geophysical methods including gravity, magnetics, seismic reflection and refraction, electrical and electromagnetics methods in exploration, and environmental and engineering problems. Not to be held with the former 007.380. *Prerequisite:* 007.206.

007.390 Sedimentology (3)L The study of depositional environments of sedimentary rocks. Facies analysis and modelling of sedimentary deposits. Weekend field trip. Not to be held for credit with the former 007.388 or 007.389. *Prerequisites:* 007.253 (or the former 007.251), 007.260 (or the former 007.240) and 007.277 (or the former 007.276).

007.425 Theory and Application of Geophysical Inversion Methods (3)L Introduction to generalized and linear/non-linear inversion theory. Inversion techniques for the potential field, electrical and seismic data will be discussed. Application to global problems will also be discussed. Offered in 2003-2004 and in alternate years thereafter. *Prerequisites:* 007.206 and 136.210 or 136.130 or 136.131.

007.426 Applied Geophysics Field Course (3) One and one-half weeks field instruction in the planning and execution of geophysical surveys and the use of portable geophysical instruments. Offered in 2004 Summer Session and alternate years thereafter. Taught with the first half of 007.474. Not to be held for credit with 007.474. *Prerequisite:* 007.381 (or the former 007.380).

007.427 Advanced Studies in Earth Sciences (3) Advanced study in a selected subject in Earth sciences. The subject is selected by the student in consultation with the instructor. *Prerequisite:* Consent of department.

007.428 Instrumental Techniques in Geology (3)L Lecture and laboratory course covering the application of microbeam, mass spectrometer, diffraction and wet geochemical analytical techniques in mineralogy and geochemistry. Includes coverage of ICP, PIXE, powder and single crystal diffraction and electron microprobe analysis. Offered in 2004-2005 and in alternate years thereafter. *Prerequisites:* 007.250, 007.260 (or the former 007.240), 007.277 (or the former 007.276), 007.253 and 007.252 (or the former 007.251, 007.388 or 007.389).

007.429 Topics in Environmental Geoscience (3)L Advanced concepts and discussion of selected topics in the areas of human interaction with the geological environment and the influence of natural geological processes on human activities. Offered in 2003-2004 and in alternate years thereafter. *Corequisite:* 007.390 (or the former 007.388 and 007.389).

007.430 Mineral Deposits (3)L The tectonic setting and deformational and structural nature of ore deposits. The physics and chemistry of ore deposition and ore bearing fluids. The mineralogical, textural and environmental constraints on resource exploitation. Not to be held with the former 007.424 or 007.434. *Prerequisites:* 007.311 (or the former 007.309), and 007.390 (or the former 007.388 or 007.389).

007.431 Paleontologic Principles (3)L Interpretation of Earth history using fossils: topics in taxonomy, functional morphology, paleoecology, evolution, biostratigraphy, and biogeography. Offered in 2003-2004 and in alternate years thereafter. *Prerequisite:* 007.331 or consent of instructor.

007.432 Physics of the Earth: Seismology and Heat Flow (3) Seismology and the structure, physical properties and equations of state of the Earth's interior; thermal constitution and the history of the Earth. Offered in 2004-2005 and in alternate years thereafter. *Prerequisites:* 007.206 and 016.237.

007.433 Physics of the Earth: Geomagnetism and Gravity (3) Geomagnetism and geoelectricity; paleomagnetism; figure, rotation and gravity of the Earth. Offered in 2004-2005 and in alternate years thereafter. *Prerequisite:* 007.206 and 016.237.

007.437 Global Change (3) Examination of the major processes controlling global change through time. The causes, magnitude, and periodicity of changes in the geological record resulting from the variability and interaction of continents, oceans, atmospheres, climate, Earth-sun relationships, and ice sheets, with an emphasis on paleoclimate. Offered in 2003-2004 and in alternate years thereafter. *Prerequisite:* 007.390. *Corequisite:* 007.349.

007.449 Field-Mapping Course (6) Three weeks of mapping an assigned area immediately following third year final examinations. Students are responsible for costs of room and board during the field course. Offered in Summer Session. *Prerequisites:* 007.244, 007.252 and 007.253 (or the former 007.251, 007.388 or 007.389).

007.452 Petroleum Geology (3)L A study of the physical properties, origins and maturation, migration, and accumulation of petroleum products. *Prerequisite:* 007.390.

007.463 Geolimnology (3)L The major physical, geochemical, sedimentological, and hydrogeological processes in lakes and their watersheds. A multidisciplinary course. Offered in 2004-2005 and in alternate years thereafter. *Prerequisites:* 007.277, or university chemistry and geology or consent of instructor.

007.466 Volcanology (3)L Physical volcanology with special reference to Cenozoic and Precambrian volcanism. Petrography of Cenozoic volcanic rocks. Offered in 2004-2005 and in alternate years thereafter. *Prerequisites:* 007.311 (or the former 007.309) and 007.390 (or the former 007.388 or 007.389).

007.467 Global Tectonics (3)L The structure and properties of, and physical processes taking place within, the Earth's interior. Continental cratons and their margins, orogenic belts, structural and petrologic features of the ocean basins, modern diastrophism, global tectonic theories. *Prerequisites:* 007.244, 007.252 and 007.253 (or the former 007.251, 007.388 or 007.389).

007.474 Geophysics Field Course (6) Three weeks of making geophysical surveys. Starts immediately following third year examinations. Maps and reports to be submitted at the end of the three week period. Students are responsible for costs of room and board during the field course. Offered in 2004 Summer Session and in alternate years thereafter. Not to be held with 007.426. *Prerequisite:* 007.206.

007.481 Geophysical Data Analysis (3)L The theory and application of spectral methods in geophysics. The use of Fourier Transforms, convolution, power spectra, coherence, transfer functions, covariance, correlation and filtering. Offered in 2003-2004 and in alternate years thereafter. *Prerequisite:* 007.206. *Corequisite:* 136.311 or 136.370.

007.483 Remote Sensing and Geological Information Systems (3)L The basic theory and application of remote sensing to geology and planetary studies. Data interpretation, analysis and presentation using geological information systems. Offered in 2004-2005 and in alternate years thereafter. *Prerequisite:* 007.206.

007.485 Field Excursion (3) A series of three four or five day field trips. Honours Geology students will be required to register once for this course. Registration is restricted to Year 4 Honours students only. Graded Pass/Fail. Not to be used for credit in a General or Major program.

007.487 Honours Thesis (6) A thesis based on a research project conducted by a fourth-year Honours student in Geology or Geophysics. Selection of a project and supervisor to be arranged prior to September 30 and submitted in writing to the department head. Consult with the department for submission deadlines. Not to be held with the former 007.495 or 007.496.

007.489 Basin Analysis (3)L The study of major sedimentary basins. Qualitative and quantitative aspects of basin origin, classification, evolution, fluid content and diagenesis, and sedimentary facies architecture. Not to be held with the former 007.488. *Prerequisite:* 007.452.

Service Course

007.225 Geology for Engineers (4)L Principles of physical geology; materials in processes in geology; classification of igneous, metamorphic, and sedimentary rocks; elementary geological and geophysical surveying techniques; geological hazards – volcanism, earthquakes, landsliding, processes of weathering, transportation and geomorphology. For Engineering students only. Not to be held with 007.123, 007.124, 007.134, 007.144, or the former 007.126, 007.127, 007.132 or 007.133.

Faculty of Graduate Studies

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Acting Dean: Anthony Secco

Graduate Education

At the University of Manitoba graduate study and research were conducted on a very modest scale from the foundation of the university and during its early years. In 1949 a faculty of Graduate Studies and research was established to systematize efforts in these fields. Currently there are approximately 2,600 graduate students registered at the university in practically every field of study offered. A substantial number of graduate students received fellowships, scholarships, or assistantships through the Natural Sciences and Engineering Research Council and by the university itself. Providing additional opportunities for graduate students, research work funded through grants from business corporations and government bodies is now conducted at the university.

The federal Agriculture and Agri-Food Canada and the Freshwater Institute of the Department of Fisheries and Oceans maintain major research establishments on the Fort Garry Campus. Additional and extensive research facilities are available in the faculties of Dentistry and Medicine located at the Bannatyne Campus in central Winnipeg. The Faculty of Medicine operates in close conjunction with the major teaching hospitals.

Graduate work at the doctoral level is offered in the faculties of Agricultural and Food Sciences, Arts, Dentistry, Education, Engineering, Human Ecology, Medicine and Science and the I.H. School of Business.

Graduate Programs

For a complete listing of graduate programs by department, faculty, or institute, please consult the *Graduate Calendar*.

The Faculty of Graduate Studies offers advanced courses of instruction and facilities for research leading to the following:

Master of Architecture (M.Arch.)

Master of Arts (M.A.)

Master of Arts (Collège Universitaire St. Boniface)

Master of Business Administration (M.B.A.)

Master of City Planning (M.C.P.)

Master of Dentistry (M.Dent.)

Master of Disability Studies

Master of Education (M.Ed.)

Master of Education (Collège Universitaire St. Boniface)

Master of Engineering (M.Eng.)

Master of Interior Design (M.I.D.)

Master of Landscape Architecture (M.Land.Arch.)

Master of Laws (LL.M.)

Master of Mathematical, Computational and Statistical Sciences
(M.M.C.S.S.)

Master of Music (M.Mus)

Master of Natural Resources Management (M.N.R.M.)

Master of Nursing (M.N.)

Master of Occupational Therapy (M.O.T.)

Master of Public Administration (M.P.A.)

Master of Science (M.Sc.)

Master of Social Work (M.S.W.)

Doctor of Philosophy (Ph.D.)

Diploma in Population Health

Student Categories

In addition to full- or part-time study, students may be classified as:

Pre-Master's/Qualifying: A student wishing to enter the Faculty of Graduate Studies from a general B.A. or B.Sc. or other three year degree must complete a program of study assigned by the head of the major department.

Occasional: A student wishing to take graduate courses with no intention of proceeding toward an advanced degree at the University of Manitoba.

Joint-Master's: The University of Manitoba and the University of Winnipeg offer three joint Master's programs in History, Religion, and Public Administration. The University of Manitoba Faculty of Graduate Studies is responsible for the administration of the joint programs and students complete the regular University of Manitoba application and registration forms.

Provisional: A student is allowed provisional status in a program for up to one term from the time of registration. Registration for additional terms in that program will not be permitted until the provision is cleared. Provisional registration may be for such reasons as missing or incomplete documentation, lack of complete or appropriate academic background, missing progress reports, etc.

Visiting: A student registered at another institution who is taking one or more courses at the University of Manitoba on a Letter of Permission from their home university.

Application and Admission

Admission standards as well as criteria and procedures for admission may vary from program to program.

See the *Graduate Calendar* as it lists procedures, requirements and deadlines specific to each program.

Faculty of Human Ecology

General Office

209 Human Ecology Building

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E-mail: h_ecology@umanitoba.ca

Website: www.umanitoba.ca/faculties/human_ecology

Dean: Ranjana Prasad Bird

Administrative Assistant: Jean Read

Student Advisor: Brigitte Wiebe

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-

SECTION 1: Academic Staff

Dean Emeritus

Berry, R.E., B.H.E. (UBC), M.S. (Pennsylvania State), Ph.D. (Purdue).

Senior Scholar

Brockman, L.M., B.A. (Saskatchewan), M.A. (Windsor), Ph.D. (Cornell).

Clothing and Textiles

Associate Professors

Clayton-Gouthro, C.M.M., B.F.A., M.Sc., Ph.D. (Manitoba); **Horne, L.**, B.Sc.(H.Ec.), M.Sc. (Alberta), Ph.D. (Iowa State).

Assistant Professors:

Goel, S., B.A. (Hons) (Ranchi), M.Sc., M.A., Ph.D. (Manitoba); **Gonzalez, J.A.**, B.Sc. (Mexico), Ph.D. (Alberta).

Family Studies

Professors

Berry, R.E., B.H.E. (UBC), M.S. (Pennsylvania State), Ph.D. (Purdue); **Bond, J.B.**, B.Sc. (Illinois), M.S., Ph.D. (Purdue); **Harvey, C.D.H.**, B.Sc. (H.Ec.) (Idaho), M.S., Ph.D. (Washington State).

Associate Professors

Durrant, J.E., B.A., M.A., Ph.D. (Windsor); **Duncan, K.A.**, B.S.H.Ec. (Saskatchewan), M.S., Ph.D. (Ohio State); **Higgitt, N.**, B.H.Ecol., M.Sc., Ph.D. (Manitoba); **Mills, R.S.L.**, B.A. (Concordia), M.A. (Memorial), Ph.D. (Toronto); **Piotrowski, C.C.**, B.A., M.A. (Waterloo), Ph.D. (Pennsylvania State).

Assistant Professors

Brown, J., B.A. (King's College), B.S.W. (Calgary), M.Ed. (Alberta), Ph.D. (Alberta); **Brownridge, D.A.**, B.A. (Brandon), M.A., Ph.D., (Manitoba).

Human Nutritional Sciences

Professor Emeritus and Senior Scholar

McDonald, B.E., B.Sc., M.Sc. (Alberta), Ph.D. (Wisconsin).

Senior Scholar

Vaisey-Genser, F.M., B.Sc. (H.Ec.) (Manitoba), M.Sc. (McGill).

Professors

Bird, R.P., B.Sc. (Waterloo), M.Sc., Ph.D. (Guelph); **Eskin, N.A.M.**, B.Sc., Ph.D. (Birmingham), **Friel, J.**, B.Sc. (Loyola), M.Sc.(Saskatchewan), Ph.D. (Guelph).

Associate Professors

Aukema, H., B.Sc., M.Sc., Ph.D. (Guelph); **Przybylski, R.** B.Sc. (Wroclaw) M.Sc., Ph.D. (Pozan); **Sevenhuysen, G.P.**, B.Sc., Ph.D. (London); **Taylor, C.G.**, B.H.Ecol. (Manitoba), Ph.D. (Guelph); **Watts, B.M.**, B.Sc.(H.Ec.), M.Sc., Ph.D. (Manitoba); **Weiler, H.A.**, B.A.Sc. (Guelph), Ph.D. (McMaster).

Assistant Professors

Aluko, R., B.Sc., M.Sc. (Lagos), Ph.D. (Guelph); **House, J.S.**, B.Sc. (Agr), Ph.D. (Guelph); **Marchessault, G.D.**, B.H.Ec, M.Sc., Ph.D. (Manitoba); **Tappia, P.S.**, B.Sc. Pharmacology (Hons.) (Sunderland), Ph.D. (Wolverhampton).

SECTION 2: Human Ecology and Professional Designations

In Human Ecology, we apply knowledge from the physical and social sciences to optimise human health and well-being. We examine factors ranging from biochemistry to social policy in terms of their contributions to individual, family, community, and societal well-being. With the aim of promoting human physical and psychosocial health, students gain an understanding of human physical and biological needs, psychological development and functioning, economic concerns, and social relationships.

The Faculty of Human Ecology currently includes departments of Clothing and Textiles, Family Studies, and Human Nutritional Sciences. Study in the faculty in one of four undergraduate majors offers background that can lead to career opportunities in business and industry, dietetics and institutional administration, education, social services, government and research. We are one of the founding units of the University of Manitoba; our graduates have contributed to improving human health and well-being locally, nationally, and internationally for more than 90 years.

Professional Designations

Graduates of the Integrated Human Ecology and Education program are eligible to receive the professional certificate to teach at any level (K-12) in Manitoba providing all standards are met as established by the Province of Manitoba. See the Faculty of Education chapter for more details.

Graduates from the Human Nutritional Sciences program may apply to the Dietitians of Canada (DC) for qualification as a Registered Dietitian following successful completion of the DC-administered dietetics internship program. To practise as a dietitian in Manitoba, the membership body is the Manitoba Association of Registered Dietitians. Students must apply for the internship following completion of an undergraduate degree with courses as stipulated by the DC.

Home economists in Manitoba, and other provinces, are regulated by legislation. Graduates may apply to the Manitoba Association of Home Economists (MAHE) for interim professional home economist (IPHE) status, and subsequently qualify as a professional home economist (PHEC).

SECTION 3: Admission to the Faculty of Human Ecology

3.1 Degrees offered

Bachelor of Human Ecology

Bachelor of Human Ecology (Clothing and Textiles)

Bachelor of Human Ecology (Family Studies)

Bachelor of Science (Human Nutritional Sciences)

Minimum time to graduation: Four years (University 1 plus three years).

Bachelor of Human Ecology/Bachelor of Education

An integrated degree that combines Human Ecology with Education; minimum time to graduation: Five years (University 1 plus four years in Human Ecology and Education).

3.2 Course Requirements for Admission

The following is a summary of admission requirements. Equivalent academic courses completed at recognized universities elsewhere will be considered. Complete admission requirements are described in an applicant information bulletin that is available together with application deadline dates and forms from the Admissions Office, Enrolment Services, 424 University Centre. The detailed admission information is also posted on the university website.

The course requirements for each of the five majors or areas of concentration offered by Human Ecology are described below:

A minimum adjusted grade point average (AGPA) of 2.0 in at least 24 credit hours of University 1.

6 credit hours from Arts and 6 credit hours from Science to total 12 credit hours, plus 12-18 credit hours of other University 1 courses, for a total of 24-30 credit hours. Students must complete at least 6 more credit hours of Arts or Science courses once admitted to the Faculty.

Clothing and Textiles

Clothing and Textiles 064.122

Economics 018.120 or 018.121 and 018.122

Psychology 017.120 or Sociology 077.120

6 credit hours from Science including 005.100 and 3 more credit hours from Computer Science, Chemistry or Statistics

9 credit hours of electives

Comprehensive Program and Human Ecology/Education Integrated

Chemistry 002.130 and 002.132

Economics 018.120 or 018.121 or 018.122

Psychology 017.120 or Sociology 077.120

6-12 credit hours of Human Ecology courses

Family Studies

Economics 018.120 or 018.121 or 018.122

Sociology 077.120

6 credit hours from Science including 005.100 and one of 005.200 or 074.126 or any other 3 credit hour science course

9-12 credit hours of Family Studies courses including 062.101, 062.114, 062.142, and 062.190

Human Nutritional Sciences

Zoology 022.132 and 022.133

Chemistry 002.130 and 002.132

Human Nutritional Sciences 030.120 and 030.121

Psychology 017.120

Other requirements

High school prerequisites: Mathematics 40S (pre-calculus or applied) and Chemistry 40S are required for the science requirements in Human Nutritional Sciences, textile science in Clothing and Textiles, and the Comprehensive program.

Minimum GPA for consideration: 2.0.

The written English and mathematics requirements are satisfied by required courses 028.103W and 005.100M within the Human Ecology program.

SECTION 4: Academic Regulations

4.1 General Academic Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Faculty of Human Ecology has regulations and requirements, published below, that apply specifically to its students.

4.2 Scholastic Standards

Graduation and Grade Point Average

To graduate, a student must have passed 120 credit hours and have obtained a minimum of 240 weighted grade points. This is equivalent to a Grade Point Average of 2.0. A pass indicates a grade of 'D' or better. A student's Grade Point Average (GPA) will be determined from the number of effective courses which apply at a particular stage. The effective courses consist of all courses passed, in addition to all failures which have not been cleared, or substituted for, in the student's record. A maximum of 150 credit hours (25 courses or the equivalent) may be attempted in order to obtain the 120 credit hours.

Assessment

The status of each student will be assessed in the spring, following completion of 24 credit hours and in May of each year thereafter in which a student is registered.

Academic Standards: Probationary Standing

Students must achieve or exceed the following standards at the specified stages in their academic careers. Failure to obtain the standard results in probation. Once placed on probation, students who fail to meet the appropriate performance level at the next assessment following the next registra-

tion will be academically suspended. A student is not permitted to be on probation for two consecutive years.

Probationary Standards

Effective Credit hours	Minimum GPA
24-30 hours	1.80
33-60 hours	1.85
63-90 hours	1.90
93-117 hours	1.95
120+ hours	2.00

Academic Standards: Suspension

Suspended students must remain out of the Faculty of Human Ecology for one academic year from the date of suspension and must apply for reinstatement at the Admissions Office no later than May 1.

Where mathematically possible for a suspended student to complete the degree by repeating failed courses, a suspended student shall be automatically reinstated after remaining out of the faculty for one calendar year, or by achieving a cumulative GPA above the probationary standard.

Academic Standards: Suspension (All Attempts Used)

Where it is mathematically impossible for a student to complete the degree by repeating failed courses, a suspended student, after remaining out of the faculty for one calendar year, may attempt reinstatement. By completing at least 12 credit hours in one term with a minimum 'D' grade in all courses and a grade point average of at least 2.0, the student will be reinstated. The student will start the program afresh, with previous grades of 'C' or better applicable to the program.

4.3 Part-time Students

The maximum time allowed for completion of the degree is 10 years. After completion of 24 credit hours, part-time students will be evaluated each May and must conform to the minimum performance levels.

4.4 Repeating Courses

A student may repeat any course for the purpose of attaining a better grade. Students must contact the student advisor. There are no supplemental examinations for students who have failed final or deferred examinations.

4.5 Challenge for Credit

A student wishing to challenge a course for credit should contact the student advisor. Letter grades are granted upon completion of the course that is challenged for credit. A list of courses for challenge is available in the general office.

4.6 Transfer of Credit

See the chapters on Admissions and Academic Regulations and Requirements at the beginning of this *Calendar*. Students from faculties other than University 1 or from other institutions must make an appointment with the student advisor by the end of their first academic year to arrange for transfer of credit.

4.7 Appeals of Academic Regulations

The Faculty Committee on Student Standing considers petitions from students who request special consideration with respect to rules and regulations governing their programs of study and qualification for graduation.

4.8 Dean's Honour List

Eligible students who achieve sessional Grade Point Averages of 3.5 or higher in at least 24 credit hours will be included in the Dean's Honour List.

4.9 Degree With Distinction

Students who graduate with a cumulative GPA of 3.75 and higher will receive a degree with distinction.

4.10 Voluntary Withdrawal Policy

Students in the Faculty of Human Ecology are limited to 30 credit hours of voluntary withdrawals (courses dropped after the registration revision pe-

riod) in their degree program. Authorized withdrawals may be permitted on presentation of appropriate documentation. See the Human Ecology general office for further information.

4.11 Limited Access

Some Human Ecology courses are designated as "limited access" courses. Students who have registered in such a course and who have voluntarily withdrawn (following the registration revision period), received a grade in the course (pass or fail), or have had their registration cancelled due to non-payment of fees will not be allowed to re-register in the course until after the initial registration access period. These dates are published in the *Registration Guide*. This publication also contains the list of Human Ecology courses designated Limited Access.

4.12 Procedures Relating to Student Academic Records

See Section 5 of the chapter, University Policies.

SECTION 5: Human Ecology Program Requirements

Students entering the Faculty will select one of four programs:

- **Comprehensive**

Upon completion of the first year of the Comprehensive program following University 1, students may apply to enter the Integrated Human Ecology/Education degree program.

- **Clothing and Textiles**

- **Family Studies**

- **Human Nutritional Sciences**

In order to qualify for a degree, students must complete the 120 credit hours specified for the selected program. Elective choices provided in each program will permit students to transfer between them; however, this opportunity decreases as students progress. Students who transfer to another program must meet the full requirements of that program.

5.1 Advisement

The faculty will provide entering students with orientation information and will assign each student a program advisor. The advisor will be a faculty member from the student's department or program. Individual programs of study will be planned in consultation with departmental representatives at sessions scheduled in March of each year. A program plan for the succeeding year must be submitted before the end of the second term.

5.2 Faculty Program Requirements

The following are the guidelines for the program requirements in the faculty. The courses outlined for each program in the sections which follow, meets these basic requirements.

Admitted between 1994 and 2001, Inclusive:

Students admitted between 1994 and 2001, inclusive, must follow these guidelines.

- A faculty core of 12 credit hours consisting of:

Course No.		Credit Hours
028.103W	Human Ecology: Perspectives and Communication	3
028.205	Introduction to Research in Human Ecology	3
028.310	Communication for Professional Practice	3
028.408	Current Issues in Human Ecology	3

- Plus a minimum of 48 credit hours within the faculty of which at least nine must be outside the major department;

- Plus a minimum of 30 credit hours outside the faculty of which at least six credit hours must be from the Faculty of Science and six from the social sciences;

- Plus a minimum of 12 credit hours of free electives leading to a degree requirement of 120 credit hours.

Admitted in September 2002 or Later:

- A faculty core of 12 credit hours consisting of:

Course No.		Credit Hours
028.103W	Human Ecology: Perspectives and Communication	3
028.205	Introduction to Research in Human Ecology	3
028.310	Communication for Professional Practice	3
028.408	Current Issues in Human Ecology	3

- Plus a minimum of 48 additional credit hours within the faculty;
- Plus a minimum of 30 additional credit hours outside the faculty of which at least 6 credit hours must be from the Faculty of Science and six from the social sciences;
- Plus a minimum of 12 additional credit hours of free electives leading to a degree requirement of 120 credit hours.

5.3 Program Electives

Courses within each program fall into one of three categories:

Department electives must be chosen from within the program department.

Outside electives must be chosen from a faculty other than Human Ecology.

Free electives may be chosen from within or outside the Faculty of Human Ecology.

5.4 Human Ecology Comprehensive Program

Chair: Gustaaf Sevenhuysen

The Comprehensive program is designed for students who have career goals that require basic preparation in each of the major subject areas of the faculty. Persons who intend to select this program are advised that high school Chemistry 40S and Mathematics 40S are prerequisites to 002.130 University 1: Structure and Modeling in Chemistry.

Students pursuing the Bachelor of Human Ecology/Bachelor of Education Program enter this program following 24-30 credit hours in Human Ecology (which follows one year in University 1). These students must apply to the Faculty of Education following these two years (at least 66 credit hours with a minimum cgpa of 2.0). A grade of 'C' or better is required in all courses which apply to the major or minor. Information about the Integrated program is given in the Faculty of Education chapter of this Calendar. Students in the Integrated program must have all their Human Ecology course requirements completed prior to entering the final Education year.

Before entering continuing years in the Faculty of Human Ecology, the overall program must be planned in consultation with the program advisor. Sessions are held in March of each year.

Students Admitted in September 2001 or Later

Course No.		Credit Hours
002.130	University 1: Structure and Modeling in Chemistry	3
002.132	University 1: Introduction to Organic Chemistry	3
005.100M	Basic Statistical Analysis 1	3
017.120	Introduction to Psychology	
	Or	
077.210	Introduction to Sociology	6
018.120	or 018.121 or 018.122 Economics	3-6
028.103W	Human Ecology: Perspectives and Communication	3
028.205	Introduction to Research in Human Ecology	3
028.310	Communication for Professional Practice	3
028.408	Current Issues in Human Ecology	3
030.120	Food: Facts and Fallacies	3
030.121	Nutrition for Health and Changing Lifestyles	3
030.213	Nutrition through the Life Cycle	3
030.216	Food Preparation and Preservation	3
062.101	Human Development in the Family	3
062.114	Family Studies: Relationships	3
062.142	Family Management Principles	3
062.190	Families, Housing and Community: An Introductory Perspective	3
064.102	Today's Textiles	3
064.122	Dynamics of the Fashion Industry	3
064.223	Textile Product Development: Foundations	3

064.224	Textile Product Development: Construction Basics	3
	Faculty Electives (at least 12 credit hours at 300 or 400 level)	24
	Free Electives	27-30

5.5 Human Ecology/Education Integrated Program

Students planning to take the joint Human Ecology/Education program must have grades of 'C' or higher in all courses that apply to the major and minor teachable subjects. Refer to the Faculty of Education chapter of this Calendar for the list of courses for teachable subjects. Admission to the Human Ecology/Education Integrated program follows one year (30-33 credit hours) in Human Ecology (after admission from University 1) to at least 66 credit hours of work.

5.6 Clothing and Textiles

Acting Head: Lena Horne

Students majoring in Clothing and Textiles may select programs with emphasis on one or more of textile product development; textile and apparel economics and marketing; textile and apparel history; and textile science. Those who plan to emphasize textile science are advised that high school Chemistry 40S is a prerequisite to the chemistry specified for this area of study. Students are advised that they may spend one or two terms at the University of Alberta's department of Human Ecology. A plan of study under this arrangement must be approved by the faculty in a Letter of Permission.

In March of each year program planning sessions are provided to assist students in their selection of courses for subsequent years of study. Signed approval by a faculty member is required before registration is permitted.

Students Admitted in September 2002 or Later

Course No.		Credit Hours
005.100M	Basic Statistical Analysis 1 (see Note 1)	3
017.120	Introduction to Psychology (see Note 2)	
	or	
077.120	Introduction to Sociology	6
018.120	or 18.121 and 018.122 Economics	6
028.103W	Human Ecology: Perspectives and Communication	3
028.205	Introduction to Research in Human Ecology	3
028.310	Communication for Professional Practice	3
028.408	Current Issues in Human Ecology	3
062.101	Human Development in the Family	3
064.102	Today's Textiles	3
064.122	Dynamics of the Fashion Industry	3
064.223	Textile Product Development: Foundations	3
064.220	Fabric Performance	
	Or	
064.221	Textile Management	3
064.322	Sociopsychological Aspects of Clothing	3
064.421	Seminar in Clothing and Textiles	3
	Three - six credits in Chemistry, Statistics or Computer Science (see Note 3)	3-6
	Department Electives (see Note 4)	33
	Outside Electives (see Note 5)	12
	Free Electives	21-24
	Faculty Electives (see Note 6)	

NOTES:

- 1)005.100 can be used towards Science requirement. This would increase free electives to 24 credit hours.
- 2)Students admitted prior to 1998 are required to complete 017.120.
- 3)Students who plan to emphasize the textile science area must elect Chemistry 002.130/002.132.
- 4)Department electives must be selected from at least two of the following four areas and must include at least one 400 level course:
 - a)Textile Product Development: 062.223, 064.224, 064.225, 064.342, 064.348, 064.349, 064.437, 064.438.
 - b)Textile and Apparel Economics and Marketing: 064.340, 064.346, and 064.426.
 - c)Textile and Apparel History: 064.329, 064.332, 064.335, and 064.436, plus supporting electives from the Department of History.
 - d)Textile Science: 064.337, 064.339, and 064.430.

5)The credits outside the faculty must be selected so that a minimum of 12 hours are from one subject area.

6)Students admitted between 1994 and September 2001 may choose to replace the requirement of 6 credit hours of faculty electives in their programs with 6 credit hours of Clothing and Textiles electives, thereby increasing the number of Clothing and Textiles electives to 33 credit hours. Please advise the Faculty Student Advisor by using the elective change form available in the General Office.

5.7 Family Studies

Head: Joan Durrant

Applying knowledge from the social and physical sciences, students in Family Studies examine factors affecting human psychosocial health and well-being. They study human development from infancy to old age within the context of the family, the community, and the culture.

Students are required to choose at least one area, or option, in which to focus their studies. The name of their option will appear as a "comment" on their transcripts. They may select from the following options: 1) Aging; 2) Child and Adolescent Development; 3) Families, Housing and Community Studies; 4) Family Resource Management; 5) Family Violence and Conflict Resolution.

The Faculty Studies program can provide students with academic preparatory or complementary courses for programs such as Law, Social Work, Education or Graduate Studies.

In March of each year, program planning sessions are provided to assist students in their selection of courses for subsequent years of study.

Students Admitted in September 2002 or Later

Courses to be taken by all Family Studies students:

Course No.	Credit Hours
005.100 Basic Statistical Analysis	3
<i>One of:</i> Basic Statistical Analysis 2,	3
005.200 Introductory Computer Usage 1,	
or 074.126 or any other Science course	
<i>One of:</i> Principles of Economics,	3-6
018.120 Introduction to Canadian Economic Issues,	
or 018.121 or Introduction to Global and Environmental	
or 018.122 Economic Issues and Policies	
028.103W Human Ecology: Perspectives and Communication	3
028.205 Introduction to Research in Human Ecology	3
028.310 Communications for Professional Development	3
028.408 Current Issues in Human Ecology	3
062.101 Human Development in the Family	3
062.114 Family Studies: Relationships	3
062.142 Family Management Principles	3
062.190 Families, Housing, and Community: An Introductory Perspective	3
062.207 Family Financial Management	3
062.235 Multicultural Family Issues	3
062.378 Introduction to Development of Programs for Children and Families	3
062.379 Introduction to Evaluation of Programs for Children and Families	3
077.120 Introduction to Sociology	6
Department Electives	24
Outside Electives	12-15
Free Electives	30

NOTES:

- 1) If students choose 018.120, 12 credit hours of outside electives are required.
- 2) Students admitted between 1994 and September 2001 can choose to complete the current program or transfer into the new curriculum. Please advise the Faculty Student Advisor in writing if the new program is selected.
- 3) All courses listed in the general Family Studies section (above) are required. In addition, students must choose at least one area, or option, in which to focus their studies. In the following section, the courses required to fulfill each option are listed. They will partially meet department, outside and free elective requirements. More courses will be required to complete the 120 credit hour degree. Students may take more than one option. Each option must consist of 18 non-overlapping credit hours; that is, no course can satisfy the requirements of more than one option.

Aging Option

This option is the Interfaculty Option in Aging, which can fulfil the requirement for an option within the Family Studies major.

028/047/051/123.265	Social Aspects of Aging	3
049.261 or 057.261	Health and Physical Aspects of Aging	3
062.478	Field Experience	6
	At least 3 credit hours from:	3
062.322	Death and the Family	
062.324	Families in Later Years	
	At least 3 credit hours from:	3
017.237	Developmental Psychology from Adolescence to Old Age	
017.346	Abnormal Psychology	
017.349	Individual Differences	
017.361	Memory	
020.247	Death and Concepts of the Future	
049.220	Selected Topics in Aging and Health	
057.450	Aging Adult Development, Health and Fitness	
077.249	Sociology of Health and Illness	
077.262	The Sociology of Aging	
077.351	Population Dynamics and Change	
077.354	The Sociology of Health Care Systems	
123.413	Leisure Services for the Aging	

Child and Adolescent Development Option

062.260	Foundations of Childhood Developmental Health	3
062.360	Adolescents in Families and Societies	3
062.460	Risk and Resilience in Behavioural and Social Development	3
	At least nine credit hours from:	9
062.280	Family Violence	
062.361	Developmental Health of Children and Youth	
062.380	Conflict Resolution in the Family	
062.333	Parenting and Developmental Health	
062.433	Management of Family Stress	
062.448	Work and Family Issues	
030.121	Nutrition for Health and Changing Lifestyles	
030.213	Nutrition through the Life Cycle	
017.244	Behaviour Modification Principles	
017.245	Behaviour Modification Applications	

Families, Housing and Community Studies Option

Course No.	Credit Hours
062.290 Families, Housing and Community:	3
A Development Perspective	
062.390 Families, Housing and Community:	3
A Policy Perspective	
062.490 Families, Housing and Community:	3
An Action Perspective	
At least 3 credit hours from:	3
028/047/051/123.265	Social Aspects of Aging
062.280	Family Violence
062.324	Families in Later Years
062.345	Consumer Problems and Influences
062.380	Conflict Resolution in the Family
062.433	Management of Family Stress
062.445	Family Economic Resources and Functions

062.460	Risk and Resilience in Behavioural and Social Development
062.448	Work and Family Issues
	At least 3 credit hours from:
018.228	Social Welfare and Human Resources
018.235	Community Economic Development
019.206	Urban and Local Politics
047.205	Community and Organizational Theory
053.264	Geography of Culture and Inequality
076.122	Cultural Anthropology
076.239	Social Organization in Cross-cultural Perspective
076.257	Urban Anthropology
077.227	Urban Sociology
077.232	Canadian Society and Culture
077.239	Social Organization
079.261	Theory of Design

	At least 3 credit hours from:
017.362	Community Mental Health
018.273	Urban and Regional Economics
053.346	Urban Geography
076.355	Canadian Subcultures
076.338	Anthropology and Contemporary Social Issues
077.384	Community and Social Reconstruction
079.334	History of the City
079.335	Planning and Design for Shelter
156.355	Feminist Community Organizing: Theories and Practices

Family Resource Management Option

	At least 9 credit hours from:
062.345	Consumer Problems and Influences
062.433	Management of Family Stress
062.445	Family Economic Resources and Functions
062.446	Family Financial Counselling
062.448	Work and Family Issues

	At least 9 credit hours from:
009.110	Introductory Financial Accounting
009.111	Introductory Managerial Accounting
009.220	Corporation Finance
009.342	Security Analysis
018.228	Social Welfare and Human Resources
018.235	Community Economic Development
018.236	Women in the Canadian Economy
018.239	Introduction to Environmental Economics
018.250	Labour and Technology
018.339	Development Economics
018.372	Urban and Regional Economics and Policies
027.203	Administrative Theory
027.244	Human Resource Management
030.121	Nutrition for Health and Changing Lifestyles
030.213	Nutrition through the Life Cycle
030.429	Food, Nutrition and Health Policies
064.122	Dynamics of the Fashion Industry
064.322	Sociopsychological Aspects of Clothing
064.340	Economics of the Textile and Apparel Industries
076.255	Culture and the Individual
076.243	Ecology, Technology and Society
077.337	Sociology of Work
077.351	Population Dynamics and Change
077.387	Social Inequality
118.221	Fundamentals of Marketing
118.323	Consumer Behaviour

Family Violence and Conflict Resolution Option

062.280	Family Violence	3
062.380	Conflict Resolution in the Family	3
062.480	Senior Seminar in Family Violence and Conflict Resolution	3

	At least 3 credit hours from:	3
017.246	Dyadic relationships	
077.251	Criminology	

	At least 3 credit hours from:	3
047.313	Contemporary Canadian Social Welfare	
062.361	Developmental Health of Children and Youth	
077.370	Sociology of Law	
077.379	Women, Crime and Social Justice	

	At least 3 credit hours from:	3
062.433	Management of Family Stress	
062.460	Risk and Resilience in Behavioural and Social Development	

5.8 The Family Studies Minor

A minor in Family Studies is offered by the Department of Family Studies. Students must complete 18 credit hours, distributed as follows: Six (6) credit hours in Family Studies at the 100 level, and a least three (3) credit hours in Family Studies at the 200 level, and a least three (3) credit hours in Family Studies at the 300 and/or 400 level, with no more than 6 credit hours at the 100 level.

Students must check with their home Faculties to see if it is available in their programs.

5.9 Human Nutritional Sciences

Head: James Friel

Students majoring in Human Nutritional Sciences will choose either the Nutrition Option or the Foods Option. The educational requirements to qualify for a dietetic internship and membership in the Dietitians of Canada may be met within the Nutrition option. Students can apply for a dietetic internship in the final year of their degree or after completion of their degree. Internships are awarded competitively by external institutions. Those who plan to enter Human Nutritional Sciences are advised that high school Chemistry 40S and Mathematics 40S are prerequisites to 002.130 University 1: Structure and Modeling in Chemistry. Before entering continuing years in the Faculty of Human Ecology, the overall program must be planned with departmental advice. Sessions are held in March of each year.

Students Admitted in September 2002 or Later

Course No.		Credit Hours
Courses to be taken by all Human Nutritional Sciences students		
002.130	University 1: Structure and Modeling in Chemistry	3
002.132	University 1: Introduction to Organic Chemistry (See Note 1)	3
002.277	Elements of Biochemistry 1 (See Note 2)	3
002.278	Elements of Biochemistry 2 (See Note 3)	3
005.100	Basic Statistical Analysis 1	3
005.200	Basic Statistical Analysis 2	3
017.120	Introduction to Psychology	6
028.103W	Human Ecology: Perspectives and Communication	3
028.205	Introduction to Research in Human Ecology	3
028.310	Communication for Professional Practice	3
028.408	Current Issues in Human Ecology	3
030.120	Food: Facts and Fallacies	3
030.121	Nutrition for Health and Changing Lifestyles	3
030.213	Nutrition through the Life Cycle	3

030.214	Basic Principles of Human Nutrition	3
030.215	Composition, Functional and Nutrition Properties of Foods	3
030.216	Food Preparation and Preservation	3
030.333	Ingredient Technology for Designed Foods	3
030.416	Seminar in Foods and Nutrition	3
030.429	Food, Nutrition and Health Policies	3
022.132	Anatomy of the Human Body Or	3
071.125	Biology B (If Biology B is taken, the additional 3 credit hours are considered to be free electives)	6
022.133	Physiology of the Human Body (See Note 4)	3
078.415	Food Microbiology	3

Nutrition Option

030.330	Vitamins and Minerals in Human Health	3
030.331	Macronutrients and Human Health	3
030.332	Nutrition Education and Dietary Change	3
030.432	Nutritional Management of Disease States	3
	Department Electives	15
	Free electives	21
	Restricted Faculty electives (see Note 6)	

Foods Option

030.330	Vitamins and Minerals in Human Health Or	
030.331	Macronutrients and Human Health	3
030.326	Food Quality Evaluation	3
030.329	Cultural and Psychological Influences in Food Patterns	3
030.427	Sensory Evaluation of Food	3
030.428	Food Product Development	3
118.221	Fundamentals of Marketing	3
	Program Electives (See Note 7)	9
	Free Electives	21
	Restricted Faculty Electives (see Note 6)	

5.9 Pre-Professional Preparation

Students in the Human Nutritional Sciences program can complete the entrance requirements for several professional programs as part of the degree.

5.9.1 Dietetics: Academic requirements eligibility to enter a dietetic internship.

Courses required in addition to the Human Nutritional Sciences program:

Course No.	Credit Hours	Placement in Program
027.203 Administrative Theory (or 027.207)	3	Free elective
030.334 Food Service Management	3	Department Elective
030.414 Quantity Food Production and Management	3	Department Elective
One of 030.430, 030.431, 030.433, 030.434	3-6	Department Elective

• Entry into a dietetic internship is competitive. It is strongly recommended that students seek advice from the Department during the second and third years of the program on all aspects of preparing an application to an internship.

5.9.2 Medicine or Dentistry: Eligibility for entry into the program Doctor of Medicine, or the program Doctor of Dental Medicine, at the University of Manitoba.

A. Courses required in addition to the Human Nutritional Sciences program (can be taken as electives in the program):

Course No.	Credit Hours	Placement in Program
002.221*	3	Free elective
002.222	3	Free elective

002.236**	Biochemistry 1: Bio-molecules and an Introduction to Metabolic Energy	3	Free elective
002.237**	Biochemistry 2: Catabolism, Synthesis and Information Pathways	3	Free elective
016.102M	General Physics 1	3	Free elective
016.103M	General Physics 2	3	Free elective
004.120W	Representative Literary Works	6	Free elective
004.126W	Twentieth-Century Literature in English		

* Cannot be held with 002.132 in the same program. Prerequisite is 002.131 (University 1: Introduction to Physical Chemistry).

** These courses replace the biochemistry courses in the Human Nutritional Sciences program.

5.9.3 Law: Eligibility for entry into the program Bachelor of Laws at the University of Manitoba.

A. The Human Nutritional Sciences program meets the entrance requirements of the Faculty of Law.

B. It is necessary to apply to the Faculty of Human Ecology to take 028.103W (Human Ecology: Perspectives and Communication) in University 1, as it is not normally available to students in University 1.

NOTES:

1) Under required courses, students can take either 002.132 (University 1: Introduction to Organic Chemistry) or 002.131 (University 1: Introduction to Physical Chemistry).

2) Under required courses, students can take either 002.277 (Elements of Biochemistry I) or 002.236 (Biochemistry 1: Bio-molecules and an Introduction to Metabolic Energy). (Or 060.236).

3) Under required courses, students can take either 002.278 (Elements of Biochemistry II) or 002.237 (Biochemistry 2: Catabolism, Synthesis, and Information Pathways). (Or 060.237).

4) Under required courses, students can take either 022.133 (Physiology of the Human Body) or 022.253 (Human Physiology I) and 022.254 (Human Physiology II).

5) For students who do not take 002.221 and 002.222, 002.132 is preferred.

6) Students admitted between 1994 and September 2001 may choose to eliminate the requirement for 9 credit hours of restricted faculty electives from their programs. Please advise the Faculty Student Advisor using the elective change form available in the General Office.

7) Nine credit hours of courses from either the Asper School of Business and/or from 3rd and 4th year courses in the Department of Food Science.

5.10 Interfaculty Option in Aging

An Option in Aging is offered by and in the following faculties: Architecture (Interior Design), Arts, Human Ecology, Nursing, Physical Education and Recreation Studies, and Social Work.

To complete the option, students in Human Ecology must complete each of the following requirements:

- 051.265 or 028.265 or 123.265 or 047.265, The Social Aspects of Aging;
- 049.261 or 057.261, Health and Physical Aspects of Aging;
- At least three credit hours of professional/discipline specific applied work on aging within the student's department of registration (a list of courses is available in the general office); and,
- An additional nine credit hours of aging-related courses from the participating units; a list is available in the general office. Upon completion of these requirements, a "comment" will be added to the student's transcript.

Further information is available from the general office of Human Ecology.

5.11 The Minor in Management

A Management minor is offered by the Asper School of Business. Human Ecology students may complete this minor as part of the electives portion of their programs. The minor will consist of any 18 credit hours of Manage-

ment courses. Students must meet prerequisites for all courses. Further information is available from the Human Ecology general office.

SECTION 6: Course Descriptions

6.1 General Faculty

028.103W Human Ecology: Perspectives and Communication (3)L Theory and practice of written and oral communication set within the context of the subject matter of areas of human ecology.

028.205 Introduction to Research in Human Ecology (3) A general introduction to research issues in natural and social sciences and their application in the various subject areas in Human Ecology. *Prerequisites:* 028.103W and 005.100M or the former 005.220.

028.310 Communication for Professional Practice (3)L 3 Advanced communication skills as applied to professional practice in the fields of human ecology. *Prerequisites:* 54 credit hours in the Human Ecology program and 028.103W.

028.406 Special Studies in Human Ecology (3) Independent study/and/or directed research within a specialized area. Before approval is granted, the student must submit a detailed proposal of the study. *Prerequisite:* permission of advisor.

028.408 Current Issues in Human Ecology (3) Using a human ecology framework, identify and analyze issues Canadian families face in the global environment. *Prerequisites:* 028.205 and completion of 84 credit hours in the Human Ecology program.

028.409 Practicum in Human Ecology (6) This is a partnership among the university, field supervisor, and the student. It provides an opportunity for students to work in a supervised setting (e.g., health, social services or business) in which home economists have a professional role and responsibility. Students also have in-class experiences and assignments with an academic instructor. *Prerequisite:* 84 credit hours in the Comprehensive program and consent of instructor.

Interfaculty Option on Aging

028.265 The Social Aspects of Aging (3) An examination of the social aspects of aging. Emphasis on understanding the aging process as a life transition involving adaptation through interaction with social and physical environments. Students may not hold credit for 028.265 and 051.265 or 047.265 or 123.265.

6.2 Human Nutritional Sciences

030.120 Food: Facts and Fallacies (3) This course will present facts and fallacies about food from harvest to market forms. Emphasis will be placed on technological development, consumer concerns and factors affecting nutritional quality. Current issues related to food safety and nutritional trends will also be discussed. Not to be held with the former 030.119.

030.121 Nutrition for Health and Changing Lifestyles (3) This course addresses the relationship between nutrition and health. The focus is on healthy eating and on strategies for modifying food patterns within the context of lifestyle and culture. Not to be held with the former 030.117.

030.213 Nutrition Through the Life Cycle (3) Examination of nutritional needs throughout the life cycle, the nutritional concerns of different age groups and the development of healthy eating practices. Not to be held with the former 030.304. *Prerequisite:* 030.121.

030.214 Basic Principles of Human Nutrition (3) The scientific principles underlying nutrient function and dietary requirements. *Prerequisites:* 002.277 (or 002.236 or 060.236) and 030.121, and 030.120; or 002.277 (or 002.236 or 060.236) and 078.250; with a grade of C or higher in 002.277 (or 002.236). Not to be held with the former 030.325.

030.215 Composition, Functional and Nutritional Properties of Foods (3) Food composition, food market forms, food composition data for nutritional assessment and labelling. *Prerequisites:* 030.120 and 030.121 and 002.132 (or 002.131). Not to be held with the former 030.327.

030.216 Principles of Food Preparation and Preservation (3) L Food preparation, preservation, handling and storage; quality and safety implications; scientific basis for culinary practice; use and application of equipment. *Prerequisite:* 030.120 and either 002.131 or 002.132. Not to be held with the former 030.211 or 030.324.

030.326 Food Quality Evaluation (3)L Discussion of quality concepts and quality assurance principles for food applications, and of methods for evaluation of sensory, chemical and physical aspects of quality. The course will include food industry visits and demonstrations of food testing techniques. *Prerequisites:* 030.216 or 078.301 and 005.200 or equivalent.

030.329 Cultural and Psychological Influences in Food Patterns (3) A study of the sociological, psychological, and cultural aspects of food patterns and behaviour. *Prerequisites:* 017.120 or 077.120 and 030.120 and 030.121.

030.330 Vitamins and Minerals in Human Health (3) The physiological importance of vitamins and minerals in the human body, including factors affecting dietary requirements, metabolism and roles in disease progression and prevention. *Prerequisites:* 002.278 (or 002.237 or 060.237), and 030.214 and 022.133 (or 022.254). Not to be held with the former 030.426.

030.331 Macronutrients and Human Health (3) Macronutrient functions and metabolic roles in human health, including the prevention and pathogenesis of various diseases. *Prerequisites:* 002.278 (or 002.237), and 030.214, and 022.133 (or 022.254). Not to be held with former 030.325.

030.332 Nutrition Education and Dietary Change (3) Theoretical and practical aspects influencing dietary change at the individual and population level, with emphasis on nutrition education. *Prerequisites:* 017.120, 030.213, 030.214 and 030.216.

030.333 Ingredient Technology for Designed Foods (3) Chemical and functional properties of ingredients and their application in designed foods: low fat, low calorie, high fibre, high energy and innovative food products. *Prerequisites:* 002.278 (or 002.237 or 060.237) and 030.215; or 078.250 and 002.222 (or 002.220).

030.334 Food Service Management Systems (3) Cost control principles and techniques as applied to food service management, including basic accounting principles, interpretation of financial statements and human resource management. *Prerequisites:* 030.120 and 027.203 (or 027.207 or 027.208). Not to be held with the former 030.318.

030.412 Senior Thesis (3) The preparation and presentation of a report based on a survey of the literature or on a laboratory investigation of an approved topic. *Prerequisite:* 84 credit hours in the Human Nutritional Sciences program. Application required. Limited enrolment.

030.414 Quantity Food Production and Management (3) L Menu planning. Food costing. Experience in standard methods of institutional food production and service. *Prerequisites:* 030.334 and 030.216 or consent of instructor.

030.416 Seminar in Foods and Nutrition (3) A critical study of research in the field of foods and nutrition; oral and written reports required. Restricted to fourth-year majors in the department. *Prerequisites:* completion of 84 credit hours in the Foods and Nutrition program and 028.310.

030.425 Selected Topics in Foods (3) Recent developments in food research, both basic and applied. *Prerequisite:* consent of instructor.

030.426 Selected Topics in Human Nutrition (3) Recent developments in human nutrition research. *Prerequisite:* consent of instructor.

030.427 Sensory Evaluation of Food (3)L Sensory perception, principles of the sensory analysis of food, requirements for sensory testing, test methods, selection and training of panelists, statistical analysis and interpretation of data. *Prerequisites:* 030.216 or 078.301 and 005.200 or equivalent.

030.428 Food Product Development (3) This course focuses on food industry product development procedures. Emphasis will be on application of basic knowledge of foods and food processing in designing a new product. *Prerequisites:* 118.221, 005.200 or equivalent, and one of 078.301, 030.211, 030.324, 030.333. Not to be held with 078.451.

030.429 Food, Nutrition and Health Policies (3) Principles and applications of policies, regulations and legislation in the areas of food and health that address nutrition and health problems of populations. Not to be held with the former 030.328. *Prerequisites:* 028.205, 030.213, 030.215 and 005.200.

030.430 Community Nutrition Intervention (3) Principles of planning and evaluating nutrition related interventions. Examples of community needs assessments, program planning strategies and types of program evaluation will be examined. Not to be held with the former 030.411. *Prerequisite:* 030.332.

030.431 Nutrition and the Elderly (3) The role of nutrition in health promotion and disease prevention during aging. *Prerequisites:* 030.330, 030.331 and 030.332. Offered in alternate years, opposite 030.434.

030.432 Nutrition Management of Disease States (3)L Nutritional assessment and dietary management of acute and chronic disease states. *Pre- or corequisites:* 030.330, 030.331, and 030.332. Not to be held with the former 030.423 and 030.424.

030.433 Practicum in Foods and Nutrition (6) Practical applications of nutrition and food science principles in a variety of public service, commercial and research applications. *Prerequisites:* completion of 84 credit hours in the Human Nutritional Sciences program with two of the following courses: 030.330, 030.331, 030.332, and 030.333. Application required. Limited enrolment.

030.434 Maternal and Child Nutrition (3) The role of nutrition in normal human development from conception through childhood. *Prerequisites:* 030.330, 030.331 and 030.332. Offered in alternate years opposite 030.431.

030.435 Nutrition in Exercise and Sport (3) The application of nutritional regimens to meet exercise requirements and improve athletic performance. Current practices and recommendations for different types of sports will be examined. *Prerequisites:* 030.121 and 057.343.

030.454 Functional Foods and Nutraceuticals (3) This course will examine the bio-active components of functional foods and nutraceuticals, their sources, chemistry, process technology, efficacy, safety and regulation. *Prerequisite:* 002.277 (or 002.236 or 060.236). Not to be held with 078.454.

6.3 Family Studies

062.101 Human Development in the Family (3) Introductory survey of key aspects of human development processes within the family context from a life span perspective. Not to be held with 049.126.

062.114 Family Studies: Relationships (3) Family interaction patterns over the family life cycle as they are related to human development. Investigation of external and internal environmental pressures that influence the family and human development.

062.142 Family Management Principles (3) Managerial principles including planning, resource allocation, decision making, goal setting and evaluation. Effects of decisions made outside families and interaction with environment.

062.190 Families, Housing, and Community: An Introductory Perspective (3) An introduction to understanding housing and community for individuals and families; shelter outside mainstream; neighbourhoods and communities; links between well being and poverty, housing, community; some policy and program issues; various approaches used in studying this topic. Opportunity for some field experience. Not to be held with 062.172.

062.207 Family Financial Management (3) Application of management principles in the use of family resources with emphasis on family financial management. *Prerequisite:* 062.142.

062.235 Multicultural Family Issues (3) A focus on multicultural issues that affect family interaction in Canada, which is designed to prepare students for professional practice. Emphasizes dominant/minority family relationships, internal family dynamics of minority families, social policies directed toward creating and maintaining multiculturalism and diversity education for future professionals. Manitoba Aboriginal family life is accentuated. *Prerequisite:* 062.114 or equivalent.

062.260 Foundations of Childhood Developmental Health (3) L This course examines implications of theory and research in child development for promoting developmental health. Laboratory component focuses on working with children and evaluating effects of developmental progress. *Prerequisite:* Minimum grade of 'C' in 062.101. Limited enrolment.

062.280 Family Violence (3) A survey of the extent and nature of various forms of family violence across the life course. Topics include physical and sexual child abuse, sibling violence, partner violence, and elder abuse. Emphasis is on prevalence, incidence, causes, consequences and solutions. *Prerequisite:* 062.101 or 062.114, or 017.120 or 077.120.

062.290 Families, Housing and Community: A Development Perspective (3) Focus is on developmental issues for individuals, families and communities. Of particular interest is the interrelationship between facilitating community development and the developmental well being of residents. Social, psychological, cultural and political components are considered. *Prerequisite:* 062.190 or 172 or consent of instructor.

062.319 Survey of Critical Issues in Human Development 1 (3) Not currently offered.

062.320 Survey of Critical Issues in Human Development 2 (3) Not currently offered.

062.322 Death and the Family (3) An examination of dying and death of family members throughout the family life cycle. Specific topics included are the meaning of death, the process of dying, caring relationships, grief and bereavement. *Prerequisite:* 062.114 or 017.120 or 077.120.

062.324 Families in Later Years (3) An investigation of family issues in the later years of life, such as housing, intergenerational relations, adjustment to retirement, sibling relations, grandparenting, death. Students may not hold credit for 062.324 and the former 062.321. *Prerequisites:* 062.101 and 062.114 or 017.120; or 077.120.

062.333 Parenting and Developmental Health (3) Examines parenting and its influence on developmental health, with consideration of change across time, the context in which parenting occurs, and the effect of the parent-child relationship on developmental health. *Prerequisites:* 062.114 and completion of 54 credit hours. Not to be held with the former 062.435. First offered in 2004 – 2005.

062.345 Consumer Problems and Influences (3) A study of factors which influence individuals and households as consumers; theories of consumer behaviour, consumer education; current consumer issues. *Prerequisite:* 062.207 and 018.120 or 018.121 or 018.122.

062.347 Selected Studies in the Family 1 (3) The opportunity to carry out an individual study in the area of the family of particular interest to the student. When enrolment warrants, the department may offer selected topics in a regular course format. *Prerequisite:* consent of instructor.

062.360 Adolescents in Families and Society (3) This course is designed to help students understand the nature of adolescent relationships with their families in communities. The application of theory and research on adolescent relationships to professional practice with families and communities is emphasized. *Prerequisite:* 062.260 or 062.209 or 062.210 or 062.330.

062.361 Developmental Health of Children and Youth (3) Population health gradients are largely set early in life and are affected by the environments in which children live. This course examines current knowledge of the social determinants of child and adolescent health. Consideration is given to policy implications, including directions for program development and evaluation. *Prerequisite:* 062.260 or 209 or 210 or 330. Not to be held with the former 062.450.

062.378 Introduction to the Development of Programs for Children and Families (3) An introduction to the theory and practice of program development with special emphasis on programs for children and families. The course will cover techniques for conducting need assessments, as well as the process of planning and implementing programs to address community need. *Prerequisite:* 028.205.

062.379 Introduction to the Evaluation of Programs for Children and Families (3) An introduction to the theory and practice of program evaluation with special emphasis on child and family programs. Considers the purpose of evaluation, types of evaluation, evaluation design and analysis, and the evaluation process. *Prerequisite:* 028.205.

062.380 Conflict Resolution in the Family (3) Students will examine the nature and development of conflict in family relationships throughout the life span. Implications of conflict for the quality of family relationships and individual development will be addressed. *Prerequisite:* 062.114 or 280.

062.390 Families, Housing and Community: A Policy Perspective (3) Examines policy relative to families, housing and community. Primer on public policy process and links to families. Examines housing policies at federal, provincial and municipal levels and their impact on individuals and families. Opportunity for some field experience. *Prerequisite:* 062.190 or 172, or consent of instructor. Not to be held with the former 062.473.

062.426 Theories of Human Development (3) A review of the major theoretical issues, both historical and contemporary, in human development. *Prerequisite:* 062.209 and 062.210.

062.430 Field Experience (6) Provides students with field experience in a supervised setting. The course consists of 120 hours of supervised work in an assigned setting and seminar time with peers and field experience coordinator. Grade is pass/fail. *Prerequisite:* 84 credit hours and consent of instructor. Not to be held with the former 062.436 or 455 or 456 or 457. First offered in 2004 – 2005.

062.433 Management of Family Stress (3) Theories which influence family behaviour during stress are discussed, and coping/managerial skills to mitigate the effects of the stressors are examined. Stress management advice from agencies and in educational settings is analyzed. *Prerequisite:* 062.114.

062.435 Perspectives on Parenting (3) Contemporary theories and practices of parenting in current family settings will be addressed. Social and environmental factors influencing parenting will be examined. Contemporary programs for parents will be critically reviewed. *Prerequisite:* 062.114.

062.436 Practicum in Family Studies (6) Opportunity to work with groups of specific interest to the student (e.g., adolescent parents, family groups, the aged). *Prerequisite:* consent of instructor.

062.437 Exceptional Development: Behavioural and Social-Emotional Disorders (3) Examination of the development of social-emotional and behavioural disorders in young children. Identification, evaluation, etiology, and strategies for change will be emphasized. *Prerequisites:* 062.209 and 062.210.

062.445 Family Economic Resources and Functions (3) Principles, major problems, and trends concerning the family economic situation in relation to the Canadian economy. *Prerequisite:* 062.345.

062.446 Family Financial Counselling (3) Theory and practice of financial counselling of debt-burdened families. Debt analysis. Appraisal of alternate solutions and of legal and psycho-social factors in terms of family well-being and financial capacity. *Prerequisite:* 062.345.

062.447 Selected Studies in the Family 2 (3) The opportunity to carry out advanced study in the area of the family of particular interest to the student. When enrolment warrants, the department may offer selected topics in a regular course format. *Prerequisite:* consent of instructor.

062.448 Work and Family Issues (3) An exploration of the interface between paid work and unpaid work and families in the Canadian and international contexts. Topics include demographic trends; parenting, child and elder care; management of work-family conflict; development of workplace solutions; and social policy implications. *Prerequisite:* 062.207 and 84 credit hours.

062.450 The Exceptional Infant and Young Child (3) Study of exceptional development of infants and young children and the interactive effects of the exceptionality on the family and in group settings including day care. Students may not hold credit for 062.450 and 062.447 offered as Exceptional Infant. *Prerequisite:* 062.330.

062.455 Practicum and Professional Issues: Infant Development and Care (6) L Supervised work with infants in group settings; critical study of infant group care and its relation to the family; the role, responsibilities and ethical conduct of professionals working with young children and their families. Not to be held with 062.456, 062.457 or the former 062.452. *Prerequisite:* 062.330 and consent of instructor.

062.456 Practicum and Professional Issues: Special Needs Children (6) L Supervised work with infants and young children with special needs; critical study of related issues; role, responsibilities and ethical conduct of professionals working with young children and their families. Not to be held with 062.455, 062.457. *Pre- or corequisite:* 062.450 and consent of instructor.

062.457 Practicum and Professional Issues: Child Care Management (6) L Supervised experience in child centre management; study of policy issues relating to child care; examination of the role, responsibilities and ethical conduct of professionals working with young children and their families. Not to be held with 062.455, 062.456. *Prerequisite:* 062.350 and consent of instructor.

062.460 Risk and Resilience in Behavioural and Social Development (3) The development of behavioural and social difficulties are examined from a risk and resilience perspective. The interaction of factors at all levels of the human ecological system are considered in terms of their impact on increasing risk and/or building resilience in

children and youth. *Prerequisite:* 062.260 or 209 or 210 or 330. Not to be held with the former 062.437. First offered in 2004 – 2005.

062.480 Senior Seminar in Family Violence and Conflict Resolution (3) Advanced study in the areas of family violence and/or conflict resolution. Special emphasis is placed upon current research and/or practice. *Prerequisite:* at least one of 062.280 or 062.380 or consent of instructor.

062.490 Families, Housing and Community: An Action Perspective (3) Examines relationships between families, housing and community; impact of communities on children; best practices for enhancing quality of life in communities; participatory processes for working with communities. Significant on-site learning. Emphasis on inner-city. *Prerequisite:* 062.290 or 062.360, or consent of instructor. First offered in 2004 – 2005.

6.4 Clothing and Textiles

064.102 Today's Textiles (3) Factors that determine the properties and utility of fabrics used for apparel, household, institutional, and industrial products. Criteria of producers, retailers, and consumers for product selection.

064.122 Dynamics of the Fashion Industry (3) Structure of industries involved in the production, distribution, and use of textile products. Economic, social, and political factors that influence the marketplace. Not to be held with the former 064.222.

064.220 Fabric Performance (3)L Physical, aesthetic, and physiological properties of woven, knitted, and nonwoven fabrics. Measurements of structural parameters and assessment of selected performance characteristics. Performance standards. *Prerequisite:* 064.102.

064.221 Textile Management (3)L Management of textile products during use and refurbishing. Influence of hostile environments including radiation, air pollutants, and various cleaning systems in the life expectancy of textiles. *Prerequisite:* 064.102.

064.223 Textile Product Development: Foundations (3)L Introduction to principles and processes involved in developing a range of textile products, including apparel. *Prerequisite or corequisite:* 064.122 or the former 064.222. Priority will be given to students enrolled in Clothing and Textiles. Students may not hold credit for 064.223 and the former 064.101.

064.224 Textile Product Development: Construction Basics (3)L This course incorporates theoretical and practical approaches to the study of apparel construction. Domestic and industrial processes are addressed. *Prerequisite:* 064.223. Students may not hold credit for 064.224 and the former 064.215.

064.225 Textile Product Development: Visual Communication (3)L Communicating textile product design through sketching. *Prerequisites:* 064.102 and 064.223. Students may not hold credit for 064.225 and the former 064.345.

064.322 Sociopsychological Aspects of Clothing (3) Clothing behaviour of individuals and social groups. *Prerequisite:* 017.120 or 077.120.

064.327 Research Process in Clothing and Textiles Not currently scheduled.

064.329 Evolution of Western Dress (3) History and significance of fashionable dress from ancient times to the twentieth century.

064.332 History of Textiles (3) Development and diffusion of textile fibres, fabrics, and finishes from prehistoric times to present.

064.335 Folk Costumes of the World Not currently scheduled.

064.337 Textile Evaluation (3)L Sensory and physical test methods; evaluation of performance and quality; principles of quality control of textile and apparel products. *Prerequisites:* 064.220 and 005.100.

064.339 Fibre and Colour Science (3)L The chemistry of fibre-forming polymers, dye-stuffs, and finishes. Physical and chemical methods for evaluating selected fibre, colour and finish characteristics. *Prerequisites:* 064.221 and 002.132.

064.340 Economics of the Textile and Apparel Industries (3) Economic analysis of the textile and apparel industries - development, structure, technology and performance. *Prerequisites:* 064.122 or the former 064.222 and 018.120.

064.342 Apparel Manufacture (3)L Design and production in the apparel industry. *Prerequisite:* 064.122 or the former 064.222.

064.343 Structural Textile Design: Weaving (3)L Design and analysis of woven textile structures. The focus of the course is an understanding of the theoretical principles inherent in the production and analysis of woven textiles as well as the application of these principles. Current historical and/or cultural research in the area of woven textile design is an important aspect of the course. *Prerequisites:* 064.102 and 064.223 or the former 064.101. Offered in alternate years, opposite 064.344. Priority will be given to department majors.

064.344 The Application of Colour in Textile Design (3)L The study of principles of applied textile design; examination of aesthetic aspects of colour and the creative use of colour in the design of textiles. *Prerequisites:* 064.102 and 064.223 or the former 064.101. Offered in alternate years, opposite 064.343. Priority will be given to department majors.

064.346 Textile and Apparel Policy (3) Critical examination of government policies as a factor influencing the kind, price and quality of textiles and apparel available to Canadian consumers. *Prerequisites:* 064.102 and 064.340. Students may not hold credit for 064.346 and the former 064.341.

064.347 Selected Topics in Clothing and Textiles (3) Directed study in a specific area of clothing and/or textiles. *Prerequisite:* Consent of instructor and 60 credit hours in the Clothing and Textiles program.

064.348 Textile Product Development: Pattern Development (3)L Theory and application of methods used to develop patterns for apparel. *Prerequisites:* 064.102 and 064.224. Students may not hold credit for 064.348 and the former 064.219.

064.349 Textile Product Development: Computerized Pattern Development (3)L Exploration of the use of computer technology for pattern development, grading, and marker making. *Prerequisite:* 064.348.

064.421 Seminar in Clothing and Textiles (3) Critical study of literature and other information sources in the field of clothing and textiles. Oral and written reports required. Restricted to fourth year majors in the department.

064.426 Textile and Apparel Marketing (3) Application of marketing in the textile industries. *Prerequisites:* 064.340 and 118.221.

064.430 Textile Investigation (3)L Qualitative and quantitative analysis of chemical, physical and microscopic characteristics of textiles. Study of selected research techniques used to investigate fibres, yarns, and fabrics. *Prerequisite:* 064.339 or 064.337.

064.431 Practicum in Clothing and Textiles (3) Supervised practical experience in the clothing and textile field in an appropriate off-campus setting. *Prerequisite:* 84 credit hours in the Clothing and Textiles program. GPA is considered; limited enrolment.

064.432 Selected Topics in Clothing and Textiles 1 (3) Directed study in a specific area of clothing and/or textiles. *Prerequisite:* Consent of instructor and 84 credit hours in the Clothing and Textiles program.

064.433 Selected Topics in Clothing and Textiles 2 (3) Directed studies in a specific area of clothing and/or textiles. *Prerequisite:* Consent of instructor and 84 credit hours in the Clothing and Textiles program.

064.434 Senior Project (3) Independent study on an approved topic in a) marketing, production or design of apparel, b) history of costume and textiles, c) sociopsychological aspects of clothing, or d) textile performance, preservation and use. A detailed proposal for the study must be submitted in order to register. *Prerequisite:* Consent of department head and 84 credit hours in the Clothing and Textile program.

064.436 History of Canadian Dress (3)L History and significance of the forms of dress and adornment that have developed in Canada. *Prerequisite:* 064.329 or 064.332.

064.437 Textile Product Development: Advanced Applications (3)L Theory and application of methods used to develop patterns for men's, women's and children's apparel. *Prerequisites:* 064.225 and 064.349.

064.438 Textile Product Development: Studio (3)L Course for senior students specializing in textile product development. Integrates textile product development skills and evaluation standards to solve problems creatively and effectively. *Prerequisites:* Minimum C+ average over 12 hours of completed courses in textile product development and six hours of completed courses in Textile Science. Limited enrolment.

Faculty of Law

General Office

303 Robson Hall

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Website: www.umanitoba.ca/faculties/law

Dean: Harvey Secter

Associate Dean: Cameron Harvey

Administrative Assistant (Student Affairs): Linda Skoropata

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SECTION 1: Academic Staff

Dean Emeritus

Edwards, C.H.C., Q.C., LL.B.(Hons.) (London).

Senior Scholars

Braid, E.A., C.M., Q.C., LL.B. (Manitoba), LL.M. (London).

Professors

Anderson, D.T., Q.C., B.A. (Manitoba), B.A., B.C.L. (Oxford); **Busby, K., LL.B.** (Manitoba), LL.M. (Columbia); **Deutscher, D.B., B.A., LL.B.** (Manitoba), LL.M. (Harvard); **Esau, A.J., B.A., LL.B.** (Alberta), LL.M. (Harvard); **Guth, D.J., B.A.** (Marquette), M.A. (Creighton), B.A. Status (Clare College, Cambridge), Ph.D. (Pittsburgh); **Harvey, D.A.C., Q.C., B.A.** (Toronto), LL.B., LL.M. (Osgoode); **Irvine, J.C., B.A., M.A., B.C.L.** (Oxford); **McGillivray, A., B.A., LL.B.** (Saskatchewan), LL.M. (Toronto); **Nemiroff, G., B.Sc.** (McGill), B.A. (Sir George Williams), B.C.L. (McGill), LL.B., LL.M. (Dalhousie); **Osborne, P.H., LL.B.** (Hons.) (Auckland), LL.M. (McGill); **Penner, R., C.M., Q.C., B.A., LL.B.** (Manitoba); **Schwartz, B.P., LL.B.**

(Queen's), LL.M., J.S.D. (Yale); **Secter, H.L., B.Comm., LL.B.** (Manitoba), LL.M. (Harvard), LL.D. (Hon., Winnipeg); **Sneiderman, B., B.A., LL.B.** (Connecticut), LL.M. (NYU); **Stuesser, L., B.A.(Hons.)** (Winnipeg), B.Ed. (Brock), M.A. (Guelph), LL.B. (Manitoba), LL.M. (Harvard); **Vincent, L., B.A., LL.B.** (Manitoba), LL.M. (London).

Assistant Professors

Fien, C.M., B.Sc., LL.B. (Manitoba); **Gallant, M.M., B.A.** (Prince Edward Island), LL.B. (New Brunswick), LL.M. (British Columbia), Ph.D. (London); **MacPherson, D.L., LL.B.** (Dalhousie), LL.M. (Cambridge); **Parkes, D.L., B.A.** (Trinity Western Univ.), LL.B. (British Columbia), LL.M. (Columbia); **Turnbull, L.A., B.A.(Hons.)** (Queens), LL.B. (Ottawa), LL.M., J.S.D. (Columbia).

Instructor II

Fainstein, L., B.A., LL.B. (Manitoba);

SECTION 2: The Profession and the Faculty of Law

The Faculty of Law is a professional faculty within the university. As the only faculty of law in Manitoba, it is the principal "gatekeeper" to professional practise in this province. However, it is more than merely a trade school for future practitioners. The Faculty of Law is also a university faculty and, as such, it views the study of principles, concepts and the relationship of law with other aspects of our social system to be as integral to a legal education as are the practical training of techniques and mechanics. Accordingly, our program emphasizes a balance between doctrinal, clinical and perspective courses, each of which contributes to an understanding of the law, its application, and its proper role within a civil society.

The University of Manitoba first became involved in legal education in 1884 when it established a three-year program of studies leading to an LL.B. degree. It was a reading program which articulated students could follow concurrently with the course prescribed by the Law Society of Manitoba. In 1914, the university and the society entered into an agreement to jointly sponsor the Manitoba Law School, which offered a three-year program combining lectures with apprenticeship. Upon completion of the program, a successful student received both an LL.B. degree and a call to the Bar. This arrangement lasted until 1966 when the Law School became the Faculty of Law of the University of Manitoba.

The Faculty of Law is located in Robson Hall, which contains the E.K. Williams Law Library, the Moot Court, a state of the art computer classroom, and a remarkable collection of art. The Law library is a resource not only to law students and faculty but also the legal profession of Manitoba.

There are truly countless Manitobans who have contributed to legal education in Manitoba over the years. Two names stand out, namely H.A. Robson and E.K. Williams, who were the only two chairs of the Board of Trustees of the Manitoba Law School, and their contribution has been commemorated in the names of the faculty's building and library.

The Study of Law

Legal education in Canada is divided into two phases: the academic study of law at one of the university law schools and practical training under the auspices of a provincial law society for those who wish to be admitted to practise and called to a Bar. As there is a reciprocal recognition of university law degrees between the common law provinces (all provinces except Quebec), the academic study can be taken in any one of these provinces.

A sound education in law provides a good foundation for a great variety of careers. In the past most law graduates have entered the private practise of law to concentrate on various types of legal work: real estate transactions, commercial contracts, company law, family law, taxation, etc. Contrary to popular belief only a few lawyers concentrate on court work and even fewer specialize in criminal cases. While the tendency to specialize in the practise of law is becoming more prevalent, most lawyers continue to be

general practitioners prepared to perform most types of legal work according to the needs of their clients.

Besides the private practice of law, some law graduates join the legal departments which many corporations find it expedient to maintain; others enter the employ of various government departments to serve in a variety of capacities. A few pursue nonlegal vocations in, business, journalism, social work, and law enforcement. At the University of Manitoba consideration is given to the fact that while most students take law to become practising lawyers, some are taking law as an additional discipline to enhance their opportunities in fields other than the practise of law; thus, while the emphasis is on the academic study of substantive law, the study is carried on in a practical context.

In addition to lectures and seminars, students are given an opportunity to develop, under supervision, some of the research, writing, and forensic skills which will prove useful in the practise of law. In first year, students are acquainted with the various resource materials available in a law library, and they follow a program designed to develop legal research and writing techniques. In second and third years, students participate in moot courts, fictitious trials and appeals, which provide practise in research, examination of witnesses, and courtroom argument.

2.1 The Manitoba Law Journal

The *Manitoba Law Journal* is published annually by teachers and students of the Faculty of Law in conjunction with the Manitoba Bar Association. It contains learned legal articles, notes, case comments, and book reviews of interest not only to Manitobans, but to readers throughout Canada and abroad.

2.2 The Legal Research Institute

The Legal Research Institute came into existence in 1968 after a committee representing the Faculty of Law, the Government of Manitoba, and the Law Society of Manitoba had considered the desirability and practicability of such a body. The institute co-ordinates legal research projects initiated within the Faculty of Law and works also on specific problems referred to it by public and private parties. Projects under the auspices of the institute may be carried out by a professor or by a professor with the research assistance of senior students.

Project reports are published by the institute, and requests for copies of such reports together with any inquiries relating to the work of the Institute should be sent to the Director, Faculty of Law, University of Manitoba, Winnipeg, Manitoba, R3T 2N2.

2.3 University Law Centre

The University of Manitoba Law Centre commenced operation in 1970 with the two-fold purpose of furthering clinical education by exposing law students to actual legal problems and aiding persons who are unable financially to hire a lawyer to receive legal service through the existing Legal Aid Service Society of Manitoba. The centre, as presently constituted, is the official adjunct of the Legal Aid Service Society of Manitoba.

The centre is supervised by practising attorneys who are employed by the Legal Aid Service Society of Manitoba and some of the members of the Faculty of Law. The centre is located in the lower level of Robson Hall. Second and third year Law students can work at the centre.

2.4 Small Business Law Clinic

The Faculty of Law operates a Small Business Law Clinic through a separate, not-for-profit organization. The clinic is headed by a director who is assisted by volunteer mentors from the practising bar. The purpose of the clinic is to provide experience to second and third year Law students in assessing and analyzing the legal needs of small business owners and in preparing legal information useful to them. This gives the students hands-on experience in this important area of law practice. It also provides "clients" with background material informing them as to their legal needs which helps them in their dealings with their own lawyers. Two students are employed full-time at the clinic in the summer months.

2.5 Manitoba Law Students' Association

All Law students are members of the Manitoba Law Students' Association which is the official organ through which Law students speak to whatever concerns them. The association also organizes many extracurricular activities.

2.6 Manitoba Aboriginal Law Students' Association

All Aboriginal Law students and other interested Law students are members of the Association through which they address issues of concern to them.

SECTION 3: Admission to law

3.1 Degree Offered

Bachelor of Laws

Minimum time to graduation: Five years (University 1, plus one year in any faculty, plus, three years in Law).

The following is a summary of the admission requirements. Equivalent academic courses completed at recognized universities elsewhere will be considered. All admission requirements, as well as application deadline dates and forms, are included in an applicant information bulletin that is available from the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

3.2 Course Requirements for Admission

Applicants must complete 60 credit hours, 30 credit hours in University 1 and 30 credit hours in any degree program. Because many students complete an undergraduate degree before applying to Law, it is recommend that students consider these degree requirements when choosing courses.

Other Requirements

The mathematics requirement must be completed in their first 60 credit hours, that is during their two pre-Law years. The LL.B. program fulfills the University's English requirement.

All applicants must write the Law School Admission Test (LSAT).

Minimum GPA for consideration: Very competitive, see applicant information bulletin at the Faculty's website (www.umanitoba.ca/faculties/law).

Selection criteria: 60% on grades and 40% on the LSAT score.

SECTION 4: Academic Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Faculty of Law has regulations and requirements, published below, that apply specifically to its students.

4.1 Residence requirements for the LL.B. Degree

To obtain the LL.B. degree, ordinarily a student must successfully complete two of the three years of the LL.B. program at the University of Manitoba.

4.2 Licence to Practise Law

Upon graduation from the LL.B. program, all graduates who wish to be admitted to practise and called to the Bar must apply to the provincial law society of the province in which they wish to practise. Most, if not all, of the law societies require applicants to complete satisfactorily a bar admission course usually comprising a period of articles of clerkship and possibly, in addition, seminars and courses. It should be noted that although an LL.B. degree qualifies graduates to apply for a licence to practise, it does not entitle them to such a licence, the granting of which is entirely within the purview of the law societies. The Law Society must be satisfied as to the good character and repute of its applicants, as well as their academic competence and qualifications. Inquiries with regard to the Province of Manitoba should be made to the Secretary, or the Director of Education, Law Society of Manitoba, 201 - 219 Kennedy Street, Winnipeg, Manitoba, R3C 1S8.

4.3 Regulations of the Faculty of Law

Regulations of the Faculty of Law, as amended from time to time governing attendance, evaluation, prizes, and progression may be consulted at the Faculty's website (www.umanitoba.ca/faculties/law).

4.4 Miscellaneous Registration Matters

The dean's office, with the recommendation of a special faculty-based committee if so requested, shall, subject to appeal to the Faculty Council, consider and determine all applications from students admitted to the faculty: 1) for a letter of permission, with conditions, to take part of their law studies for credit at the University of Manitoba, at another university, including the Civil Law/Common Law Exchange Term Program; 2) for permission, with conditions, to defer their law studies for a period of one or more academic years after successfully completing first or second year, and to permit such students to re-register following such an absence; 3) for permission to withdraw before completing the academic year for which they are then registered and to permit, in the case of a student who withdraws from first year under exceptional circumstances, that student to re-register for a subsequent academic year as a supernumerary student, and in the case of a second or third year student, to permit such student to re-register for a subsequent academic year; in all cases with or without conditions; 4) for permission to switch from the full-time program to the half-time program and vice versa.

4.5 Curriculum Requirements

In the event that a student fails to properly select courses and to register within the normal registration period, the dean's office may reject the courses selected by the student and assign courses to that student and such assignments shall ordinarily be final.

In addition to the regular classroom hours, there are seminars and workshops involved in some of the courses. The faculty may limit the enrolment in any optional course.

SECTION 5: Program Requirements

This Section describes the program requirements that are in effect for the 2003-2004 academic year. However, prospective students should be aware that the Faculty of Law regularly reviews its curriculum to ensure that it continues to meet the current needs of our students. As part of that process, courses may be added to, or deleted from, the required program, and the number of credit hours assigned to individual courses may change. Additionally, the number of credit hours required in each year of the program is also subject to change.

5.1 First Year

Each full-time student is required to take all of the following courses:

Course No.		Credit Hours
045.110	Contracts	6
045.114	Criminal Law and Procedure	5
045.146	Constitutional Law	5
045.148	Torts and Compensation Systems	5
045.150	Property	5
045.153	Legal System	2
045.154	Legal Methods	5
Total credit hours		33

5.2 Second Year and Third Year

In **Second Year** each student must take:

045.260	Evidence	4
045.265	Introduction to Advocacy	3
045.267	Civil Procedure	2
045.268	Legal Negotiation	3
045.269	Corporations I	3
045.353	Administrative Law	3
Total Credit Hours		18

In either **Second Year** or **Third Year** each student must take:

045.249	Trusts	3
045.264	Family Law	3
045.266	Introduction to Taxation	3
Total Credit Hours		9

In **Second Year** each student must take one of the following:

Perspective Electives		
045.307	Gender and the Law	3
045.309	Children and the Law	3

045.313	Crime, Law and Society	2
045.319	Law and Literature	3
045.320	Immigration and Refugee Law	2
045.323	Aboriginal Peoples and Land Claims	3
045.328	Limits of Law	3
045.331	Aboriginal Peoples and the Law	3
045.337	The Legislative Process	3
045.338	Issues in Law and Bio Ethics	3
045.341	Canadian Legal History	3
045.349	Research Paper	2
045.360	Environmental Law	3
045.362	Comparative Law	3
045.374	International Law	3
045.376	Jurisprudence	2
045.394	Canadian Charter of Rights and Freedoms	3
045.398	Current Legal Problems B	3
	International Business Law	
	International Trade Law	

Each student in **Second Year** must take a minimum of 32 credit hours of courses, comprising (i) the courses required to be taken in Second Year, above, (ii) any of the courses which may be taken in either Second or Third Years, above, (iii) the required Perspective Elective, above, (iv) additional Perspective Electives, above, and (v) any of the Third Year Doctrinal and Miscellaneous Electives, below, subject to pre-requisites and co-requisites. The Third Year Clinical courses, below, are not available to Second Year students. The choice of courses is subject to faculty approval.

Each student in **Third Year** is required to take whichever of 045.249 Trusts, 045.264 Family Law, and 045.266 Introduction to Taxation was not taken in Second Year, plus a Perspective Elective, above, excluding 045.329 Research Paper if it was taken in Second Year, plus

045.393	The Legal Profession and Professional Responsibility	3
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The rest of a Third Year student's credit hours, comprising a minimum of 32 credit hours, shall be selected from additional Perspectives Electives, above, and the Doctrinal, Miscellaneous and Clinical Electives, below:

Doctrinal and Miscellaneous Electives

045.240	Wills and Succession	3
045.251	Problems in Contract and Tort	2
045.253	Debtors' and Creditors' Rights	2
045.301	Agency	2
045.304	Sales and Consumer Law	2
045.305	Commercial Law	3
045.306	Transportation Law	3
045.316	Dispute Resolution: Theory and Practice	2
045.321	Competitions A*	2
045.322	Competitions B*	3
045.324	Current Legal Problems C	2
045.325	Current Legal Problems D	3
045.326	Insurance Law	4
045.333	Employment Law	3
045.336	Advanced Legal Research	3
045.339	Securities Law	2
045.345	Remedies	3
045.348	Restitution	2
045.350	Intellectual Property	4
045.351	Corporate Taxation	3
045.352	Taxation of Trusts and Estates	3
045.360	Environmental Law	3
045.361	Landlord and Tenant	2
045.368	Land Titles	3
045.369	Real Estate Transactions	3
045.377	Labour-Management Relations	3
045.378	Corporate Law and Policy	3
045.382	Manitoba Law Journal*	2
045.383	Legal Aid Clinic*	2
045.385	Conflict of Laws	3
045.386	Business Planning and Finance Law	2
045.388	Municipal and Planning Law	3
045.395	Criminal Procedure	3

045.397	Current Legal Problems A Advanced Issues in Intellectual Property Trade Marks and Patents	2
045.398	Current Legal Problems B Advanced Family Law Copyright Corporations II	3
xxx.xxx	Non-Law University Elective	3

* Only one of the electives with an asterisk can be selected for credit.

Clinical Electives

045.314	Clinical Administrative Law	4
045.325	Current Legal Problems D Clinical Family Law	3
045.327	Clinical Family Law	6
045.330	Clinical Criminal Law	8
045.334	Advanced Advocacy	3
045.389	Solicitors Transactions	3

Third Year students may take 045.389 Solicitors Transactions plus either 045.334 Advanced Advocacy, 045.314 Clinical Administrative Law, or 045.325 Clinical Family Law. No student can take two of 045.334 Advanced Advocacy, 045.314 Clinical Administrative Law, 045.325 Clinical Family Law. No student can take a second Clinical Elective with either 045.327 Clinical Family Law or 045.330 Clinical Criminal Law.

Course Descriptions

- 045.110 Contracts** (3-0:3-0) 6 A general introduction to the law of contracts.
- 045.114 Criminal Law and Procedure** (3-0:2-0) 5 A general introduction to criminal law and procedure dealing with principles of criminal liability, common defenses to criminal charges, selected specific offences, and the basic procedures to be followed in the administration of criminal justice in Canada.
- 045.146 Constitutional Law** (2-0:3-0) or (3-0:2-0) 5 An examination of the legal problems arising from the nature of the Canadian political structure and, in particular, the distribution of legislative powers between the federal parliament and the provincial legislatures and an introduction to the impact of the Canadian Charter of Rights and Freedoms.
- 045.148 Torts and Compensation Systems** (2-0:3-0) 5 or (3-0:2-0) 5 A general introduction to the law of torts and other compensation systems such as the Workers' Compensation and Criminal Injuries Compensation schemes.
- 045.150 Property** (2-0:3-0) 5 or (3-0:2-0) 5 A general introduction to the principles of property with special emphasis on the principles of real property, their historical development and modern application.
- 045.153 Legal System** (2-0:0-0) or (0-0:2-0) or (1-0:1-0) 2 An introduction to the study of law including initial analysis of various aspects of legal history, the structure of the legal system, legal reasoning, statutory interpretation, dispute resolution and the role of the judiciary.
- 045.154 Legal Methods** (5-0:0-0) or (0-0:5-0) or (3-0:2-0) or (2-0:3-0) 5 An introduction to legal research and writing skills and oral advocacy. Grading: Pass/Fail
- 045.240 Wills and Succession** (3-0:0-0) or (0-0:3-0) 3 The law of testate and intestate succession, Part IV of The Marital Property Act, and The Dependents' Relief Act.
- 045.249 Trusts** (3-0:0-0) or (0-0:3-0) 3 The nature and functions of modern inter vivos and testamentary trusts. The creation of express, private trusts, charitable trusts, resulting trusts, and constructive trusts. The administration of trusts, and real and personal remedies of beneficiaries under trusts.
- 045.251 Problems in Contract and Tort** (0-0:2-0) 2 A detailed study of significant topics in the area of tort and contract at an advanced level. Special attention will be paid to the inter-relationship of the two subject areas.
- 045.253 Debtors' and Creditors' Rights** (0-0:2-0) 2 Remedies of the unsecured creditor, enforcement of judgments, fraudulent conveyances and preferences, general assignments and bankruptcy. Mechanics' liens and special rights arising out of builders' and workers' legislation relating to real estate transactions.
- 045.260 Evidence** (4-0:0-0) 4 A study of the rules relating to the admissibility and weight of evidence in judicial proceedings.
- 045.264 Family Law** (3-0:0-0) or (0-0:3-0) or (2-0:1-0) or (1-0:2-0) 3 An overview of key legal issues regarding familial relationships and family breakdown in Canadian society. Topics include cohabitation, marriage, separation, divorce, child custody and access, spousal and child support and property division.
- 045.265 Introduction to Advocacy** (3-0:0-0) or (0-0:3-0) or (2-0:1-0) or (1-0:2-0) 3 A detailed study of the conduct of a case from its inception through to trial. The course requires that students prepare and conduct a trial. Grading: Pass/Fail.
- 045.266 Introduction to Taxation** (3-0:0-0) or (0-0:3-0) or (2-0:1-0) or (1-0:2-0) 3 Introduction to the principles of federal income taxation with primary emphasis on the taxation of individuals and problems mutual to individuals and corporations.
- 045.267 Civil Procedure** (2-0:0-0) or 0-0:2-0 or 1-0:1-0) 2 An introduction to the rules of civil procedure.
- 045.268 Legal Negotiation** (3-0:0-0) OR (0-0:3-0) 3 Most legal disputes settle before

trial. This course examines how lawyers assist their clients through effective interviewing, counseling, strategic planning and negotiation as well as some of the mechanisms, both judicial and non-judicial, that facilitate pre-trial dispute settlement. Grading: Pass/Fail.

045.269 Corporations I (3-0:0-0) or (0-0:3-0) or (2-0:1-0) or (1-0:2-0) 3 A study of the major legal, practical and policy issues arising out of the formation and operation of business organizations in Canada, with a particular focus on business corporations. Students will examine major principles of Canadian corporate law, including corporate personality, management power, majority rule and minority protection.

045.301 Agency (2-0:0-0) or (0-0:2-0) 2 The principles of the law of agency.

045.304 Sales and Consumer Law (2-0:0-0) or (0-0:2-0) 2 The Sale of Goods Act and related statutes including a study of the duties and remedies of the parties and questions of title. Manitoba Consumer Protection Law in the area of sales and credit.

045.305 Commercial Law (3-0:0-0) or (0-0:3-0) 3 A study of secured transactions and negotiable instruments.

045.306 Transportation Law (3-0:0-0) or (0-0:3-0) 3 The law applicable to various methods of transportation, various constitutional problems involved, rights and liabilities of transportation authorities and procedure before the appropriate transportation boards.

045.307 Gender and the Law (3-0:0-0) or (0-0:3-0) 3 An exploration of ideas about gender differentiation in law, the legal system, legal education and the legal profession. It will offer an introduction to the feminist critique of law and feminist theories about sexual equality and discrimination.

045.309 Children and the Law (3-0:0-0) or (0-0:3-0) 3 Relationships between child, family, state and law are examined within an interdisciplinary context, focusing on such issues as rights theories and the public/private distinction; regulation of young offenders, child protection and state intervention; and child victims in the courts.

045.313 Crime, Law and Society (2-0:0-0) or (0-0:2-0) 2 A study of various social problems in legal and sociological perspectives with emphasis on criminal law and the administration of criminal justice. Topics may include police discretion, preventive detention, plea bargaining, sentencing theory and practise in correction, drug abuse and the mentally ill.

045.314 Clinical Administrative Law (4-0:0-0) or (0-0:4-0) 4 The primary purpose of this course is to train students in lawyering skills. Students will be required to engage in classroom work and participate in simulated exercises. Emphasis will be given to the difference between board and court advocacy. Grading: Pass/Fail.

045.316 Dispute Resolution: Theory and Practice (2-0:0-0) or (0-0:2-0) 2 This course offers a detailed exploration of the theory and practice of dispute resolution focusing on the various approaches, private and court-connected, currently used to resolve conflict. In critically examining selected alternative dispute resolution mechanisms, the course exposes students to issues such as rights-based and interest-based dispute resolution, power, gender and culture in ADR processes and the functions, and skills required of, third party interveners.

045.319 Law and Literature (3-0:0-0) or (0-0:3-0) 3 Law and Literature is the legal analysis of literary texts and the literary analysis of legal texts. By introducing images of law and social control found in literature and popular culture, and exploring legal language and the construction of narrative, the course invites speculation about the nature and impact of law.

045.320 Immigration and Refugee Law (2-0:0-0) or (0-0:2-0) 2 An explanation of immigration and refugee law through a study of a representative section of problems.

045.321 Competitions A (2-0:0-0) or (0-0:2-0) 2 Credit for selected students who satisfactorily participate in those academic competitions approved by Faculty Council. Grading: Pass/Fail.

045.322 Competitions B (3-0:0-0) or (0-0:3-0) 3 Credit for selected students who satisfactorily participate in those academic competitions approved by Faculty Council. Grading: Pass/Fail.

045.323 Aboriginal Peoples and Land Claims (3-0:0-0) or (0-0:3-0) or (2-0:1-0) or (1-0:2-0) 3 The course shall provide an overview of land claims and treaty land entitlement policies in Canada and their impact upon land claims by Aboriginal communities.

045.324 Current Legal Problems C (2-0:0-0) or (0-0:2-0) 2 Critical and constructive study, at an advanced level, of a significant major subject or set of topics. Grading: Pass/Fail.

045.325 Current Legal Problems D (3-0:0-0) or (0-0:3-0) 3 Critical and constructive study, at an advanced level, of a significant major subject or set of topics. Grading: Pass/Fail.

045.326 Insurance Law (4-0:0-0) or (0-0:4-0) or (2-0:2-0) 4 A general introduction to the basic principles of insurance law. The fundamental elements common to most types of policies will be examined with particular emphasis on property and liability insurance. The terms and provisions of specific insurance policies and coverages such as automobile, property, liability policies will also be covered.

045.327 Clinical Family Law (3-0:3-0) or (6-0:0-0) or (0-0:6-0) 6 The primary purpose of this offering is to train students in lawyering skills in the Family Law area. To this end instruction is given on an intensive basis in small groups. Students may be required to engage in classroom work; to participate in various forms of simulation exercises and to conduct actual client based cases under the supervision of the instructor. Particular emphasis will be given to questions of professional responsibility and ethics. Grading: Pass/Fail.

045.328 Limits of Law (3-0:0-0) or (0-0:3-0) 3 An examination of the role of law as a social control mechanism and discussion of particular ethical and instrumental constraints on law making and enforcement. Topics dealt with include: law and the enforcement of sexual morality, legal paternalism, hate propaganda, and medico-legal topics including mercy killing, surrogate motherhood and maternal-fetal conflict.

045.329 Natural Resource Administration and Law (0-0:3-0) 3 The course, after an introduction to Law in general, canvasses various areas of the law relating to natural resources. Offered to candidates for the Master of Natural Resource Management degree and students in the Environmental Science program; not available to Law students.

045.330 Clinical Criminal Law (4-0:4-0) or (8-0:0-0) or (0-0:8-0) 8 The primary purpose of this offering is to train students in lawyering skills in the criminal law area. To this end instruction is given on an intensive basis in small groups. Students may be required to engage in classroom work; to participate in various forms of simulation exercises and to conduct actual client based cases under the supervision of the instructor. Particular emphasis will be given to questions of professional responsibility and ethics. Grading: Pass/Fail.

045.331 Aboriginal Peoples and the Law (3-0:0-0) or (0-0:3-0) 3 A study of the laws relating to Aboriginal Peoples in North America from the colonial period to the present. Special emphasis will be given to aboriginal rights, hunting and fishing rights, the legal aspects of Indian Treaties and the Indian Act. A more general treatment will be given to a study of Aboriginal Peoples' relationship to civil and criminal law in modern Canadian society.

045.333 Employment Law (3-0:0-0) or (0-0:3-0) 3 A detailed study of employment law including employment principles, constructive and wrongful dismissal, just cause, human rights and remedies.

045.334 Advanced Advocacy (3-0:0-0) or (0-0:3-0) or (2-0:1-0) or (1:0-2:0) 3 Advanced topics in trial presentation, procedure and evidence with concentration on jury trials.

045.336 Advanced Legal Research (3-0:0-0) or (0-0:3-0) or (2-0:1-0) or (1:0-2:0) 3 This course will provide students with the wherewithal to conduct legal research across a number of jurisdictions using both print and digital formats. Students are evaluated on a number of research exercises, a midterm examination, a major research pathfinder and a presentation of research results.

045.337 The Legislative Process (3-0:0-0) or (0-0:3-0) or (2-0:1-0) or (1:0-2:0) 3 A study of how statutes and regulations are made in the Province of Manitoba, and how lawyers can effectively represent their clients in the context of lawmaking by politicians, civil servants and regulators.

045.338 Issues in Law and Bio Ethics (3-0:0-0) or (0-0:3-0) 3 The course deals with the legal aspects of prevention, creation, alteration, maintenance and termination of life through medical and other scientific means.

045.339 Securities Law (0-2:0-0) or (0-0:2-0) 2 A study of the basic concepts and application of the securities regulatory system in Canada.

045.341 Canadian Legal History (3-0:0-0) or (0-0:3-0) 3 The historical background of the Canadian legal system.

045.345 Remedies (0-0:3-0) or (3-0:0-0) 3 A study of the law relating to damages, specific performance, injunctions, and other equitable remedies.

045.348 Restitution (2-0:0-0) or (0-0:2-0) 2 Principles and remedies of the common law and equity capable of preventing unjust enrichment; quasi-contract and constructive trusts.

045.349 Research Paper (2) Details in each case to be worked out with the associate dean.

045.350 Intellectual Property (4-0:0-0) or (0-0:4-0) 4 A study of the law of, and issues related to, the major areas of intellectual property, including trademarks, copyright and patent, as well as ancillary doctrines including some or all of industrial design, trade secrets, appropriation of personality and plant breeders' rights.

045.351 Corporate Taxation (3-0:0-0) or (0-0:3-0) 3 A study of federal tax laws as they affect corporation income, as well as a discussion of the effects of income tax laws on corporate and other commercial planning.

045.352 Taxation of Trusts and Estates (3-0:0-0) or (0-0:3-0) 3 A study of taxation principles as they relate to partnership and trust income and estate planning.

045.353 Administrative Law (3-0:0-0) or (0-0:3-0) 3 An introduction to administrative law generally, with concentration on the judicial review of the exercise of statutory authority by administrative entities.

045.360 Environmental Law (3-0:0-0) or (0-0:3-0) 3 The balance between technical development and the life-support capacity of the environment. The acquisition and nature of private rights in natural resources and their control by legislation and common law. Remedies for environmental degradation. Constitutional and international legal issues.

045.361 Landlord and Tenant (2-0:0-0) or (0-0:2-0) 2 The law relating to tenancies, residential and commercial, with special attention to remedies, recent legislation, and proposed reforms.

045.362 Comparative Law (3-0:0-0) or (0-0:3-0) 3 An introduction to civil law; a brief historical survey, codification, judicial philosophy, detailed study of selected compar-

ative law topics in tort and contract with special reference to the Civil Code of the Province of Quebec. An introduction to Soviet law, detailed study of selected topics in Soviet law.

045.368 Land Titles (3-0:0-0) 3 The law relating to the registration of assurances and titles.

045.369 Real Estate Transactions (0-0:3-0) 3 The law relating to vendors and purchasers of land and to mortgages and other security on land.

045.374 International Law (3-0:0-0) 3 An introduction to the nature, sources, and some of the fundamental concepts of international law.

045.376 Jurisprudence (2-0:0-0) or (0-0:2-0) 2 Philosophy of law.

045.377 Labour-Management Relations (3-0:0-0) or (0-0:3-0) 3 A survey of the development of trade unions; their present status under both federal and provincial legislation regarding the right of association, collective bargaining, and the settlement of disputes.

045.378 Corporate Law and Policy (3-0:0-0) or (0-0:3-0) 3 This course will consider a number of issues, from both a legal and a policy perspective, within the broad context of the role of the business corporation in modern society and government's regulation of business activity. A series of selected subjects will be discussed which cumulatively should help to force the present and possible future shape of the legal, social and economic frameworks within which Canadian business functions.

045.382 Manitoba Law Journal The editor of the Manitoba Law Journal who successfully completes his/her term of office, and all other editors and journal staff who in addition to successfully completing their terms of office satisfactorily complete a written requirement, may opt for the Manitoba Law Journal credit. Grading: Pass/Fail.

045.383 Legal Aid Clinic Students who are selected to act as student supervisors at the University Law Centre during the summer and who continue to actively serve the University Law Centre during their third year may, by successfully completing a written assignment approved by a faculty supervisor, opt for the Legal Aid Clinic. Grading: Pass/Fail.

045.385 Conflict of Laws (3-0:0-0) or (0-0:3-0) 3 Sometimes called private international law, it has to do with choosing what place to sue, what law applies when the law of more than one place might apply, and with the enforceability of judgments through foreign courts.

045.386 Business Planning and Finance Law (0-0:2-0) or (2-0:0-0) 2 An analysis of selected concepts arising in planning for the business enterprise including corporate securities and finance, securities regulation, share-control arrangements, and acquisitions and sales.

045.388 Municipal and Planning Law (3-0:0-0) or (0-0:3-0) 3 A general course in municipal law, including important aspects of land-use control and planning law. Although the course deals generally with the nature, structure, functions, and powers of the various units comprising the local level of government, the focus is primarily on municipal corporations. Topics covered include assessment and taxation, land-use planning and control, tort liability, judicial review of bylaws, qualification and accountability of councillors, and the law relating to expropriation, as well as some discussion of contemporary urban problems.

045.389 Solicitors' Transactions (3-0:0-0) 3 A study, involving practical exercises, of certain aspects of solicitors' work, including drafting. Particular emphasis on questions of professional responsibility and ethics. Grading: Pass/Fail.

045.393 The Legal Profession and Professional Responsibility (3-0:0-0) or (0-0:3-0) 3 A general introduction to the problems of professional responsibility and the ethics of lawyers individually, as well as the legal profession collectively. Topics dealt with will include ethical problems of the lawyer in the role of advocate and in the role of counsellor (confidentiality, conflict of interest, etc.); professional responsibility in the delivery of legal service (competency, fee determination, specialization regulation, etc.) and the legal profession and the public interest (government of profession, discipline, professional liability, etc.). These problems are to be studied by the critical examination of case law, codes and canons, and other published materials; by classroom discussion and debate on problems; and by workshops and panels which involve practising lawyers.

045.394 Canadian Charter of Rights and Freedoms (3-0:0-0) or (0-0:3-0) 3 An in-depth study of the legal, philosophical and historical foundations of the Canadian Charter of Rights and Freedoms. Included is a study of both the American and European experience with Charters of Rights as well as Canadian case law.

045.395 Criminal Procedure (3-0:0-0) or (0-0:3-0) 3 Rules of criminal procedure and principles underlying and unifying such rules into a consistent system.

045.397 Current Legal Problems A (2-0:0-0) or (0-0:2-0) 2 Critical and constructive study, at an advanced level, of a significant major subject or set of topics.

045.398 Current Legal Problems B (3-0:0-0) or (0-0:3-0) 3 Critical and constructive study, at an advanced level, of a significant major subject or set of topics.

School of Medical Rehabilitation

General Office

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E-mail: SMR_Information@umanitoba.ca

Website: www.umanitoba.ca/medicine/medrehab

Director: Juliette Cooper

Head, Department of Occupational Therapy: Emily Etcheverry

Acting Head, Department of Physical Therapy: Gisèle Pereira

Head, Department of Respiratory Therapy: Ted Yachemetz

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SECTION 1: Academic Staff

School of Medical Rehabilitation

Assistant Professor:

Poluha, W., B.Sc. (Winnipeg), M.Sc. (McMaster), M.Lib.&Inf.Sci. (Western Ontario).

Department of Occupational Therapy

Professors:

Anderson, J., B.Sc. (UBC), Ph.D. (Manitoba); **Cooper, J.E.**, Dip. P. and O.T. (Toronto), B.O.T., M.Sc., Ph.D. (Manitoba).

Associate Professors:

Booth, A.D., B.Sc.(O.T.) (Pennsylvania), M.B.A. (Manitoba); **Etcheverry, E.**, Dip.O.T., B.O.T., M.Ed., Ph.D. (Manitoba).

Assistant Professors:

Collins, D., B.Sc.(O.T.) (Queen's); **Friesen, M.**, Dip.O.T. (Alberta), B.O.T., M.Ed. (Manitoba); **Quanbury, A.**, B.Sc. (Queen's), M.A.Sc. (Toronto); **Ripat, J.**, B.M.R.(O.T.), M.Sc. (Rehab) (Manitoba).

Lecturer:

Soltys, P., Dip.O.T., B.O.T. (Manitoba).

Instructor 2:

Wener, P., B.M.R. (O.T.), M.Ed. (Manitoba).

Sessional Instructors:

Bergen, C., M.A.(Marriage, Family and Child Counselling) (California), B.M.R.(O.T.) (Manitoba); **Borton, B.**, B.M.R.(O.T.) (Manitoba); **Campbell-Rempel, M.**, B.Sc. (Brandon), B.M.R.(O.T.) (Manitoba); **Giesbrecht, E.**, B.A. (Eng.), B.S.W., B.M.R.(O.T.) (Manitoba); **Hales, S.**, B.M.R.(O.T.) (Manitoba); **Johnson, L.**, B.H.Sc.(O.T.) (McMaster); **Leclair, L.**, B.A. (Manitoba), B.H.Sc.(O.T.) (McMaster); **Mendez, L.**, B.M.R.(O.T.) (Manitoba); **Nichol, L.**, B.M.R.(O.T.) (Manitoba); **Papadopoulos, R.**, B.M.R.(O.T.) (Manitoba); **Restall, G.**, B.M.R.(O.T.) (Manitoba), M.Sc.(O.T.) (Alberta); **Ringer, P.**, B.M.R.(O.T.) (Manitoba); **Roer, K.**, B.M.R.(O.T.) (Manitoba); **Rose, L.**, B.H.Sc.(O.T.)(McMaster); **Wolf, L.**, Dip.(O.T.) (McGill), B.O.T. (Manitoba), B.A.&Sc. (Saskatchewan); **Yablonski, T.**, B.A.(Psych) (Winnipeg), B.M.R.(O.T.) (Manitoba).

Academic Fieldwork Co-ordinator and Instructor 2:

Sullivan, T., B.Sc.(O.T.) (Western Ontario), M.A. (Columbia).

Academic Assistant Fieldwork Co-ordinator, Saskatchewan:

Tompson, M., Dip.(O.T.)(Engl.), M.Ed. (Saskatoon), Ph.D. (Saskatoon).

Department of Physical Therapy

Associate Professors:

Kriellaars, D., B.P.E. (Manitoba), M.Sc. (Dalhousie), Ph.D. (Manitoba); **Szturm, T.J.**, B.Sc.(P.T.) (Western), Ph.D. (Manitoba).

Assistant Professors:

Macdonald, J.A., B.P.T. (McGill), M.S.Ed. (Connecticut); **MacNeil, B.**, B.Sc.(P.T.) (Dalhousie), Ph.D. (Waterloo); **Weinberg, L.E.**, B.P.T., M.Sc., Ph.D. (Manitoba).

Senior Instructor:

Pereira, G., Dip.(P.T.) (Saskatchewan), B.P.T. (Manitoba).

Instructors:

Barclay-Goddard, R., B.M.R.(P.T.) (Manitoba), M.H.Sc. (McMaster); **Fricke, M.**, B.M.R.(P.T.), M.Sc. (Manitoba); **McMurray, M.**, B.P.E., B.M.R.(P.T.) (Manitoba); **Webber, S.**, B.M.R.(P.T.), M.Sc. (Manitoba).

Clinical Lecturers:

Abbott, B., B.M.R.(P.T.) (Manitoba), M.D. (Saskatchewan); **Garrett, M.**, B.Phy., M.H.A.; **Horbale, R.**, B.P.E. (Manitoba), Cert.Ed. (Brandon), B.M.R.(P.T.) (Manitoba); **Langridge, J.**, B.M.R.(P.T.), B.Sc., M.D., CCFP; **Lavallee, R.**, B.A., B.M.R.(P.T.), (F)CAMT; **Lightly, E.**, B.M.R.(P.T.) (Manitoba); **Loucks, L.**, B.M.R.(P.T.), M.Sc. (Manitoba); **Mulder, K.**, B.P.T.; **Stevenson, T.**, B.Sc.(Kin.) (Waterloo), Dip.(P.T.) (Mohawk College), B.H.Sc.(P.T.) (McMaster), M.Sc.(P.T.) (Western Ontario); **Urban, L.**, B.P.T. (Manitoba).

Academic Clinical Co-ordinator and Instructor 2:

Murray, J.M., B.P.T., M.Ed. (Manitoba).

Department of Respiratory Therapy

Professors:

Anthonisen, N.R., A.B. (Dartmouth), M.D. (Harvard), Ph.D. (McGill); **McCarthy, D.S.**, M.B., B.Ch.(Ire.), M.R.C.P.(Ire.Edin.andLond.), M.D.(Ire.), Ph.D.(Lond.).

Associate Professor:

Yachemetz, T., B.A.(Hons.) (Manitoba), R.R.T. (Health Sciences Centre).

Assistant Professors:

Chiu, A., B.Sc., M.D. (Toronto); **Honcharik, N.**, B.Sc.(Pharm.) (Manitoba), Pharm.D. (SUNY Buffalo).

Lecturer:

Parker, J., B.Sc. (Calgary), R.T. (Red River College).

Instructor 2:

Wall, B., R.N., R.R.T. (Health Sciences Centre).

Instructor 1:

Chambers, K., R.R.T. (Health Sciences Centre); **Haywood, E.**, R.R.T. (Health Sciences Centre); **Heese, R.**, R.R.T. (Health Sciences Centre); **Mestdagh, F.**, R.R.T.(Health Sciences Centre); **Minski, J.**, R.R.T. (Health Sciences Centre); **Moore, M.**, B.Sc.(E.Eng.) (Red River Community College); **Mortimer, T.**, R.R.T. (Health Sciences Centre); **Simcoe, T.**, R.R.T. (Health Sciences Centre).

SECTION 2: The Professions of Occupational Therapy, Physical Therapy and Respiratory Therapy

The School of Medical Rehabilitation offers three entry-level professional programs: one in Occupational Therapy, one in Physical Therapy, and one in Respiratory Therapy. Occupational Therapy is a health discipline that endeavours to promote, develop, restore and optimize health and functional ability. Therapists use a holistic approach and work collaboratively with their clients to facilitate their achievement of independence in all aspects of their daily living. Physical Therapy is a discipline directed towards the prevention or alleviation of movement dysfunction. The goal of physical therapy is to assist patients in achieving, or restoring to them, the highest level of movement possible and maximum independence. Respiratory Therapy is a health discipline devoted to the scientific application of technology to assist in the diagnosis, treatment, and promotion of well being of patients with respiratory and associated disorders. Respiratory Therapists work as part of a multidisciplinary health care team in a variety of hospital and alternate care settings as well as the private sector and the community.

The School of Medical Rehabilitation was established in September 1960 as a response by the University of Manitoba to the increasing need for occupational and physical therapists. It was founded as an academic unit within the Faculty of Medicine and was located originally in the Children's Hospital. In 1962 the school moved to the third floor of the newly completed Manitoba Rehabilitation Hospital. Since the incorporation of the Health Sciences Centre in 1972, the school has retained this location but now exists primarily as an integrated part of the Bannatyne Campus. The general office is located at 771 McDermot Avenue on the Bannatyne Campus. The Department of Respiratory Therapy is housed in the Isabel M. Stewart Building, 700 McDermot Avenue. In 1996, the school was given 25,000 square feet of new space in the former Medical Library Building and a major redevelopment plan was completed in 2002.

In 1964 the University Senate approved extensions of the original diploma curricula from two and one-half to three years. Optional fourth-year programs leading to the degrees of Bachelor of Occupational Therapy and Bachelor of Physical Therapy were approved by Senate in 1966.

In February 1976, new undergraduate programs leading to the degrees of Bachelor of Medical Rehabilitation (Occupational Therapy) and Bachelor of Medical Rehabilitation (Physical Therapy), were approved by Senate in recognition of expanding roles of occupational and physical therapy in health care. The diploma programs were discontinued.

Effective September 1989, a revised B.M.R.(O.T.) and a revised B.M.R.(P.T.) program were introduced.

In 1989, a Masters of Physical Therapy program was approved and in 1992 the program became an M.Sc.(Rehabilitation), in which all other disciplines related to rehabilitation could further their research endeavours.

Effective for 2003, the Occupational Therapy entry-level program is a graduate program leading to a Master of Occupational Therapy degree. There is a Regular program and an Accelerated option. The Regular program is for individuals who do not have a previous degree in occupational therapy.

The Accelerated option is for occupational therapists who have a B.M.R.(O.T.) degree or equivalent. Students are advised to consult the University of Manitoba Graduate calendar and the Master of Occupational Therapy program supplementary regulations for further information.

The Bachelor of Respiratory Therapy program was approved by Senate in 2002, modified from the previous diploma program, established at the Health Sciences Centre in 1964. The original diploma program was established as a two-year program, was modified to a three-year program in 1984, and subsequently evolved to require a pre-professional year of study in 1995. The current B.M.R.(R.T.) program has introduced a number of curricular changes to the most recent diploma program, offering a revised four-year program of study leading to a bachelor degree.

Accreditation

The Occupational Therapy program maintains accreditation through the Canadian Association of Occupational Therapists. Accreditation was received in 1986, 1989, 1991, 1995 and 2000.

The Physical Therapy program was awarded the status of five-year accreditation in 1995 through the Accreditation Council of Canadian Physiotherapy Academic Programs; and the American Physical Therapy Association, Commission on Accreditation in Physical Therapy Education. In 2002, the Physical Therapy Program was accredited with the Accreditation Council of Canadian Physiotherapy Academic Programs.

The Respiratory Therapy diploma program was awarded full accreditation through the Canadian Medical Association Conjoint Committee on Accreditation in 1975, 1980, 1985, 1990 and 1995. In 2000, the Canadian Society of Respiratory Therapists assumed responsibility for accreditation of respiratory therapy educational programs through the Council on Accreditation of Respiratory Therapy Education. The program received full accreditation in 2001 and will maintain accreditation status as a baccalaureate program.

SECTION 3: Admission to the School of Medical Rehabilitation

3.1 Degrees offered**Master of Occupational Therapy (M.O.T.)**

Regular Program minimum time to graduation: Five years (prior bachelor's degree plus two years)

Accelerated Option minimum time to graduation: Five years (B.M.R.(O.T.) degree and prerequisite year plus one year)

Bachelor of Medical Rehabilitation (Physical Therapy)**Bachelor of Medical Rehabilitation (Respiratory Therapy)**

Minimum time to graduation: Four years (University 1 plus three years).

The following is a summary of the admission requirements. Equivalent academic courses completed at recognized universities elsewhere will be considered. All admission requirements, as well as application deadline dates and forms, are included in applicant information bulletins that are available from the School of Medical Rehabilitation general office, R106-771 McDermot Avenue, Bannatyne Campus, or the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

3.2 Course requirements: Occupational Therapy**Regular Program**

Completion of a previous undergraduate degree, minimum B average in last 60 credit hours of study, completion of all program prerequisite courses or approved alternates with no grade in prerequisites below a C. Prerequisite courses include all of the courses listed below or equivalents approved by the M.O.T. program committee:

- 077.120 Introduction to Sociology
- 017.120 Introduction to Psychology
- 017.229 Child Development
- 017.237 Developmental Psychology from Adolescence to Old Age
- 005.100 Basic Statistical Analysis 1
- 022.132 Anatomy of the Human Body
- 022.133 Physiology of the Human Body.

Accelerated Option

Completion of a B.M.R.(O.T.) degree or equivalent, minimum B average in the last 60 credit hours of the degree, completion of an additional 42 credit hours of non-O.T. degree credits and evidence of having passed the CAOT certification examination and/or eligibility for registration in Manitoba by the A.O.T.M.

Manitoba-Saskatchewan Agreement (Occupational Therapy only)

The Province of Manitoba has an agreement with the Province of Saskatchewan to provide space for three Saskatchewan students in Occupational Therapy at the University of Manitoba. Interested individuals should refer to the Applicant Information Bulletin Supplement: 'Applicants from Saskatchewan' for information regarding prerequisites and selection policies related to these three spaces. There was no intake in 2002.

3.3 Course requirements: Physical Therapy

Biology 071.125, or both Biology 071.100 and 071.101
Sociology 077.120
Psychology 017.120
3 credit hour course to satisfy the written English requirement
6-9 credit hours of electives to total 30 credit hours in University 1

Other requirements: Physical Therapy

Minimum GPA required for consideration: 3.0. Minimum 3.0 in core courses.

The written English requirement must be satisfied in University 1; the mathematics requirement is satisfied after admission to Physical Therapy by the required course, 068.246.

Selection criteria: 50% interview and 50% grades. Volunteer experiences are strongly recommended prior to application.

High school prerequisites for Physical Therapy degree only

High school prerequisites: Biology 40S, Chemistry 40S, English 40S, Physics 30S or 40S are strongly recommended.

3.4 Course requirements: Respiratory Therapy

Biology 071.125, or both Biology 071.100 and 071.101
Sociology 077.120
Psychology 017.120
3 credit hour course to satisfy the written English requirement
9 credit hours of electives to total 30 credit hours in University 1

Other requirements: Respiratory Therapy

Minimum GPA for consideration is 2.5.
The mathematics requirement is satisfied after admission to Respiratory Therapy by required course 068.246.
The following High School Courses are recommended: Biology 40S, English 40S, Mathematics 40S, Chemistry 40S and Physics 40S.
Selection Criteria: 67% Grades and 33% Interview.

SECTION 4: Academic Regulations

4.1 General

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the School of Medical Rehabilitation has regulations and requirements, published below, that apply specifically to its students.

Policies with regard to admissions, selection, academic progression of the student, compulsory attendance, examination procedures, supplemental examination procedures, and withdrawal dates are in force and are on file in the general office of the School of Medical Rehabilitation.

4.2 Health Requirements

Students in all departments are required to provide a health history and immunization record. A student will not be permitted to attend fieldwork until all health, immunization and CPR requirements are current.

Immunizations

Standard health record forms are sent to occupational, physical and respiratory therapy students upon acceptance into the program. New students must provide the completed health record form and proof of current immunizations by August 31 (September 30 for Physical Therapy). Students are required annually to review and update immunizations as necessary.

Cardiopulmonary Resuscitation Certification (Occupational Therapy only)

All students of the Department of Occupational Therapy are required to obtain certification in cardiopulmonary resuscitation. Certification must be at the Basic Rescuer Level. New students in the school must provide proof of certification by August 31 of the academic year in which they commence classes. Thereafter, second year students must provide proof of certification annually by December 15.

Cardiopulmonary Resuscitation Certification (Physical Therapy only)

All students are required to obtain certification in cardiopulmonary resuscitation. Certification must be at the Basic Rescuer Level. New students in the department must provide proof of certification by October 30. All students must assume responsibility for maintaining CPR certification during the subsequent two years.

Cardiopulmonary Resuscitation Certification (Respiratory Therapy only)

All students of the Department of Respiratory Therapy are required to obtain certification in cardiopulmonary resuscitation. Certification must be at the Basic Rescuer Level. First and second year students must provide proof of certification before their first fieldwork experience, usually mid-September. Third year students will be certified/re-certified by the program at the beginning of their clinical internship year in preparation for advanced level certification(s) in cardiopulmonary resuscitation.

4.3 Dean's Honour List

Students taking 100 per cent of course load who achieve a sessional Grade Point Average of 3.7 or higher and have not done resit or supplemental exams are placed on the Dean's Honour List.

4.4 Attendance

Regular attendance is expected of all students in all courses. Prior permission is required for any anticipated absences. Students absent from class due to illness may be required to present a certificate from a physician. Unexcused absence from an examination may result in a grade of zero for that examination. Make-up examinations may be allowed under special circumstances.

4.5 Criminal Record Check

Students are advised that clinical/fieldwork education sites require that students complete a Criminal Record Check and/or a Child Abuse Registry check.

New students in the Master of Occupational Therapy program must provide results of a Child Abuse Registry Check and a Criminal Record Check by August 31 of the academic year in which they commence classes.

All physical therapy students will be licensed with the College of Physiotherapists of Manitoba and will require a Criminal Record Check.

SECTION 5: Program Requirements

5.1 Educational Objectives of Programs

The M.O.T., B.M.R.(P.T.) and B.M.R.(R.T.) programs have been designed so that students successfully completing the required academic, professional, and clinical/fieldwork education programs should be able to:

- Understand the interrelationships between medical, psychosocial, economic, and cultural factors affecting the patient/client;
- Identify the role of the therapist in health care;
- Demonstrate application of ethical and professional responsibilities;
- Demonstrate knowledge, understanding, and use of therapeutic intervention;

- Plan, apply and interpret assessment and/or diagnostic procedures;
- Participate in the decisions of a health care team with respect to the design of a total rehabilitation program or other treatment regime including the initiation, progression and discontinuation of therapy;
- Implement the occupational, physical or respiratory therapy components of a total rehabilitation program or other treatment regime;
- Review and modify therapy according to patient/client response and according to the progression of a total rehabilitation program or other treatment regime.
- Assign appropriate areas of a rehabilitation program or selected work assignments to supervised support personnel;
- Participate in clinical and/or basic science research; and
- Participate in and encourage the improvement of health care in the community.

5.2 Clinical/Fieldwork Education

Physical Therapy

1,260 full-time hours of clinical/practical experience are required. Clinical placements are integrated throughout the regular academic year and during summer months following the first, second and third year of the program. Placements during the regular academic year take place primarily in locations in Manitoba, Saskatchewan, northwest Ontario and Kivalliq Region of Nunavut. Students are advised to take into account the financial implications of the summer placement requirements of the B.M.R.(P.T.) program. All students should be prepared to be placed outside of Winnipeg for a minimum of one placement.

Occupational Therapy

Students participate in 1,040 hours of fieldwork. Fieldwork placements are integrated throughout the regular academic year and during summer months following the first and second year of the program. Fieldwork, which occurs during the regular academic year, takes place in Manitoba, Saskatchewan, northwest Ontario and Kivalliq Region of Nunavut. Summer fieldwork occurs in locations throughout Canada. Any costs incurred in completing summer fieldwork are the responsibility of the student. All students should be prepared to travel out of Winnipeg for a minimum of one placement during the course of the program.

Respiratory Therapy

1,600 full-time hours of clinical/fieldwork experience are required. Clinical placements are integrated throughout the academic years. Placements during the regular academic year all take place within greater Winnipeg. Placements occur within a variety of hospital, public and private settings.

Clinical/Fieldwork Education Sites

The university recognizes the following sites which provide clinical therapists who lecture in the academic component of the program and also provide supervision of students in clinical/fieldwork placements:

Winnipeg: Access Physiotherapy; Addictions Foundation of Manitoba; Andreea Vinci Physiotherapy; Aqua Abilities, Associated Rehab Consultants of Canada; Beacon Hill Lodge of Canada; Block Building Therapies; Canadian National Institute for the Blind; Central Park Lodge; Charleswood Care Centre; Community Therapy Services of Manitoba; Concordia Hospital; Corydon Physiotherapy Clinic; D'Arcy Bain Physiotherapy & Sports Injury Clinic; Deer Lodge Centre; Doray Enterprises; Fitness Physiotherapy Services of Manitoba Ltd.; Geriatric Program Assessment Team; Glen Young P.T. Clinic; Grace Hospital; Graham Physiotherapy Sport and Spine Injury Clinic; Growing Years Occupational Therapy Services; Health Action Centre; Health Sciences Centre; Heather Howdle P.T. & Consulting; Hunter Physiotherapy; Macdonald Youth Services; Manitoba Adolescent Treatment Centre; Manitoba Education and Training; Manitoba Lung Association; Markham Physiotherapy Clinic; Medcan Health Management Inc.; Misericordia Health Centre; Ness Physiotherapy and Sports Injury Centre; Northern Rehab and Consulting Services; Nova Physiotherapy and Sports Fitness Clinic; Occupational Rehab Group of Canada; PAR Health Services; Plessis Physiotherapy – Sports Injury Clinic; Rehabilitation Centre for Children; River East Physiotherapy Sports Fitness Clinic; River East School Division; Riverview Health Centre; Rose & Max Rady Community Centre; St. Amant Centre; St. Boniface General Hospital; School Therapy Services; Seniors Health Resource Team; Seven Oaks General Hospital; Society for Manitobans With Disabilities Inc.; Sport and Spine Physiotherapy Centre; Tache Centre; Ten-Ten Sinclair; Transcona Physiotherapy and Sports Injury

Clinic; Transcona-Springfield School Division #12; Universal Design Institute; Victoria General Hospital; Vital Aire (Manitoba); Wellness Institute; Whyte Ridge P.T. & Sports Injury Clinic; Winnipeg Ambulance; Winnipeg Psychogeriatric Co-ordination Team; Worker's Compensation Board; YM-YWCA of Winnipeg.

Outside of Winnipeg: Allied Health Group; Alvin Buckwold Child Development Program, Saskatoon; Boundary Trails Health Centre, Winkler; Brandon Regional Health Authority; Brandon School Division #40; Central Regional Health Authority; Centre for Adult Psychiatry, Brandon; Dryden District General Hospital; Eden Mental Health Centre, Winkler; Gabriel Springs Health District; George Jeffries Children's Treatment Centre, Thunder Bay; Hanover School Division, Steinbach; Kenora Physiotherapy and Sports Injury Centre; Lake of the Woods Hospital, Kenora; Lakehead Psychiatric Centre, Thunder Bay; Lloydminster Health District; Manitoba Developmental Centre, Portage la Prairie; Moose Jaw-Thunder Creek Health District; Parkland Regional Therapy Program; Parkridge Centre, Saskatoon; Pasqua Health Centre, Regina; PhysioFirst; Portage District General Hospital; Portage P.T. & Sports Injury Clinic; Prince Albert Health District; Quarry P.T. Sports Injury & Rehab Clinic, Ashern; Rainy River Health Centre, Fort Francis; Rankin Inlet Health Centre, Nunavut; Regina Health District; Regina Pioneer Village; Regional Psychiatric Centre, Saskatoon; Royal University Hospital, Saskatoon; St. Joseph's General Hospital, Thunder Bay; St. Paul's Hospital, Saskatoon; Saskatoon City Hospital; Saskatoon Health District; Seine River School Division; Selkirk Mental Health Centre; Steinbach P.T. Clinic & Sports Injury Centre; Swan River Valley Hospital; Swift Current Health District; Thompson General Hospital; Wascana Rehab Centre; West Fit P.T. & Sports Injury Clinic; Yellowhead P.T. & Athletic Centre; Yorkton Regional Health Centre.

SECTION 6: Course Descriptions

6.1 Year 1:

See University of Manitoba Graduate Calendar for descriptions of courses in the Master of Occupational Therapy (M.O.T.) program.

Courses in Physical Therapy		Courses in Respiratory Therapy	
068.120	068.148	068.120	068.127
068.149	068.150	068.128	068.129
068.170	068.173	068.132	068.133
068.174	068.175	068.136	068.137
068.191		068.138	068.148
		068.149	

Total credit hours 46 34

068.120 Basic Clinical Sciences (3) A lecture and tutorial course covering basic physiology related to membrane, muscle, pain and the cardiovascular, respiratory, endocrine, and immune systems. 50 hours.

068.127 Respiratory Anatomy and Physiology (3) Principles of pulmonary mechanics, ventilation, diffusion, perfusion, ventilation-perfusion relationships, gas transport, control of ventilation, and acid-base physiology. 60 hours.

068.128 Medical Microbiology and Disease Transmission (2) Introduction to Medical Microbiology with emphasis on common pathogens, disease transmission, principles of asepsis, isolation sterilization and disinfection procedures. 32 hours.

068.129 Cardiopulmonary Pharmacology (2) Pharmacology principles, phases of drug events, factors modifying drug effect, drug preparation, individual pharmacologic agents including: ANS drugs, CNS drugs, cardiac medications, respiratory medications, antibiotics. 36 hours.

068.132 Applied Sciences for Respiratory Therapy (3) Gas laws, unique behaviour of specialty gases, fluid dynamics, fundamental principles of electricity, electronics and electrical safety, concepts of basic and advanced chemistry not treated in 068.120. 60 hours.

068.133 Technical Aspects of Respiratory Therapy (3) Medical gas and supply systems, flowmetering devices, regulators, medical gas outlets, vacuum systems, regulatory authorities on the supply, production and distribution of medical gases. 45 hours.

068.136 Treatment Administration in Respiratory Care (3) Administration of medical gases, humidity and aerosol therapy, environmental therapy, positive pressure breathing devices, respiratory exercises, incentive spirometries and bedside spirometry. 60 hours.

068.137 Ventilatory Support Principles (6) Physical principles of continuous ventilatory support including: physics of ventilator operation and physiological aspects of ventilatory support. Provides a framework for 068.231 and 068.232. 120 hours.

068.138 Basic Fieldwork 1 (4) A preparatory period followed by four weeks of field experience under supervision of a practicing respiratory therapist at one or more approved clinical sites. 160 hours.

068.148 Human Anatomy – Systems (3) Lecture and laboratory study of the microscopic and macroscopic structure of the major systems of the human body. Living

anatomy of the cardiorespiratory system. 90 hours.

068.149 Musculoskeletal Anatomy 1 (2) Lecture and laboratory study, including living anatomy, of the musculoskeletal structures of the head, neck and trunk. 50 hours.

068.150 Musculoskeletal Anatomy 2 (3) Lecture and laboratory study, including living anatomy, of the musculoskeletal structures of the upper and lower extremities. 80 hours.

068.170 Psychosocial Issues (6) A general course to provide an overview of psychosocial behaviour and the implication for physiotherapy practice. 75 hours.

068.173 Physical Therapy Management (10) A theory and practical course on applying physical therapy techniques to patients with cardio and respiratory disorders. 166 hours.

068.174 Cardiorespiratory Clinical Education (8) Consists of an introductory period of clinical practice and specific practice related to the management of cardiorespiratory conditions. Course evaluated on a pass/fail basis. 285 hours.

068.175 Rehabilitation Exercise 1 (6) Consists of lecture, tutorials, and practical sessions focused on topics of exercise physiology, fitness testing and training and rehabilitation exercise skills related to the healthy adult and selected patient populations. 105 hours.

068.191 Pathology and Clinical Manifestations (5) A theory course including the basic principles of pathology and microbiology; the natural history, pathology, clinical manifestations, management and prognosis of patients with disorders of the cardiovascular and respiratory systems. *Corequisite:* 068.120. 83 hours.

6.2 Year 2:

See University of Manitoba Graduate Calendar for descriptions of courses in the M.O.T. program.

Courses in Physical Therapy		Courses in Respiratory Therapy	
068.241	068.245	068.230	068.231
068.246	068.272	068.232	068.233
068.275	068.276	068.234	068.235
068.277	068.278	068.236	068.237
068.279	068.289	068.245	068.246
Total credit hours	48		36

068.230 Respiratory Clinical Assessment (6) The correlation of patho-physiological mechanisms with the clinical manifestations of the common respiratory diseases and how rational management evolves from this understanding. 92 hours.

068.231 Clinical Aspects of Ventilatory Management (3) Lecture, seminar and laboratory simulation on adult and pediatric ventilatory management. Estimation of ventilatory requirements, ventilator selection, weaning, ventilatory adjuncts, transport, and long term ventilatory support. 45 hours.

068.232 Ventilatory Support Instrumentation (6) Comprehensive review of the components, operation and use of specified adult, pediatric and neonatal mechanical ventilators. Classroom and laboratory sessions. 180 hours.

068.233 Pulmonary Investigations (3) Lung function testing principles and procedures including: static and dynamic measures, determination of volumes and capacities, exercise physiology. An analysis of lung function changes relative to common disease physiology. 50 hours.

068.234 Physiologic Measurements and Instrumentation (3) Acid base physiology, interpretation of physiologic values, design theory, operation and care of gas analyzing devices, oximetry, capnography. 45 hours.

068.235 Cardiology (3) Aspects of clinical assessment of the cardiovascular system, pathophysiology and selected treatment regimens and modalities. Laboratory on rhythm analysis and aspects of advanced cardiac life support. 60 hours.

068.236 Pediatrics (3) Normal physiology, diseases and treatment, the child in hospital environment, high risk neonates, principles of intensive care, pediatric emergencies and fetal and maternal medicine. 60 hours.

068.237 Anesthesiology (3) Principles of anesthesia, airway management, pain management, anesthetic agents, function of the anesthesia machine, pre- and postoperative assessment, recovery and safety features in the operating room. 45 hours.

068.241 Pathology and Clinical Manifestations (4) A theory course including the basic principles of pathology and clinical manifestations, management and prognosis of patients with musculoskeletal disorders. *Prerequisite:* 068.191. 60 hours.

068.245 Research Methodology for Medical Rehabilitation (3) A theory and practical course designed to provide a basic understanding of research principles and their application in Medical Rehabilitation. 45 hours.

068.246 Statistics (3) A theory and practical course designed to provide a basic understanding of statistics with application to Medical Rehabilitation. 45 hours.

068.272 Electro-Physical Agents in Physical Therapy Management (3) Selection and application of electrophysical agents in physical therapy. 45 hours.

068.275 Rehabilitation Exercise 2 (2) A lecture and lab based course which focuses on the development of comprehensive rehabilitation, health, and fitness exercise programs for normal subjects, clients with specific conditions/disabilities, and athletes. 34 hours.

068.276 Orthopedic Assessment and Management 1 (6) Integrated approach to the orthopedic assessment and management of upper limb, lower limb, and spinal disorders. 113 hours.

068.277 Orthopedic Assessment and Management 2 (6) Integrated approach to the physiotherapy assessment and management of upper limb, lower limb, and spinal disorders. Successful completion of 068.276 and 068.277 equivalent to E2/V2 level of professional classification. 111 hours.

068.278 Musculoskeletal Clinical Education (10) Consists of a period of clinical practice related to the management of musculoskeletal conditions. Course evaluated on a pass/fail basis. 375 hours.

068.279 Physical Therapy Management of Musculoskeletal Disorders (8) A theory and practical course on physical therapy management of patients with specific musculoskeletal disorders. 149 hours.

068.289 Rehabilitation Biomechanics (3) Theory and practical application of biomechanics of human movement in relation to rehabilitation. *Prerequisites:* 068.148, 068.149 and 068.150, or equivalent. 40 hours.

6.3 Year 3:

Courses in Occupational Therapy		Courses in Physical Therapy		Courses in Respiratory Therapy	
068.318	068.319	068.341	068.346	068.330	068.331
068.341	068.346	068.370	068.373	068.332	068.333
068.352	068.353	068.374	068.388	068.334	068.335
068.354	068.357	068.392	068.393	068.336	068.337
068.358	068.359	068.394		068.338	068.346
068.393	068.394				
Total credit hours	46		45		38

068.318 Elective in Medical Rehabilitation 1 (3) An opportunity to undertake an in-depth study within a specialized area of a selected topic in Medical Rehabilitation. Topics vary from year to year. 45 hours.

068.319 Elective in Medical Rehabilitation 2 (3) An opportunity to undertake an in-depth study within a specialized area of a selected topic in Medical Rehabilitation. Topics vary from year to year. 45 hours.

068.330 Seminars in Respiratory Care (3) A series of seminars on Respiratory Disease and other clinical topics designed to bring together practical and theoretical aspects of the program. 60 hours.

068.331 Clinical Education in Intensive Care (10) The course consists of 10 weeks of clinical experience in the adult intensive care setting in an approved clinical site. 432 hours.

068.332 Clinical Education in Pediatric Respiratory Care (3) Three weeks of clinical experience in the Pediatric Intensive Care Unit at Children's Hospital. Shiftwork and extended shifts may be required. 144 hours.

068.333 Clinical Education in Neonatal Respiratory Care (4) Four weeks of clinical experience in the Neonatal Intensive Care Unit at Children's Hospital and/or St. Boniface General Hospital. Shiftwork and extended shifts may be required. 180 hours.

068.334 Clinical Education in Maternal/Fetal Health (1) One week of clinical experience in maternal and fetal health at the Women's Centre, Health Sciences Centre. 36 hours.

068.335 Clinical Education in Pulmonary Diagnostics (3) Three weeks of clinical experience in the pulmonary diagnostic laboratory of an approved clinical site. 144 hours.

068.336 Clinical Education in Anesthesia. (3) Three weeks of clinical experience designed to acquaint the student with actual clinical techniques and procedures used in the operating and recovery room. 144 hours.

068.337 Clinical Education in Community Care (4) Four weeks of clinical experience in community care settings including: pre-hospital care, health and wellness promotion, interfacility transport, chronic care, home care and community outreach. 180 hours.

068.338 Clinical Education in Respiratory Care (4) Four weeks of clinical experience spent in the non-intensive care setting working with a variety of medical and surgical patients. 180 hours.

068.341 Pathology and Clinical Manifestations of Neurological Conditions (3) Theoretical study of neurological pathology and clinical manifestations of the basic principles of medical management of persons with neurological disorders. *Prerequisite:* 068.241. 38 hours.

068.346 Introduction to Health Care Administration and Management (3) An introduction to professional and administrative issues of current concern to occupational and physical therapists. Topics to be covered in lecture and seminar format are health care systems, professional ethics, departmental administration, principles of supervision, and medical and legal responsibilities. 45 hours.

068.352 Occupational Therapy Management of Neurological Dysfunction (5) Study of the theoretical and practical aspects of occupational therapy as these relate to neurological diseases and disorders. 66 hours.

068.353 Occupational Therapy Management of Psychosocial Dysfunction 2 (3) Consists of lectures and seminars. An introduction to the more specialized occupational therapy assessment and intervention procedures related to psychosocial dysfunction. 42 hours.

068.354 Occupational Therapy Management - Special Age Groups 2 (4) A theory and practical course covering occupational therapy assessment and intervention with pediatric and aging populations where pathology interferes with the normal develop-

mental process. 60 hours.

068.357 Advanced Fieldwork (8) This course consists of fieldwork review, integration, and preparation classes throughout the academic year and a six-week period of field experience under the supervision of a licensed occupational therapist. Course evaluated on a pass/fail basis. 255 hours.

068.358 Summer Fieldwork 2 (6) A six-week fieldwork experience under the supervision of a licensed occupational therapist. Course evaluated on a pass/fail basis. 225 hours.

068.359 Vocational Rehabilitation (2) Theory and practice of pre-vocational and vocational rehabilitation for persons who have physical and psychosocial dysfunction. 30 hours.

068.370 Fundamentals of Physical Therapy Management (11) A theory and practical course on the basic principles of application of techniques used in the physical therapy management of clients with neurological conditions. 223 hours.

068.373 Advanced Musculoskeletal Topics (3) A theory, practical and tutorial-based course designed to provide the opportunity for problem-solving through the integration of relevant information, in the areas of orthopedic and sports physiotherapy. 61 hours.

068.374 Integrated Tutorials (3) A theory, practical and tutorial-based course designed to provide the opportunity for problem-solving through the integration of relevant information, in the physiotherapy management of geriatric, women's health, and multi-system conditions. 41 hours.

068.388 Clinical Education in Neurological Disorders (8) Consists of a period of clinical practice related to the management of neurological conditions. Course evaluated

on a pass/fail basis. 300 hours.

068.392 Summer Internship (8) An eight-week period of clinical/practical experience under the direction and supervision of registered physiotherapists. Course evaluated on a pass/fail basis. 300 hours.

068.393 Neuroanatomy (3) The study of neuroanatomy and neurophysiology of the human body. 47 hours.

068.394 Neurosciences (3) The study of neuroanatomy and neurophysiology of the human body. 45 hours.

6.4 Other:

Undergraduate Courses in Occupational Therapy

068.409

068.413

068.409 Independent Study (3) The student undertakes an in-depth study under the guidance of a selected specialist. The subject chosen will provide further scientific basis for practice and may form a basis for further research.

068.413 Re-Entry Fieldwork (8) Self-directed period of fieldwork preparation followed by a seven-week fieldwork education experience under the supervision of a licensed occupational therapist. Course evaluated on a pass/fail basis. *Prerequisites:* an earned degree in occupational therapy, permission of Head of Department of Occupational Therapy.

Faculty of Medicine

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SECTION 1: Medical Education

Medical education in Manitoba is designed to provide students with the knowledge and experience they need to practice medicine in a profession where new developments in science and the public health policy create an ever-changing environment. In the first two years of the program the subject matter is divided into blocks which cover core concepts in health and medicine, human development and body systems. Clinical Skills, Problem Solving, Medical Humanities, Laboratory Medicine and Stress Management are integrated into the six blocks. The final two years, called the "clerkship" are spent in direct contact with patients and doctors in a clinical setting in which students gain experience with increasing responsibility for patient care and management.

Medical education had its beginnings in 1883 when 13 physicians applied to the local legislature for a charter to form the Manitoba Medical College. The college was chartered as an affiliate of the University of Manitoba. The number of students registered for the first session was 15, and the number in attendance at each session from that date to the present has ranged from 15 to 400. The university came to the aid of the Medical School from time to time by furnishing full-time professors in chemistry, physiology, pathology, bacteriology, and zoology. With the session of 1918-1919 the Manitoba Medical College ceased to exist as a separate institution. It made a gift of all its property and equipment to the University of Manitoba "on condition that the university establish a Faculty of Medicine, and carry on the work of medical education in an efficient manner."

In 1921, a building for the accommodation of the departments of Physiology, Biochemistry, and Bacteriology was erected on the old Medical School property, and a further unit, now occupied by Pathology, was completed in February, 1922. In January, 1956, the new wing of the medical building was officially opened, which included new quarters for the Medical Library. In February, 1965, the Chown Building was opened providing five-stories of administration offices and space for Pharmacology and Therapeutics and the Computer Department for Health Sciences. The Basic Medical Sciences Building, containing undergraduate teaching facilities, opened in 1973. It provides accommodation for anatomy, biochemistry, physiology, medical microbiology and immunology. The Brodie Centre provides a new library, research and recreational facilities. It opened officially in the spring of 1996. General teaching facilities are located in the medical buildings, and facilities for clinical instruction are provided in the teaching hospitals affiliated with the University of Manitoba and in related institutions. The varied settings in which medicine is practiced in Winnipeg and in rural and northern Manitoba also provide students with the opportunity to study community medicine outside the major teaching institutions.

The Neil John Maclean Health Sciences Library

The Neil John Maclean Health Sciences Library opened in 1996 and supports the teaching, research and patient care requirements of the staff and students of the Faculties of Medicine and Dentistry and the Schools of Dental Hygiene and Medical Rehabilitation. It also serves the Health Sciences Centre, supporting the teaching, research and patient care activities of all staff and students in the hospital-based educational programs. The Health Libraries located at the St. Boniface General Hospital, Victoria General Hospital, Seven Oaks General Hospital, Grace General Hospital and Concordia Hospital are also satellites of the Neil John Maclean Library.

Through its outreach services, it is the primary resource for faculty and students located at other teaching sites both in Winnipeg and rural Manitoba. In addition the Library acts as a resource centre for health sciences information in Winnipeg and rural Manitoba and a fee-based service is offered for external users.

The Library collection of print, audiovisual and electronic media includes the Aboriginal Health Collection and a small but valuable collection of

medical classics in the Ross Mitchell Rare Book Room. The Library acts as an important component of professional education, and two Learning Resource Centres for multimedia computer applications are an integral part of the Library.

Graduate Studies

Graduate Studies information about graduate studies in medicine or related sciences, and information regarding opportunities for medical research may be obtained from: The Associate Dean (Graduate Studies and Research), Faculty of Medicine, University of Manitoba, A108 Chown Building, 753 McDermot Avenue, Winnipeg, MB, R3E 0W3.

The Department of Community Health Sciences teaches the basic disciplines and practises of community health at the undergraduate, graduate and residency training levels. The department shares a multi-disciplinary approach combining academic, service, outreach and consultative activities. Specific specialized areas include biostatistics, epidemiology, health policy, social services, Aboriginal health, alcohol and tobacco, and occupational and environmental health. Further information may be obtained from: The Head, Department of Community Health Sciences, Faculty of Medicine, University of Manitoba, 750 Bannatyne Avenue, Winnipeg, MB R3E 0W3.

Continuing Medical Education

This department is responsible for the Continuing Medical Education programs of the faculty, which are conducted in the Medical School, teaching hospitals, and in urban and rural medical centres. Information regarding programs may be obtained from: The Department of Continuing Medical Education, Faculty of Medicine, University of Manitoba, S203, 753 McDermot Avenue, Winnipeg, MB R3E 0W3.

SECTION 2: Admission to the Faculty of Medicine

2.1 Degree Offered

Doctor of Medicine

Minimum time to graduation: Seven to eight years (University 1, plus two or three years to complete first degree, plus four years in the Faculty of Medicine). Applicants are advised to obtain the *Applicant Information Bulletin* published annually.

The following is a summary of the admission requirements. Equivalent academic courses can be completed at recognized universities elsewhere. All admission requirements, as well as application deadline dates and forms, are included in the applicant information bulletin that is available from the Faculty of Medicine General Office, S204 Medical Services Building, Bannatyne Campus, or the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the Faculty of Medicine website.

2.2 Course requirements for admission

All applicants must have completed a bachelor's degree, and prerequisites in Biochemistry and English Literature or French Literature.

At the University of Manitoba these are Biochemistry 236/237 and English 120 or 126, or French 119 or 120. Applicants must be aware that there are prerequisites for Biochemistry and must obtain this information from their faculty student advisors.

Other requirements

- All applicants must write the Medical College Admission Test (MCAT). Since the MCAT will test the applicant's knowledge and problem solving skills in Biology, Physical Chemistry, Organic Chemistry and Physics, applicants must consider taking these courses during their first two years of university studies. This information is available in the *Applicant Information Bulletin*.

- Applicants must have a GPA of at least 3.60 and a MCAT average of at least 8 with no individual subset score below 7 and a Writing Sample score of at least M.

- An interview is required.

Selection criteria: 10% grades, 50% MCAT, 40% personal assessment.

2.3 Immunization Requirements

All students enrolled in the Faculty of Medicine must be immunized against the following diseases: diphtheria/tetanus, polio, rubella, measles, mumps and chickenpox. Vaccination against hepatitis B is optional. Students who cannot be immunized because of allergies or for other reasons must provide a physician's certificate to verify these reasons. Students admitted to first year Medicine will be provided with an immunization package at the time of acceptance into the Faculty and will be required to provide their Immunization Record Form at the beginning of classes. Students will not be able to attend clinical rotation until all immunization requirements are up-to-date. Students are responsible for updating their immunizations as needed.

SECTION 3: Academic Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Faculty of Medicine has regulations and requirements, published below, that apply specifically to its students.

Detailed information concerning the general regulations governing admissions, evaluation, academic progress and withdrawal for undergraduate and postgraduate medical students may be obtained from the general office of the Dean of Medicine. These regulations include the following items:

Students will not be allowed to register unless they are in good academic standing from the previous year.

No student may repeat more than one year, and no year may be repeated more than once except by special permission of the Faculty Executive Council or Committee on Academic Standing.

Students who withdraw from the Faculty of Medicine without prior written notice will be considered to have terminated their connection with the faculty and will not be eligible for re-admission.

Students who withdraw from the faculty having given due notice of their intention to withdraw are eligible for re-admission. If re-admission is approved they will be required to conform to the rules and regulations, fee schedules, sequence of courses, in effect at the time of such readmission.

Students may, after completion of the work of a full year, be granted a leave of absence for one year subject to certain conditions related to the purpose of the leave of absence and on subsequent registration will be required to conform to the rules and regulations, fee schedules, sequence of courses, in effect at the time of such registration.

Students who have been or expect to be prevented from attending any regular examination by reason of illness or other cause beyond their control should at once notify the Associate Dean U.G.M.E. and must give satisfactory evidence of the cause of absence.

The Faculty Executive Council reserves the right to require any student to withdraw from the program of enrolment when it believes the student to be unsuited, on general considerations of scholarship, professional fitness or professional conduct for the field within the profession to which the program of studies normally leads. However, the Faculty of Medicine does not have a professional unsuitability by-law. The right to require a student to withdraw on the basis of professional unsuitability may arise through the professional unsuitability by-law of the College of Physicians and Surgeons. This right prevails notwithstanding any other provision in the faculty. Students in the medical program are expected to conform to such new requirements as may be adopted from year to year.

Students are required to present the personal and professional appearance expected of members of the medical profession.

Students must complete the undergraduate program for the M.D. degree of the Faculty of Medicine within six years of entry to first-year Medicine, exclusive of those students undertaking additional academic pursuits which are acceptable to the Committee on Academic Standing. When a student fails to complete the program in six years, the committee will review the academic record of the student. If the student is in good academic standing at that time, the committee may grant one further year for the completion of the program. The reasons for the prolonged duration of the student's program are confidential but must be approved as valid by the Associate Dean for undergraduate medical education.

3.1 Requirements for the Degree of Doctor of Medicine (M.D.)

Every candidate for the degree of Doctor of Medicine must have satisfied the following requirements:

- Subsequent to the successful completion of the required university studies, a student must have attended four full sessions of not less than nine months each in this or some other school of medicine approved by this university, the last two years of which must have been spent as a student of the University of Manitoba.
- A student must have completed the required work, have fulfilled satisfactorily all special requirements, have received satisfactory grades throughout the entire medical program, and have discharged all indebtedness to the university.

Degrees: All degrees in Medicine will be conferred by the Senate of the university on the recommendation of the Faculty Executive Council at a regular meeting of the university Senate or at a meeting specially called for that purpose.

3.2 Requirements for Registration to Practice Medicine

Provincial Registration

A university degree in medicine does not in itself confer the right to practice the profession of medicine in Canada. That right is obtained from a provincial registering body in the particular province in which the graduate desires to practise. In Manitoba, this body is the College of Physicians and Surgeons of Manitoba.

For information on registration in Manitoba contact: The Registrar, The College of Physicians and Surgeons of Manitoba, 494 St. James Street, Winnipeg, MB R3G 3J4; telephone: (204) 774 4344.

Medical Council of Canada

The Medical Council of Canada was established in 1912 by the Canada Medical Act. Its purpose is to grant a qualification to practice medicine acceptable for licence in every province of Canada. It is not a licensing body, but "anyone who secures the diploma of the Medical Council of Canada by examination is registered on the Canadian Medical Register. This registration entitles one to become licensed to practice medicine in any province in Canada upon payment of the necessary fee and on meeting other provincial requirements."

The Medical Council of Canada examinations are normally taken by undergraduate medical students of the University of Manitoba at the end of the fourth year. There is a fee for this examination. Examinations are held annually in Winnipeg in May and November, and registration for these examinations may be made with: The Registrar, Medical Council of Canada, 2283 St. Laurent Boulevard, Ottawa, ON K1G 5A2. Deadline for applications is March 1.

SECTION 4: The Program for the M.D. Degree

4.1 Governance

The program and its curriculum is the responsibility of the Faculty Executive Council (FEC). The policies, regulations, implementation and modifications of the educational program for the M.D. degree are determined by the FEC on the recommendation of the Faculty of Medicine Undergraduate Medical Curriculum Committee (UGMCC). The Undergraduate Medical Curriculum Committee consists of the faculty curriculum coordinators appointed by the Dean, two members elected by the Faculty Executive Council, the Associate Dean for undergraduate education, the Associate Dean for student affairs and six students. All members are voting members. The chair is elected by the members and serves for three years. The Undergraduate Medical Curriculum Committee is responsible for the curriculum, syllabus, teaching and evaluation in the educational program leading to the M.D. degree.

4.2 General Statement

The program is a continuum over the four years but is divided into the Pre-clerkship, Years 1 and 2, and the Clerkship, Years 3 and 4, portions for administrative purposes. The mission and performance expectations of the

program are published. They are given to faculty and students and are the guide for the curriculum. The curriculum is based on the view that it is neither necessary nor desirable for the faculty to present all the knowledge, skills and behaviours that are expected of a student by graduation. Instead the students are provided with the core material which lies in the mainstream of medical science. Students are encouraged to acquire further knowledge and skills for themselves through study, discussion and scholarly development. They are expected to take the initiative in approaching instructors and colleagues with regard to learning. The program values the seeking of knowledge, the evaluation of its worth and its application to the analysis and solving of problems as opposed to the simple memorization of information. Students are expected to develop skills for acquiring new knowledge and to realize that these skills will be used throughout their professional lives irrespective of their field of medicine. The curriculum encourages an interdisciplinary and integrated approach to medicine. Teaching sessions promote participation and active learning by students. Instructors, whatever their own discipline, ensure that their teaching is relevant to the overall development of students to become undifferentiated graduates of medicine with the potential to enter any postgraduate position for which they have the ability and aptitude. The students learn to use information, skills and behaviour from whatever source of teaching to prevent and solve the problems that face their patients and society. The students learn that physicians are part of a team and system that provide adequate, accessible, continuous and comprehensive health care. Students are encouraged to pursue areas of interest and to develop their own education through electives. In order to modify and enhance the educational program, the opinions of the students and their evaluation of the program and its teachers are formally sought by faculty. This information is used by the UGMCC to improve the program.

4.3 The Plan of the Curriculum

Preclerkship Program:

Year 1 (Blocks 1-3, 40 weeks), and Year 2 (Blocks 4-6, 40 weeks)

The preclerkship program is designed by the course directors and program coordinators in conjunction with department/discipline advisors/representatives and by committees governed by the faculty Pre-Clerkship Curriculum Committee. The curriculum consists of five mandatory programs: Cognitive, Clinical Skills, Problem Solving, Medical Humanities and Laboratory Medicine, and one voluntary program: Stress Management. The Problem Solving program attempts to integrate and re-iterate important concepts presented during the Cognitive component but emphasizes a symptom-based approach to your medical education. The Clinical Skills program (which includes communication, history taking and physical examination skills), the Medical Humanities program (which includes human values, medical ethics, medical history and palliative care and complementary and alternative medicine) and the Lab Medicine program are integrated with the Cognitive program as much as possible. The objectives of the curriculum are based on the mission and performance expectations of the undergraduate program. The evaluation of student academic progress is based on the student's attainment of the written objectives as provided in the student notes and on the Pre-Clerkship web page. The curriculum is composed of six instructional blocks that address the core concepts of health and medicine, human growth and development and four organ systems based blocks. The two-year preclerkship curriculum brings together teachers from the basic science and clinical departments, from the other health related faculties and disciplines as well as the public in each block. All basic sciences to medicine including anatomy and molecular science, biochemistry, human genetics, immunology, microbiology, physiology contribute to the curriculum as do the clinically applied basic sciences of pathology, pharmacology and community health sciences. Clinical departments including anesthesia, clinical health psychology, family medicine, internal medicine, obstetrics, gynecology, ophthalmology, otolaryngology, pediatrics, psychiatry, surgery are also involved.

The Pre-Clerkship is divided into six blocks, three per year.

Block I - Foundations of Medicine: Takes 11 weeks to complete and has three sections:

1) **Population Health and Medicine (PH)** - introduces the main elements to the understanding of any disease or health problem including definitions of life, health, disease and death; burden of illness or size of the problem; causes or risk factors; the natural history and outcomes; prevention and control; all based on the principles of emphasizing the concept of evidence-based medicine. This section will provide the core concepts of statistical methods in the health sciences, research methods, critical appraisal of the medical literature, and the framework for the determinants of health,

an understanding of the role of stress in health and disease, the conceptual basis for making a diagnosis, including treatment, occupational and environmental health and health policy. You will learn the concept of the physician as a member of a multidisciplinary health team both in the hospital and in the community.

2) Structure and Function (SF) - introduces Anatomy, Physiology, Molecular Biology and Medical Genetics. This section provides an overview of basic science concepts that are necessary to proceed to the Organ Systems Blocks (Blocks #3-#6). It is an introductory overview of the Human Body and how it functions as one entity. Although we study the body in separate parts-- or "systems"-- later in the curriculum, we here present examples to show general principles; for example, the concept that one group of cells plays a specific role, but also interacts with others in the whole multi-cellular organism. Diseases, even those involving a change in the structure of only one macromolecule, can result in changes to the function of several organs, and thus to the health of the body as a whole. The SF course has an overall goal to provide background knowledge in preparation for the subsequent intensive study of the human body in health and disease. The basic "language" or terminology in each discipline is introduced, and students are encouraged to use selected texts for clarification whenever they hear an unfamiliar term. The SF course integrates essential basic information from the disciplines of human anatomy, physiology, genetics, biochemistry, and pharmacology. The art of medicine can be called an "applied science", and so the SF course emphasizes the application of these basic sciences to the human organism. In this course, a selection of examples to illustrate "foundational concepts" or principles of human biology is offered. Students are given directed readings and references so that each student may study some topics in depth according to individual needs.

3) Disease Mechanisms and Therapeutics (DT) – The core concepts of disease processes are illustrated through lectures and tutorials. Building on the previous two sections, basic science principles and clinical applications are presented. Contributions are made by the disciplines of Pathology, Pharmacology, Oncology, Hematology, Infectious Diseases and Immunology to present core concepts of disease at both a cellular and patient level. Study of normal anatomy will continue. Students will be encouraged to use clinical examples of disease to appreciate and understand the underlying cellular processes. This course is introductory and the topics will be further expanded and revisited in greater depth in the system subject blocks.

Block II - Human Development (HD): This nine week block will cover the stages of development from conception to geriatrics including embryology, child development, nutrition, adulthood, sexuality, palliative care and death. Community Health, Genetics, Pediatrics, Psychology and Psychiatry, and Geriatrics will be highlighted. In this block students will be introduced to the principles of physical, psychological, social and behavioural aspects of normal human development at the various life stages from conception to death within populations, families and as individuals. As well they will learn about the physical, psychological, social and behavioural challenges individuals face during the various development stages. Students will learn to appreciate health as a component of life cycle development and to identify principles of community development which impact on the well-being of individuals and families at various life stages.

System Blocks: Medicine I ends with the first of four Systems blocks. Each System will present, in a clinically relevant context, normal anatomy and physiology, followed by pathophysiology of disease.

Block III - involves Cardiovascular (CV), Respiratory (RS), Ear, Nose & Throat (ET). There will also be a few additional SF and DT classes.

Block IV - Medicine II commences with the fourth block consisting of Reproduction (RP), Kidney (KD) and Endocrinology & Metabolism (EM).

Block V – This block consists of the following systems: Neuroscience (NE), Musculoskeletal (MS) and Ophthalmology (OP)

Block VI – The Pre-Clerkship curriculum ends with the following systems: Gastrointestinal/Liver (GI), Blood & Lymph (BL) and Dermatology (DM).

Methods of Teaching

The Cognitive component is delivered by a variety of formats including assigned self-study periods, small group tutorials, traditional didactic lectures, small group activities in entire class format, lab practicals or demonstrations and computer simulated labs. Regular time is scheduled each week to provide students with the opportunity for self development and independent learning. Group study is encouraged. Problem solving is

emphasised in all small group tutorials as well as in the identified problem solving sessions.

Attendance

Attendance is mandatory at all teaching sessions that divide the whole class into smaller groups e.g. tutorials of whatever size, problem solving, clinical skills, laboratories, demonstrations. Failure to attend sessions in which patients, members of the public or standardised patients are used is particularly serious. Attendance may be mandatory at certain lectures.

Clerkship Program: Years 3 And 4

The Clerkship component of the undergraduate program is designed to give medical students didactic instruction, supervised responsibility for patient care and frequent feedback and evaluation. The program is governed by the Clerkship Committee, consisting of a Chair appointed by the Dean, the clerkship directors of the clinical departments, and student representatives. The Clerkship Program consists of the Introduction to Clerkship period, core clerkship rotations, a multiple specialty rotation, selectives and electives. It lasts 20 months. Core clerkships last a minimum of six weeks, multiple specialty clerkships are comprised of shorter individual rotations and selectives/electives are offered in units of two weeks or longer.

Introduction to Clerkship (ITC) (6 weeks): The Clerkship Program begins with the ITC that is a preparation for clerkship. It consists of observed clinical encounters with patients in the major disciplines, predominantly arranged to take place in the hospitals. Courses in clinically based laboratory medicine, clinical pharmacology and therapeutics, community health sciences, immunization/infection control, problem solving and radiology are given.

Core Clerkship Rotations (56 weeks): The primary responsibility of the clerks in the program is the care of patients under the supervision of post-graduate students and faculty. Rotation through all major clinical disciplines is provided and these are supplemented by "elective" periods of the students' choice. Seven-week periods are spent in family/community medicine, internal medicine, selectives in medicine and surgery, obstetrics/gynecology, pediatrics, psychiatry, surgery, multiple specialty rotation of anesthesia, emergency, ophthalmology, otolaryngology and a community health sciences project. Settings for the clerkship experience are varied, including wards and outpatient facilities of the hospitals, doctors' offices, rural and community-based hospitals. Formal teaching and evaluation of the knowledge, skills, attitudes and behaviors pertinent to the discipline are provided during the clerkships.

Electives (15 weeks): Three elective periods are provided during the clerkship in which the student can pursue education in one or more disciplines in the setting of their own choice. The elective must be approved by the faculty elective coordinator.

MCCQE Part I Refresher course and Advanced Cardiac Life Support course (3 weeks): The clerkship program ends with a short course of half day lectures and time for self study in preparation for the Licensing Examination, Part 1, of the Medical Council of Canada and the Advanced Cardiac Life Support course.

SECTION 5: Student Evaluation and Academic Progress

5.1 Responsibility

The policies and procedures for the evaluation of the students in the program for the M.D. degree are the responsibility of the Faculty Executive Council (FEC).

The Committee on Academic Standing (CAS) recommends to FEC the academic standards by which the progress of students are judged and ensures that examiners have followed the policies and procedures set by FEC. The CAS is chaired by the Dean and its members include the department heads, the associate deans for undergraduate education and student affairs and two students. The CAS, following the recommendations of the Committees of Evaluation also:

- Determines which students may proceed to the next stage of the program or to graduation.
- Determines which students should write supplemental examinations, or be required to take remedial study, or be required to repeat all or part of

the academic year before promotion to the next stage of the program or graduation.

- Ensures that the Committees of Evaluation have followed the policies and regulations of evaluation that have been approved by the FEC.

The Committees of Evaluation (COE): The COE's, Preclerkship (years 1 and 2) and Clerkship (years 3 and 4) conduct the evaluation of the students. The knowledge, clinical and communication skills, attitudes and behaviour of the students are evaluated for examination, assessment of performance and completion of assignments.

The responsibilities of the COE's include:

- Planning and administration of the evaluation of all aspects of student examinations and performance.
- Planning and administration of all supplemental examinations.
- Planning and administration of all other measures of academic performance.
- Planning and administration of remedial training for students with unsatisfactory academic performance.
- The reporting of the results of examinations, supplemental examinations, other academic performance evaluation and remedial training to the CAS.

Procedure for students with non-academic problems that interfere with evaluation

Students who cannot take an examination, attend mandatory sessions, perform satisfactorily or complete assignments because of non academic problems must inform either the Associate Dean for undergraduate education or for student affairs as soon as possible. Either of the associate deans will decide if the reason is sufficient to postpone or cancel evaluation. This may be applied retroactively. The associate dean for undergraduate education will then determine how the evaluation will be completed. In the case of illness a confirming certificate from the student's regular physician or a specialist in the field of the illness is expected. In other situations confirmation that problems are affecting the student should be provided from a recognized authority e.g. the university Counselling Services. In all cases the nature of the problem is confidential between the student and the physician or adviser involved. The physician or adviser must confirm in writing that the problem has affected student's performance and evaluation. The student will usually be expected to submit a further confirmation that the problem will not affect performance or evaluations when the student resumes the program.

5.2. Evaluation in the Preclerkship Program

The Committee of Evaluation preclerkship will be responsible for evaluation of students during the first two years of the program. The COE preclerkship will be headed by two co-chairs, responsible for first and second year respectively and appointed by the dean. The members of the COE include the preclerkship faculty curriculum coordinators, the associate dean for undergraduate education and representatives of the individual blocks of the program, the clinical/communication skills programs and the medical humanities program. Additional members may be added at the discretion of the FEC. The COE preclerkship is responsible for developing the evaluation process, determining the pass mark of the examinations and ensuring that the examinations of each block are comparable, reliable, valid and fair.

Attendance

Students failing to attend mandatory sessions may be reported to the associate dean, undergraduate education. Each student will receive a warning from the dean's office. If this warning is ignored then the student's attendance record will be considered by the COE preclerkship and the student may be failed for unsatisfactory attendance. A suitable remedial period may be provided during the summer vacation. (See section on remediation.) If the student does not perform satisfactorily in the remedial period the year will be failed.

Examinations

The COE will inform the students of the pre-determined pass mark for all examinations at the beginning of their block. The student, however, will be given the overall as well as the actual marks obtained in the different sections of the examination. Students' results will be recorded as a pass or fail; neither grades nor honours will be given.

Knowledge: There are written comprehensive examinations based on the objectives at the end of each block i.e. three in first year and three in sec-

ond year. Except for the first block, all the blocks may include up to 10 per cent of questions from material in the previous block. For each block there is an examination implementation committee consisting of the block's course directors and pertinent departmental representatives. The examination implementation committees, under the direction of the chair of COE, are responsible for ensuring that the taught objectives are tested and the evaluation is fair. Each examination of knowledge may use various methods of evaluation multiple choice questions, short answer essays and demonstrations will be favoured.

Clinical/communication skills: The students' performance in the clinical/communication skills program will be assessed by observation of performance and by examination. There is a clinical/communication skills evaluation committee, responsible to the COE preclerkship, that determines the standards of performance expected of students and develops examinations. There will usually be an examination of clinical/communication skills at the end of each year. The format of the examination will normally be an "objective structured clinical examination," (OSCE). The clinical/communication skills evaluation committee is responsible to the COE preclerkship for the planning and administration of the examination. The committee will recommend the pass mark, once the stations have been chosen, for approval to the COE preclerkship. The format of the examination and the system used to determine the pass mark will be told to the students. The clinical/communication skills evaluation committee will inform the COE preclerkship about those students who fail the clinical skills program because of poor attendance, poor performance or the examination. If a preceptor determines that a student's performance is unsatisfactory then the student must be informed and reported to the clinical/communication skills evaluation committee. The committee will provide help to improve the student and to reach a satisfactory standard during the program. The COE preclerkship will confirm that the student has failed due to poor performance or by examination and will determine the period of remedial work to help the student meet the standard of the program.

Attitudes and Behaviour: Students must follow the guidelines for professional behaviour approved by the faculty and given in the course of study. More particularly students will be evaluated in the Medical Humanities Program for attitudes and behaviour and in particular the ethics of medicine. The medical humanities teachers will evaluate students on their performance during sessions and by the incorporation of questions in the block examinations, clinical examinations and by assignments. The coordinators in medical humanities will be members of the clinical/communication skills evaluation and pertinent block implementation evaluation committees.

Failures of the Evaluation in pre-clerkship years 1 and 2

Pass marks: May be revised from time to time but will be declared before the initial and supplementary examinations.

Examinations: Students failing in up to two examinations can write supplementary examinations. Students who fail any supplementary examination in first- or second-year will be deemed to have failed that year.

Students who are granted supplemental privileges will be given the opportunity for remedial study during the summer vacation. They will resit a supplemental examination comparable to that failed and this will usually be held before term begins (June for the first failure and July for the second one). If the supplemental examination is failed then the student will have failed the year. Students who fail the clinical/communication skills program for poor performance or examination will be granted supplemental privileges and receive a remedial period during the summer vacation that will take into account the areas of weakness revealed by their performance and the examination. The performance of students during the remedial period will be evaluated by the preceptor and will normally include an oral and/ or written examination and/or repeat OSCE. If students fail to reach the standard expected after remediation they will be deemed to have failed the year.

First year students who fail the year or who are granted supplemental privileges must apply for re-admission to medical school by June 1. They will usually be interviewed by the Admissions Committee to determine why they will succeed on a second attempt before being re-admitted to first year. The Admissions Committee will advise the assistant dean admissions who will recommend to the Committee on Academic Standing whether the student should be re-admitted. Students in first year who are successful in the supplemental examination or clinical skills program will automatically be promoted to second year.

Students who fail second year will automatically repeat it and are not subject to review by the Admissions Committee.

Remediation of failures: The student will be required to seek the counsel of the associate dean for student affairs as well as the associate dean for undergraduate medical education who may also direct the student to other faculty members. The exact nature of the remediation may vary with the student.

5.3 Evaluation of Students in the Clerkship Program

During the clerkship years students will be evaluated on their competence and this will include assessment of their cognitive knowledge and understanding, clinical skills, problem solving and judgement, technical skills, interpersonal attributes and general professional responsibility. Evaluation will be the responsibility of the Committee of Evaluation, Clerkship (COE Clerkship) chaired by a member of faculty appointed by the dean.

The committee will consist of:

- *Voting Members:* The chair; one representative, usually the clerkship director, or delegate, from each department, and the coordinator of ITC laboratory medicine. The representatives are elected by the faculty executive. In the absence of the elected representative the department may send a substitute; and the coordinators of ITC, clerkship, electives and comprehensive clinical examination.
- *Non-Voting Members:* Ex-officio the associate dean, undergraduate education; the associate dean, student affairs, and four undergraduate student representatives.

Method of Evaluation

The policy and procedures applicable for evaluation are: Examination Regulations Policy: 1305 of the University of Manitoba; Faculty of Medicine Security of Records policy approved, 1982; Policy on Disclosure and Security of Student Academic Records approved University of Manitoba Board, May, 1989. Examinations and evaluations will use various methods to assess students. These will include in-training evaluation reports (ITER); written examinations (externally or internally prepared in essay, multiple-choice or other formats); projects; clinical examinations with "traditional" cases, case scenarios, simulated or standardized patients using "traditional" long cases, short station Objective Structured Clinical Examinations (OSCE) or longer Comprehensive Clinical Examination (CCE) formats. Students' performance for evaluation purposes during examination may be recorded by writing, orally, by computer, by audio or by video taping. Whatever form is used, the data generated is subject to the examination regulations the University of Manitoba and the Faculty of Medicine. Material necessary to generate the mark such as papers, computer records, tapes will be destroyed once the student has passed that evaluation (such material can be of help to a student needing remediation before the pass).

The Committee of Evaluation Clerkship will monitor examinations and evaluations of students to ensure that they are credible, appropriate, precise, valid and reliable. To achieve this quality assurance the Committee of Evaluation Clerkship may use direct observation or indirect observation by audio and video monitoring. Quality assurance material is subject to the aforementioned regulations of the university and the faculty. Material, such as audio/video tapes which could identify the individual student will not be released to anyone, other than the dean and Committee of Evaluation Clerkship, without the written consent of the student.

Research in evaluation of student performance is part of the educational responsibilities of the Faculty of Medicine. All research generated by this process must have prior approval by the Ethics Committee of the Faculty of Medicine.

The Introduction to Clerkship (ITC)

The goal of the ITC is preparation for the clerkship rotations. The ITC will be the initial period of the clinical years and will include Community Health Sciences. The student will be assessed for attendance, performance in learning groups and by examination in Community Health Sciences. There is no longer an examination for Community Health Sciences ITC.

Students failing to attend mandatory sessions may be reported to the associate dean, undergraduate education who will inform the COE clerkship. Each student will receive a warning from the dean's office. If this warning is ignored then the student's attendance record and performance will be considered by the COE clerkship and the student may be failed for the sessions missed. A suitable remedial period may be provided. If the student does not perform satisfactorily in the remedial period the ITC will be failed.

The students will be assessed on their clinical performance by their preceptors. The performance will be judged by such criteria as: basic medical

knowledge and its application; clinical skills in evaluating patients; analysis of clinical data; problem identification and diagnosis; planning of investigation; planning of management and therapy; relationships to patients and staff.

Method of Evaluation

Each department, clinical or laboratory, will determine the criteria for determining the competence of the student during the ITC experience in that department. These standards should be based on the expected requirements for satisfactory preparation for the clerkship of the department. Each preceptor, with significant involvement in clinical or laboratory teaching, will provide a pass/fail decision on each student taught to the ITC supervisor of the department together with a written evaluation of the performance when needed. The preceptor will advise each student during the course if the performance is likely to lead to a failing assessment. Students must be given due opportunity to improve their performance to the expected standard. The departmental supervisor, with the undergraduate committee of department, will review the evaluations and preceptor pass/fail assessments and determine if the student has achieved an overall pass/fail for the ITC period in that department. The student must be informed of a recommendation for failure within seven working days of the end of the session. The pass/fail decision will be given by the departmental representative to the COE Clerkship. In the case of a failing evaluation the reasons for failure must be documented and submitted to the COE Clerkship.

ITC Remediation

Failure for inadequate attendance

The coordinator of the block of sessions missed may, with approval of the clerkship coordinator, provide the student with a remedial course, of comparable educational experience in that subject and the student will have to attend and perform satisfactorily to pass the ITC.

Failure for poor clinical performance

The COE Clerkship will review the deficiencies of the student and will provide the student with a remedial period of up to five weeks to correct the deficiencies in the subjects the student has failed. This will take place during Period 1 of the Clerkship and the student will lose the short elective rotation. The remediation will be designed to improve the clinical deficiencies of the student to a passing standard. The clinical performance during the remedial period will be assessed by the preceptors during the rotation who will determine if a satisfactory standard has been attained by the student.

Failure of the ITC remedial

Failure of the remedial period for non-attendance or poor clinical performance will be recorded as a failure of a major clerkship, but since a repeat of the ITC would require a wait of nine months, the student may proceed to the regular clerkship rotations. If one of these is failed then the Clerkship Program must be restarted with the next ITC period.

The Major Clinical Clerkships

Method of Evaluation

The evaluation of the students during the clinical clerkship rotations will be assessed by review of clinical performance, written examinations, projects as in community health sciences and a comprehensive clinical examination.

Clinical Performance

The goals of the Clerkship Program have been published in Undergraduate Medical Education Performance Expectations, 1989. An in-training evaluation will be made of the performance of these goals for each student during the clerkship period in each department. The staff person, usually a service chief, responsible for the In-Training Evaluation Report (ITER) will report to the undergraduate committee of the department responsible for the period. Verbal or written information should be obtained from as many preceptors as possible and should include the attending staff, residents, nursing and other health professionals when involved. The staff person, or delegate, will collect the preceptor assessments during the rotation and must advise each student if the performance is likely to lead to a failing assessment by the halfway point of the rotation. Failing students must be given help to improve their performance to the expected standard. The clerkship director, or delegate, will use all evaluations to make a final decision on the student's performance at the end of the rotation in that department. A constituent part of the clerkship in a department may be failed but this could be outweighed by good evaluations in other parts. A failing student must be informed of the failure by the preceptor, clerkship director, or delegate preferably before the end of the rotation but not later than seven working days after the end. All results will be submitted to the undergraduate com-

mittee of the department, who, for a failure will review all the evaluations and preceptors' pass/fail assessments and determine the final, overall, pass/fail standing for the student during the clerkship period in that department.

The pass/fail recommendation with the ITER, and the supporting evidence for that decision if necessary, will be submitted by the departmental representative on the COE Clerkship. The pass/fail decision will be reviewed and affirmed by a majority vote of the members of COE Clerkship present at the first meeting after the end of the clerkship of the COE Clerkship. In the case of a tie the chair of COE Clerkship will have the deciding vote.

Clerkship Departmental Examinations

Students will take the National Board of Medical Examiners (NBME) subject examinations at the end of the following clerkship periods: obstetrics/gynecology, pediatrics and psychiatry; nine weeks for surgery; and 12 weeks for internal medicine). The passing standard for National Board Exams will be the 11th percentile of the reference group. Students failing a National Board examination will resit it at a time agreed upon with the associate dean or delegate.

Major Clerkship Clinical Performance Remediation

The COE Clerkship will provide the student who has failed a clinical rotation a remedial period of four weeks in the department in which the rotation was failed. The rotation will be an equivalent educational experience to the clerkship failed, and its goal will be for the student to reach the standard of clinical competence expected. The same process of evaluation as before will be used, and this may be supplemented by a clinical oral examination if the departmental undergraduate committee deems it necessary. The remedial will be taken in the next elective period available to that student, if necessary by re-arranging the student's rotations.

Remediation for NBME Examination Failures

Students failing the National Board exam twice in the same subject will receive a remedial period of training from the department of that subject. The clerkship director, or delegate, will design the remediation with the purpose of the student achieving at least the 11th percentile in the examination; further ward clerkship experience may be considered necessary to meet that purpose. The remedial period in a subject will be a maximum of four weeks and will be taken in the next elective period available to the student. The third attempt at the National Board examination will be at the end of the Clerkship Program, i.e. in April of the final year of medicine.

The Comprehensive Clinical Examination (CCE)

The goal of the comprehensive clinical examination (CCE) is to evaluate objectively the clinical competence of a student in generic skills of data collection and interpersonal relationships together with the content of the case for diagnosis, investigation and management of common clinical problems. The examination uses standardized patients for the comprehensive testing of clinical skills illustrating case scenarios of the common clinical problems. The student need not have completed a rotation in the major or minor clerkships on which a case might be based. The CCE committee is a sub-committee of COE Clerkship chaired by the CCE coordinator. The CCE is marked to a standard predetermined by the CCE committee. The result of the examination will be submitted to the COE Clerkship.

Remediation for Failure in the CCE: The COE Clerkship will devise a remedial period of up to four weeks which will take into account the areas of weakness revealed by the student's comprehensive clinical examination. This will be taken in the next available elective time for the student. The remedial period will be evaluated by clinical assessment and will normally include an oral and/or written exam.

The Multiple Specialty (MSR) Clerkships

Method of Evaluation: The evaluation of students during the MSR clerkship rotations will be done by assessment of attendance, performance and faculty prepared examinations. Students will be expected to attend all clinical, small group, and laboratory sessions. If more than 10 per cent of a block of sessions is missed, without good reason, then the student will be reviewed and may be failed for that block of sessions. The clinical performance will be judged, where applicable, as for the major clerkships. The clerkship director, or delegate, will obtain the information from the staff of the department as determined necessary to evaluate the student by the undergraduate committee of the department. The clerkship director, or delegate, must advise each student during the rotation if the performance is likely to lead to a failing assessment. Failing students must be given due opportunity to improve their performance to the expected standard. The clerkship director, or delegate, will use all evaluations to make a final decision on the student's performance at the end of all rotations in that department. A constituent part of the clerkship in a department may be failed

but this could be outweighed by good evaluations in other parts. A failing student must be informed of the failure by the preceptor, clerkship director, or delegate preferably before the end of the rotation but not later than seven working days of the end. All results will be submitted to the undergraduate committee of the department, who, for a failure will review all the evaluations and preceptors' pass/fail assessments and determine the final, overall, pass/fail standing for the student during the clerkship period in that department.

The Community Health Science Paper

The student will complete a satisfactory paper in community health sciences during the Multiple Specialty Clerkships. The paper will be evaluated by the department to a standard set by the paper supervisor with approval of the community health science undergraduate director. If the paper is unsatisfactory then the student should be given the next period to improve it before a failure is recorded. The clerkship director, or delegate, should then submit the failure to the COE Clerkship and advise the COE Clerkship the remediation needed for the student to produce a satisfactory paper which must be done before the end of the second elective/ minor clerkship period.

Remediation for a MSR Clerkship Failure:

The COE Clerkship will provide the student who has failed a minor clinical rotation with a remedial period in the department in which the rotation was failed of up to the same length as the clerkship failed. The rotation will be an equivalent educational experience to the clerkship failed and its goal will be for the student to reach the standard of clinical performance expected. The same process of evaluation as is used in the clerkship by the department will be used, and this will normally be supplemented by a clinical oral or written examination if the department thinks it necessary. The remedial will be taken in the next assigned period available to that student.

The Elective Periods

Method of Evaluation

The electives coordinator will ensure that the student obtains an evaluation from each supervisor of the student during each section of the elective period. These evaluations will be reviewed by the electives coordinator and unsatisfactory assessments will be submitted to the COE Clerkship. All elective evaluations of a student will be judged and a composite pass/fail decision made.

Remediation for an Electives Failure

The COE Clerkship will devise a remedial period of up to four weeks which will take into account the areas of weakness revealed by the student's elective evaluation. This will be taken in the next available free time for the student. The remedial period will be evaluated by clinical assessment and will normally include an oral exam if the COE Clerkship deems it necessary.

Failure of a Student in the Clerkship Program

The Clerkship Program is a continuum; it cannot be divided into third and fourth years. A failure of the Clerkship Program is a failure of one year, see General Regulations, above. The student will be determined to have failed the Clerkship Program if:

Clinical Assessments

The student has received failing evaluations in:

- Two major clerkships
- One major clerkship and its remedial
- One major clerkship and ITC remedial
- One major clerkship and a MSR clerkship remedial
- One major clerkship and an elective remedial
- Two failures of remedials in MSR clerkship, ITC and/or elective.

Examinations

The student has failed a National Board examination three times, three National Board examinations twice, the CCE after remediation, or the community health science paper. A student could fail one or more of the above.

Failure of Remediation

If the remediation period recommended for a student, for whatever cause, takes more than eight weeks, then the student will be deemed to have failed the Clerkship Program.

Remediation for Failure of the Clerkship Program on Clinical Assessment

A student who fails the Clerkship Program immediately ceases in the program and the COE Clerkship will examine the complete record of the student in the Clerkship Program and will design a remedial program for the student to correct the deficiencies unless otherwise prohibited (see General Regulations).

This remedial program may include, if the committee deems it appropriate, rotations and examinations already passed. This remedial will be at least 49 weeks. No elective time will be included. The student must meet satisfactorily all clinical assessments, examinations and the CCE used to evaluate the rotations. The same rules for remediation will apply. The remediation course designed by the COE Clerkship will be submitted to the Committee on Academic Standing for review and approval.

Remediation for Failure of the Clerkship Program by Examination

A student who fails the Clerkship Program because of examination failure(s) will complete the Clerkship Program (i.e. all clerkships). The COE Clerkship will examine the complete record of the student in the Clerkship Program and will design a remedial program for the student to correct and improve weaknesses and deficiencies. This program may include, if the committee deems it appropriate, rotations and examinations already passed. The remedial will be designed to help the student pass the failed examination and improve the areas of weakness and deficiency. The remedial may include major and minor clerkships including ward work. The remedial will be 16 to 52 weeks. The student will be assessed by the same medical assessment methods as in the major and minor clerkships and will have to pass the examination(s) failed. The examination(s) will be taken at the end of the remedial period.

The remediation course designed by the COE Clerkship will be submitted to the Committee on Academic Standing for review and approval. A student who fails the remedial, whether of the Clerkship Program and/or examinations, will be considered to have had a failure of a second year in Medicine and thus will be required to withdraw from the faculty (see General Regulations). The student will be considered to have failed the medicine program and will not continue in the undergraduate program of the medical faculty.

Regulations for Students Taking Leave from the Clerkship Program

Students may, for health or personal reasons, withdraw from the clinical rotations or take temporary leave. For sudden unexpected reasons, except under extreme circumstances, the clerkship director, or delegate, and resident must be informed and later the associate dean's office. For planned leave prior permission must be obtained from the associate dean's office and the clerkship director, or delegate, and resident must be informed. Written documentation of the reasons for absence may be required by the dean. The information is confidential to the associate dean.

If, at the time of taking leave, less than one half of that part of the rotation has been completed, the student will have to start the rotation again from the beginning of the rotation at a later date convenient to the schedule.

If, at the time of taking leave, more than one half of that part of the rotation has been completed and if the student's performance to that date has been considered satisfactory, the student will only have to complete the missed time at a later date convenient to the schedule. The final evaluation will be made from the assessments in both parts of the rotation.

Brief periods of leave (more than 5 days) may be taken with the permission of the clerkship director, or delegate, illness must be documented with a doctor's certificate. Brief leaves of absence are allowed for academic purposes and for interviews for postgraduate positions without penalty, but prior permission must be obtained, and they must not be so numerous that the student is absent for more than 15 per cent of the clerkship period.

The normal clerkship is completed in 80 weeks, not counting CaRMS interview time and holiday time. When because of leaves of absence, a student will take 80 weeks or more, not including elective periods, to complete the Clerkship Program then the COE Clerkship will review the student's record (clinical assessments and examinations) during the Clerkship Program to ensure that the time lost has not compromised the overall achievement of the student. Moreover the COE Clerkship must decide if the extended nature of the student's course has resulted in a standard of evaluation for the student that is different from the other students of the year who have had less time. If the COE Clerkship determines that this student has not reached the standard expected of a student completing the regular Clerkship Program, and even if all rotations have been completed, then the COE Clerkship may require a further period of clinical training for students. This will not count as a failure, but as a remedial period to help

the student to attain the standard expected in a student completing the Clerkship Program. During this remedial period all regular methods of evaluation, clinical assessments and examinations, will apply although, at the recommendation of the COE Clerkship, certain examinations may be omitted. If this remedial period is failed then the student will be deemed to have failed the Clerkship Program.

5.4 Reviews and Appeals of Failed Rotations and Examinations

A student who disagrees with any evaluation, or recommended remediation, from departmental rotations or by examination, whether externally or internally produced, may ask for it to be reviewed and re-evaluated. The student should consider obtaining the advice of the Student Advocate (telephone 204 474 9251).

The request for review should be addressed to the Associate Dean, Student Affairs, who will help get the request to the appropriate authorities. The request can be made verbally to the authority but is better in writing; the request should be supported by reasons for the disagreement. Student representatives at the undergraduate departmental committees and COE, or the associate dean, student affairs, at the COE can put forward the student's request. If the recommendation for failure is upheld by the appropriate committee of evaluation, the same request and its supporting arguments can be submitted to the Committee on Academic Standing and presented by either the student representatives, the associate dean, student affairs, the associate dean, undergraduate education, or the Student Advocate. If the Committee on Academic Standing upholds the failure, then the student may appeal the result within 28 working days of receipt of the failure from the CAS by submitting a written appeal to the Committee on Academic Standing.

On the receipt of such an appeal the Committee on Academic Standing will refer the appeal to the Faculty Executive Council Committee on Student Academic Appeals. The Student Academic Appeals Committee will hear the appeal within 28 days of an appeal being filed. The student will be informed of the decision within 10 working days of the conclusion of the appeal. If necessary the student may then appeal to the Senate Committee on Student Appeals. It is strongly recommended that the student obtain the advice of the Student Advocate. If a failing evaluation is overturned on appeal then the original pass/fail evaluation must be stricken from the student's record and the new evaluation inserted – examination marks and the comments of clinical assessments will be kept, except where they were found to be invalid during the appeal, in which case a correct comment or mark is inserted.

SECTION 6: Other Undergraduate Programs

6.1 Bachelor of Science in Medicine B.Sc. (Med)

The Bachelor of Science in Medicine program is offered during the summer months following first and second year of the undergraduate program in Medicine. The B.Sc. (Med) program is designed to provide the undergraduate medical student with the opportunity to gain firsthand experience in medical research. A large variety of basic science and clinical research projects are available for the student to choose from each year.

The program is open to undergraduate students in the Faculty of Medicine. The work for this degree may be carried out in any department of the Faculty of Medicine. This program may not be taken concurrently with any part of the medical curriculum nor by a student carrying any condition in his/her medical program.

To enrol in the B.Sc. (Med) program the student finds a supervisor in any field within the Faculty of Medicine. The supervisor must be a member of the Faculty of Medicine. Together, the student and supervisor submit a written project proposal for scrutiny to the B.Sc. (Med) Committee. Students must register with the university.

An examining committee of three faculty members, one from outside the department in which the research work is carried out, will be established for each student. The supervisor will report upon the student's progress to the B.Sc. (Med) Committee. Unsatisfactory progress will require students to withdraw from the program.

Experience in research, involving firsthand observations and embodied in an acceptable report, is the fundamental requirement for the degree. The degree of B.Sc. (Med) will be conferred at the same time as the M.D. degree unless the student, having satisfactorily completed the requirements for the B.Sc. (Med) degree, discontinues the study of medicine in this faculty.

6.2 MD/PhD Option

Purpose

The combined-degree MD/PhD Option in the Faculty of Medicine is designed to produce academic clinician scientists.

Eligibility

Students enrolled in or admitted to Medicine are eligible to apply.

Duration

The minimum program of study is the total required by the Faculty of Medicine for the MD program (4 years) plus the minimum requirements of the Faculty of Graduate Studies (3 years from honours undergraduate degree). Students having obtained advanced/graduate training prior to admission may be granted advanced standing. Students will be considered to be full-time graduate students through the entire period.

Application process

Students wishing to apply should contact the Director of the Option. Acceptance will minimally require: 1) identification of a supervisor (within a department in the Faculty of Medicine which has an approved PhD program) who has adequate resources for the proposed program of study and whose department recommends acceptance, 2) interview with the Faculty MD/PhD Selection Committee and their recommendation for acceptance, 3) identification of a source of adequate financial support for the student and 4) acceptance by the Faculty of Graduate Studies.

Program fees

The total tuition fees payable are the sum of the fees required for the MD and PhD programs of study. The fee required annually would be the total divided by the number of years minimally required. If more time is required, re-registration fees (Graduate Studies) would be applicable.

Administration

The Associate Deans for Research, Undergraduate Medical Education and Admissions (respectively) are advisory to the Option Director (Asst Dean, Graduate Studies). They will ensure 1) adequate resources for all aspects of the delivery of the program, 2) liaison with the Department, the Faculty of Medicine (including flexibility re: leaves for research) and Faculty of Graduate Studies, 3) review of advisory committee composition/function and of student progress and satisfaction and 4) the provision of program elements considered important to the success of the Option. Faculty members holding dual MD/PhDs will be requested to provide input as resource persons to the program.

Coursework

The minimum course requirements of the Faculty of Graduate Studies will be applicable in addition to the normal curriculum of medical studies.

Research/Thesis requirements

The quality and quantity of research supporting the thesis shall be consistent with that required for other doctoral candidates in the field.

Additional program elements: Seminar Series and Research Progress Evaluations

Each student will be required to regularly attend a designated research seminar series organized by the sponsoring research discipline of the student. In addition, mandatory attendance will be required of all MD/PhD students and their supervisory faculty advisors to participate in a quarterly, program-wide, MD/PhD Student Research Forum which will include MD/PhD graduates. These regular research days will provide time for students to present their work to a critical audience (research proposals, work-in-progress, critical reviews in major areas of recent scientific advances, etc.), and will also serve to promote networking within the program. Each student will be required to present a research update at least once a year, and satisfactory performance at this yearly assessment is required for continuation of program support.

Conferment of the Dual Degrees of MD/PhD

The MD and PhD degrees will normally be conferred simultaneously during convocation upon satisfactory completion of the entire Option.

6.3 Special Courses Offered for Undergraduate Credit in Other Faculties and Schools

Department of Pharmacology and Therapeutics

089.310 Pharmacology (8) See Faculty of Pharmacy section in this *Calendar*.

Department of Biochemistry and Medical Genetics

125.302 Introduction to Human Genetics (6) Topics to be included are the chromosomal level of genetic inheritance, Mendelian genetics, gene mutation and its consequences, the problems of multiple loci, and genetic-environmental interaction as these areas apply to human beings; the applications of human genetics in medicine.

125.401 Project Course in Human Genetics (6) A research project chosen in consultation with and supervised by a faculty member. A written report is required. The course is available primarily to final year Honours students in the Honours Genetics program. Selection of project and supervision to be arranged prior to September 30 and submitted in writing to department head. Deadline for submission of first draft to supervisor by March 1. Deadline for submission of final draft to department head is March 31.

SECTION 7: Academic Staff

Anesthesia

Professors

Biehl, D., B.Sc., M.D., B.Sc.(Med.), F.R.C.P.C.; **Bose, D.**, M.B.B.S., M.D. (India), Ph.D.; **Bristow, G.**, B.Sc.(Med.), M.D., F.R.C.P.C.; **Craig, D.**, B.Sc., M.D., C.M. (McG.), M.Sc., F.R.C.P.C.; **Doak, G.**, B.Sc., M.D., F.R.C.P.C., Ph.D.; **Duke, P.**, M.D., F.R.C.P.C., F.A.C.A.; **Giesbrecht, G.**, B.P.E., M.P.E., Ph.D.; **Hudson, R.**, M.D., F.R.C.P.C.; **Mutch, A.**, M.D. (Queen's), F.R.C.P.C.; **Ong, B.**, M.D., F.R.C.P.C.; **Thomson, I.**, B.Sc., M.D., F.R.C.P.C.

Associate Professors

Bradley, B., M.D., F.R.C.P.C.; **Beckstead, J.**, B.Sc., M.D., B.Sc.(Med.), F.R.C.P.C.; **Benoit, A.**, B.Sc., M.D., F.R.C.P.C.; **Brown, R.M.D.**, F.R.C.P.C.; **Brownell, L.**, B.A., B.Sc., M.D., F.R.C.P.C.; **Cannon, J.**, M.D., F.R.C.P.C.; **Ethans, C.**, M.D., C.R.C.P.C., F.R.C.P.C.; **Friesen, R.**, M.D., F.R.C.P.C.; **Graham, C. R.**, M.D., F.R.C.P.C.; **Graham, R.**, M.D., B.Sc., F.R.C.P.C.; **Intrater, H.**, M.D., F.R.C.P.C.; **Kowalski, S.**, M.D., F.R.C.P.C.; **Littleford, J.**, M.D., F.R.C.P.C.; **Maguire, D.**, M.D., F.R.C.P.C.; **McNeill, A.**, M.D., F.R.C.P.C.; **Nugent, L.**, M.D., F.R.C.P.C.; **Patel, L.**, M.B.B.S. (India), F.R.C.P.C.; **Lemon, P.**, M.D., F.R.C.P.C.; **Ringaert, K.**, B.Sc., M.D., F.R.C.P.C.; **Syslak, W.**, M.D., D.A.B.A., C.R.C.P.C., F.R.C.P.C.; **Ulyot, S.**, M.D., F.R.C.P.C.; **White, I.**, M.B.B.S., F.F.A.C.M., F.R.C.P.C.

Assistant Professors

Baker, C., M.D.; **Barc, J.**, B.Sc., M.D., F.R.C.P.C.; **Baron, C.**, B.Sc., M.D., F.R.C.P.C.; **Baron, K.**, M.D., F.R.C.P.C.; **Bell, D.**, M.D., F.R.C.P.C.; **Cameron, M.**, M.D., F.R.C.P.C.; **Cappellani, R.**, M.D., F.R.C.P.C.; **DeBrouwere, R.**, M.D., F.R.C.P.C.; **Deutscher, R.**, M.D., F.R.C.P.C.; **Dionne, C.**, M.D., F.R.C.P.C.; **Doerr, J.**, M.D., F.R.C.P.C.; **Enns, J.**, M.D., F.R.C.P.C.; **Ewert, F.**, M.D., F.R.C.P.C.; **Friesen, J.**, M.D., F.R.C.P.C.; **Gard, M.**, B.Sc. (Hons.), B.Sc.(Med.), M.D., F.R.C.P.C.; **Lefevre, G.**, M.D. (Sask.), F.R.C.P.C.; **Lucy, S.**, M.D., F.R.C.P.C.; **MacKenzie, S.**, B.A., M.D., F.R.C.P.C.; **Muirhead, B.**, M.D., F.R.C.P.C.; **Paetkau, D.**, M.D., F.R.C.P.C.; **Patel, P.**, M.B.B.Ch., F.F.A., F.F.A.R.C.S., F.R.C.P.C.; **Peters, D.**, M.D., F.R.C.P.C.; **Pickering, B.**, M.D., F.R.C.P.C.; **Putnins, C.**, M.D., F.R.C.P.C.; **Reimer, H.**, M.D., F.R.C.P.C.; **Scatliff, J.**, M.D., F.R.C.P.C.; **Segstro, R.**, M.D., B.Sc.(Hons.), F.R.C.P.C.; **Sethi, S.**, M.B.Ch.B., F.F.A.R.C.S., F.F.A.R.C.S., F.R.C.P.C.; **Sutton, I.**, M.D.; **Swartz, J.**, M.D., F.R.C.P.C.; **Tulloch, H.**, M.D., F.R.C.P.C.; **Weirich, M.**, M.D., F.R.C.P.C.; **Wong, H.**, B.Sc., M.D., F.R.C.P.C.

Lecturers

Botha, D., M.B.Ch.B., D.A.(A), M.Med.; **Cohen, M.**, M.D., F.R.C.P.C.; **Dabrowski, P.**, M.D., F.R.C.P.C.; **Esmail, A.**, M.D., F.R.C.P.C.; **Freedman, J.**, M.D., F.R.C.P.C.; **Girard, J.**, M.D., F.R.C.P.C.; **Govender, P.**, M.B.Ch.B., F.F.A. (SA), F.R.C.P.C.; **Harms, S.**, M.B.Ch.B., F.R.C.P.C.; **Hawaleshka, A.**, B.Sc., M.D., F.R.C.P.C.; **Leen, D.**, M.B.Ch.B., B.A. O.; **Levy, S.**, M.D., F.R.C.P.C.; **Lieberman, D.**, M.D., F.R.C.P.C.; **Loiselle, J.**, M.D., F.R.C.P.C.;

Mathieson, A., B.Sc., M.D., F.R.C.P.C.; **Nair, U.**, M.B.Ch.B., F.F.A.R.C.S.; **Poplak, T.**, M.B. (S.A.), F.F.A., F.R.C.P.C.; **Pretorius, M.B.Ch.B.**, M.Med.; **Pretorius, A. P.**, M.B., Ch.B., M.Med.; **Sawka, A.**, B.Sc., M.D., F.R.C.P.C.; **Sewell, S.**, M.Sc., M.D.; **Stanko, L.**, M.D., F.R.C.P.C.; **Svorkdal, N.**, M.D., F.R.C.P.C.; **Sutherland, E.**, M.D. F.R.C.P.C.

Biochemistry and Medical Genetics

Distinguished Professor Emeritus

Hamerton, J., B.Sc., D.Sc. (Lond.), F.C.C.M.G.

Professor Emeritus

Blanchaer, M., B.A. (Hons.), M.D., C.M. (Queen's); **Dakshinamurti, K.**, B.Sc. (Madras), M.Sc., Ph.D. (Rajputna), F.R.I.C.; **Stevens, F.**, Licentiate (Ghent), Ph.D., D.Sc. (Belgium); **Yamada, E.**, B.Sc., M.Sc., Ph.D.

Senior Scholars

Haworth, J., M.D. (Birmingham), D.C.H., F.R.C.P. (Lond.), F.R.C.P.C.

Professors

Arthur, G., B.Sc. (Hons.) (Ghana), Ph.D. (Leeds); **Choy, P.**, B.Sc. (McG.), M.Sc., Ph.D. (N. Dak.); **Chudley, A.**, M.D., F.R.C.P.C., F.C.C.M.G.; **Davie, J.**, B.Sc. (Hons.), Ph.D. (U.B.C.); **Evans, J.**, B.Sc., Ph.D. (Leics.), F.C.C.M.G.; **Greenberg, C.**, B.Sc., M.D., C.M. (McG.), F.R.C.P.C., F.C.C.M.G.; **Hatch, G.**, B.Sc. (Wpg.), M.Sc. (Sask.), Ph.D.; **Mowat, M.**, B.Sc., Ph.D.; **Murphy, L.**, B.Sc. (Hons.), Ph.D., (Sydney); **Orr, W.**, M.D., F.R.C.P.C.; **Szathmáry, E.J.E.**, B.A. (Hons.), Ph.D., LL.D. (Toronto); **Wilkins, J.**, B.Sc., M.Sc. (Waterloo), Ph.D.; **Woods, R.**, B.A., M.A., D.Phil. (Oxon.); **Wright, J.**, B.Sc., M.Sc., Ph.D.; **Wrogemann, K.**, Dr. med. (Marburg), Ph.D.; **Zelinski, T.**, B.Sc., M.Sc., Ph.D.,

Associate Professors

Bhullar, R., B.Sc. (Hons.) (McM.), Ph.D.; **Chodirker, B.**, M.D., M.Sc., F.R.C.P.C., F.C.C.M.G.; **Dawson, A.**, B.Sc. (Hons.), M.Sc., Ph.D. (W. Ont.), F.C.C.M.G.; **Dembinski, T.**, B.Sc. (St. Andrews), M.Sc. (Leeds), Ph.D. (Wales); **Gietz, R.**, B.Sc., Ph.D. (Alta.); **Hicks, G.**, Ph.D.; **Mai, S.**, B.Sc. (Cologne), M.A. (Cologne), Ph.D. (Karlsruhe); **Seargeant, L.**, B.Sc. (Hons.) (W. Ont.), Ph.D. (Alta.); **Triggs-Raine, B.**, B.Sc. (Hons.), Ph.D.; **Williams, G.**, B.Sc., D.Phil. (Sussex), M.D., F.R.C.P.C.

Assistant Professors

Amara, F., B.Sc. (Hons.), Ph.D. (Ulster); **Dalton, J.**, B.Sc. (Hons.), M.Sc., Ph.D.; **Gibson, S.**, B.Sc., Ph.D. (Tor.); **Kupriyanov, V.**, B.Sc., M.Sc., D.Sci. (Moscow), **Leygue, E.**, M.Sc., Ph.D.; **Marles, S.**, B.Med.Sc., M.D. (Alta.), F.R.C.P.C., F.C.C.M.G.; **McGowan, R.**, B.Sc. (Brock), Ph.D.; **Merz, D.**, B.Sc. (Hons.) (McG.), Ph.D. (McG.); **Mesaeli, N.**, B.Sc., M.Sc. (Kuwait), Ph.D.; **Parry, D.**, Ph.D. (Mem.); **Pind, S.**, B.Sc. (Hons.) (Queen's), Ph.D. (Tor.); **Prasad, C.**, M.D. (Ludhiana), F.C.C.M.G., F.A.C.M.G.; **Spriggs, E.**, B.Sc. (Hons.), M.Sc., Ph.D. (Calg.); **Valdimarsson, G.**, Ph.D. (W. Ont.); **Wigle, J.**, B.Sc. (Hons.) (Queen's), Ph.D. (Ott.); **Ye, J.**, M.Sc., M.D. (PRC).

Adjunct Professors

Beavis, R., B.Sc., Ph.D.; **Civetta, A.**, Licenciado (Buenos Aires), Ph.D. (McM.); **Craig, D.**, B.Sc. (Mt. Allison), Ph.D. (Dal.); **Gong, Y.**, M.B. (PRC), M.Sc., Ph.D.; **Prasad, A.**, B.Sc. (Delhi), M.B.B.S. (Delhi); **Reed, M.**, B.A., B.Sc., B.Sc. Med., M.D.; **Vanderwel, D.**, B.Sc. (Hons.) (Vic.), Ph.D. (Simon Fraser); **Watson, P.**, B.A., M.A., B.Chir., M.B. (Catab.), F.R.C.P.C.

Lecturers

MacDonald, K., B.Sc. (Brdn.), B.Ed., M.Sc. (Wisconsin); **Ray, R.**, B.Sc. (Hons), M.Sc., Ph.D.

Clinical Health Psychology

Professors

Arnett, J., B.A., (R.I.), M.A. (Mich.), Ph.D.; **McIlwraith, R.**, B.A., (Wpg.), M.A. (Acadia), Ph.D.; **Roy, R.**, B.A. (Delhi), A.A.P.S.W. (Lond.); **Walker, J.**, B.A., M.A., Ph.D.

Associate Professors

Bilash, I., B.Sc., M.A., Ph.D. (Ott.); **Bow, S.**, B.Sc. (Tor.), M.Sc. (Calg.), Ph.D. (Waterloo); **Davis, W.**, B.A., M.Sc. (Wisc.), Ph.D. (Missouri); **Ellis, E.**, M.A., Ph.D. (Calif); **Gill, D.**, B.A. (Hons.), M.A., Ph.D.; **Graff, L.**, B.A., M.A. (Sask.) Ph.D.; **Holms, V.**, B.A., M.A., Ph.D.; **Robertson, R.**, B.A., M.A., Ph.D.; **Sexton, C.**, B.A., M.A., Ph.D.; **Sexton, D.**, B.A., M.A., Ph.D.; **Shady, G.**, B.A., M.A. (Wind.), Ph.D.; **Stambrook, M.**, B.A., M.A., Ph.D.

Assistant Professors

Adkins, E., B.A., M.A., Ph. D.; **Altman, I.**, B.A., (McGill), M.Ps.Sc. (Penn.), Ph.D.; **Brown-DeGagne, A.**, B.A., Ph.D. (Dal.); **Campbell, J.**, D.C.L.

(Rome), Ph.D.; **Carlson, T.**, B.A. (Seattle Pacific), M.A. (Trinity Western), Ph.D. (Ball State); **Cohen, C.**, B.A., M.A., Ph.D.; **DeRocquigny, R.**, B.A., M.A., Ph.D.; **Ducharme, J.**, B.A. (Manitoba), M.A. Ph.D. (Concordia); **Dyck, K.**, B.A., M.A., Ph.D. (S. Dak.); **El-Khatib, A.**, B.Sc., M.A., Ph.D. (Tanta); **Enns, K.**, B.A., M.A., Ph.D. (York); **Enns, L.**, B.A. (Wpg), M.A., Ph.D.; **Feldgaier, S.**, B.A. (McG.), M.A., Ph.D. (Ohio State); **Fergusson, P.**, B.A. (Wpg), Ph.D. (Waterloo); **Fisher, G.**, B.A. (McG.), M.A., Ph.D. (Wind.); **Frain, J.**, B.A. (Wpg), M.A. (Saskatchewan), Ph.D. (Concordia); **Furer, P.**, B.A., M.A.; **Hack, T.**, B.Sc. (Calgary), M.A., Ph.D.; **Herscovitch, A.**, B.A., M.A., Ph.D.; **Greenwood, L.**, B.A. (Calg.), M.A., Ph.D.; **Hutchison, B.**, B.A., M.A. (Manitoba), Ph.D. (Ottawa); **Kamaya-Miyakawa, V.**, B.A., M.A., Ph.D.; **Kaoukis, G.**, B.Sc. (McG.), M.A., Ph.D.; **Mullen, H.**, B.A., M.A., Ph.D.; **Newton, J.**, B.A., B.Ed., M.Ed., Ph.D. (Sask.); **Norton, G.**, B.Sc., M.Sc., Ph.D. (Utah); **Oczkowski, G.**, B.Sc., M.Sc., M.A., Ph.D.; **Osachuk, T.**, B.A., M.A., Ph.D.; **Prober, N.**, B.A. (McGill), M.S.W. (Hawaii), Psy.D. (Illinois School of Prof Psych); **Slusky, A.**, B.A., M.A., Ph.D.; **Somers, M.**, B.A., Ph.D. (Waterloo); **Teschuk, M.**, B.A. (U.B.C.), Ph.D. (Waterloo); **Torgrud, L.**, B.A., M.A., Ph.D. (Man.); **Trigg, L.**, B.Sc. (McG.), M.A., Ph.D.; **Trinke, S.**, B.A. (Manitoba), Ph.D. (Simon Fraser); **Vincent, N.**, B.A., M.A., Ph.D.; **Wallbridge, H.**, B.A., M.A., Ph.D.; **Whitney, D.**, B.A. (Wpg.), M.A., Ph.D., (Sask.).

Senior Scholar

Martin, R., B.A. (Miami), M.S., Ph.D., (Purdue).

Lecturers

Grayston, A., B.A., M.A., Ph.D.; **Inayatulla, M.**, B.A., M.A. (Mysore), M.A. (Florida), **Staley, J.**, B.Sc., M.A.

Community Health Sciences

Professors

Black, C., M.D., Sc.D. (Baltimore); **Chochinov, H.M.**, M.D., F.R.C.P.C., B.A. (Wpg), Ph.D. (Manitoba); **Cooper, J.**, Dip.P., O.T. (Tor.), B.O.T., M.Sc., Ph.D.; **Evans, J.**, B.Sc. (Birmingham), Ph.D. (Leicester); **Forget, E.**, B.A. (York), M.A., Ph.D. (Tor.); **Halli, S.**, B.Sc., M.Sc. (Karnatek), Ph.D. (W. Ont.); **Harvey, D.**, B.A. (Bemidji State), M.S. (W. Ill.), P.E.D. (Ind.); **Has-sard, T.**, B.Sc., M.Sc., Ph.D. (Queen's, Belfast); **Havens, B.**, B.A. (Downer), M.A.; **Hershfield, E.**, M.D., B.Sc., F.R.C.P.C.; **Hogan, T.**, B.A., M.A., Ph.D. (Catholic U. of America); **Horne, J.**, B.A. (Vict.), M.A., Ph.D. (Carleton); **Kaufert, J.**, B.A. (Minn.), M.A., Ph.D. (Northwestern); **Kaufert, P.**, B.A. (Hons.) (Leeds), Ph.D. (Birmingham); **McKenzie, J.**, B.Med.Sc., M.B.Ch.B. (New Zealand), M.D., F.R.A.C.P., F.R.C.P. (Lond.), F.R.C.P.C.; **Moffatt, M.**, B.Sc., M.D. (Tor.), M.Sc. (McG.), F.R.C.P.C.; **Moses, S.**, M.D. (Tor.), M.P.H. (Johns Hopkins.); **Murray, R.**, B.A., M.A., Ph.D.; **O'Neil, J.**, B.A., M.A. (Sask.), Ph.D. (Berkeley); **Postl, B.**, M.D., F.R.C.P.C.; **Ronald, A.**, M.D., B.Sc., F.A.C.P., F.R.C.P.C.; **Roos, L.**, A.B. (Stan.), Ph.D. (M.I.T.); **Roos, N.**, B.A. (Stan.), Ph.D. (MIT); **Shapiro, E.**, B.A., M.A. (McG.); **She-fchyk, S.**, B.A. (Wpg.), M.A., Ph.D.; **Sneiderman, B.**, B.A., L.L.B. (Conn.), L.L.M. (with Distinction) (N.Y.); **Tenenbein, M.**, M.D., F.R.C.P.C.; **A.B.M.T.**; **Wade, J.**, B.S. (N. Dak.), M.D., B.Sc., F.R.C.P.C.; **Yassi, A.**, B.Sc. (McG.), M.D., C.O.H.S. (McM.), M.Sc. (Tor.), F.R.C.P.C.; **Young, K.**, B.Sc. (Hons.), M.D., C.M. (McG.), M.Sc. (Tor.), F.R.C.P.C., D. Phil. (Oxford).

Associate Professors

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Assistant Professors

Blanchard, J., M.D., M.P.H. (Johns Hopkins.); **Brown, D.**, B.A., Ph.D. (Al-ta.); **Brown, K.**, M.D., M.B.A., (W. Ont.); **Brothwell, D.**, D.M.D., B.Ed. (Sask.), D.D.P.H. (Tor.); **Brownell, M.**, B.A., M.A., Ph.D.; **Bruce, S.**, B.A., M.A., Ph.D.; **Buchan, S.**, M.D., C.C.F.P. (Sask), F.R.C.P. (Manitoba); **Car-roters, L.**, B.A. (Brdn.), M.P.A., Ph.D.; **Carson, J.**, B.Sc.(Med.), M.D., F.R.C.P.C.; **Catalan, V.**, B.Sc., M.Sc. (Waterloo), Ph.D. (McGill); **Chase, R.**, M.D. (McM.), C.C.F.P., F.R.C.P.C., M.Sc. (McM.); **Chipperfield, J.**, B.A. (Hons.), M.A., Ph.D.; **Czaykowski, P.**, B.Sc., M.D. (BC), M.Sc. (Tor.); **Dem-eter, S.**, B.Sc., M.D. (Sask), M.H.Sc., F.R.C.P.C. (Comm. Med.) (Toronto); **Demers, A.**, M.Sc., Ph.D. (Laval); **de Villiers, A.**, M.B.Ch.B. (Pretoria), M.Med. (Stellenbosch); **Elliott, L.**, M.D., M.Sc. F.R.C.P.C., C.C.F.P. (Dal.), F.R.C.P.C.; **Fast, M.**, B.Sc., M.D., F.R.C.P.C., D.T.C.H.; **Finlayson, M.**, B.M.R., M.Sc., Ph.D.; **Gelskey, S.**, B.Sc. (D.H.) (Marquette), M.P.H. (Mich.), Ph.D.; **Glavin, G.**, Ph.D. (Manitoba); **Griffith, J.**, B.P.E., M.A. (N.

Mich), **Hackett**, P., B.A., (Carl.), M.A. (N. Mich.), Ph.D.; **Harlos**, S., B.Sc. (Alta.), M.D. (U.B.C.), F.R.C.P.C.; **Katz**, A., B.Sc., M.B.Ch.B. (Capetown), M.Sc., C.C.F.P.; **Kettner**, J., M.D., F.R.C.S.C., M.Sc. (Lond.), F.R.C.P.C.; **Kozyrskij**, A., M.Sc., Ph.D.; **Krym**, V., B.Sc.N., M.D. (McM.), M.P.H. (Harv.); **Latosinsky**, S., B.E.Sc. (W. Ont.), M.D. (Hons) (Toronto), M.Sc. (McMaster), F.R.C.S.C.; **Lix**, L., B.SHEc (Sask.), M.Sc., Ph.D.; **MacDonald**, R., B.Sc. (Bishop's), M.D. (Queen's), M.P.H. (Boston); **Marchessault**, G., B.Hec, M.Sc., Ph.D.; **Martens**, P., B.Sc., B.Ed., M.Sc., Ph.D.; **Menec**, V., B.A., M.A., Ph.D.; **Metge**, C., B.Sc. (Alta.), Ph.D. (Maryland); **Ngugi**, E., R.N. (Kenya), B.Sc. M.A., Ph.D. (Columbia Pacific); **Peschken**, C., M.D. (Sask.), F.R.C.P.C., M.Sc. (McG.); **Plourde**, P., M.D. (Ott.), F.R.C.P.C.; **Pope**, W., M.D., F.R.C.P.C., L.L.B.; **Reading**, J., M.Sc., Ph.D. (Tor.); **Redekop**, T., B.Sc., M.D., C.C.F.P., F.R.C.P.C.; **Roberts**, J., M.B., B.S. (Sydney), M.Sc., Ph.D.; **Stranc**, L., B.Sc.A. (Hons), M.Sc., Ph.D.; **Taback**, S., B.Sc., M.D., F.R.C.P.C.; **Tataryn**, D., B.A., M.A., Ph.D. (Ariz.); **Taylor**, M., M.D. (Tor.), F.R.C.P.S.; **Turner**, D., B.Sc. (Vict.), M.Sc. (Calg.), Ph.D. (Alta.); **Wajda**, A., M.Sc. (Ill.), M.Sc. (Poland); **Watson**, D., B.Sc. (Alta.), M.B.A. (W. Ont.), Ph.D. (Tor.); **Wright**, B., B.Sc., M.D., F.R.C.P.C., M.B.A., **Yu**, N., B.Sc.(Med.) (Harbin), M.Sc. (Beijing), Ph.D.

Lecturers

Popplow, J., B.Sc., B.Ed., M.D. (Queen's), M.Sc. (Wright State); **Spiegel**, J., B.A., M.A., M.Sc. (Tor.); **Wendt**, U., B.A., (Mem.).

Instructor

Stewart, G., Dip DH, B.A, M.Sc.

Adjunct Professors

Blackie, N., B. Arch. (Michigan); **Joffres**, M., M.D. (France), M.S.,P.H., G.P.M.R.P., Ph.D. (Hawaii); **Norton**, G., B.Sc. M.Sc., Ph.D. (Utah State).

Continuing Medical Education

Professors

Arnett, J., B.A. (R. I.), M.A. (Mich.), Ph.D.; **Chudley**, A., M.D., F.R.C.P.C.

Associate Professors

Anderson, J., B.Sc.(Med.), Ph.D.; **Barakat**, S., M.B.B.Ch. (Cairo), F.R.C.P.C.; **Chochinov**, A., M.D., C.C.F.P. (E.M.), F.R.C.P.C.; **Kristjanson**, C., B.P.E., Cert. of Ed., M.A., Ph.D.; **Prober**, M., M.D., F.R.C.P.C., D.A.P.N.

Assistant Professors

Bourgeois-Law, G., M.D., F.R.C.P.C.; **Craton**, N., B.Sc., M.D.; **Etkin**, M., M.D., F.R.C.P.C.; **Guzman**, R., M.D., F.R.C.S.C., F.A.C.S., R.V.T.; **Kvern**, B., M.D., C.C.F.P., F.C.F.P.; **Leslie**, W., B.Sc. (Hons.), M.D., F.R.C.P.C.; **Metge**, M., M.D. (Sask.); **Taylor**, K., B.Sc., B.Ed., M.A., Ph.D. (Ott.); **Torchia**, M., M.Sc., Ph.D.

Lecturers

Harris, H., B.Mus., B.A.; **Holmes**, C., M.D., B.Sc., C.C.F.P.; **Kristjanson**, D., M.D., B.Sc.; **Loge**, J., M.D., B.Sc.; **Parker**, J., B.Sc. (Calg.); **Riese**, N., M.D., B.Sc.; **Toews**, I., B.Ed. (Alta.), B.A. (Wpg), M.S. (Indiana), Ph.D. (Indiana)

Instructor

Sullivan, T., B.Sc. (W. Ont.), M.A. (Columbia).

Demonstrator

Burrows, M., R.N., B.N.

Family Medicine

Professor Emeritus

Beazley, G., M.D., C.C.F.P., F.C.F.P.

Professors

Kirk, P., M.B.Ch.B. (Aberd.), C.C.F.P., F.C.F.P.; **Reynolds**, J., M.D., C.C.F.P., M.Sc. (McM.), F.C.F.P.

Associate Professors

Chochinov, A., M.D., C.C.F.P. (E.M.), F.R.C.P.C.; **Chochinov**, H., M.D., F.Sc. Med., F.R.C.S.C.; **Degner**, L., Ph.D. (Mich.), M.A. (Wash.), B.N.; **Harlos**, M., M.D. (U.B.C.), C.C.F.P. (Cert.); **Kvern**, B., M.D., C.C.F.P., F.C.F.P.; **Lazarow**, N., M.D. (Minn.), Ph.D. (Mayo Clinic); **Ludwig**, L., M.D., F.R.C.P.C.; **Martin**, F., B.Sc.(Med.), M.D., C.C.F.P., F.C.F.P., M.Ed., M.Cl.Sc. (W. Ont.); **Mazowitz**, G., M.D., C.C.F.P.; **Murphy**, P., B.H.Ed., R.D. (Mont.); **Palatnick**, W.B., M.D., F.R.C.P.C., A.B.E.M., A.B.M.T.; **Ripstein**, I., M.D.; **Ross**, D., M.D., C.C.F.P.; **Schnabl**, G., B.A., M.S.W.; **Swirkisy**, N., M.D., C.C.F.P. (Em.), F.R.C.P.

Assistant Professors

Blouw, R., M.D., C.C.F.P.; **Boyd**, R., B.Sc., M.D., F.C.F.P., C.C.F.P.; **Bryski**, L., M.D., C.C.F.P.; **Cameron**, M., M.D., C.C.F.P., F.R.C.P.C.; **Cavett**, T., M.D., B.Sc. (Hons), C.C.F.P.; **Chan**, P., M.D., B.Sc.Med., F.R.C.P.; **Connor**, G., M.D., D.A.B.E.M.; **Craton**, N., M.D.; **Daeninck**, P., MSc., M.D. (Calg.), F.R.C.P.C.; **Daeni**, B., B.S.W., M.S.W.; **Dyck**, C., M.D., C.C.F.P.; **Garcia**, M., M.D. (Cordoba), C.C.F.P.; **Grierson**, R., M.D.; **Hamilton**, J., B.H.Ec.; **Hauch**, S., M.D., C.C.F.P.; **Herd**, A., B.Sc.(Med.), M.D., C.C.F.P.; **Katz**, A., B.Sc., M.B.Ch.B. (Capetown), M.Sc., C.C.F.P.; **Kernahan**, J., M.D., B.Sc., M.Sc., C.C.F.P.; **Kesselman**, E., M.D.; **Kisil**, K., M.D., C.C.F.P.; **Kliwer**, K., M.D., C.C.F.P.; **Krym**, V., M.D. (McM.), B.N.; **Lee**, L., M.D., F.R.C.P.C.; **Lee**, S., M.D., C.C.F.P.; **Lysack**, A., M.D., F.R.C.S.C.; **MacDonald**, R., M.P.H. (Boston), M.D. (Queen's), B.Sc.; **Mehta**, P., M.B.Ch.B., D.Obst., R.C.O.G., C.C.F.P.; **O'Hagan**, D., M.B.Ch.B. (Capetown), C.C.F.P.; **Peters**, S. M.D., C.C.F.P.; **Peterson**, C., M.D., C.C.F.P. (EM); **Sadouski**, M., B.A., M.D. (Queen's), C.C.F.P.; **Shah**, A., M.B.Ch.B. (Glas.), F.A.C.E.P.; **Sisler**, J., M.D., C.C.F.P.; **Skinner**, M., B.A., M.S.W.; **Steigerwald**, R., M.D., F.R.C.P.C.; **Stenhouse**, J., M.D.; **Webster**, G., D.Min.; **Wiebe**, J., M.D., C.C.F.P.; **Williams**, D., M.D.

Instructor 1

Byquist, R., B.N.; **Fregio**, A., L.P.N., R.N.; **Kennedy**, B., B.N.; **Murphy**, P., B.Ed., M.Ed.; **Parker**, J., B.N., M.N. (Syracuse); **Teytiak**, J., R.N.

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Brodovsky, M.D., F.R.C.S.C.; **Harley**, M., M.B.B.S., D.Obst., R.C.O.G., F.R.C.S. (Glas.), D.O. (Lond.); **Lee-Wing**, M. B.Sc.(Med.), M.D., F.R.C.S.C. (Ott.); **Manusow**, D., M.D., D.A.B.O., F.R.C.S.C.; **Mis**, A., B.Sc.(Med.), M.D., F.R.C.S.C.; **Nigam**, R., M.D., F.R.C.S.C.; **Rocha**, G., M.D., F.R.C.S.C.; **Roy**, M., M.D.

Otolaryngology

Professors

Blakley, B., M.D., Ph.D., F.R.C.S.C.; **McCullough**, D., M.B.B.Ch., B.A., O. (Belfast), F.R.C.S. (Edin.), F.R.C.S.C.; **Riese**, K., M.D., F.R.C.S.C., F.A.C.S.

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Assistant Professors

Barker, M., M.D., F.R.C.S.C.; **DuVal**, L., M.D., F.R.C.S.C.; **Fishman**, L., M.D., F.R.C.S.C.; **Frohlich**, A., M.D., F.R.C.S.C.; **Gall**, R., M.D., F.R.C.S.C.; **Garber**, L., M.D., F.R.C.S.C.; **Levin**, H., M.D., F.R.C.S.C.; **Osler**, F., M.D., F.R.C.S.C.; **Stillwater**, R., M.D. (Ma.), F.R.C.S.C.; **Sutherland**, D., M.D., F.R.C.S.C.; **Watson**, R., M.D., F.R.C.S.C.

Lecturers

Anid, G., B.M., F.R.C.S. (Edin.); **Varma**, A., M.B.Ch.B. (Glas.), F.R.C.S.C.

Pathology

Professors Emeriti

Bowden, D., M.B.Ch.B., M.D. (Bristol), F.R.C.P., F.R.C.P.C.; **Carr**, I., M.B.Ch.B., Ph.D. (Glas.), M.D. (Sheffield), F.R.C.P., F.R.C.P.C.; **Penner**, D., M.D., F.C.A.P., F.R.C.P.C.

Professors

Adamson, I., B.Sc., Ph.D. (Glas.); **Choy**, P., B.Sc., M.Sc., Ph.D.; **Del Bigio**, M., M.D., Ph.D., F.R.C.P.C.; **Gartner**, J., M.D. (McG.), F.R.C. P.C., Dip.A.B. (Path.); **Harding**, G., B.Sc.(Med.), M.D., F.R.C.P.C.; **Markesteyn**, P., B.Sc.(Med.), M.D. (Netherlands); **Nance**, D., B.Sc., Ph.D. (Okla.); **Orr**, F., M.D. (Alta.), F.R.C.P.C., Dip.A.B. (Path.); **Pettigrew**, N., M.B.Ch.B. (Glas.) F.R.C.P.; **Rhodes**, R., B.A., M.Sc., Ph.D., M.D. (U.S.C.); **Shojania**, A., M.D. (Tehran); **Watson**, P., B.A., M.A., M.B.B.C.H. (Cambridge), F.R.C.P.C.

Associate Professors

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Senior Scholar

Bowman, J., M.D.

Professors

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Assistant Professors

Alto, L., B.Sc., M.Sc., M.D.; **Askin**, D., M.N.; **Birk**, P., M.D., F.R.C.P.C., L.M.C.C.; **Blydt-Hansen**, T., B.Sc., M.D. (McG.); **Bonacossa**, I., M.D. (Buenos Aires); **Bowman**, M., M.D., F.R.C.P.C.; **Caplan**, A., B.Sc., M.D., F.R.C.P.C.; **Chan**, M-K, B.Sc.(Tor.), M.D. (U.W.O.), F.R.C.P.C.; **Chan-Lui**, W., M.B.B.S., M.D., F.R.C.P.C. (Hong Kong); **Chiu**, A., B.Sc., M.D. (Tor.); **Collison**, S., M.D.; **Connor**, D., M.D., F.R.C.P.C.; **Consunji-Araneta**, R., B.Sc., M.D. (Phillip); **Dakshinamurti**, S., B.Sc., M.D.; **de Nanassy**, J., M.D.(Hungary), F.R.C.P.C.; **Divekar**, A., M.B.B.S. (Bombay), M.D. (Bombay), M.D. (Brooklyn), Peds. Card (N.Y.); **Doyle**, E., B.Sc., M.D.; **Eisenstat**, D., B.Sc., M.D. (Tor.), M.A. (Calif.), F.R.C.P.C., F.A.A.P.; **Fleming**, F., M.D. (Queen's), F.R.C.P.C.; **Fraser-Roberts**, L., B.Sc.(Tor.), M.D. (McM), F.R.C.P.C.; **Gietz**, D., Ph.D. (Alta.) B.Sc. (Guelph); **Giles**, L., B.N., M.D. (U.W.O.), F.R.C.P.C.; **Grabowski**, J., B.Sc., M.D., F.R.C.P.C.; **Grimes**, R., M.D. (Sask.), F.R.C.P.C.; **Hanlon-Dearman**, A., B.N., M.D., F.R.C.P.C., F.A.A.P.; **Hildes-Ripstein**, E., B.Sc.(Med.), M.D., F.R.C.P.C.; **James**, J., B.Sc.(Med.), M.D., F.R.C.P.C.; **Jebamani**, S., M.D., B.S. (India), M.R.C.P. (Lond.), F.R.C.P.C.; **Joshi**, C., M.B.B.S. (Bombay), M.D. (Brooklyn); **Kamaya**, V., B.A., M.A., Ph.D.; **Klym**, K., B.Sc., M.D., F.R.C.P.C., F.A.A.P.; **Kovnats**, S., M.D., F.R.C.P.C.; **Lane**, M., M.D. (Sask), F.R.C.P.C.; **Lazar**, M., M.D., F.R.C.P.C., F.A.A.P.; **Levin**, D., B.Sc., M.D., F.R.C.P.C.; **Lindsay**, D., M.D.; **Lipnowski**, S., B.Sc. (McG.), M.Sc. (Tor.), M.D. (McM), F.R.C.P.C.; **Lucash**, S., B.Sc., M.Sc., M.D. (Tor.), F.R.C.P.C.; **Magwood**, B., M.D. (McM), F.R.C.P.C.; **Margolis**, N., M.D., F.R.C.P.C.; **Marles**, S., M.D., F.R.C.P.C. Gen., F.R.C.P.C.; **McCusker**, P., B.N., M.D. (McM), F.R.C.P.C.; **McNeill**, A., M.D. (Sask.), F.R.C.P.C.; **Moisiuk**, S.E., M.D. (Sask.), F.R.C.P.C.; **Morris**, M., M.D. (Sask.), F.R.C.P.C.; **Muruve**, G., M.D. (Turkey), F.R.C.P.C.; **Newton**, J., B.A., B.Ed., M.Ed., Ph.D. (Sask); **Nwebube**, A., M.B.B.S. (Nigeria), M.R.C.P. (U.K.); **Ridley**, T., B.Sc., M.D., F.R.C.P.C. (Alta.); **Roberts**, J., M.D. (Tor.), F.R.C.P.C.; **Robinson**, W., M.D., F.R.C.P.C.; **Russell**, B., B.Sc., M.D., F.R.C.P.C.; **Saxena**, S., Ph.D. (India), M.Phil., M.Sc., B.Sc. (Delhi); **Seifert**, B., B.Sc. (Sask.), D.P. (San Antonio); **Sellers**, E., B.Sc.(Trent) M.D. (U.W.O.), F.R.C.P.C., **Shulman**, D., M.B.Ch (Johannesburg), F.C.P. (Paed) S.A. (Johannesburg), **Silver**, N., B.Sc., M.D., F.R.C.P.C.; **Simmonds**, C., M.D., F.R.C.P.C.; **Soni**, N.R., B.Sc. (McG.), M.D.; **Spriggs**, E., B.Sc., M.Sc., Ph.D. (Alta.); **Taback**, S., B.Sc., M.D.;

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Lecturers

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Demonstrator

Cross, H., B.Sc., M.D., M.Sc.

Pharmacology and Therapeutics

Professors Emeritus

Pinsky, C., B.Sc. (Sir George Williams), M.Sc., Ph.D. (McG.).

Senior Scholar

Weisman, H., B.Sc., M.Sc., Ph.D.

Professors

Anderson, J., B.Sc. (U.B.C.), B.Sc.(Med.), Ph.D.; **Aoki**, F., M.D., F.R.C.P.C.; **Begleiter**, A., B.Sc., M.Sc. (Mass.), Ph.D. (Alta.); **Bose**, D., M.B.B.S., M.D. (Indore), Ph.D.; **Bose**, R., B.Sc. (Vikram), Ph.D.; **Brandes**, L., M.D. (Western), F.R.C.P.C.; **Burczynski**, F., B.Sc., M.Sc., Ph.D.; **Cattini**, P., B.Sc., Ph.D., (Lond.); **Geiger**, J., M.Sc., Ph.D. (N. Dak.); **Glavin**, G., Ph.D.; **Hatch**, G., B.Sc. (Wpg.), M.Sc. (Sask.), Ph.D.; **LaBella**, F., B.A., M.A. (Wesleyan), Ph.D. (Emory); **Lautt**, W., M.Sc., Ph.D.; **Mink**, S., B.Sc., (Albright College, Pennsylvania), M.D. (Temple Univ. School of Med. Pennsylvania); **Minuk**, G., M.D., F.R.C.P.C.; **Parkinson**, F., B.Sc., Ph.D. (Alta.); **Peeling**, J., B.Sc. (Hons.), Ph.D.; **Penner**, S., M.D., Ph.D.; **Smyth**, D., Ph.D.; **Sitar**, D., B.Sc. (Pharm.), M.Sc., Ph.D.; **Tenenbein**, M., M.D., F.R.C.P.C.

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Professors Emeriti

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Professors

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Lecturers

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Associate Professors

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Lecturers

Bay, T., M.D.; **Buist**, R., Ph.D. (Chemistry); **Butler**, J., M.D. (McG.), F.R.C.P.C.; **Demeter**, S., BSc (Sask), FRCPC (Community Medicine), ABPM (Nuclear Medicine); **Eaglesham**, H., B.Sc., M.D. (Sask.), F.R.C.P.C.; **Furutani**, B.Sc., Ph.D. (Nuc. Physics); **Gordon**, K., R.T. (Diag. Rad.), R.T. (Nuc. Med.), R.T. (Radiotherapy); **Higgins**, R., M.D., F.R.C.P.; **Huebner**, S., M.D.; **Krauter**, K., B.Sc., M.Sc.; **Lam**, W., M.D., B.Sc. (Pharm.), F.R.C.P.C.; **Lawrence**, P., B.Sc., M.D.; **Lawrence**, R., M.Sc.; **Lewis**, J., B.Sc. (Physics) (Chicago), Ph.D. (Physics) (N.B.); **Leylek**, A., M.D. (Turkey), F.R.C.P.C.; **Mandelzweig**, Y., M.Sc., Ph.D. (Moscow); **Martens**, D., M.D., F.R.C.P.C.; **McCurdy**, B., B.Sc. (Waterloo), M.Sc., Ph.D.; **Menard**, S., F.R.C.P.C.; **Peachell**, M., M.D. (BC); **Preachuk**, C., M.D., F.R.C.P.; **Ryner**, L., B.Sc., M.Sc. (McG.), Ph.D. (Wisc.); **Schroeder**, G., M.D., F.R.C.P.C.; **Stoski**, R., BSc (Man) (Man), F.R.C.P.; **Stroman**, P., B.Sc. (Victoria), Ph.D. (Alta.); **Tsuyuki**, S., M.D., F.R.C.P.; **Vijayaraghavan**, K., M.B.B.S. (Madras).

Surgery

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Professors

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Assistant Professors

Assuras, G., M.D. (Tor.), F.R.C.S.C.; **Bard**, R., M.D., F.R.C.S.C.; **Bartlett**, L., M.D. (W. Ont.), F.R.C.S.C.; **Berrington**, N. M.B.B.Ch., M.Med., F.R.C.S., F.C.S. (S. Africa); **Bhattacharya**, M.B.B.S. (Calcutta), D.A.B.S., F.R.C.S.C., F.A.C.S.; **Bohm**, E., B. Eng., M.D., F.R.C.S.C.; **Boyar**, R., D.M.D.C.; **Bracken**, J., M.D., B.Sc., F.R.C.S.C.; **Cross**, H., D.M.D., C.P.D. (US), M.Sc.; **Curran**, J., B.D.S., F.F.D. (Ireland); **Decter**, A., M.D., F.R.C.S.C.; **deKorompay**, V., B.Sc. (Sask.), M.D. (Sask.), F.R.C.S.C.; **Drachanberg**, D., B.Sc., M.D., F.R.C.S.C.; **Dubberly**, J., B.Sc., M.D., F.R.C.S.C.; **Fong**, H., M.D., F.R.C.S.C.; F.A.C.S.; **Fraser**, M.D., F.R.C.S.C.; **Goytan**, M., B.Sc., M.D., F.R.C.S.C.; **Hancock**, B., B.Sc., M.D., F.R.C.S.C.; **Hayakawa**, T., B.Sc. M.D., F.R.C.S.C.; **Huebert**, D., B.Sc., M.D., F.R.C.S.C.; **Huebert**, H., M.D., F.R.C.S.C.; **Irving**, J., B.Comm., B.A., M.D.; **Johnson**, M., M.D., F.R.C.S.C.; **Kagan**, J., M.D. (Laval), F.R.C.S.C., F.A.C.S.; **Kettner**, J., M.D., F.R.C.S.C., M.Sc.; **Koulack**, J., M.D., M.Sc., F.R.C.S.C.; **Kowalski**, S., M.D., F.R.C.P.C.; **Latosinsky**, S., M.D., F.R.C.S.C.; **Leboldus**, L., M.D., F.R.C.S.C.; **Lekic**, C., D.D.S., M.Sc., Ph.D.; **Lysack**, A., B.A., M.D., F.R.C.S.C., B.Sc.; **Mayba**, I., B.Sc., M.D., F.R.C.S.C. (Ortho.); **McDonald**, P., M.D. (Hons), F.R.C.S.C., **McGoey**, J., B.A. (Sask.), M.D. (Tor.), F.A.C.S.,

F.R.C.S.C.; **MacIntosh**, E., B.Sc., M.D., M.Sc., F.R.C.S.C.; **Nasser-Sharif**, M., M.D. (Iran), L.R.C.P., M.R.C.S., F.R.C.S.C., F.R.C.S. (Lond.); **Parham**, S., B.Sc., M.D., F.R.C.S.C.; **Peachell**, J., M.D., F.R.C.S.C.; **Psooy**, K., B.Sc., M.D., F.R.C.S.C.; **Raabe**, M., M.D., M.Sc., F.R.C.S.C.; **Reynolds**, D., M.D., F.R.C.S.C.; **Ross**, J., M.D., F.R.C.S.C., F.A.C.S.; **Saadia**, R., M.D. (France), F.R.C.S.; **Saettler**, E., M.D., F.R.C.S.C.; **Scurrah**, J., M.B.Ch.B. (Liverpool), F.R.C.S. (Edin.), F.R.C.S.C., F.I.C.S., F.A.C.S.; **Silverman**, R., M.D., F.R.C.S.C.; **Singh**, G., M.B.B.S. (India), F.R.C.S.C., F.A.C.S.; **Singh**, G., M.D., M.Sc., F.R.C.S.C.; **Skoracki**, R., B.Sc. (Hons), M.D., F.R.C.S.C.; **Stimpson**, R., M.D., F.R.C.S.C.; **Stoykewych**, A., B.Sc., D.M.D., N.D.E.B.; **Tan**, L., M.D., C.M. (McG.), B.Sc., F.R.C.S.C. (Dal.); **Tanner**, J., B.A., M.D., B.Sc. (Med.), F.R.C.S.C.; **Torchia**, M., M.Sc., M.C.I.C., M.A.C.S.; **Violago**, F., M.D. (Manila), D.A.B.S., F.R.C.S.C., F.A.C.S.; **Warrian**, K., M.D., F.R.C.S.C., F.R.C.S.C.; **Williams**, O., B.Sc. (Alta.), M.D., F.R.C.S.C., **Yaffe**, C., M.D., F.R.C.S.C.; **Yip**, B., M.Surg., M.D. (W. Ont.), Human Kinetics, F.R.C.S.C.

Lecturers

Ahsan, A., M.B.B.S. (Dacca), F.R.C.S.C., I.S.C., C.R.C.S.C.; **Aitken**, R., B.Sc. (Sask.), D.V.M. (Sask.); **Balageorge**, D., M.D., F.R.C.S.C.; **Hussain**, M., M.D. (India), F.A.C.S.C., F.A.C.S.; **Kriellaars**, D., B.Ch., Ph.D., M.S., Sc., Ph.D.; **Lockwood**, A., B.MSc., M.D., L.M.C.C., F.R.C.S.C.; **Longstaffe**, A., M.D., F.R.C.S.C.; **Milner**, John F., B.Sc., M.D., M.Sc., F.R.C.S.C., F.A.C.S.; **Taylor**, H., M.D., F.R.C.S.C.; **Turner**, R., B.Sc., M.D., F.R.C.S.C.

Demonstrators

McFadden, L., D.D.S. (Alta.), M.Sc. (Dal.); **Roberts**, D., M.D. (Tor.), F.R.C.S.C.; **Rusen**, D., B.Sc., D.M.D., D.O.S.

Adjunct Professors

Tian, G. M.D., M.Sc. (Hubei-China), Ph.D. (Ott.); **Ye**, J., M.Sc. (Wenzhou-China), M.D. (Jujian-China).

School of Music

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SECTION 1: Academic Staff

Professor Emeritus:

Turner, R., B.Mus. (McGill), M.Mus. (Peabody), D.Mus. (McGill).

Professors

Engbrecht, H., A.R.C.T., B.Mus. (Bethel College), M.Mus. (Southern Methodist); Jensen, K., B.Mus. (Saskatchewan), L.Mus. (Saskatchewan), Recital Dip. (Royal Academy of Music), L.R.A.M., Ph.D. (London); Lonis, D., B.S.E (Illinois), M.M. (North Western), E.D.D. (Illinois); Matthews, M., B.Mus. (California State, Northridge), M.A. (California State, Sacramento), Ph.D. (North Texas State); Wedgewood, R., B.Mus. (Macmurray), M.Mus. (Arkansas.), Ph.D. (Wisconsin, Madison).

Associate Professors

Braun, M., B.Mus., M.Mus. (Toronto); Bursleson, R., B.Mus. (Hartford), M.A. (Washington); Gillis, R., B.Mus.Ed. (Saskatchewan), M.Mus., D.M.A. (Michigan); Horton, C., B.Mus. (Redlands), M.Mus. (North Carolina); Paterson, P., Mus.Bac. (Toronto), M.Sc. (Ithaca); Rempel, U., B.Mus., Ed.Cert. (UBC), M.A. (California, Santa Barbara); Ritchey, L., A.R.C.C.O.; Siebert, J.K., B.A. (Winnipeg), M.Mus. (Toronto), D.M.A. (Eastman).

Assistant Professors

Chen, C., B.Mus. (Peabody), M.Mus. (Minnesota); Linklater, F., B.Mus. (Brandon), M.Mus. (North Texas), Ph.D. (Michigan); Linklater, J., B. Mus. (Brandon), M.Mus. (Michigan); Loewen, L., B.Mus. (Brandon), M.Mus. (Montreal), D.M.A. (Minnesota); Markstrom, K., B.Mus., M.Mus, M.Lib.Sc. (Alberta), Ph.D. (Toronto); Marleyn, P., Dip.RAM (Royal Academy of Music), M.Mus. and Artist Dip. (New England); Moroz, D., B.Mus. M.Mus. (Julliard), D.Mus. (Montreal); Pokhanovsksi, O., B.Mus. (Montreal).

Part-time Instructors

Bairstow, D.; Berger, D., B.Mus. (Manitoba); Dahl, T., B.Ed. (Manitoba); Ellin, V.; Enns-Braun, C., B.ChurchMus. (CMBC), B.Mus. (Manitoba), M.Arts. (Western Ontario); Denby, S., B.Mus. B.Ed. (Manitoba); Dowden, T. BME, (Acadia), MME (Northern Colorado); Dyer, S. B.Mus. (McGill), M.Mus. (DePaul); Fletcher, D., B.Mus. (Manitoba), M.Mus. (Toronto); Gardner R., B.Mus, B.Ed (Manitoba); Gitlin, C., B.Mus. (Cincinnati); Gold K., BFA (Concordia), Mus. Ed. Cert. (McGill), M.Mus. (Brandon); Goman, N., M.Mus. (Moscow); Green, P., BA/Mus (Southern Illinois); Harrington, A., B.Mus (Saskatchewan), M.Mus. (Illinois); Helmer, J., B.Mus. (British Columbia); Hoebig, G., Huisman, M., B.Ed (Manitoba) Opera Dip. (Toronto); Ingstrup, R., B.Mus. (Victoria), M.Mus. (North Western); Klassen, A., B.Mus. B.Ed (Manitoba); Klassen, R., B.Mus. (Toronto); Kocman, J., B.Mus.Ed., M.M. (Indiana); Mantie, R., B.ME. (Brandon); Miller, J., B.Mus. Ed (Lawrence Conservatory), M.Mus. (New England Conservatory); Norris, D., B.Mus. (North Carolina); Pauls, C., B.Mus. (Manitoba), B.A. (Winnipeg), M.Mus. (McGill); Ridd, L.; Schellenberg, K., B.Mus. B.Ed.(Manitoba); Scholz, D., B.Mus.Ed. (Regina); Scott, D., B.Mus. (Manitoba), M.Mus. (Alberta), Ph.D. (British Columbia); Schultz, E.; Smith, S.; Svenne, J., B.Sc. (Toronto), Ph.D. (MIT); Turner, C., B.Sc. (Valley City), M.Mus.Ed. (North Dakota); Turner, R., Concert Dip. (Curtis Institute); Tyborowski, R., M.F.A. (Wroclaw); Watson-Lyons, L., A.M.M. and A.R.C.T (Manitoba), Concert Dip. (McGill).

SECTION 2: Music Education

The educational objectives of the School of Music are best presented in its mission statement: It is the mission of the School of Music of the University of Manitoba to provide a broad range of opportunity for music study and to produce creative and scholarly work which is of local, national and international significance, and to instil a love of music and a recognition of its importance in defining and ennobling human experience.

The Department of Music began in 1944 when classes in music theory and history were given as electives for Arts and Science students. Then, in the early 1960's a series of courses leading to a Bachelor of Music degree were approved by the Senate of the university. This was followed in 1964 with the establishment of the School of Music. The first students enrolled in that year for a three-year general Bachelor of Music degree. A new music building was completed during 1965. Since then, the school has seen rapid growth and development, the establishment of a four-year Bachelor of Music program (which began in the fall of 1974) and the Integrated Bachelor of Music/Bachelor of Education degrees (from 1984) and a Graduate degree in performance, conducting and composition (2001).

The School of Music is housed in its own building which contains teaching studios and classrooms with specialized equipment, practice studios, lounges, storage facilities, a listening room and an acoustically superior 228-seat recital hall with full recording facilities.

The Music Library is also in the Music Building and contains volumes, bound periodicals and scores, performance editions, and audio recordings. Performance tapes of concerts held at the School of Music also form an important part of the Music Library. The collection is primarily devoted to the European classical tradition but there are special collections of jazz, ethnic music from around the world, collected works of certain local and Canadi-

an composers, and a thoroughly representative cross-section of the entire tradition of music history.

In addition to Bosendorfer and Steinway concert grand pianos, many practice pianos and an increasingly superior collection of orchestral instruments, the school is equipped with a Casavant organ, harpsichords by Denzilwright and Ritchey, Sperrhake spinet, Dolmetsch clavichord, an electronic keyboard lab equipped with 10 Roland MIDI keyboards, 1784 Beyer fortepiano, 1876 Steinway square piano, troubadour and pedal harps, chest of viols, Renaissance recorders, krummhorns, various Renaissance wind instruments, Orff instruments, and an electronic synthesizer. The Casavant organ in St. John's Chapel is also available for practice. There is also an Electronic music and research facility.

SECTION 3: Admission To Music

3.1 Degrees Offered

Bachelor of Music

Bachelor of Music (Composition)

Bachelor of Music (History)

Bachelor of Music (Performance)

Minimum time to graduation: Four years if admission is directly from high school and five years if admission is via University 1.

Bachelor of Music/Bachelor of Education

An integrated degree that combines Music with Education; minimum time to graduation: five years in Music and Education if admission is directly from high school and six years if admission is via University 1.

The following is a summary of the admission requirements. Equivalent academic courses completed at recognized universities elsewhere will be considered. All admission requirements, as well as application deadline dates and forms, are available from the School of Music general office, 205 Music building, or Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

3.2 Course Requirements for Admission from High School

Admission to the School of Music is directly from high school, although admission from University 1 is an option.

Other requirements

High school prerequisites: Music 40S is strongly recommended, while a second 40S language is recommended.

At the time of the audition, an examination in music theory fundamentals will be given.

All applicants are required to audition. Minimum level of practical ability is Conservatory Canada or Royal Conservatory Grade 8 piano or strings; Grade 7 singing or winds; Grade 6 Organ. All auditions include a theory exam and may include a sight-reading component.

Keyboard Proficiency: It is strongly recommended that students seeking entrance to the school possess a minimum level of keyboard proficiency equivalent to Conservatory Canada or Royal Conservatory Grade 4. Students failing to meet this requirement have until the beginning of the second year to achieve the required standard. Students may not register for any courses in the second year of the program until the keyboard proficiency requirement has been satisfied.

Advanced Standing in Music: Students claiming advanced standing in music may be asked to undergo placement tests to substantiate such claims. Standing will not be accorded automatically. The above privilege applies only to courses in Music and has no bearing upon the number of non-Music courses required by the Bachelor of Music program. Advance standing examinations cannot be taken in courses previously failed at the school.

SECTION 4: Academic Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the School of Music has regulations and requirements, published below, that apply specifically to its students. Detailed information regarding regulations is available in general office of the school. The aim of the

Bachelor of Music program is to provide a basic framework of knowledge and ability, both theoretical and practical, from which either professional activities or graduate specialization can start. Thus, the four-year program contains concentrations in specified areas in the third- and fourth-years. After their first two years, students select the area in which their interests and abilities are strongest.

The school offers four-year programs leading to the degree of Bachelor of Music, with the following concentrations: Performance, Composition, Music History, and General Music, and the five-year integrated Bachelor of Music/Bachelor of Education degrees.

Practical study may be in piano, organ, harp, harpsichord, classical guitar, lute, recorder, voice, or any standard orchestral instrument: strings, woodwinds, brass, and percussion. Ensemble work is included in all years of the program.

Music courses are available to students in other faculties and schools. Consult the appropriate section of this *Calendar* for regulations.

4.1 Written English and Mathematics Requirement

All students are required to complete the university's written English and mathematics requirement within the first 60 credit hours of their program. This requirement is described in the chapter, General Academic Regulations and Requirements.

Students in the Bachelor of Music programs meet the written English requirement through a required three credit hours of English. The written English requirement may be satisfied by English 004.131W, or equivalent. It is possible that a student may wish to take a six credit hour English course which meets this requirement; if so, three credit hours will count toward meeting the written English requirement and three credit hours toward the requirement for additional non-music electives in the second and later years of the Bachelor of Music programs.

Students meet the mathematics requirement through course 33.323M Acoustics of Music (3 credit hours).

These courses are listed as requirements to complete the first-year of all Bachelor of Music programs.

4.2 Electives (Non-Music)

Students are required to take one course in a subject other than music for each year of the Bachelor of Music program to a total of 24 credit hours (18 for the Integrated B.Mus./B.Ed.). With the exception of the first-year requirement of English, the student is free to choose any subject but is advised to seek the advice of faculty.

4.3 Ensembles

The School of Music offers a wide variety of opportunities for participation in ensembles such as the Women's Choir, Bison Men's Chorus, University Concert Band, University Singers, University Symphony Orchestra, University Wind Ensemble, Collegium Musicum, Opera Workshop, Chamber Music, Percussion Ensemble, and other wind, string and keyboard combinations.

School of Music students are required to participate in one large ensemble (Women's Choir, Bison Men's Chorus, University Concert Band, University Singers, Wind Ensemble, Jazz Orchestra or University Orchestra) each year for four years, and to participate in a total of eight ensembles during that time; placement in the large ensemble is determined by the ensemble committee; such participation will normally be in ensembles directly relevant to the student's major practical study area. Students from other faculties, and non-university musicians, are welcome to participate as space and instrumental balance allow, but all participation is at the discretion of the conductor or coach of the ensemble. Some ensembles are offered for credit in other faculties.

4.4 Scholarships

Entrance and continuing scholarships are available for School of Music students. Details may be obtained from Financial Aid and Awards or the School of Music.

4.5 Scholastic Progress

Within the first week of the term, students will be informed of the organization of materials, the nature and timing of testing, and the propor-

tionate weighting of marks that contribute to the final grade in all academic courses at the School of Music. Regulations regarding the grading of all practical courses at the School of Music, are contained in the *Undergraduate Calendar*; special attention is called to the Recital and Master Class Attendance Policy which is an integral part of the grading system for Major practical study in each year of the program.

A grade of "C" or better is required in each Music course throughout the Bachelor of Music program. Supplemental examinations are not normally given in the School of Music, with the following exceptions: where a jury mark of "D" has been assigned in Major practical study, the juried examination may be reheard prior to the next registration.

A sessional grade point average of less than 2.0 or failure to achieve a grade of "C" or better in two Music courses will result in a student being placed on probation. A student failing to equal or exceed the minimum sessional performance level by the end of the regular session following probationary assignment, will be placed on academic suspension.

Each student is permitted a maximum 21 credit hours of failed Music courses in the Bachelor of Music program. Students will not be permitted to register for a required music course more than twice without the permission of the faculty.

Students who take Music elective courses and fail to achieve a minimum grade of "C" in them should repeat these courses. Due to the system of rotating electives, this may not be possible and in such a case another approved Music elective may be substituted.

4.6 Dean's Honour List

B.Mus. students who achieve a sessional Grade Point Average of 3.5 and are registered in 60 per cent or more of the credit hours required in any one academic year of the program will be eligible for the Dean's Honour List. Students who are granted incomplete or deferred status will not be eligible.

4.7 Attendance

Regular attendance is expected of all students in all courses. Any unexcused absences from ensemble or practical study courses or three unexcused absences from any other music course may result in the student being required to withdraw from the course or ensemble, or may result in a failing grade being assigned.

Students absent from a class for three or more consecutive meetings due to illness may be required to present a certificate from a physician. Prior approval for extended absences from class for reasons other than illness must be obtained from the instructor and the director.

Unexcused absence from a class test may result in a grade of zero for the test. Make-up tests may be allowed in special circumstances.

SECTION 5: Program Requirements

These programs are in effect for students admitted since 1997-98. Students who entered in previous years should consult earlier calendars.

Course No.	Credit Hours
5.1 First Year	
All Concentrations	
033.107 Introduction to the History of Music	3
033.108 History of Music 2	3
033.111 Music Theory 1	3
033.112 Music Theory 2	3
033.118 Ensemble	2
033.119 Ensemble	2
033.138 Basic Musical Skills 1	2
033.139 Basic Musical Skills 2	2
033.140 Major Practical Study	6
33.323M Acoustics of Music	3
004.131 English	3
<i>Total Credit Hours</i>	32

5.2 Second Year

Bachelor of Music Program	
033.207 History of Music 3	3
033.208 History of Music 4	3
033.211 Music Theory 3	3
033.212 Music Theory 4	3

033.218 Ensemble	2
033.219 Ensemble	2
033.238 Basic Musical Skills 3	2
033.239 Basic Musical Skills 4	2
033.240 Major Practical Study	6
Non-Music elective	6

Total Credit Hours 32

Integrated Bachelor of Music (Music Education)/Bachelor of Education Program

033.207 History of Music 3	3
033.208 History of Music 4	3
033.211 Music Theory 3	3
033.212 Music Theory 4	3
033.218 Ensemble	2
033.219 Ensemble	2
033.238 Basic Musical Skills 3	2
033.239 Basic Musical Skills 4	2
033.240 Major Practical Study	6
033.246 Conducting	3
Second Teachable	6

Total Credit Hours 35

NOTE: Apply to Integrated Program during Year 2. Deadline to apply is February 1.

5.3 Third Year

Performance	
033.318 Ensemble	2
033.319 Ensemble	2
033.347 Major Practical Study	6
033.355 Recital 1	3
033.396 Music of the 20th Century 1	3
033.397 Music of the 20th Century 2	3
Music electives	6
Non-Music elective	6

Total Credit Hours 31

NOTE: A grade of "B" is required in 355 to continue in the Performance Concentration.

History	
033.305 Research Methods	3
033.318 Ensemble	2
033.319 Ensemble	2
033.347 Major Practical Study	6
033.396 Music of the 20th Century 1	3
033.397 Music of the 20th Century 2	3
Music History elective	3
Music Theory elective	3
Non-Music electives	6

Total Credit Hours 31

Composition	
033.246 Conducting	3
033.318 Ensemble	2
033.319 Ensemble	2
033.330 Composition Study	6
033.381 Electroacoustic Music 1	3
033.396 Music of the 20th Century 1	3
033.397 Music of the 20th Century 2	3
033.363 Music Theory 5	3
Non-Music electives	6

Total Credit Hours 31

General	
033.318 Ensemble	2
033.319 Ensemble	2
033.347 Major Practical Study	6
033.396 Music of the 20th Century 1	3
033.397 Music of the 20th Century 2	3
Music History elective	3
Music Theory elective	3
Music or non-music elective	3
Non-Music electives	6

Total Credit Hours 31

Integrated Bachelor of Music (Music Education)/Bachelor of Education Program

033.318 Ensemble	2
033.319 Ensemble	2

033.347	Major Practical Study	6	129.180	Psychology of Learning and Instruction 1	3
033.396	Music of the 20th Century 1 Music Education (area of specialization)	3 9	129.181	School and Society 1	3
132.120	Teaching the Arts in Senior Years	3	132.199	Teacher and Technology	3
132.160	Teaching General Music Second Teachable	3 6	129.280	Psychology of Learning and Instruction 2	3
	<i>Total Credit Hours</i>	34	129.281	School and Society 2	3
	Interession:		132.250	Themes in Senior Years Education	3
132.194	Integrated Programs School Experience I	3	132.251	Language and Literacy Across the curriculum Non-Music Teachable Minor C and I or Education elective	3 3
132.152	Education in the Senior Years	2		<i>Total Credit Hours</i>	30
	5.4 Fourth Year			Further information about the integrated program is in the chapter for the Faculty of Education.	
	Performance			5.6 Electives: Third and Fourth Years	
033.418	Ensemble	2		All Concentrations	
033.419	Ensemble	2	033.302	History and Performance of Jazz	3
033.447	Major Practical Study	6	033.303	History of Music in Worship	3
033.456	Recital 2	6	033.305	Research Methods (History Concentration requirement)	3
	Music electives	9	033.309	Introduction to Ethnomusicology	3
	Non-Music elective	6	033.310	Opera Repertoire	3
	<i>Total Credit Hours</i>	31	033.311	Chamber Music Repertoire	3
	NOTE: A grade of at least "B" is required in 456 for graduation with the Performance Concentration.		033.313	Music for Children 1 (see Note)	6
	History		033.314	Music for Children 2 (see Note)	6
033.411	Special Area (Paper)	3	033.323	Acoustics of Music	3
033.418	Ensemble	2		M	
033.419	Ensemble	2	033.348	Minor Practical Study	3
033.447	Major Practical Study or	6	033.362	Independent Study 1	3
033.416	Major Practical Study	3	033.363	Music Theory 5 (Composition Concentration requirement)	3
	Music History electives	6	033.369	Percussion Techniques (see Note)	3
	Music electives	6 (9 if 033.416 is elected)	033.372	Classroom Instruments (see Note)	3
	Non-Music electives	6	033.373	Early Musical Development (see Note)	3
	<i>Total Credit Hours</i>	31	033.377	Vocal Techniques (see Note)	3
	Composition		033.378	Woodwind Techniques (see Note)	3
033.355	Recital 1	3	033.379	Brass Techniques (see Note)	3
033.418	Ensemble	2	033.380	String Techniques (see Note)	3
033.419	Ensemble	2	033.381	Electroacoustic Music 1	3
033.430	Composition Study	6	033.382	Topics in Music	3
033.481	Electroacoustic Music 2	3	033.383	Topics in Music	3
	Music Theory elective	3	033.384	Topics in Music	3
	Music History elective	3	033.385	Topics in Music	3
	Music Elective	3	033.386	Topics in Music	3
	Non-Music Electives	6	033.387	Topics in Music	3
	<i>Total Credit Hours</i>	31	033.388	Jazz Band Techniques	3
	General		033.413	History of Women in Music	3
033.418	Ensemble	2	033.415	Choral Repertoire (see Note)	3
033.419	Ensemble	2	033.435	Music for Children 3 (see Note)	6
033.447	Major Practical Study or	6	033.442	Diction for Singers	3
033.416	Major Practical Study	3	033.446	Pedagogy and Repertoire (Required course for Organ, Piano and Voice majors in Performance and General concentrations)	3
	Music electives	9 (12 if 033.416 is elected)	033.448	Minor Practical Study	
	Music or Non-Music Electives	6	033.475	Choral Techniques 1 (see Note)	3
	Non-Music Electives	6	033.476	Choral Techniques 2 (see Note)	3
	<i>Total Credit Hours</i>	31	033.477	Band and Orchestral Techniques 1 (see Note)	3
	Integrated Bachelor of Music (Music Education)/Bachelor of Education Program		033.478	Band and Orchestral Techniques2 (see Note)	3
033.418	Ensemble	2	033.481	Electroacoustic Music 2	3
033.419	Ensemble	2		NOTE: May be taken as one of the specialized music education courses. Education Electives (in Music): Fifth Year of the B.Ed./B.Mus.	
033.447	Major Practical Study	6	063.209	School Choir	3
033.397	Music of the 20th Century	3	063.210	Instrumental Music 1 (Secondary)	3
132.224	Teaching Music in Senior Years	3	063.211	Instrumental Music 1 (Elementary)	3
	Music Education (area of specialization)	12	063.306	School Choir 2	3
	Second Teachable	6	063.307	Instrumental Music 2 (Secondary)	3
	<i>Total Credit Hours</i>	34	063.308	Instrumental Music 2 (Elementary)	3
	Interession:				
132.195	integrated Programs School Experience 2	3			
132.153	Education in Senior Years 2	1			
	5.5 Fifth Year				
	Integrated Bachelor of Music (Music Education)/Bachelor of Education Program				
132.298	Senior Years School Experience 2	6			

The education electives in music are listed as a convenience. Students may wish to include other than education electives in music to fulfil the fifth year requirements.

General Notes Regarding Electives

Most electives are not offered every year; some are offered every other year and some are offered less frequently. The listing of a subject as an elective does not guarantee that it will always be available or that it will be possible to fit it into all of the many varied timetable combinations of full- and part-time students.

There may be a maximum limit set on the number of students permitted to take an elective in a particular session. Similarly, there will be a minimum limit. If registration is below the minimum, the elective will be cancelled for the session, and those registered will be required to transfer to another elective before the course change deadline date.

Students are urged to discuss their elective program with members of the faculty toward the end of their second and third years to obtain advice concerning the best choice of electives for their needs.

Each year, second-year and third-year students will be asked to complete a questionnaire concerning their choice of electives for the following year.

5.7 Courses Offered Outside the B.Mus. Program for Students in Other Faculties

Some courses are offered outside the B.Mus. program for students in other faculties. Students in Arts and Education wishing to enter a Music Minor should refer to the appropriate chapter in this Calendar.

SECTION 6: Course Descriptions

033.105 The Well-Tempered Concert-Goer This course is an introduction to the art of music with the listening component based on attendance at 10 live performances by Winnipeg's superior performing ensembles. Topics include instruments of the orchestra, musical materials, forms and structures, historical periods and biographical information on composers.

033.107 Introduction to the History of Music (3) Introduction to the study of music history with emphasis on historical and stylistic developments of the Middle Ages and Renaissance.

033.108 History of Music 2 (3) A study of the development of style, idiom and performance practice in the music of the seventeenth and early eighteenth centuries. *Prerequisite:* 033.107 or equivalent, or consent of the School of Music.

033.111 Music Theory 1 (3) This course is designed to develop fluency in the writing and recognition of the elements of music: melodic and harmonic intervals, modes and scales, rhythm and metre, triads and inversions, and the principles of melodic and homophonic design. *Prerequisite:* Knowledge of music rudiments as demonstrated by a Placement Test given during the first week of classes, or by completing 033.193 with a mark of "C" or better.

033.112 Music Theory 2 (3) An examination of the idioms of vocal melody through the writing and analysis of duple paraphrase, duple- and syncopated-rhythm counterpoint in two parts, and tonal homophony leading to the chorale phrase and bar form. *Prerequisite:* a grade of "C" or better in 033.111.

033.118 Ensemble (2) Participation in University Symphony Orchestra, University Wind Ensemble, Women's Choir, Bison Men's Chorus, University Jazz Orchestra, University Concert Band or University Singers, as is appropriate to the student's background and/or major applied area (placement to be determined by ensemble committee).

033.119 Ensemble (2) Participation in a School of Music Ensemble other than the one designated in 033.118 (to be chosen in consultation with the School of Music)

033.128 Musical Style and Structure 1 An integrated study of the history and theory of Western music from 1750 to the present. *Prerequisite:* Canada Conservatory Grade 4 or RCT Grade 2 Theory or consent of the School of Music. Continuation in the Music Major or Minor requires a grade of C or better in this course.

033.129 Musical Style and Structure 2 (3) An integrated study of the history and theory of Western music from 1750 to the present. *Prerequisite:* 033.128. Continuation in the Music Major or Minor requires a grade of C or better in this course.

033.138 Basic Music Skills 1 (2) A practical approach to the cultivation of critical aural perception: specifically, to develop the student's sight-singing and transcription skills.

033.139 Basic Music Skills 2 (2) A continuation of 033.138. *Prerequisite:* 033.138.

033.140 Major Practical Study (6) Individual instruction in one of the following: any of the standard orchestral instruments (strings, woodwinds, brasses, percussion), classical guitar, harp, harpsichord, lute, organ, piano, recorder composition or voice. An important constituent of the grading procedure for this course is performance in, and attendance at, the recitals/concerts of the School of Music. For Music students only.

033.146 Minor Practical Study (3) Individual instruction in an area other than that selected for 033.140 or in composition by special permission. Written consent from the School of Music is required prior to registration.

033.193 Rudiments of Music (3) An introduction to fundamental aspects of music such as sound generation, notation, melodic and harmonic construction, with emphasis on an aural approach.

033.207 History of Music 3 (3) A study of music in the eighteenth century from the

Rococo and pre-Classical repertoire through the works of Haydn and Mozart. *Prerequisites:* 033.107 and 033.108 or equivalents, or consent of the School of Music.

033.208 History of Music 4 A study of the changing styles, forms and contexts of music from the late 18th century to 1915. *Prerequisite:* 033.207 and 033.211 or consent of the School of Music. First offering in the 1998-99 academic year.

033.211 Music Theory 3 (3) An examination of the idioms of instrumental melody through the writing and analysis of triple paraphrase, triple- and quadruple-rhythm counterpoint in two parts, and chromatic homophony leading to the Minuet and binary form. *Prerequisite:* 033.112 or the consent of the School of Music.

033.212 Music Theory 4 (3) An examination of the diffusion of tonality in instrumental textures through the writing and analysis of chromatic paraphrase, florid counterpoint in two parts and chromatically-extended homophony leading to the Cavatina and ternary form. *Prerequisite:* 033.211 or consent of the School of Music.

033.218 Ensemble (2) Participation in University Symphony Orchestra, University Wind Ensemble, Women's Choir, Bison Men's Chorus, University Jazz Orchestra, University Concert Band or University Singers, as is appropriate to the student's background and/or major applied area (placement to be determined by ensemble committee).

033.219 Ensemble (2) Participation in a School of Music Ensemble other than the one designated as appropriate to the student's background and/or major applied area (to be chosen in consultation with the School of Music).

033.236 Keyboard Skills 2 (3) A continuation of the previously required 33.136, with emphasis on stylistic melody accompaniment, modulation and transposition. Score reading and figured bass playing are included. For Keyboard Majors. *Prerequisites:* 033.112 or consent of the School of Music.

033.238 Basic Music Skills 3 (2) A continuation of 033.139. *Prerequisite:* 033.139

033.239 Basic Music Skills 4 (2) A continuation of 033.238. *Prerequisite:* 033.238.

033.240 Major Practical Study (6) Individual instruction, normally in the area chosen in 033.140. An important constituent of the grading procedure for this course is performance in and attendance at the recitals/concerts of the School of Music. For Music students only.

033.246 Conducting (3) The principles and development of baton technique and expressive gestures. Fundamentals of vocal and instrumental score reading, preparation and interpretation. *Prerequisites:* 033.112 or equivalent, or consent of the School of Music.

033.248 Minor Practical Study (3) Individual instruction in an area other than that selected for 33.240. Normally a continuation of 033.146. Written consent from the School of Music is required to register.

033.302 History and Performance of Jazz (3) A course on the nature and processes of jazz in terms of its historical background and development in the United States.

033.303 History of Music in Worship (3)

033.305 Research Methods (3) Techniques of bibliography and expository writing in music. Minor research projects in selected areas; the use of primary and secondary sources.

033.309 Introduction to Ethnomusicology (3) A study of style, performance methods and social role of selected non-Western and indigenous Western music, with particular emphasis on native Canadian music, through readings in field studies and methodology.

033.310 Opera Repertoire (3) The nature of the opera, its beginnings and development to modern times.

033.311 Chamber Music Repertoire (3)

033.313 Music for Children 1 (6) The philosophy, techniques and materials in Orff-Schulwerk, including practical activities in the areas of Basic Orff, creative movement, recorder, aural skills and choral techniques. Applicants should have a knowledge of music rudiments. *Prerequisite:* a grade of C or better in 033.193 or equivalent preparation (CC Grade 4 theory; RCT Grade 2 theory; an introductory Orff-Schulwerk course) or consent of the School of Music.

033.314 Music for Children 2 (6) Further study of the Orff-Schulwerk approach to music education, including the areas of Basic Orff, creative movement, recorder, aural skills, improvisation and choral techniques. *Prerequisite:* a grade of C+ or better in 033.313 or equivalent preparation, plus consent of the instructor.

033.318 Ensemble (2) Participation in University Symphony Orchestra, University Wind Ensemble, Women's Choir, Bison Men's Chorus, University Jazz Orchestra, University Concert Band or University Singers, as is appropriate to the student's background and/or major applied area (placement to be determined by ensemble committee).

033.319 Ensemble (2) Participation in a School of Music Ensemble other than the one designated as appropriate to 033.318 (to be chosen in consultation with the School of Music).

033.323M Acoustics of Music (3) A study of the physical basis of music; consideration of the nature of musical sound, tone production of typical musical instruments, scales, and temperaments, and architectural acoustics. Experiments and projects.

033.330 Composition Study (6) Individual instruction in composition. For Music students only.

033.347 Major Practical Study (6) Individual instruction, normally in the area chosen in 033.240. An important constituent of the grading procedure for this course is performance in and attendance at the recitals/concerts of the School of Music. For Music students only.

033.348 Minor Practical Study (3) Individual instruction in an area other than that selected for Major Practical Study. Normally a continuation of 033.248. Written consent from the School of Music is required prior to registration.

033.355 Recital 1 (3) *Prerequisite:* Consent of the instructor and the director required.

033.360 Conducting (3) Development of the conducting craft including the use of the baton, effective verbal and non-verbal rehearsal skills and practice in score preparation.

033.362 Independent Study 1 (3) Individual project designed by the student and a supervising faculty member. This study may be in an academic or applied area. Approval from the School of Music is required.

033.363 Music Theory 5 (3) A study of the technical capabilities and tonal characteristics of orchestral instruments, as well as practical scoring and arranging for various groups, from chamber to full orchestra and band. *Prerequisite:* 033.212 or consent of the School of Music. Required course for Composition majors.

033.369 Percussion Techniques (3) Class instruction in percussion instruments. Development of basic playing techniques and examination of materials and procedures for individual and group instruction.

033.372 Classroom Instruments (3)

033.373 Early Music Development (3) Procedures and materials for the development of musicality in children through listening activities, movement, creativity, singing and classroom instruments.

033.377 Vocal Techniques (3) Class instruction in vocal technique. Development of good vocal and choral sound and examination of materials and procedures for individual and group instruction.

033.378 Woodwind Techniques (3) Class instruction in woodwind instruments. Development of music playing techniques and examination of materials and procedures for individual and group instruction.

033.379 Brass Techniques (3) Class instruction in brass instruments. Development of basic playing techniques and examination of materials and procedures for individual and group instruction.

033.380 String Techniques (3) Class instruction in string instruments. Development of basic playing techniques and examination of materials and procedures for individual and group instruction.

033.381 Electroacoustic Music 1 (3) An introduction to computer applications in music. Topics include: Historical perspective, FM synthesis, MIDI, personal computers, digital sequencing, basic mixing and recording techniques. *Prerequisite:* 033.212 or consent of instructor.

6.1 Topics in Music Courses

The study of music through such themes as the music of a single composer or a single country, music for a specific instrument or a specific type of ensemble, or in a particular theoretical, historical or cultural context. Open to any student who has completed second year music history or music theory courses with a grade of "C" or better, or who has written consent of the School of Music.

033.382 Topics in Music (3) This course may vary from year to year depending on the needs and interests of instructors and students.

033.383 Topics in Music (3) This course may vary from year to year depending on the needs and interests of instructors and students.

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033.387 Topics in Music (3) This course may vary from year to year depending on the needs and interests of instructors and students.

033.388 Jazz Band Techniques (3) Procedures for organizing, rehearsing, and directing small and large group jazz ensembles. Study of repertoire and performance materials, with emphasis on personal understanding of jazz improvisation and style. *Prerequisite:* enrolment in the B.Mus./B.Ed. integrated program or consent of the School of Music.

033.396 Music of the Twentieth Century 1 An introduction to music written between 1900 and 1945. Works will be examined from both a compositional/theoretical perspective and in terms of their historical/social/philosophical contexts. *Prerequisites:* 033.212 and 033.207 and 033.208.

033.397 Music of the Twentieth Century 2 A continuation of 033.396, examining works from 1945 to the present. *Prerequisites:* 033.396 and 33.212 or consent of the instructor.

033.406 History of Music 4 (3) A study of European music from the Greek Aesthetic and practical roots to the Trecento. *Prerequisites:* 033.212 and 033.397, or consent of the School of Music.

033.407 History of Music 7 (3) A study of European music from the Ars nova to 1600. *Prerequisites:* 033.212 and 033.397, or consent of the School of Music.

033.411 Special Area Paper (3) The student will select a particular area of special interest or significance, work under supervision of a faculty member, and present results in an extended paper. *Prerequisites:* 033.212 and 033.207, or consent of the School of Music..

033.413 History of Women in Music (3) A study of the female contribution to the art of music from the Middle Ages to the present; emphasis on the changing roles of, and attitudes towards, women as composers and performers.

033.415 Choral Repertoire (3) A study and examination of choral repertoire suitable for community and church choir.

033.416 Major Practical Study (3) Individual instruction, normally in the area chosen in 033.347. An important constituent of the grading procedure for this course is performance in and attendance at the recitals/concerts of the School of Music. For Music students only.

033.418 Ensemble (2) Participation in University Symphony Orchestra, University Wind Ensemble, Women's Choir, Bison Men's Chorus, University Jazz Orchestra, University Concert Band or University Singers, as is appropriate to the student's background and/or major applied area (placement to be determined by ensemble committee).

033.419 Ensemble (2) Participation in a School of Music Ensemble other than the one designated as appropriate in 033.418 (to be chosen in consultation with the School of Music).

033.426 Composition Seminar (6) Consideration of various stylistic, formal and aesthetic problems of particular concern to the composer. Experimental and research projects; topics vary from year to year. May be repeated for credit with different subject matter. *Prerequisites:* 033.212, or consent of the School of Music.

033.430 Composition Study (6) A continuation of 033.330; under the instructor's supervision, the student will compose a major work intended for performance at the conclusion of the course. For Music students only.

033.435 Music for Children 3 (6) Advanced study of the Orff-Schulwerk approach to music education. *Prerequisite:* A grade of B or better in 033.314 plus consent of the instructor.

033.442 Diction for Singers (3) Articulatory training in English, French, German and Italian for singers.

033.446 Pedagogy and Repertoire (3) A consideration of approaches to the teaching of style and technique, through an examination of the repertoire for the student's major practical study. Required course for organ, piano and voice majors in Performance and General concentrations.

033.447 Major Practical Study (6) Individual instruction, normally in the area chosen in 033.347. An important constituent of the grading procedure for this course is performance in and attendance at the recitals/concerts of the School of Music. For Music students only.

033.448 Minor Practical Study (3) Individual instruction in an area other than that selected for Major practical study. Normally a continuation of 033.348. Written consent of the director is required prior to registration.

033.456 Recital 2 (6) Preparation and performance of a public, full-length graduation recital. The program, which must be approved by the applied instructor and the director, will normally include a major chamber music work.

033.475 Choral Techniques 1 (3) Procedures for organizing, rehearsing and conducting various types of choral ensembles. Examination of performance materials.

033.476 Choral Techniques 2 (3) Continued study in rehearsing and conducting standard choral ensembles. Study of repertoire and related literature. *Prerequisite:* 033.475.

033.477 Band and Orchestral Techniques 1 (3) The historical development and present instrumentation of standard instrumental ensembles. Procedures for organizing, rehearsing and conducting bands and orchestras. Examination of performance and instructional materials.

033.478 Band and Orchestral Techniques 2 (3) Continued study in rehearsing and conducting standard instrumental ensembles. Study of repertoire and related literature. *Prerequisite:* 033.477.

033.481 Electroacoustic Music 2 (3) An examination of additional topics in computer music. Topics include: Digital sampling, advanced sequencing and other MIDI applications, digital recording and editing, software synthesis, algorithmic composition. *Prerequisite:* 033.381 or equivalent, or consent of instructor.

Faculty of Nursing

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SECTION 1: Academic Staff

Dean Emeritus

Beaton, J.I., B.N. (Manitoba), M.A. (Washington), Ph.D. (Texas).

Professor Emeritus

Glass, H., B.Sc., M.A., M.Ed., Ed. D. (Columbia), L.L.D. (Memorial), L.L.D. (Western Ontario), L.L.D. (St. Francis Xavier), L.L.D. (Montreal), D.Sc.(McGill).

Senior Scholars

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Professors

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Assistant Professors

Askin, D.F., B.N., M.N. (Manitoba.); **Ateah, C.A.,** B.N. (Manitoba), M.Ed. (Alberta), Ph.D. (Manitoba); **Brundson-Clark, E.,** B.N., M.N. (Manitoba); **Care, W.D.,** B.N., M.Ed. (Manitoba), Ed.D. (Nova Southeastern); **Chernomas, W.,** B.Sc. (Bridgeport), M.A. (New York), Ph.D. (Maryland); **Currie, J.,** B.N. (Manitoba), M.S.A. (Central Mich); **Diehl-Jones, W.,** B.Sc. (Brandon), M.Sc., Ph.D. (Manitoba), B.Sc.N. (Western Ontario); **Hack, T.,** B.Comm. (Saskatchewan), B.Sc., M.A., Ph.D. (Manitoba); **Heaman, M.I.,** B.N., M.N., (Manitoba); **Hughes, L.** BSc.N., B.A. (Saskatchewan), M.P.A. (Manitoba); **Katz, A.,** B.N., M.N., Ph.D. (Manitoba); **Lobchuk, M.,** B.N., M.N., Ph.D. (Manitoba); **Martin, B.,** B.Sc. (Toronto), M.D., (Queens); **McClement, S.,** B.Sc.N. (Victoria), M.N., Ph.D. (Manitoba); **McKenzie, J.,** B.Sc.N. (Alberta), M.N. (Manitoba); **McMillan, D.,** B.A., B.Sc.N. (Queens), M.N. (Manitoba), Ph.D. (Washington); **Neufeld, K.R.,** B.N., M.N. (Manitoba); **Plouffe, J.,** B.Sc.N. (Alberta), M.N. (Manitoba); **Sawatzky, J.V.,** B.N., M.N., Ph.D. (Manitoba); **Scruby, L.S.,** B.N. (McGill), M.S. (Minnesota), Ph.D. (Manitoba); **Secco, L.,** B.Sc.N. (St. Francis Xavier), M.N., Ph.D. (Manitoba); **Stutsky, B.J.,** B.N. (Manitoba), M.S.N. (Western Ontario); **Wall, K.,** B.Sc.N., (McMaster), M.N. (Manitoba); **Woodgate, R.,** B.N., M.N., Ph.D. (Manitoba).

Lecturers

Ashcroft, T., B.N., M.N. (Manitoba); **Barkwell, D.,** B.A., B.Sc.N. (Saskatchewan), M.N., Ph.D. (Manitoba); **Bryan, M.,** B.N. (Manitoba), M.Sc.A. (Michigan); **Clark, B.,** B.N. (Brandon); **Cohen, A.,** B.Sc.N., M.Sc.N. (Western Ontario); **Cohen, B.,** B.A. (Carleton), B.N.S. (Ottawa), M.Sc. (Manitoba).

ba); **Courtenay**, M., B.Sc.N., M.Sc.N. (Western Ontario); **Crawford**, M., B.N., M.N. (Manitoba); **Davis**, P., B.Sc.N. (Saskatchewan), M.Ed. (Manitoba); **Dean**, R.A., B.N. (Manitoba), M.Sc. (Minnesota); **Duff**, E., B.Sc.N. (Brandon); **Eastveld**, B.J., B.Sc., M.N. (Manitoba); **Edwards**, M.P., B.Sc. (Waterloo), B.N., M.N. (Manitoba); **Ellerby**, J., B.A. (Regina), M.A. (Manitoba); **Enns**, C.L., B.N. (Manitoba); **Foster**, C., B.N. (Manitoba); **Galbraith**, C., B.Sc.N. (Alberta), M.N. (Manitoba); **Gessler**, S., B.A., M.P.A. (Manitoba); **Hamel**, C., B.N., M.N. (Manitoba); **Harder**, N., B.N. (Manitoba); **Hart-Wasekesikaw**, F., B.N., M.N. (Manitoba); **Hyndman**, K.J., B.S.N. (Victoria), M.N. (Manitoba); **Kaprowy**, J., B.N., M.N. (Manitoba); **Kilpatrick**, M., B.A., B.N., M.N. (Manitoba); **Klassen**, K., B.N., (Manitoba), M.N. (Calgary); **Klimczak**, M., B.N. (Manitoba); **Kluka**, S.M., B.N., M.N. (Manitoba); **Lahaie**, U., B.N., M.N. (Manitoba); **Laurila**, B., B.N. (Manitoba); M.Sc.A. (Manitoba); **Loewen**, L., B.A., B.N., M.N. (Manitoba); **Manns**, L., B.Sc.N. (Saskatchewan); **McCormack-Speak**, P., B.A.N. (St. Scholastica), M.B.A. (St. Thomas); **McKay**, M.L., B.N., M.N., M.A. (Manitoba); **Mordoch**, E., B.N., M.N. (Manitoba); **Motluck**, L., R.N. (Confederation), B.A. (Winnipeg), M.B.A. (Alberta); **Murata**, J., B.N. (Manitoba), M.Sc.A. (Mount Pleasant); **O'Regan**, T., B.Sc. (Hertfordshire), M.Sc. (London); **O'Rourke**, D., B.N., M.N. (Manitoba); **Opochinsky**, C.J., B.Sc.N. (Rhode Island), M.Sc. (Colorado), M.A. (Manitoba); **Pangman**, V.C., B.A., M.Ed., M.N. (Manitoba); **Peters-Watral**, B., B.N., (Manitoba); **Raber**, W., B.Sc.N. (British Columbia), M.N. (Manitoba); **Schultz**, J., B.Sc.N. (Alberta), M.N. (Manitoba); **Seguire**, M., B.N. (Saskatchewan), M.N. (Manitoba); **Shapiro**, C., B.N., M.N. (Manitoba); **Udod**, S., B.Sc.N. (Saskatchewan), M.S. (Nursing Administration) (Pace); **Venkatesh**, P., B.Sc.N. (Windsor), M.N. (Manitoba); **Vogt**, C., B.N., M.N. (Manitoba); **Walus**, L., B.N., (Manitoba), M.Sc.H.S.A. (Central Michigan); **Whittaker**, C., B.N., M.N. (Manitoba); **Wilson Mate**, D., B.N., M.Ed. (Manitoba); **Winsor**, J., B.N. (Manitoba); **Zalnasky**, J., B.N., M.N. (Manitoba); **Zeran**, V., B.Sc.N. (McMaster), M.Sc. (Portland).

Instructor I

Allan, L., B.Sc.N., (Brandon); **Bager**, M. B.N. (Manitoba); **Beavis**, E., B.N. (Manitoba); **Berean**, C., B.Sc.N. (Alberta); **Bowser**, T., B.N. (Manitoba); **Cheropita**, S., B.N. (Manitoba); **Christine-Jacobson**, L., R.N.; **Clark**, L. A., B.Sc.N. (Brandon), M.N. (Manitoba); **Davies**, B., B.N. (Manitoba), B.A. (Winnipeg); **Driedger**, M., B.Sc.N. (Goshen Coll); M.N. (Manitoba); **Dyna**, A.M., B.A. (Manitoba); **Enns**, M., B.N. (Manitoba); **Fraser**, K., B.Sc.N. (Brandon); **Gregoire**, J., B.N. (Manitoba); **Henderson**, T., B.N. (Manitoba); **Holliday**, A., B.N. (Alberta); **Lawrence**, M., R.N. (St. Boniface); B.Sc. (Manitoba); **Levac**, H., B.Sc.N. (Brandon); **Madrid**, C., B.N. (Manitoba); **Nieckarz**, C., B.N. (Manitoba); **Nixon**, J., B.N. (Manitoba); **Nordick**, C., B.N. (Manitoba); **Ramstead**, K., B.N. (Manitoba); **Rossnagel**, S., B.N. (Manitoba); **Sawatzky-Dickson**, D., B.N., M.N. (Manitoba); **Schnell**, K., B.N. (Manitoba); **Schoenborn**, B., R.N., (Misericordia); **Skokun**, M., B.N. (Manitoba); **West**, L., B.A. (Laurentian), M.B.A. (Toronto); Ph.D. (Washington).

SECTION 2: Nursing Education

The mission of the Faculty of Nursing of the University of Manitoba is to advance, communicate, and preserve nursing knowledge and to prepare individuals for the practice of professional nursing, thereby contributing to the health and well-being of individuals, groups and communities.

Nursing as a profession is an art and a science, placing its focus on the health care of the person, the family, and the community. The nurse is a sustaining force in providing assistance in maintaining health and care when health is threatened by illness or disability. The professional nurse views people in their entirety in providing a service essential to community health and welfare.

The undergraduate programs have been planned in the belief that the professional nurse is able to give nursing care in a variety of health care settings including the skills to function in primary health care; to use basic communication skills competently in organizing, planning, and directing the work of others; to collaborate with allied professional and citizen groups for the improvement of health services; to maintain personal identity; to attain individual satisfaction in daily life and, at the same time, to serve the community. These responsibilities are accepted as contributing to nursing research, as upholding the ideals of the nursing profession, and as working toward the profession's continued improvement and growth.

The first Nursing program at the University of Manitoba was offered in 1943. One-year certificate courses prepared registered nurses either for teaching and supervision or for public health nursing.

As the demand for nurses with preparation beyond the one-year certificate courses grew critical, two program sequences leading to the degree of Bachelor of Nursing were designed. In 1962, the program sequence for registered nurses was offered, and in 1963 the program sequence for students from high school or other faculties in the university was established. A new program for applicants at a bachelor's degree in another field and for registered nurses was established in 1971. These programs were replaced by a four-year curriculum instituted in 1975 for all applicants to the School of Nursing. A Master of Nursing program was introduced in 1979. Modification to the existing program for registered nurses was implemented in 1982. In 1986, the revised two-year Baccalaureate Nursing Program for Registered Nurses was approved. A two-year Northern Bachelor of Nursing Program (NBNP) for registered nurses in The Pas was offered from 1990-1995.

The four-year Baccalaureate Nursing Program was revised and first offered as the revised Baccalaureate Nursing Program (Four-Year) in 1990. A collaborative undergraduate program between the University of Manitoba and Health Sciences Centre commenced 1991. In 1992, the School of Nursing attained faculty status. In 1992, the collaborative undergraduate program between the University of Manitoba and St. Boniface General Hospital was initiated. In 1995, collaboration with Brandon General Hospital began.

In 1996, under the auspices of the Manitoba Nursing Education Strategy (MNES), the Faculty of Nursing extended its four-year undergraduate program to include urban, rural and northern sites. New partnerships with Red River College and Keewatin Community College resulted, as well as a re-definition of the previous hospital collaborations as these hospitals assume different roles in nursing education, practice and research. As part of the northern sites initiative, the four-year Baccalaureate Nursing Program began in Norway House in 1996. The Bachelor of Nursing Program at Norway House Cree Nation site focuses on cultures and health care issues and needs of northern Aboriginal and First Nations communities. The Brandon site program addresses health care issues and needs in rural settings throughout the course of study.

In addition to the Bachelor of Nursing and Master of Nursing programs, the Faculty offers courses and programs designed to provide health care professionals with the opportunity to upgrade skills and education. In partnership with the Manitoba Keewatinowik Okimakanak (MKO), primary care skills courses are offered for nurses practising in northern Manitoba and rural settings to address the scope of practice required of nurses employed by the First Nations and Inuit Health Branch and First Nations communities in expanded nursing care and public health. The primary care skills courses permit nurses to meet the scope of practice for nurses working in nursing stations and rural settings. Community health nursing courses are offered for non-baccalaureate nurses employed in health centres and nursing stations. In partnership with the Health Sciences Centre, St. Boniface General Hospital, and Brandon Regional Health Authority, the faculty offers adult intensive care nursing courses to prepare highly skilled registered nurses who are able to care for critically ill patients.

SECTION 3: Admission to the Faculty of Nursing

3.1 Degree Offered

Bachelor of Nursing

Baccalaureate Nursing Program: This program consists of 93 credit hours of Nursing courses and 42 credit hours of Arts and Science courses. Normally, it takes four years to complete the program, including University 1. There may be opportunities for summer study so that students may complete the program in less than four years. A candidate has ten years to complete the four-year undergraduate program before candidature lapses.

Baccalaureate Program for Registered Nurses (Revised): This program is specifically designed for active practicing Registered Nurses. It consists of 33 credit hours in Nursing courses and 12 credit hours in Arts, Science, or a professional faculty. A candidate has seven years to complete the degree before candidature lapses.

3.2 Admission Requirements: Four Year Program

The following is a summary of the admission requirements. Equivalent academic courses completed within the past 10 years at recognized univer-

sities elsewhere will be considered. All admission requirements, as well as application deadline dates and forms, are included in an applicant information bulletin that is available from the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

Course requirements for admission: four-year program

Students must meet the entrance requirements under Option 1 or Option 2 to be eligible for admission. Preference will be given to Option 1 applicants. The minimum adjusted GPA for Option 2 applicants may be significantly higher than for Option 1 applicants. All students must complete a minimum of 24 credit hours in University 1, or an equivalent program, with a minimum GPA of 2.0 (a minimum grade of "C" is required in all courses required for Nursing). A GPA of higher than 2.0 is recommended as admission may be competitive. NOTE: GPA will be calculated on the most recent maximum 60 credit hours.

Option 1

Completed courses must include the following courses or their equivalent:

022.132 Anatomy of the Human Body

022.133 Physiology of the Human Body

060.122 Essentials of Microbiology

plus

3 credit hours of Humanities electives

6 credit hours of open electives

plus

6 credit hours of courses offered by the Faculty of Science

Direct Entry to Year 2

Students wishing to be admitted directly to Year 2 should include the following in University 1 as the Open Elective requirement:

049.126 Human Growth and Development

049.128 Introduction to Nursing

Option 2

Completed courses must include:

100 level English (3 credits) or English 40S (2 credits) from high school

100 level Science (3 credits) or Science 40S from high school

Students meeting the above criteria will be admitted to either Year 1 or Year 2 of the Nursing program, depending on transfer credits. A minimum grade of 60% is required in the high school courses.

Other requirements

Undergraduate students with less than 24 credit hours are required to enter University 1.

Minimum adjusted GPA required for consideration: 2.0 with a minimum grade of C in each course.

Although immunizations and a CPR course are not admission requirements, applicants should note that these are required of all students admitted to Nursing (see Section 4.3). There will be a cost and a time investment incurred in meeting these requirements.

Advanced Standing

Advanced standing will be considered for courses completed at the University of Manitoba. Courses completed at other recognized institutions will be considered if completed within the past 10 years. Credit for previous nursing courses is not given if there has been a lapse of five years or more since last attendance in the program. Nursing courses from other universities will be considered for credit only if they have been completed within five years prior to admission to the Faculty of Nursing.

Accelerated Option

Students with a first degree or who have completed a minimum of 60 credit hours of university course work may have the opportunity to study full-time in the summer during select years and complete the program in less than four years. Full time study in the regular academic session and Nursing Summer Term is required. Contact a Nursing Student Advisor for details.

Brandon and Northern Sites Admission Requirements

High School Graduates must meet general entrance requirements of the University, including the following courses: Mathematics 40S (Pre-Calculus or Applied Mathematics), English 40 (2 credits), Science 40S, with a minimum of 60 per cent in all three 40S level subjects with an overall average of 63 per cent.

Transfer Students: Completion of 24 credit hours at a university level with a minimum adjusted grade point average of 2.0 on the most recent 60 credit hours; courses must include a 100-level course of at least 3 credit hours in each of English (or English 40S) and Science (or Science 40S) with a minimum grade of "C" in each course (or 60 per cent in each 40S course). Transfer students may meet specific subject requirements through either university or high school credits (for example, high school English 40 [2 credits] with a minimum grade of 60 per cent will meet the 100-level university English requirement).

Special Consideration Applicants

This policy is currently under review and is subject to change.

In considering applications in this category, less weight will be given to background academic performance than is the case with applications in the academic category. Applicants in this category must meet the minimum entrance requirements of the Faculty of Nursing and consist of two groups:

- Those from aboriginal populations of Canada, and
- Those individuals who have demonstrated a commitment to a health related field, but whose exceptional circumstances have precluded the possibility of pursuing formal baccalaureate studies in nursing.

The Admissions Committee shall not be bound to admit any candidate in the special consideration category in any given year.

The Admissions Committee reserves the right to consider the applicant in the academic category, if the applicant is eligible and if it would be of greater benefit to the applicant.

Transfer of Credit

Credit for previously-completed nursing courses is not given if there is a lapse of five years or more from the last date of attendance in the program. Credit for courses taken at other universities over 10 years prior to admission will not be granted credit. Nursing courses from other universities will be considered for credit only if they have been completed within five years prior to admission to the Faculty of Nursing.

Advanced Placement Option: LPN

Applicants who graduated from the enhanced Licensed Practical Nursing (LPN) Program from Assiniboine Community College may be eligible for transfer credit. Applicants must meet admission requirements. Students who completed a different LPN program can be considered for advanced standing in the RRC/UM Joint Baccalaureate Nursing Program. Contact a nursing student advisor for details.

Advanced Placement Option: RPN

Registered Psychiatric Nurses may be eligible for advanced standing in the Baccalaureate Nursing Program. Applicants should inform the Faculty of their RPN status.

Professional Registration

A graduate of the Baccalaureate Nursing Program must write the Nurse Registration Licensure Examination to become eligible to practice nursing. For information on registration in Manitoba, contact: The Registrar, College of Registered Nurses of Manitoba (CRNM), 647 Broadway Avenue, Winnipeg, MB, R3C 0X2.

Applicants for registration with the College of Registered Nurses of Manitoba (CRNM) are required to report any conviction for an offence under the Criminal Code (Canada), the Controlled Drugs and Substances Act (Canada) or the Food and Drugs Act (Canada). Please contact the CRNM for more information.

3.3 Admission Requirements: Baccalaureate Program for Registered Nurses

All admission requirements for applicants who are already Registered Nurses are described in detail in an applicant information bulletin that includes application deadline dates and application forms. This material is also available from Enrolment Services, 424 University Centre, and is posted on the university website.

Admission Requirements

- 1) Graduation from an approved diploma of nursing education program;
- 2) Current active practicing membership in a provincial, territorial, state, or national nursing association/college of registered nurses; and

3) A minimum of 1125 hours of nursing experience will normally be required for selection.

The selection of students is based upon academic standing and professional experience. If applications exceed the number of spaces available, the best qualified candidates will be selected.

Proof of Professional Registration

Active practicing membership must be maintained throughout the program in the jurisdiction under which the student is a practicing RN. Verification will be obtained annually from the College of Registered Nurses of Manitoba by the Faculty for returning Manitoba students.

Students from outside of Manitoba must submit proof of registration annually from the registering body to the Faculty of Nursing.

Transfer of Credit

University credits earned outside of nursing diploma programs or earned as part of an incomplete degree may be considered for transfer of credit. If a required course in the baccalaureate program was earned as part of a nursing diploma program or as part of another degree, an alternative course must be substituted. Transfer of credit will be considered for university level nursing courses completed within the five years prior to admission. Credit for previous nursing courses is not given if there is a lapse of five years or more from the last date of attendance in the program. Credit for courses taken at other universities over 10 years prior to admission will not be granted credit.

Graduates of the Red River College Diploma Nursing Accelerated Program (DNAP) (est. 2000) should consult with the BPRN Student Advisor for information on transfer credits.

Transfer of Credit for Advanced Certificate Programs

No credit will be given for these certificates in the revised (45 credit hours) Baccalaureate Program for Registered Nurses.

SECTION 4: Academic Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Faculty of Nursing has regulations and requirements, published below, that apply specifically to its students.

4.1 Regulations Applicable to the Baccalaureate Nursing Program

Scholastic Progress

To enter second year of the Baccalaureate Nursing Program, a GPA of 2.0 or better is required; to enter third and fourth years, and to be eligible for graduation, a cumulative GPA of 2.5 or better is required. Refer to Academic Probation - Baccalaureate Nursing Program, for further information.

Until the final disposition of a disciplinary appeal, students in the four year undergraduate program will not be permitted to attend clinical practice or the nursing skills laboratory. At the discretion of the Associate Dean, Undergraduate Programs, Faculty of Nursing, students may be granted permission to attend the lecture component only of a nursing course(s) while awaiting a final disposition of an appeal currently in progress.

Residence Requirements

See the chapter, General Academic Regulations and Requirements in this *Calendar*.

University Mathematics and Written English Requirement

The written English requirement may be satisfied by a course also chosen to meet the Humanities requirement. Students should refer to the General Academic Regulations and Requirements in this *Calendar*. The mathematics requirement will be met in Year 2 of Nursing by Statistics 005.100M.

4.2 Regulations for the Baccalaureate Program for Registered Nurses

Scholastic Progress

Students in the Baccalaureate Program for Registered Nurses will be assessed initially after the completion of 24 credit hours. Students must have a cumulative GPA of 2.5 to proceed in the program and to graduate. Refer

to Academic Probation - Baccalaureate Nursing Program for Registered Nurses for information.

Residence Requirements

Baccalaureate Program for Registered Nurses students are required to complete, with the minimum grade of "C" in each course, at least 32 credit hours of University of Manitoba courses. Of these courses, a minimum of 20 credit hours must be from among those offered by the Faculty of Nursing.

4.3 Regulations for All Students

Students are reminded of their obligation to be familiar with all regulations governing their continued progress in the program.

Students who do not register for any courses in one academic year must apply in writing to the Associate Dean, Undergraduate Programs for permission to continue. Refer to section on Leave of Absence for further information.

Orientation Sessions

Orientation sessions will be held for **all** students upon admission to the Faculty of Nursing, **prior to** registration. New students at the Fort Garry Campus will receive an orientation package in the mail, and attendance at the orientation session is optional. Several sessions will take place in June, July and August. Mandatory orientation for Brandon students will take place in June and July. Students must plan to be available for one of these sessions. Specific dates of orientation sessions will be included in students' "Certificate of Acceptance."

Degree with Distinction

Baccalaureate Nursing Program: Students who obtain a cumulative GPA of 3.8 and above based on the last 67 credit hours of course work will be eligible for a Degree with Distinction.

Baccalaureate Program for Registered Nurses: Students who obtain a cumulative GPA of 3.8 and above in their program of studies will be eligible for a Degree with Distinction.

Dean's Honour List

Students who achieve a sessional GPA of 3.5 will be included in the Dean's Honour List. Eligible students in the Baccalaureate Nursing Program will be defined as those who are registered for a minimum of 27 credit hours in Year 1; 28 credit hours in Year 2; and 23 credit hours in Year 3 or Year 4.

Eligible students in the Baccalaureate Program for Registered Nurses will be defined as those who are registered for 80 per cent of the course load. (30 credit hours will be considered a full-time course load for the BPRN.)

Uniforms

Students are expected to obtain uniforms and other equipment for Nursing courses and practice, as specified by the Faculty of Nursing. All students, including those in the Baccalaureate Program for Registered Nurses, are required to wear name tags during clinical courses. Students should contact the Nursing Students' Association Council uniform representative for information.

Health Requirements and Immunization Regulations

Immunizations are a requirement mandated by the Regional Health Authorities. Students who do not meet the immunization requirement will not be able to complete the clinical portion of the program.

Students are required annually to review and update immunization against communicable diseases. Annual physical and dental examinations are recommended.

Standard immunization forms are sent to students upon acceptance into the program. Additional forms are available upon request. New students enrolling in the Faculty of Nursing must provide proof of current immunizations by August 1. Thereafter, returning students must provide proof of immunizations that require updating annually by June 1. See "Penalty for Non-Compliance of Immunization and CPR" section.

Cardiopulmonary Resuscitation Certification (CPR)

All students are required to obtain certification in cardiopulmonary resuscitation at the Basic Rescuer Level. Newly admitted students must provide proof of certification by August 1. Thereafter, returning students in the Baccalaureate Nursing Program must provide proof of certification annually by June 1 (at the Fort Garry site, students give the information to the Student

Services Assistant or designate). Certification must be valid for the entire academic year, therefore all nursing students should recertify in April/May.

All students in the Baccalaureate Program for Registered Nurses must be certified at the Basic Rescuer Level. Newly admitted students must submit proof of certification to the Office Assistant or designate by August 1. Thereafter, registered nurses are to maintain current BCLS certification.

Penalty for Non-Compliance of Immunization and CPR

Students who do not comply with the deadlines for proof of current Cardiopulmonary Resuscitation Certification and/or immunizations will be placed on hold status or blocked from the telephone registration system. Students on hold status will be permitted to register after the initial registration period (normally mid-August) after all documentation has been received. Hold status also prevents receipt of refunds or histories/transcripts from the Student Records Office, attending clinical practice and graduation.

Students will be permitted to attend clinical practice when all immunization and CPR requirements are current.

Scholastic Progress Requirements Applicable to All Students

Students will be required to obtain a minimum of "C" grade (2.0) in every course, and a cumulative GPA of 2.5 in order to graduate. A final grade of "D" in any course taken to complete the degree requirement is considered a failure and is not accepted in the faculty.

Students will be permitted to repeat a nursing course only once following a failure. Withdrawal from the program will be required following a second failure in the same nursing course.

Students who fail the same Nursing course twice, prior to applying to the Faculty of Nursing, are ineligible for admission to the Faculty of Nursing. Students who fail a Nursing course twice and are required to withdraw from the Faculty of Nursing are ineligible for re-admission to the Faculty of Nursing.

No supplemental privileges will be allowed where it is possible to offer the course again, except in extraordinary circumstances as indicated in the Regulations for the Academic Evaluation of Undergraduate Students in the Faculty of Nursing.

Although students can register for "090" level courses, credit will not be given for these courses.

Prerequisite Deficiency

Students who enrol in courses provisionally pending satisfactory completion of pre- or corequisites must, if unsuccessful, withdraw or amend their registration accordingly. The Faculty of Nursing reserves the right not to send reminders of the requirement to withdraw.

Challenge for Credit

Students wishing to challenge a course for credit should contact a student advisor.

Academic Probation

Baccalaureate Nursing Program

Students in first-year nursing will be assessed after completion of a minimum of 24 credit hours. Students with a cumulative GPA below 2.0 at the end of the academic year will be placed on probationary status for the next regular session.

Students in second-, third-, and fourth-year nursing with a cumulative GPA below 2.5 at the end of the academic year will be placed on probationary status for the next regular session.

Probationary students are assessed at the end of the next academic year, after completion of a minimum of 15 credit hours. Students failing to achieve the required GPA will be placed on academic suspension.

With special permission of the Associate Dean, Undergraduate Programs, a student can request a review of academic progress based on less than 15 credit hours if course work taken during summer session has the potential to change the probationary status. Refer to Academic Suspension section.

Students will be required to withdraw from Nursing Summer Term if their cumulative GPA does not meet year requirements at the end of regular session. Students must assume responsibility to ensure their CGPA meets the year requirement for Nursing Summer Term.

Students on probation are expected to meet with a student advisor at least twice, with a minimum of once per term, for academic advisement.

Baccalaureate Program for Registered Nurses

All students enrolled in the Baccalaureate Program for Registered Nurses with a GPA under 2.5, after the completion of 24 credit hours, will be placed on probation. Students failing to achieve a GPA of 2.5 after the completion of their next 15 credit hours of study will be placed on academic suspension.

Academic Suspension

A probationary student who does not achieve the minimum academic standing is required to withdraw from the Faculty of Nursing with the status "academic suspension." While suspended indefinitely, after one year's suspension the student may apply for reinstatement on academic probation.

To request reinstatement following academic suspension, the student should submit a written request before May 1 to the Chair, Student Appeals Committee, Faculty of Nursing.

Security of Academic Records

The university's policies regarding the security of student academic records is found in the chapter, University Policies, of this *Calendar*.

Professional Unsuitability By-Law

The Senate of the University has approved a by-law granting authority to the Faculty to require a student to withdraw for reasons of professional unsuitability. A student may be required to withdraw from the Faculty when, at any time, the Faculty Council, through the Professional Unsuitability By-Law, believes the student to be unsuited for the profession of nursing, on general considerations of scholarship, professional fitness or professional conduct.

Copies of this by-law may be obtained from the general office. See chapter, General Academic Regulations and Requirements.

Attendance

Regular attendance at class is expected of all students in all courses. Attendance in the clinical practice/laboratory portions of nursing courses is mandatory to enable the student to satisfy the evaluative criteria of the theoretical and practical components of courses. Students absent from class or practice due to illness may be required to present a certificate of illness. This certificate must be signed by a recognized health care provider. Absence for compassionate reasons is considered on an individual basis. Where absence is involved, make-up time may be required.

An instructor may initiate procedures to debar a student from attending classes and from final examinations and/or from receiving credit where unexcused absences exceed those permitted by faculty regulations.

Voluntary Withdrawal and Limited Access

The maximum number of voluntary withdrawal hours is set at 34 credit hours which will include Arts and Science and other courses transferred into the nursing program and given credit hours towards the B.N. Program.

The Faculty of Nursing will follow the University's General Policy on Limited Access in that registration will be restricted for students who have withdrawn from, or previously completed, a course. This shall apply to all courses and enforcement will apply to the two sessions following the session in which the course was taken.

Criminal Record Check

Students are advised that some clinical practice sites require that students complete a Criminal Record Check and/or a Child Abuse Registry check.

Clinical Practice

Baccalaureate Nursing Program students enrolled in nursing courses with clinical practice components may not register for any other course during those designated clinical days. Nursing clinical practice may be scheduled during the morning, afternoon or evening. Weekends are also used for some sections in clinical courses. Transportation costs to clinical practice settings are the responsibility of the student.

All students must be registered in all clinical courses for both terms by the specified deadline. Failure to register by this date may prevent accommodation in a clinical course. Current deadlines are published in the *Registration Guide*.

Personal Health Information Act (PHIA)

Students must abide by the policies and procedures established at clinical practice sites. Within Winnipeg, this includes: attending a Winnipeg Regional Health Authority (WRHA) orientation session regarding the Personal Health Information Act (PHIA), signing the PHIA pledge, and obtaining a

PHIA card. Students attending clinical practice at institutions outside the jurisdiction of the WRHA, such as hospital or community health programs in rural health authorities, may be required to attend a separate orientation and obtain a PHIA card appropriate for the health institution or region. PHIA card(s) and attendance at the PHIA orientation(s) are required for clinical practice and will be checked at clinical sites.

Unsafe Clinical Practice Policy

The debarment policy will be invoked when the student demonstrates unsafe clinical practice. Unsafe clinical practice is behaviour which places the client or staff in either physical or emotional jeopardy. Physical jeopardy is the risk of causing physical harm. Emotional jeopardy means that the student creates an environment of anxiety or distress which puts the client or family at risk for emotional or psychological harm. Unsafe clinical practice is an occurrence or a pattern of behaviour involving unacceptable risk.

Debarment Policy

A student may be debarred from class, clinical practice, laboratories, and examinations by action of the Dean for persistent non-attendance, unsafe clinical practice, and/or failure to produce assignments to the satisfaction of the instructor. Once the debarment process has been initiated, the student will not be able to voluntarily withdraw from the course that is presently under investigation. Students so debarred will have failed that course.

Clinical Absence

Baccalaureate Nursing Program students returning following one year or more absence from clinical courses must complete a mandatory demonstration of psychomotor skills competency in the skills lab. Competency must be demonstrated prior to clinical attendance. Students should consult with a student advisor for instructions. Testing must be completed prior to July 1st.

Leave of Absence

Students wishing to interrupt their studies must have spent a minimum of one year in the program and completed at least three credit hours of course work. Students must submit a written leave of absence request to the Associate Dean, Undergraduate Programs. Leave of absence status does not extend the program time limit outlined in the Faculty of Nursing regulations. To maintain leave of absence status at the University of Manitoba, students may not attend any other university during the period in which the leave of absence is in effect. See "Transfer of Credit" under section 3.2.

Reinstatement

Students who have withdrawn from the Faculty of Nursing (interrupted their studies without requesting a leave of absence) must submit a written request for reinstatement to the Associate Dean, Undergraduate Programs. The student advisor will inform the student of the appropriate procedure and advance standing, if any, that the student may receive. Note: 1) the student who does not attend another faculty or institution and requests, within five years of voluntary withdrawal, to re-enter the Faculty of Nursing will be advised to forward such a request to the Associate Dean, Undergraduate Programs. 2) the student who requests to return to the Faculty of Nursing more than five years after withdrawal must re-apply through Admissions. 3) the student who has attended another faculty or institution following withdrawal from Nursing must re-apply through Admissions. See "Transfer of Credit" under section 3.2.

SECTION 5: Program Requirements: Baccalaureate Nursing Program

NOTE: The curriculum and admission criteria for this program are under review. Students intending to meet admission requirements after 2003 should consult a student advisor.

The curriculum has been designed to develop the cognitive, affective and psychomotor attributes required for professional nursing practice. The past decade has seen many changes in higher education, in health and illness care, and in nursing education and practice. Some changes include a shifting emphasis in health care to a focus on the promotion of health and prevention of illness, and a growing emphasis on the care of the elderly, and on primary health care. In response to these and other changes, a curriculum has been developed which includes foundation courses in the liberal arts and sciences, a focus on nursing research, the development of cognitive skills for critical thinking, and the development of skills of collaboration for work in a multidisciplinary health care system.

The basic curriculum of the Baccalaureate Nursing Program as outlined below is offered at each of the urban, rural and northern sites. To meet the unique educational needs of each specific site, there will be some variation in the curriculum within the guidelines of Senate regulations. For example, to facilitate achieving the goal of the Norway House Cree Nation (NHCN) site to deliver a curriculum which focuses on the unique cultures and health care needs of northern Aboriginal Peoples, health and social issues in First Nations populations are addressed in nursing courses. Students who would like additional information specific to the rural and northern sites should contact a student advisor at the Faculty of Nursing.

In addition, programming varies among sites. The Fort Garry Campus site offers part-time and full-time study, as well as Nursing Summer Term during select years. Nursing Summer Term is not offered at the Brandon and Norway House Cree Nation sites.

Note: As a general principle, all courses from any given year are to be completed before proceeding to the next year.

<i>Course No.</i>		33 credit hours
University 1		
022.132	Anatomy of the Human Body (see Note 1)	3
022.133	Physiology of the Human Body (see Note 1)	3
060.122	Essentials of Microbiology (see Note 1)	3
	Social Science (six credits of) (see Note 1)	6
017.120	Introduction to Psychology (6)	
	or	
077.120	Introduction to Sociology (6)	
	or	
076.121	Human Origins and Antiquity (3)	
	and	
076.122	Cultural Anthropology (3)	
Science	(six credits from the Faculty of Science)	6
	(see Notes 1, 3 & 4)	
Humanities	Elective (see Notes 1 & 2)	6
	Nursing Courses :	
049.126	Human Growth and Development (see Note 1)	3
049.128	Introduction to Nursing (see Note 1)	3

Note 1: All courses can be completed in University 1, or an equivalent program, if students do not wish to extend their program of study.

Note 2: Humanities

English, Philosophy, History, Religion, Languages, Classics, Native Studies, etc. Humanities information is found in the chapter for the Faculty of Arts, Additional Faculty Regulations and Policies section, 5.1.1. "090" level courses are not accepted.

Note 3: Science Prerequisites

Students must meet the current Science prerequisites before registration for Science courses. See the chapter for the Faculty of Science for the current prerequisites.

It is preferred that the above prerequisites have been completed within the last five years.

Note 4: The course, 71.111 Health and Health Professions, may not be used as a Science elective. It may, however, be used as an elective from years 3 or 4, provided that the level requirements of all electives are met.

Year 2		34 credit hours
005.100	Basic Statistical Analysis 1	3
049.212	Nursing Health Assessment	4
049.213	Nursing Skills Laboratory	2
049.214	Health Promotion of Individuals	4
049.215	Facilitation of Self Care	3
049.216	Introduction to Legal and Ethical Foundations of Nursing Practice	3
049.217	Prevention of Illness	3
049.218	Clinical Nursing Practice 1	3
049.219	Clinical Nursing Practice 2	3
049.222	Pharmacology in Nursing Practice	3
049.321	Nursing Research Methods	3
Year 3		29 credit hours
049.327	Health Promotion in Families	3
049.328	Nursing Skills Laboratory	2

049.329	Health Restoration in Nursing	6
049.330	Clinical Nursing Practice 3	3
049.331	Health Maintenance in Nursing	6
049.332	Clinical Nursing Practice 4	3
	Elective	3
	Elective	3
Year 4	39 credit hours	
049.417	Issues and Trends in Nursing and Health Care	3
049.419	Leadership in Nursing Practice	3
049.424	Health Promotion in the Community	4
049.425	Palliative Nursing Care	3
049.426	Nursing Care in Mental Health and Illness	3
049.427	Clinical Nursing Practice 5	4
049.428	Theories in Nursing Practice	3
049.429	Clinical Practicum	10
	Elective	3
	Elective	3

Reminder: It is the responsibility of the student to ensure that degree requirements are met.

049.429 Clinical Practicum

Any costs incurred in completing this course are the responsibility of the student. Proposals must meet the approval of the Faculty of Nursing and must have academic merit. A student's chosen area for completion of practicum experience must be approved by the Faculty of Nursing. Practicum experiences are to be completed within the province of Manitoba. The location of the practicum must meet the approval of the University of Manitoba. The location of the practicum is subject to change in the event approval is not received. There may be organizations which require contractual arrangements with the student and/or University of Manitoba prior to permitting the student to enter into the practicum experience. There is no guarantee the University of Manitoba will enter into such contractual arrangements to permit the student to carry out practice at a particular agency or site. In such cases, the student should be prepared to choose an alternate agency or site.

5.1 Courses Which May be Used as Electives

Electives are to be taken from Arts, Science, professional faculties or the Inter-Faculty Option in Aging (18 credit hours). (See section 8). Of the total credit hours of electives, at least 12 credit hours must be at the 200 level or higher. Electives offered by the Faculty of Nursing are:

Course No.		Credit Hours
049.220	Topics in Aging	3
049.333	Women and Health	3
049.334	Providing Care in a Culturally Diverse Society	3
049.335	Counselling Skills for Nurses	3
049.340	Men's Health: Concerns, Issues and Myths	3
These "049" courses may be taken as electives only, and are not an alternative for a required nursing course.		
	Inter-Faculty Option in Aging	18

SECTION 6: Program Requirements: Baccalaureate Program for Registered Nurses (BPRN)

The Faculty of Nursing has developed a baccalaureate program that recognizes and values the knowledge and experience of practicing Registered Nurses. The learner-centred, process curriculum is designed to further the capacity of Registered Nursing practice in an ever-changing health care system.

The curriculum consists of a minimum of 33 credit hours in Nursing, and 12 credit hours from Arts, Science or a professional faculty (for a total of 45 credit hours).

Students graduating with the minimum of 45 credit hours of coursework may be required to complete additional courses or pre-Master's study prior to entry to the graduate program in Nursing (Master of Nursing). For further information, contact the Graduate Program Assistant, Faculty of Nursing, 474-6216.

Current students who were admitted prior to September 2002 may complete the requirements of the curriculum to which they were admitted, or the requirements of the current 45 credit hour curriculum.

Students may elect full-time or part-time study. A variety of community settings are utilized for clinical experience. Courses may be offered in late afternoons or evenings, during summer session and through distance education (correspondence) or internet-based study.

6.1 Special Student Status in Nursing

Students who are not enrolled in the Baccalaureate Program for Registered Nurses may be eligible to apply to the Faculty of Nursing as a special student in Nursing. Once admitted, students may register in University of Manitoba courses. Following are the guidelines for special student status:

- Special Students are allowed to register for a maximum of 15 credit hours.
- Special Students must obtain a minimum of "C" grade in a course in order to transfer credit into the Baccalaureate Program for Registered Nurses.
- A nursing course completed as a special student may be accepted subsequently for credit in the Baccalaureate Program for Registered Nurses up to five years from the date of completion of said course.

Prior to registering for a nursing course, all special students must obtain written permission from a Faculty of Nursing student advisor and present a photocopy of their current Active Practising Membership with the College of Registered Nurses of Manitoba.

Completion of courses as a special student does not guarantee admission into the Baccalaureate Program for Registered Nurses. All students must complete the application forms and submit required information by March 1 annually, unless otherwise indicated at the time of application.

The Faculty of Nursing will allow Registered Nurses admitted to another faculty at the University of Manitoba or another university to register for a maximum of 15 credit hours of nursing courses prior to being admitted to the Faculty of Nursing. Written permission must be obtained from a student advisor and does not guarantee space in the course.

6.2 Baccalaureate Program for RNs

Program Effective September, 1997

There are a number of students completing this program. For details on this program and courses, please contact the BPRN Student Advisor.

6.3 Baccalaureate Program for RNS

Program Effective September 2002

Note: Nursing electives may not be offered every year.

Course No.	Core Courses:	Credit Hours
049.343	Seminar in Professional Nursing Foundations (see Note 1)	2
005.100	Basic Statistical Analysis 1	3
049.321	Nursing Research Methods	3
049.322	Community Health Nursing 1 (see Note 2)	4
	or	
049.336	Assessing the Health of Communities (see Note 2)	
049.420	The Teaching-Learning Process in Nursing Practice	3
049.421	Independent Study in Nursing	4
049.422	Law and Ethics in Nursing Practice	3
049.431	Nursing Leadership: Issues and Practices	4
	Nursing Electives (see Note 4)	10
	Non-Nursing Electives (see Note 5)	9

Nursing Electives

10 credit hours of acceptable Nursing electives are to be chosen from the following list – at least one course chosen must be a 4 credit hour course.

- 049.211 Health Assessment of Individuals (3)
- 049.220 Topics in Aging (3)
- 049.320 Nursing of Individuals and Families with Long-Term Illness and Disability (4)
- 049.323 Perspectives on Mental Health Nursing (4)
- 049.324 Adult Intensive Care Nursing I (4)
- 049.333 Women and Health (3)

- 049.334 Providing Care in a Culturally Diverse Society (3)
- 049.335 Counselling Skills for Nurses (3)
- 049.339 Nursing in Rural Environments (4)
- 049.340 Men's Health: Concerns, Issues and Myths (3)
- 049.416 Community Health Nursing 2 (4) (see Note 3)
- 049.425 Palliative Nursing Care (BPRN specific section only) (3)
- 049.430 Promoting the Health of Communities (4) (see Note 3)
- 090.324 Principles of Disease Related to Adult Intensive Care (3)

In addition, the following courses from the Inter-Faculty Option in Aging are acceptable as Nursing electives:

- 049.261/ 057.261 Health and Physical Aspects of Aging (3)
- 047.265/ 051.265/ 028.265/ 123.265 The Social Aspects of Aging (3)

NOTES:

- 1) It is recommended that 049.343 be taken in the first 12 credit hours of the program. Students who have credit for the former 049.319 may be substitute this course for 049.343.
- 2) Students may select either 049.322 or 049.336 as their core community clinical course.
- 3) The community health courses are designed to complement each other: 049.322 complements 049.416; 049.336 complements 049.430. Students choose either 049.416 **OR** 049.430.
- 4) Nursing electives may be used to customize a student's program. Electives may be used to expand on a number of different areas of nursing or may be used to focus on a particular area of nursing practice.
- 5) Of the 9 credit hours of non-Nursing electives, no more than 6 credit hours may be at the 100 (introductory) level. Students who graduated from Health Sciences Centre after 1981, or took N311 Microbiology at Red River College after 1989, should contact the BPRN student advisor if they are considering registration in 060.122 Essentials of Microbiology as a non-Nursing elective. Students who completed Anatomy and Physiology at a university level (equivalent to 022.132 and 022.133) in their diploma program should not take any further introductory-level anatomy and physiology courses as their non-Nursing electives. See section 6.5 for suggestions re: Non-Nursing Electives for the BPRN.

6.4 Clinical Courses for the BPRN

Review section 4.3 Regulations for All Students which contains information regarding the Personal Health Information Act (PHIA), immunization and CPR regulations, and other information specific to clinical practice.

A clinical course (normally designated by the fact that it is a 4 credit hour course) will involve a heavier workload and time commitment than a 3 credit hour course. For most of these courses, clinical placements/assignments will be arranged between the course leader and student at or prior to the start of a term. However, for courses **049.320** and **049.416**, students must contact the placement officer at 474-6266 at least three months prior to the start of classes to state their intention to register for these courses and to discuss preference of clinical sites. Placement sites will be arranged as requested by the student on a first-come, first-served basis according to the availability of the agency. Failure to contact the placement officer as noted above may result in the student being placed in a site determined by the Faculty of Nursing.

049.421 Independent Study in Nursing

The student is responsible for choosing an area for completion of the practicum experience. The choice of subject, the proposed plan for completion of the study, and the faculty advisor selected by the student must all be approved by the Faculty of Nursing. In addition, the location of the practicum must be approved by the Faculty of Nursing. There may be organizations which require contractual arrangements with the student and/or the University of Manitoba prior to permitting the student to enter the practicum experience. There is no guarantee that the University of Manitoba will enter into a particular agreement and, if an agreement is not approved, the student would have to select an alternate practicum site. Any costs incurred in completing this course are the responsibility of the student.

Information sessions for 049.421 are held twice yearly, in October and in March. Refer to the Registration Guide for dates.

6.5 Courses Which May be Used as Non-Nursing Electives in the BPRN

Courses may be selected from any faculty or school of the University, subject to faculty/department regulations and subject to the student's meeting any prerequisite requirements. Some suggestions follow:

- Faculty of Arts courses - e.g. anthropology, native studies, psychology, sociology, religion
- Faculty of Human Ecology - e.g. foods and nutrition, family studies
- Asper School of Business (Management) - e.g. courses in business administration, management, organizational behaviour
- Faculty of Physical Education and Recreation Studies
- Faculty of Science - e.g. biology, chemistry, computer science, microbiology, zoology
- Faculty of Social Work - e.g. courses in social welfare policy, communication skills

6.6 Adult Intensive Care Courses

Consult the Administrative Secretary for the Adult Intensive Care Courses at 474-7068.

- At *St. Boniface General Hospital or the Health Sciences Centre*

Students intending to take all four collaborative adult intensive care courses must apply through the Administrative Secretary, Adult Intensive Care Courses, Faculty of Nursing.

Students in the Baccalaureate Program for Registered Nurses may register without special permission for 090.324 and/or 049.324.

- At *Brandon Regional Health Centre*

Students intending to take all four collaborative adult intensive care courses at Brandon must apply through the student advisor in Brandon. For information, please call (204) 726-2271.

For students in the Baccalaureate Program for Registered Nurses, course 049.324 may be used as a Nursing clinical elective (4 credit hours), courses 049.325 and 049.326 may be used in lieu of 049.421 Independent Study in Nursing Practice, and 090.324 may be used as either a Nursing or non-Nursing elective.

SECTION 7: Primary Care Skills

To prepare nurses for practice in remote, northern, and First Nations settings, the Faculty of Nursing, the J.A. Hildes Northern Medical Unit, Community Health Sciences - Faculty of Medicine, Manitoba Keewatinowik Okimakanak Inc., and Health Canada have developed a set of courses. The primary care skills courses are available **only to nurses recommended by First Nations employers and First Nations and Inuit Health Branch, Health Canada**. These courses address the scope of practice required for nurses employed in nursing station settings in the provision of advanced nursing care. Refer to www.umanitoba.ca/nursing/programs/primcom.html.

Primary Care Skills Component

Course No.		Credit Hours
049.221	Comprehensive Health Assessment	3
049.337	Primary Care Skills: Clinical Consolidation	6
049.338	Primary Care Skills: Clinical Interventions	6

SECTION 8: Inter-Faculty Option in Aging

An Inter-Faculty Option in Aging is offered by the following faculties: Architecture (Interior and Environmental Design), Arts, Human Ecology, Nursing, Physical Education and Recreation Studies, and Social Work. To complete the Inter-Faculty Option in Aging, students will complete a total of 18 credit hours including each of the following:

- Required Courses (six credits). See the Registration Guide for the current course number being offered.
 - a) 051.265/028.265/123.265/047.265 The Social Aspects of Aging (3 credit hours)
 - b) 049.261/057.261 Health and Physical Aspects of Aging (3 credit hours)
- Electives (12 credit hours).
 - a) At least three credits of professional/discipline-specific applied work on aging within the student's faculty of registration; and
 - b) An additional nine credit hours in aging electives from the participating faculties. Students can take nine credit hours from their own faculty but are

encouraged to select offerings from other faculties. Lists of eligible elective courses are available from the student advisors.

- The nursing option in aging elective is 049.220 Topics in Aging.

Upon completion of these requirements, the "Option in Aging" comment will be recorded on the student's transcript. Information on the Inter-Faculty Option in Aging is available from a student advisor.

SECTION 9: Course Descriptions

9.1 Baccalaureate Nursing Program

NOTE: As a general principle all courses from any given year are to be completed before proceeding to the next year. Specific pre or corequisites for courses are listed below. A minimum grade of "C" is required in all courses.

049.126 Human Growth and Development (3) Study of the normal growth and development across the lifespan, with consideration of current physiological and psychological knowledge.

049.128 Introduction to Nursing (3) The student is introduced to the profession of nursing and to some basic concepts relevant to nursing practice, education and research. Past, present and future roles and functions of the nurse will be explored.

049.1212 Nursing Health Assessment (4) This course focuses on the development of nursing theory and skills required to assess and record the physical and psychosocial status of healthy individuals. Age and cultural variations are identified. A basic level of assessment of the family and community will be introduced.

049.1213 Nursing Skills Laboratory (2) Students will learn skills required to assist healthy clients to maintain or improve health. Modifications to the skills required because of age and cultural differences of clients will be identified. Strategies for assisting family care givers to perform selected skills will be incorporated.

049.1214 Health Promotion of Individuals (4) Concepts of bio/psychosocial/spiritual wellness of individuals of all ages are described in the context of a family and community. Nursing roles in health promotion are compared critically to those of other health team members. Related issues and research are examined.

049.1215 Facilitation of Self Care (3) This course focuses on the concept of self care and related issues and research. Behavioural and environmental factors that influence self care, theories, principles and strategies for assessing and meeting the learning needs of clients and their families, and the nurse's role in facilitating self care will be discussed.

049.1216 Introduction to Legal and Ethical Foundations of Nursing Practice (3) This course will examine the legal and ethical foundations that guide nursing practice. The processes of critical analysis and reasoning will be applied to common legal and ethical dilemmas.

049.1217 Prevention of Illness (3) This course focuses on the nurse's role in the prevention of dysfunction and the early detection of health risks in the individual, family and community. Issues and research relevant to illness prevention are incorporated. Must be *Pre- or co-requisite* with 049.218.

049.1218 Clinical Nursing Practice 1 (3) Students will apply concepts of health promotion and illness prevention to the care of infants, children, adolescents and young adults. The focus is on health related nursing phenomenon and the development of assessment, communication, teaching/facilitative and basic psychomotor skills. *Pre or corequisite:* 049.128; 049.212; 049.213; 049.214; 049.217.

049.1219 Clinical Nursing Practice 2 (3) Students will apply concepts of health promotion and illness prevention to the care of healthy and at risk middle aged and elderly adults. The focus is on health risk phenomena and the development of assessment, communication, teaching/facilitative, and basic psychomotor skills. *Pre- or corequisite:* 049.128; 049.212; 049.213; 049.215.

049.1222 Pharmacology in Nursing Practice (3) Course introduces students to basic concepts and principles related to pharmacology (pharmacokinetics, pharmacodynamics, pharmacotherapeutics) and the nurses' role in drug therapy. The major classifications of drugs will be examined along with issues arising from the use of drug therapy in contemporary society. *Prerequisite:* 022.132 and 022.133.

049.1221 Nursing Research Methods (3) This course provides an overview of research strategies in nursing with a focus on the acquisition of concepts in order to critically appraise nursing research. Strongly recommended that students complete 005.100 (formerly 005.220) prior to 049.321.

049.1227 Health Promotion in Families (3) This course focuses on an advanced level of family assessment and integration of family theory into nursing practice. Skills required to assist families to increase control over and to improve their health are explored.

049.1228 Nursing Skills Laboratory (2) This course focuses on the development of clinical nursing skills required to assist ill or dying clients. Modifications to the skills required because of age, cultural differences or client preference are identified.

049.1229 Health Restoration in Nursing (6) This course focuses on concepts, issues and research related to nursing care of clients across the lifespan in the acute phase of disease. The impact on the family and community will be explored.

049.330 Clinical Nursing Practice 3 (3) Students will apply concepts of health restoration to the care of ill clients of all ages and their families in the acute stage of disease. The focus is on illness related phenomena, critical thinking, the development of the care provider and communicator roles, application of research findings and identification of practice issues. *Pre- or corequisite:* 049.328; 049.329.

049.331 Health Maintenance in Nursing (6) This course focuses on concepts, issues and research related to nursing care of individuals across the lifespan who require health maintenance for long term illnesses. The impact on the family and community will be explored.

049.332 Clinical Nursing Practice 4 (3) Students will apply concepts of health maintenance to the care of clients of all ages with long term illness and their families. The focus is on illness related phenomena, analytical thinking, the development of the care provider and communicator roles, application of research findings and identification of practice issues. *Pre- or corequisite:* 049.327; 049.328; 049.331.

049.417 Issues and Trends in Nursing and Health Care (3) Study of the forces shaping nursing education, service and research and analysis of current issues in nursing and health care. The learner will develop awareness of professional nursing roles and responsibilities.

049.419 Leadership in Nursing Practice (3) Focuses on selected theories of leadership and management. Effective interpersonal behaviour in health care organizations will be examined. The learner will explore own potential to effect change in the health care system.

049.424 Health Promotion in the Community (4) This course will provide the opportunity to examine concepts, theories, research and nursing roles as they apply to the promotion of health in communities. Relevant theories and research about group process will be incorporated in the analysis of community health issues.

049.425 Palliative Nursing Care (3) This course focuses on concepts, issues, research and skills related to the nursing care of individuals across the lifespan who are experiencing irreversible loss. The impact on the family and the community will be emphasized.

049.426 Nursing Care in Mental Health and Illness (3) This course deals with the concept of mental health and illness as it applies to individuals across the lifespan. The effect on the individual, the family and the community will be stressed. The student will gain a greater awareness of the self and the therapeutic use of self in the providing of nursing care.

049.427 Clinical Nursing Practice 5 (4) Students will apply nursing concepts and relevant theories and research in the care of clients and their families who are experiencing psychological stress and to those who are dying. The focus is on critical thinking, the development of the communicator, advocate and collaborator roles. *Corequisite:* 049.425; 049.426.

049.428 Theories in Nursing Practice (3) This course will enable the student to develop skill in the critical analysis of theories proposed by theorists in nursing and other disciplines. The utility of these theories for nursing practice, education and research will be examined.

049.429 Clinical Practicum (10) This course enables students to integrate and critically apply concepts, theories and relevant research to an area of practice and a client group of their choice. Care will address all levels of health, reflect application of a focused body of theory, and consider concepts of leadership, research, ethics, family and community care. *Prerequisite:* all courses in the program.

9.2 Baccalaureate Program for Registered Nurses

049.211 Health Assessment of Individuals (3) The focus is on health assessment of adults including the normal changes which occur in childhood and aging. The course will provide opportunity to learn the health history and physical examination skills essential to health assessment.

049.320 Nursing of Individuals and Families with Long-Term Illness and Disability (4) Nursing of individuals and families of all age groups who require palliative nursing measures or need assistance in adapting to long-term illness. The learner will participate in planning relevant clinical experiences to meet own learning objectives.

049.321 Nursing Research Methods (3) This course provides an overview of research strategies in nursing with a focus on the acquisition of concepts in order to appraise critically nursing research. Strongly recommended that students complete 005.100 (formerly 005.220) prior to 049.321.

049.322 Community Health Nursing 1 (4) An analysis of concepts of prevention of disease/dysfunction and promotion of health in community based populations. Focus is on primary and secondary prevention and the promotion of health with identified risk groups. Population groups are assessed for risks to their physical and psychosocial health and current preventive and promotive measures analyzed and critiqued. The impact of macro systems in promoting health are discussed. May not be held with 049.336.

049.323 Perspectives on Mental Health Nursing (4) Emphasis will be placed on the mental health needs of individuals and their families who are experiencing mental health problems and/or mental illness. Diverse perspectives on mental health and illness will be explored. A clinical practicum will provide an opportunity to apply mental health nursing principles and community settings.

049.336 Assessing the Health of Communities (4) An analysis of concepts of prevention of disease and dysfunction in aggregate and community-based populations in First Nations Communities. May not be held with 049.322.

049.339 Nursing in Rural Environments (4) Emphasis will be placed on the health needs of residents in a rural environment. The nature of nursing and issues encountered in a rural setting, whether in a health care institution or a community health nursing practice are explored. A clinical practicum is an integral part of the course.

049.343 Seminar in Professional Nursing Foundations (2) The study and application of academic skills, nursing informatics and theoretical foundations, designed to assist diploma-prepared registered nurses to successfully transition to university and the Baccalaureate Program for Registered Nurses. *May not hold for credit with 049.319.*

049.416 Community Health Nursing 2 (4) Application, integration and synthesis of knowledge and skills in the utilization of the nursing process with families. Development of skills in the process of change with families. Orientation to the concept of prevention and health promotion as focal concepts in the practice of nursing with families in communities. *Pre- or corequisite:* 049.322. May not be held with 049.430.

049.420 The Teaching-Learning Process in Nursing Practice (3) Focuses on theories and models of teaching and learning. Principles and strategies for assessing the health/illness learning needs of individuals, groups and communities and for planning, implementing and monitoring the process in nursing situations will be examined. The nursing research base for the process will be explored. Linkages with related nursing concepts will also be demonstrated.

049.421 Independent Study in Nursing (4) The learner will have an opportunity to formulate a learning contract to explore, in depth, an area of nursing. This learning contract is to include a major emphasis on the theoretical basis of the selected topic. Prerequisite: 35 credit hours of completed study in the program.

049.422 Law and Ethics in Nursing Practice (3) A study of the legal and philosophical bases of the nursing profession and the legal and bioethical issues confronting the professional nurse primarily in the practice setting. A major goal of the course is to draw upon material specific to the professional nurse.

049.430 Promoting Health of Communities (4) Theoretical and practical application regarding the promotion of health in First Nations communities. May not be held with 049.416.

049.431 Nursing Leadership: Practice and Issues (4) The study of the forces shaping nursing leadership and analysis of current issues and trends in nursing and health care. Emphasis will be placed on leadership development within the context of the health care environment now and into the future. *May not hold for credit with 49.417 or 49.419.*

9.3 Nursing Electives

049.220 Selected Topics in Aging and Health (3) Emphasis will be placed on theory and research related to a current topic in aging and health. Special attention will be directed to integrating concepts and processes of aging. A practicum/field work component will be an integral part of the course. Prerequisite: core courses in the Inter-faculty Option in Aging or permission from the course leader.

049.261/057.261 Health and Physical Aspects of Aging (3) An introduction to health, well-being and aging. Emphasis on health as multidimensional including physical, social and mental health. Integration of theory and research in examining selected issues related to health and physical aspects of aging. Students may not hold credit for 049.261 and 057.261. (A required Option in Aging course)

049.333 Women and Health (3) Introduction to health concepts and issues as they relate to women from a woman's health perspective. Emphasis on enhancing self-care and prevention. Studies the relationship between a woman and the Canadian Health Care System, and appropriate methodology for self-care, vis-a-vis nutrition, reproduction, menarche, menopause, etc. Not to be held for credit with the former 049.423. Caution: this course is not intended for 1st year students.

049.334 Providing Care in a Culturally Diverse Society (3) This course fosters skills in recognizing and understanding the impact of culture on health related values, beliefs and practices. A culture-general approach is used to develop skills in the provision of nursing care within a culturally diverse society.

049.335 Counselling Skills for Nurses (3) Builds on the significance of interpersonal skills in nursing practice in health and illness. Examines theoretical basis and practical application of a counselling approach with clients. Students will have the opportunity for experiential learning.

049.340 Men's Health: Concerns, Issues and Myths (3) An exploration and examination of the social aspects of aging. Emphasis on understanding the aging process as a life transition involving adaptation through interaction with social and physical environments. Students may not hold credit for 123.265 and 051.265 or 028.265 or 047.265. (A required Option in Aging course)

049.265/051.265/028.265/123.265 The Social Aspects of Aging (3) An examination of the social aspects of aging. Emphasis on understanding the aging process as a life transition involving adaptation through interaction with social and physical environments. Students may not hold credit for 123.265 and 051.265 or 028.265 or 047.265. (A required Option in Aging course)

9.4 Nursing Electives: Baccalaureate Program for Registered Nurses Only

Collaborative Adult Intensive Care Courses

049.324 Adult Intensive Care Nursing 1 (4) Focus is on the knowledge, integration and application of major intensive care nursing concepts and theories. *Pre- or corequisite:* 090.324.

049.325 Laboratory Practice in Adult Intensive Care Nursing (2) Laboratory course focusing on the acquisition of selected skills associated with the nursing care of critically ill adult patients. *Pre- or corequisite:* 049.324; 090.324.

049.326 Clinical Practice in Adult Intensive Care Nursing (3) Selective clinical experience, in adult intensive care settings, is designed to enable the learner to apply critical care theory. *Prerequisite:* 049.324, 049.325 and 090.324.

090.324 Principles of Disease Related to Adult Intensive Care (3) Course focuses on advanced physiology and pathophysiology of the following body systems: cardiovascular, respiratory, neurological, renal and endocrine.

Primary Care Skills Courses

049.221 Primary Care Skills: Comprehensive Health Assessment (3) Students will engage in comprehensive data collection through obtaining a health history and performing a complete physical exam on newborn, pediatric, obstetric, and adult clients.

049.337 Primary Care Skills: Clinical Consolidation (6) Students will be provided with opportunities to integrate and consolidate clinical nursing skills. Clinical sites include: medicine, emergency, L & D, pediatric ER.

049.338 Primary Care Skills: Clinical Interventions (6) Acute and chronic health conditions throughout the lifespan, and as identified in First Nations and Inuit Health Branch's "Scope of Practice" will be addressed through lectures, case studies, student presentations, internet technology and independent learning, basic trauma life support, and pediatric life support courses.

Community Health Courses

049.336 Assessing the Health of Communities (4) An analysis of concepts of prevention of disease and dysfunction in aggregate and community-based populations in First Nations Communities. May not be held with 049.322.

049.430 Promoting Health of Communities (4) Theoretical and practical application regarding the promotion of health in First Nations communities. May not be held with 049.416.

Faculty of Pharmacy

General Office

202 Pharmacy Building

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E-mail: Pharmacy@UManitoba.CA

Website: www.umanitoba.ca/faculties/pharmacy/

Dean: David M. Collins

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SECTION 1: Academic Staff

Dean Emeritus

Steele, J.W., B.Sc. (Pharm.), A.R.S.C., Ph.D. (Glasgow).

Professors

Briggs, C.J., B.Pharm., Ph.D. (London), F.R.Pharm.S.; Burczynski, F., B.Sc. (Pharm.), M.Sc., Ph.D. (Manitoba); Collins, D.M., Dipl. Pharm. (NZL), M.Sc., Ph.D. (Minnesota); Grymonpre, R., B.Sc. (Pharm.) (Manitoba), Pharm.D. (Minnesota); Hasinoff, B., B.Sc. (Hons.), Ph.D. (Alberta); Simons, K.J., B.Sc. (Pharm.), M.Sc. (Manitoba), Ph.D. (Washington); Sitar, D., B.Sc. (Pharm.), M.Sc., Ph.D. (Manitoba); Zhanel, G., B.Sc. (Pharm.), Ph.D., (Manitoba), Pharm.D., (Minnesota).

Professor Emeritus

Templeton, J.F., B.Sc., M.Sc. (Memorial), D.I.C. (Imperial Coll.), Ph.D., D.Sc., (London), F.R.S.C., C. Chem., (UK).

Associate Professors

Ariano, R., B.Sc. (Pharm.) (Manitoba), Pharm.D. (Minnesota), B.C.P.S., Gong, Y., B.M. (Beijing), M.Sc. (China), Ph.D., (Manitoba); McIntosh, A.R., B.Sc. (Chem.) (Calgary), Ph.D. (Queen's); Metge, C., B.Sc. (Pharm.) (Alberta), Ph.D. (MD); Vercaigne, L., B.Sc. (Pharm.), (Manitoba), Pharm.D.

(Toronto); Zelenitsky, S., B.Sc. (Pharm.) (Manitoba), Pharm.D. (SUNY Buffalo).

Assistant Professors

Coulter, A., B.Sc. (Pharm.) (Manitoba), Pharm.D. (Cincinnati); Fandrey, S. L., B.Sc. (Pharm.), Ph.D. (Saskatchewan); Friesen, M., B.Sc. (Pharm.), M.Sc. (Manitoba, Pharm.D. (Toronto); Gin, A., B.Sc. (Pharm.) (Manitoba), Pharm.D. (SUNYAB); Gu, X. (B.Sc.) (Pharm.), M.Sc., Ph.D., (Nanjing); Hall, K., B.Sc. (Pharm.) Dalhousie, Pharm.D. (SUNYAB) Honcharik, N., B.Sc. (Pharm.), Pharm.D. (SUNYAB); Honcharik, P., B.Sc. (Pharm.) (Manitoba), Pharm.D. (SUNYAB); Kozyrskyj, A., B.Sc.(Hons.), (Pharm.), (Toronto), M.Sc., Ph.D., (Man.); Namaka, M., B.Sc. (Pharm.), M.Sc., Ph.D., (Manitoba); Seifert, B., B.Sc. (Pharm.) (Saskatchewan), Pharm.D. (Texas); Thadani, M., B.Sc. (Pharm.), M.Sc. (Manitoba); Thomson, P., B.Sc. (Pharm.) (UBC), Pharm.D. (Wayne State); Thurmeier, R., B.Sc., (Pharm.) (Manitoba); Trozzo, B.Sc. (Pharm.) (Manitoba); Woloschuk, D., (B.Sc.) (Pharm.), (Saskatchewan), Pharm.D., (Cincinnati).

Instructors

Durocher, R., Dip. Pharm. (Guyana), B.Sc., B.Sc. (Pharm.) (Manitoba); Guse, R., B.Sc. (Pharm.) (Manitoba); Kremers, M., B.Sc. (Pharm.) (Manitoba); Treacy, S., M.Sc. (Saskatchewan).

Adjunct Professors

Alessi-Severini, S., B.Sc. (Pharm.) (Parma), B.Sc. (Pharm Chem Tech) (Parma), Ph.D. (Alberta); Cote, D., B.Sc. (Pharm.), M.Sc. (Manitoba); Friesen, A., B.Sc., M.Sc., Ph.D., (Manitoba).

SECTION 2: Pharmacy Education

Pharmacy is the profession concerned with the art and science of preparing from natural and synthetic sources suitable and convenient dosage forms for distribution and use in the treatment and prevention of disease. Pharmacy embraces knowledge of the identification, selection, pharmacologic action, preservation, combination, analysis, and standardisation of drugs and medicines. It also includes their proper and safe distribution and use, whether dispensed on the prescription of a physician, dentist, or veterinarian, or when it is dispensed directly to the consumer. As part of a knowledge system in which drugs and people interact, pharmacy also embraces an understanding of social and behavioural aspects of the use of medicines.

The pharmacist is a specialist in drug therapy and is expected to provide adequate pharmaceutical care for patients. This includes evaluating the patient's drug therapy record; ensuring safe procurement, storage, preparation and dispensing of pharmaceutical products; discussing actual or potential drug-related problems with patients, their physicians and caregivers; monitoring drug therapy to identify drug-related problems; advising patients on selection and use of non-prescription drugs, directing patients to consult physicians for diagnosis and treatment when required; notifying physicians of actual or suspected adverse reactions to drugs and providing specific information to patients.

SECTION 3: Admission to Pharmacy

3.1 Degree Offered

Bachelor of Science in Pharmacy

Minimum time to graduation: Five years (University 1 plus four years).

The following is a summary of the admission requirements. Equivalent academic courses completed at recognized universities elsewhere will be considered, however, since this is a limited enrolment faculty, and only 50 students per year are accepted, priority in selection is given to Manitoba residents. It has not been possible to accept out of province students for the

last 15 or more years. All admission requirements, as well as application deadline dates and forms, are included in an applicant information bulletin that is available from the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

3.2 Course requirements

Chemistry 002.130 and 002.131

Biology 071.125

Mathematics 136.150M, or 136.151 or 136.152, or 136.153

6 credit hours of Arts electives

9 credit hours of open electives

Other requirements

High school prerequisites: Math 40S (pre-calculus) with minimum grade of 60%, and Chemistry 40S

The written English requirement (minimum 3 credit hours) may be satisfied within the 6 credit hours of Arts electives with courses identified as "W" courses. The mathematics requirement is met by Mathematics 136.150M (or an equivalent), and which must be completed prior to admission to Pharmacy.

Minimum GPA for consideration: 3.0

The admission process includes a written essay/problem solving exercise.

Selection criteria: 70% grades, 30% written essay/problem solving exercise.

Professional Registration

Manitoba Pharmaceutical Association

Students who are accepted for admission to the Faculty of Pharmacy and have commenced classes in the faculty shall, before October 31 in the year in which they are admitted to the faculty, may file an application for registration as a student of the Manitoba Pharmaceutical Association. Application forms are obtainable from The Registrar, Manitoba Pharmaceutical Association, 187 St. Mary's Road, Winnipeg, Manitoba R2H 1J2; telephone, (204) 233 1411 and will also be available at the Faculty of Pharmacy general office. The necessary documents which must accompany the application are indicated on the form.

Full information on the requirements for licensure in the Province of Manitoba are available from the registrar of the Manitoba Pharmaceutical Association

Pharmacy Examining Board of Canada

All applicants for licensure must pass the qualifying examinations of the Pharmacy Examining Board of Canada. The board requires proof of language proficiency. Applicants who did not attend primary and secondary educational institutions where English or French was the principal language of instruction must provide evidence of successful completion of designated language proficiency tests before sitting for the qualifying examinations. Full information is available at the general office.

SECTION 4: Academic Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Faculty of Pharmacy has regulations and requirements, published below, that apply specifically to its students.

4.1 Scholastic Progress

For course progression in the Faculty of Pharmacy students must achieve a minimum sessional GPA of 2.0, and attain the minimum passing grade of "C" in each course.

A student in any of the first three years of the pharmacy program who records no more than two grades of "D" during the academic session, and who achieves a minimum sessional GPA of 2.00, may at the discretion of the dean be permitted to apply for a supplementary examination in those courses.

A student in the fourth year of the pharmacy program who records no more than one grade of "D" during the academic session, and who achieves a minimum sessional GPA of 2.00, may at the discretion of the dean be permitted to apply for a supplementary examination in that course.

Application forms for supplementary examinations are available in the faculty office, and the examination is subject to a prescribed fee. Supplementary exams will normally take place in the following mid-summer examination session each year.

A student who has failed to record a minimum grade of "C" in more than two courses within years one to three of the pharmacy program, or in more than one course in the fourth year of the pharmacy program, or who records a grade of "F" during the academic session at any stage during their program may not be granted supplementary examinations unless the dean by reason of special circumstances applicable to the student's case otherwise decides.

A candidate who has been allowed to sit for a supplementary examination under 3.01(b) may not be awarded a grade higher than "C" in that course. Grade calculations for any course following supplementary examination will be inclusive of on-course assessment. Grades achieved following supplementary examination will replace those grades originally recorded on the student's academic record.

A student who fails to achieve a passing grade of "C" in one course, following supplementary examination if that option is offered, and who achieves a minimum sessional GPA of 2.00, will be required to repeat that course and may at the discretion of the dean be required to repeat all, or a number of courses in that year.

A student whose sessional GPA falls below 2.0, or who fails to achieve a minimum passing grade of "C" in two courses, following supplementary examination if that option is offered, and whose sessional GPA remains above 1.75, will be considered to have failed that year, and will be required to repeat all subjects in the following academic year.

The records of all students who fail a year, and the disposition of the cases, shall be reported to Faculty Council for information, but not for debate. Students who have cause to disagree with the disposition may file an appeal against the decision.

A student who fails more than one year in the program, or who fails the same year twice, shall be required to withdraw from the Pharmacy program.

A student who fails to achieve a passing grade in more than two courses in the academic session, or whose sessional GPA falls below 1.75, or who fails to achieve a passing grade in a repeated year, will be required to withdraw from the Pharmacy program.

At the request of some faculties and schools, Senate has approved bylaws granting certain faculties and schools the authority to require a student to withdraw on the basis of unsuitability for the practice of the profession to which the program of study normally leads. The authority may be exercised at any time throughout the academic year or following the results of examinations at the end of the year. The authority to require a student to withdraw prevails notwithstanding any other provisions in the academic regulations of the particular faculty or school regarding eligibility to proceed or repeat. Senate has approved such a bylaw for the Faculty of Pharmacy and it is available in the dean's office.

4.2 Appeals Concerning Scholastic Progress

Should a student wish to appeal against any decision concerning scholastic progress, the following procedure should be followed:

The problem should be discussed with the dean of Pharmacy, who will supply information about the appeals procedure, academic regulations and related matters.

Students who still wish to proceed with an appeal should consult the Student Advocate for advice and assistance, and a letter of appeal must be sent to the dean within 21 days of receiving notification of the decision. The letter should state the nature of the decision being appealed and the alternative that is being requested.

The dean will respond in writing to notify the appellant of the date and time the student should attend a meeting of the Faculty Appeals Committee.

The Appeals Committee will comprise: the dean of the Faculty (or designate) as chair; one senior support staff member as secretary; three members of the full-time faculty appointed by the full-time faculty; a representative of the profession appointed by the Manitoba Pharmaceutical Association; one student member of Faculty Council appointed by the Faculty Council. The chair and senior support staff member are non-voting members.

Appellants have the right to attend the hearing of their appeal and may have a representative to assist them at the appeal hearing. This representative may be the Student Advocate or a fellow student or other full-time member of the university community not receiving payment for appearing, or working for Legal Aid. In addition, if the student wishes, one member of his or her immediate family, and also if desired a lawyer, may be present, but as observers who do not participate. The decision of the Appeals Committee will be conveyed to the student as soon as possible after the hearing.

If the appellant is still dissatisfied they may wish to discuss the issue further with the Student Advocate and/or the university Ombudsman. Student appellants should not expect a favourable decision when their appeal is based on grounds related to external factors such as employment, sports, or hobbies.

4.3 Transfer of Credit Earned Elsewhere

Pharmacy students transferring credit from any faculty or school in the University of Manitoba or from other universities or colleges will have each course acceptable for transfer purposes noted on the student record with the course classification of "TR" (transfer). As mentioned in the previous section we have not been able to accept out of province students for years, and therefore this transfer would refer to those Manitoba residents who have completed the pre-Pharmacy requirements outside Manitoba. The relevance of courses completed to the student's educational objective at the University of Manitoba and the quality of academic achievement as evidenced by the student's grades will be determining factors in assessing acceptability of credits earned elsewhere. No transfer of credit will be given for courses taken ten years or more prior to application date. No transfer of credit will be permitted for courses where a "D" grade (or its percentage equivalent) has been awarded.

4.4 Residence Requirements

A minimum of two years attendance at the university is required for the Bachelor of Science in Pharmacy, except with the permission of the faculty.

4.5 Attendance at Class

Regular attendance is required of all students in all courses. Students who are absent from class for a period of three days or more due to illness must present a certificate from a physician to the office of the dean upon their return. An instructor may initiate procedures to debar a student from attending classes and from final examinations where unexcused absences exceed three continuous sessions. Students must obtain prior approval from the dean for an absence exceeding one day for reasons other than illness.

4.6 Voluntary Withdrawals

Any student seeking to withdraw from a portion of, or all of their courses must provide written notification to the dean's office of the reasons for this request. Re-entry to Pharmacy by students who voluntarily withdraw, will be dependent on the availability of space and external rotation facilities. Any student who has voluntarily withdrawn from a portion of, or all of their courses in Pharmacy on more than one occasion will not be permitted re-entry into the program. Withdrawals for medical or compassionate reasons will not contribute toward this maximum. Students who, for medical reasons, withdraw from the program may not re-register until they have established, through proper medical consultation, their fitness to resume studies.

4.7 Deferred Examinations

Students may file an application for a deferred final examination with the dean for reasons of illness or other disability, or for compassionate reasons, setting out the reasons for the deferral. The application must be filed within seven working days of the end of the examination series in which the examination was scheduled to be written and must be accompanied by a medical certificate or otherwise appropriate documentation certifying the reason for the deferral, the inability of the student to write the examination at the regular scheduled time and, where possible, indicating the period of disability. Based on the evidence provided, the dean shall decide whether the application is approved. Students who, for medical reasons receive deferred examination privileges for all final examination series may not re-register until they have established, through proper medical consultation, their fitness to resume studies. Any students requesting a deferred examination on the grounds that they are participating in an inter-university, pro-

vincial, inter-provincial, national or international scholastic or athletic event shall be granted said deferral, provided an application is filed with the dean of the faculty well in advance (normally 20 working days) of the scheduled examination; and that the dean is satisfied, based on the evidence provided, that the application should be approved and that an appropriate time, and acceptable invigilator is not otherwise available to the student. Any student requesting deferred examination(s) (hereinafter, the "deferred examination") will be required to sign an undertaking that the student has not discussed, reviewed, had access to, or otherwise become aware of the contents of the deferred examination except as expressly authorized by the Instructor or Professor for the course in which the deferred examination is being undertaken. "

4.8 Incompletes

A student who is unable to complete the term work prescribed in a course may apply to the instructor prior to the end of lectures for consideration of a grade classification of 'Incomplete.' Should an 'incomplete' be granted the student will still be required to write the final examination, if one is scheduled for the course, and a temporary grade of 'IF' will be submitted. In addition to the grade, the recommendation for an 'incomplete' should indicate the reason(s) for consideration being given, a description of the outstanding work to be completed, and the date by which the work must be submitted. If a final grade is not reported by the above maximum extension deadlines, the letter 'I' will be dropped and the grade of 'F' will remain as awarded, unless where specific circumstances warrant, the dean extends the date by which an Incomplete must be cleared. Instructors must formally request such an extension prior to the elapse of the maximum deadline date. In addition, the Student Records Office must be notified of the extension.

4.9 Eligibility for Medals, Scholarships, Awards and Prizes

Eligible students who achieve a sessional GPA of 4.0 or better will be included in the Dean's Honours List. Eligible students must have completed at least 80 percent of the required courses.

4.10 Immunization

All students enrolled in the Faculty of Pharmacy must be immunized against the following diseases: diphtheria/tetanus, polio, rubella, measles, mumps and chickenpox and hepatitis B. Students who cannot be immunized because of allergies or for other reasons must provide a physician's certificate to verify these reasons. Students admitted to first year Pharmacy will be provided with an Immunization package at the time of acceptance into the Faculty and will be required to provide their Immunization Record Form at the beginning of classes. Students will not be able to attend clinical rotation until all immunization requirements are up-to-date. Students are responsible for updating their immunizations as needed.

4.11 Academic Honesty

Many courses in the Faculty of Pharmacy require group projects and students should be aware that these are subject to the same rules regarding academic honesty as individual projects. Because of the unique nature of group work, all members of the group should exercise special care to insure that work completed does not violate academic integrity. Should a violation occur, group members will be held jointly accountable unless the violation can be attributed to a specified individual, or group of individuals.

In the Faculty of Pharmacy all suspected cases of academic dishonesty will be passed to the dean's office for evaluation.

4.12 Professional Unsuitability By-Law

The Senate has approved a by-law granting authority to the faculty to require a student to withdraw for reasons of professional unsuitability. Copies of this by-law may be obtained from the Pharmacy Office.

4.13 Completion of the Bachelor Program

The maximum time allowable for completion of the Bachelor of Science, Pharmacy degree is seven years. Students must successfully complete all of the course work associated with a year in the program prior to being allowed to register for courses in the next year. In certain cases, the Dean may grant exceptions to this requirement.

SECTION 5: Program Requirements

Course No.	Credit Hours
First Year	
002.221 Organic Chemistry	3
002.236 Intermediate Biochemistry	3
002.237 Intermediate Biochemistry	3
046.100 Introduction to Pharmacy	1
046.130 Fundamentals of Pharmaceutics	4
046.143 Applied Pathophysiology for Pharmacy Students	3
046.170 Structured Practical Experiential Program 1 (SPEP-1)	1
060.210 General Microbiology	3
080.103 Human Anatomy	3
090.103 Fundamentals of Medical Physiology	6
046.110 Pharmacy Skills Laboratory (PSL-1)	5
Total credit hours	35
Second Year	
046.224 Principles of Professional Practice	2
046.237 Pharmaceutical Chemistry Lab	3
046.239 Dispensing Laboratory 1	4
046.240 Medicinal Chemistry 2	6
046.241 Fundamentals of Biopharmaceutics and Pharmacokinetics	3
046.242 Applied Nutrition for Health Care Professionals	3
046.247 Pharmaceutics 1	3
046.261 Pharmacy Practice 2	2
060.301 Microbiology	3
089.210 Pharmacology	6
Total credit hours	35
NOTE: Students must have completed Statistics 005.100 or equivalent before proceeding to third year.	
Third year	
046.340 Medicinal Chemistry 3	3
046.341 Clinical Pharmacy	9
046.343 Natural Products	3
046.347 Pharmaceutics 2	3
046.348 Clinical Pharmacokinetics	3
046.349 Contemporary Pharmacy Skills	10
046.361 Pharmacy Practice 3	4
Total credit hours	35
Fourth Year	
Required Courses	
046.444 Clinical Pharmacy 2	6
046.445 Toxicology	3
046.447 Current Topics	3
046.461 Pharmacy Practice 4	10
046.460 Pharmacy Administration	3
Elective Courses(b)	
046.452 Pharmaceutical Sciences Laboratory	3(b)
046.453 Medicinal Chemistry 4 (Drug Design)	3(b)
046.455 Geriatric Drug Therapy	3(b)
046.456 Clinical Infectious Diseases	3(b)
046.457 Analytical Forensic Toxicology	3(b)
046.463 Pharmacy Issues – Writing for Publication	3(b)
046.462 Pharmaceutical Health Policy	3(b)
Total Credit Hours	34
Total credit hours in all four years:	139

NOTES:

Students may not obtain any grade lower than "C" in all required courses and in the nine credit hours of Pharmacy electives. All students must register in nine credit hours of Pharmacy electives in the final year (i.e., no credit will be given for courses taken previously).

A decision will be made annually on whether these courses will be taught in first or second term, or both.

Course descriptions of the Organic Chemistry (002.221) and Biochemistry courses (002.236/237) will be found under the Department of Chemistry.

SECTION 6: Course Descriptions

Course scheduling conflicts will not be permitted without the express permission of the dean.

First Year

046.100 Introduction to Pharmacy (1). This course provides an orientation to pharmacy and to the application of medicines within the context of today's dynamic medical care system. It has been designed to highlight professionalism early in the Pharmacy curriculum and will provide the opportunity for students to interact with pharmacy professionals "at the cutting edge" of pharmacy practice.

046.110 Pharmacy Skills Laboratory 1 (5). This is a multifaceted course using an integrated skills laboratory format to develop essential skills that students require for pharmacy practice. These skills primarily involve communication, problem solving and critical thinking that form the foundation for life-long learning. Exploring ethical principles and professionalism are also essential components of this course.

046.130 Fundamentals of Pharmaceutics (4). In a classroom and laboratory setting, this course provides an introduction to the compounding of pharmaceutical products and the physicochemical basis of product formulation. Practical aspects of formulation and an introduction to the dispensing function are also explored.

046.170 Structured Practical Experiential Program 1 (1). This program provides students with experiential rotations in the hospital/community settings. It serves to familiarize students with the health care setting and the pharmacist's role. It involves 13 half-day experiential rotations throughout the second term.

046.143 Applied Pathophysiology for Pharmacy Students (3). A comprehensive theoretical foundation of the phenomena that produce alterations in human physiology function across the lifespan. Course content will prepare the student for subsequent courses related to diagnosis and management of disease processes associated with pathophysiologic dysfunction/alterations.

060.210 General Microbiology A (3) Fundamental principles of and methods used in microbiology. An introduction to the major groups of microorganisms, their structure and function, growth, metabolism, physiology and regulatory systems.

080.103 Human Anatomy (3). To present the essentials of the organization and structure of the human body. Surface, functional and applied anatomy will be taken into consideration. For Pharmacy students only.

090.103 Fundamentals of Medical Physiology (6). The function and regulation of the systems and major organs of the human body as they relate to clinical disorders. For Pharmacy students only.

Second Year

046.224 Principles of Professional Practice (2). Pharmaceutical jurisprudence, professional ethics and socio-economic aspects of the health care system.

046.237 Pharmaceutical Chemistry Laboratory (3). Qualitative and quantitative instrumental assay techniques are introduced, with further chromatographic and volumetric assays. Clinical chemistry determinations are used as a basis for some of the analytical methods employed. Biosynthetic studies, isolation and characterization of natural medicinal products are included.

046.239 Dispensing Laboratory 1 (4). Development of dispensing skills, preparation of compounded dosage forms, sterile dosage forms and introduction to manufacturing technology.

046.240 Medicinal Chemistry 2 (6). Implications of the physicochemical aspects of drug structure in absorption, distribution, metabolism, excretion and receptor interaction as they may relate to the biochemical, pharmacological and therapeutic actions of medicinal compounds.

046.241 Fundamentals of Biopharmaceutics and Pharmacokinetics (3). Basic biopharmaceutics and pharmacokinetic principles including the bioavailability of drugs in different pharmaceutical dosage forms.

046.242 Applied Nutrition for Health Care Professionals (3). The application of the scientific principles underlying nutrient function and dietary requirements to questions of health.

046.247 Pharmaceutics 1 (3). Principles of good pharmaceutical manufacturing practice; operations involved in product manufacture including products assessment, stability testing and packaging. Principles and practices in development, production and quality control of sterile pharmaceutical products.

046.261 Pharmacy Practice 2 (2) One week (40 hours) practice experience in an assigned pharmacy under the supervision of a licensed pharmacist. Subject to satisfactory completion and submission of required reports, students will be graded pass/fail.

060.301 Mechanisms of Microbial Disease (3). A consideration of host-parasite relationships, an introduction to the immune response, microbial pathogenesis, viral diseases, clinical microbiology and public health and an introduction to antimicrobial agents.

089.210 Pharmacology (6). General principles of pharmacology including consideration of the pharmacodynamics of important drugs and control and modification of drug action.

Third Year

046.340 Medicinal Chemistry 3 (3). Rational design of medicinal compounds acting as antimicrobial and/or antitumor agents.

046.341 Clinical Pharmacy 1 (9). Fundamental aspects of disease, drug therapy, adverse drug reactions and dosage regimens are considered with emphasis on the role of the practicing pharmacist.

046.343 Natural Products (3). Medicinal products of botanical origin; biologicals, including enzymes, blood products, and hormones. Therapeutic aspects and products are emphasized.

046.347 Pharmaceutics 2 (3). Encompasses application of the principles of pharmaceutical dosage forms with an emphasis of new and evolving biological delivery systems for pharmaceuticals.

046.348 Clinical Pharmacokinetics (3). Practical application of pharmacokinetic concepts, calculations, factors which affect pharmacokinetics in the clinical setting, and some drugs which have unique pharmacokinetics.

046.349 Dispensing Laboratory 2 (10). Further development of dispensing skills, evaluation of prescription contents, handling of brand-name products, and patient counselling techniques. Skills lab will be conducted to further develop skills in assessment and recommendations consistent with the proper use of non-prescription drugs and home monitoring devices.

046.361 Pharmacy Practice 3 (4) Four weeks (160 hours) practice experience in an assigned community pharmacy under the supervision of a licensed pharmacist. Subject to satisfactory completion and submission of required reports; students will be graded on a pass/fail basis.

Fourth Year

046.444 Clinical Pharmacy 2 (6). Continuation of course 046.341. Areas of study will include drug therapy in musculoskeletal, gastrointestinal, endocrine and renal disorders, dermatology, the reproductive system, and therapeutic drug monitoring.

046.445 Toxicology (3). Toxicological aspects of drug usage with emphasis on the assessment and management of accidental exposure, and ingestion of drugs of abuse.

046.447 Current Topics (3). A discussion of topics of immediate interest to the profession. Subject to satisfactory completion of required projects and presentations. Attendance of 80% is mandatory. Students will be graded pass/fail.

046.460 Pharmacy Administration (3). An introduction to administrative and behavioural sciences as they relate to planning, organization and operation of pharmacy practice, and to the control of human and financial resources.

046.461 Pharmacy Practice 4 (10) (Irregular) Nine weeks (360 hours) practice experience in an assigned hospital and community pharmacy under the supervision of a

licensed pharmacist. Subject to satisfactory completion and submission of required reports; students will be graded on a pass/fail basis.

Fourth Year Electives

046.452 Pharmaceutical Sciences Laboratory (Irregular) 3 Students will be given some experience in a variety of techniques used in pharmaceutical research.

046.453 Medicinal Chemistry 4 - Drug Design (3). A study of the theory underlying drug design and the relationship with desirable therapeutic properties.

046.455 Geriatric Drug Therapy (3). Consideration of changes in biological function and pharmacological response with age, and their impact on drug therapy.

046.456 Clinical Infectious Diseases (3). Lectures and case studies on advanced topics related to the prevention and treatment of infectious diseases.

046.457 Analytical Forensic Toxicology (3). A study of the medico-legal aspects of chemical substances on humans. Students will gain an understanding of the analytical and chemical procedures for the detection of chemicals and medications in body fluids, and the identification of drugs of abuse.

046.463 Pharmacy Issues -- Writing for Publication (3). Critical evaluation of published literature on a pharmaceutical sciences related topic. Students will be required to write a paper suitable for publication in a peer reviewed pharmacy journal.

046.459 Pharmaceutical Applications of Antioxidant Medicinal Chemistry (3). Exploration of pathophysiology associated with the generation of reactive oxygen species or free radicals in vivo. Discussion of oxidative mechanisms involving medicinal compounds. Not offered in 2003-04.

046.462 Pharmaceutical Health Policy (3). An introduction to health policy as it applies to medication use in the population. The student is introduced to concepts from epidemiology, economics, sociology and related disciplines; effectiveness, efficiency, and equity criteria can be used to evaluate the performance of pharmaceuticals and pharmacists in improving health. Critical analysis and deliberation are used to interpret health policy issues surrounding medication use.

Faculty of Physical Education and Recreation Studies

General Office

102 Frank Kennedy Building

Telephone: (204) 474 9747

Website: www.umanitoba.ca/faculties/physed/

Dean: Dennis Hrycaiko

Associate Dean (Academic): Elizabeth Ready

B.P.E./B.E.S.S. Coordinator: Colin Lorback

B.R.S. Coordinator: Jack Harper

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SECTION 1: Academic Staff

Director Emeritus

MacDiarmid, J.A., B.P.E. (Manitoba), M.P.E. (Minnesota).

Professor Emeritus

Hrenchuk, E., B.P.H.E. (Toronto), M.A. (Minnesota).

Professors

Alexander, M.J.L., B.P.E. (British Columbia), M.Sc. (Washington), Ph.D. (Alberta); Chipperfield, J., B.A., M.A., Ph.D. (Manitoba); Gardiner, P.F., B.P.H.E., M.P.E. (Windsor), Ph.D. (Alberta); Giesbrecht, G., B.P.E., M.P.E., Ph.D. (Manitoba); Harper, J., Dip.Ed., B.Sc., M.Sc. (North Dakota); Hrycaiko, D.W., B.P.E., Cert.Ed. (Manitoba), M.P.E., Ph.D. (Alberta); Janzen, H.F., B.Sc. (North Dakota), M.P.E., Ed.D. (Colorado); Kerr, R., B.Sc., M.Sc., Ph.D. (Oregon), Cert. Ed. (Exeter), Dip. P.E. (Saint Luke's College); Ready, A.E., B.A. (Hons.), M.A. (Western), Ph.D. (Alberta).

Associate Professors

Bailis, D.S., B.A. (Berkeley), M.A., Ph.D. (Princeton); Blais, C., B.Sc., M.Sc., Ph.D. (Ottawa); Butcher, J., B.P.E., Cert. Ed. (Manitoba), M.Sc. (Dalhousie), Ph.D. (Alberta); Campbell, M., B.A., M.A. (Manitoba), Ph.D. (Waterloo); Dixon, S.D., B.Ed., M.A., Ph.D. (Manitoba); Halas, J., B.P.E. (Manitoba), M.Sc. (Ottawa), Ph.D. (Alberta); Iwasaki, Y., B.Sc. (Maryland), M.A., Ph.D. (Waterloo); MacKay, K., B.A. (Acadia), M.Sc. (Texas A and M), Ph.D. (Illinois); Mactavish, J., B.P.E. (British Columbia), M.Sc. (Manitoba), Ph.D. (Minnesota); Porter, M. B.P.H.E. (Laurentian), M.Sc. (Toronto); Ph.D. (Western).

Assistant Professors

Gannon, G.A., HBOR, B.Sc., M.Sc. (Lakehead), Ph.D. (Toronto); Heine, M., Staatsexamen (Rhur-Universität Bochum, Germany), M.A. (Western Ontario), Ph.D. (Alberta).

Instructors

Bentley, K., B.A. (Manitoba); Danis, P., B.A., B.Ed. (Winnipeg); Dobie, B., B.P.E., Cert. Ed. (Manitoba); Elliott, J., B.P.E., B.Ed., M.Sc. (Manitoba); Hayward, J. B.P.E. (Manitoba), DAT&M (Sheridan College); Lorback, C.T., Dip.P.E., S.T.S. (Melbourne), B.P.E. (Alberta); Pischke, G., B.A. (Manitoba); Shipley, F., B.A. (Winnipeg); Sirant, M., B.A., B.R.S. (Manitoba); Suffield, R., Dip.P.E. (McGill), B.A. (Concordia), B.Ed. (Manitoba), M.Ed. (Lakehead).

SECTION 2: Physical Education and Recreation Studies

The mission of the faculty is to create, expand and disseminate knowledge, to prepare professionals, and to provide service to the community in the areas of human movement and leisure, thus contributing to health and well-being. The goals of the academic program provide direction to the faculty's initiatives in teaching. The academic goals are: First, to enhance the professional development of the students so that they can develop their unique potentials and function effectively as individuals in society; and second, to enhance the professional development of the students so that they are better able to function effectively in the physical education, sport science, fitness, and leisure services fields, and to make valued contributions to the fields and individuals they serve. In order to achieve these goals, the academic program maintains a strong orientation to the needs of students as individuals and as future professionals. The evolving curricula emphasize the value of a broad liberal arts and science education while ensuring professional training through carefully selected and managed courses of a highly specific and practical nature.

Goals and Objectives of the Undergraduate Degree Programs

Goals of the Physical Education and the Exercise and Sport Science Programs:

To have students acquire an understanding of the body of knowledge related to physical education and sport and exercise science.

To provide opportunities for students to learn practical skills and apply knowledge related to physical education and sport and exercise science.

To enhance the professional development of students.

To promote equity and support diversity in the learning environment.

Objectives of the Bachelor of Physical Education Degree:

To provide learning opportunities to assist students in acquiring the body of knowledge pertaining to teaching physical education at the Early, Middle and Senior year levels in schools.

To provide opportunities for students to learn and practice the skills of designing, delivering, and assessing physical education activities and programs.

To enhance the professional development of students so that they are able to function effectively as physical educators.

Objectives of the Bachelor of Exercise and Sport Science Degree:

Physical Health and Wellness Stream

To provide learning opportunities to assist students in acquiring the body of knowledge pertaining to the physical, psychological and emotional components of physical activity.

To provide opportunities for students to apply the above knowledge in various professional settings (fitness leadership, cardiac rehabilitation, wellness programs, etc.).

To enhance the professional development of students so that they are able to function effectively in the fields of physical activity, health, and wellness.

Exercise and Sport Science Stream

To provide learning opportunities to assist students in acquiring the body of knowledge pertaining to the scientific aspects of exercise and sport.

To provide opportunities for students to learn laboratory skills and techniques, and to understand and demonstrate basic research techniques, in exercise and sport science.

To enable students to acquire the necessary knowledge and skills to enter a graduate program in physical education or sport science.

To enhance the professional development of students so that they are able to function effectively in the fields of exercise and sport science.

Athletic Therapy Stream

To provide learning opportunities to assist students in acquiring the body of knowledge pertaining to the prevention, immediate care, and reconditioning of people with sport injuries.

To provide opportunities for students to apply the above knowledge in various professional settings with the intent of maximizing the performance and welfare of active individuals.

To provide the theoretical knowledge and practical skills and experience necessary to become certified as an athletic therapist in accordance with the Canadian Athletic Therapists Association.

To enhance the professional development of students so that they are able to function effectively as athletic therapists.

Objectives of the Bachelor of Recreation Studies Degree Program

The purpose of the Bachelor of Recreation Studies degree program is to contribute to an enhanced quality of individual and community life in Manitoba, Canada, and the world through the personal and professional development of students in the field of leisure services. In order to fulfil this mandate, the goals of the Recreation Studies undergraduate degree program are:

To enhance student success and personal development by providing an equitable environment that develops their unique potential and enables them to function effectively as individuals in society.

To provide the highest possible quality of undergraduate teaching that prepares students to function effectively in the leisure services field and make a valued contribution to the profession and the individuals whom they serve.

To conduct basic and applied research that enhances undergraduate teaching, community alliances, the scholarship of faculty members, and the reputation of the degree program.

To provide community service to leisure service and allied agencies in areas of expertise held by our faculty and students.

The two goals of the curriculum are to further both personal and professional development. These goals require further elaboration into more specific objectives as follows:

The fostering of personal development includes:

The development of self-awareness in terms of personal values and philosophy of life;

The development of personal maturity;

The development of an awareness of the nature and needs of others;

The development of an awareness of the nature of human interrelations and how they are or may be influenced;

The development of an awareness of the physical and social environment and their influence on both the growth and behaviour of individuals;

The development of an enquiring mind so that the individual can develop personal processes for understanding and applying knowledge in a variety of situations; and,

The development of personal confidence and self-efficacy.

The fostering of professional development includes:

The development of the ability to both develop a personal philosophy for the provision of leisure services and to translate that philosophy into action;

The development of the ability to function effectively in a variety of professional settings due to learned knowledge, understandings, and experiences;

The development of an understanding and appreciation of the contributions that the field of leisure services has to make to individuals and society;

The development of the desire and the capacity to grow professionally;

The development of personal confidence in one's ability to function effectively as a professional; and,

The development of a personal commitment to the leisure services field.

SECTION 3: Admission to Physical Education and Recreation Studies

3.1 Degrees offered

Bachelor of Physical Education

Minimum time to graduation: Three years (University 1 plus two years).

Bachelor of Exercise and Sport Science

Minimum time to graduation: Four years (University 1 plus three years).

Bachelor of Recreation Studies

Minimum time to graduation: Four years (University 1 plus three years).

The following is a summary of the admission requirements. Equivalent academic courses completed at recognized universities elsewhere will be considered. All admission requirements, as well as application deadline dates and forms, are included in an applicant information bulletin that is available from the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

3.2 Course Requirements for Admission:

Bachelor of Physical Education

Minimum 24 credit hours in University 1. The following courses are suggested in order to complete the degree in the shortest time:

Biology B 071.125 (strongly recommended during University 1)

English Literature (6 credit hours from 004.120W, 004.126W, 004.131W, and/or 004.132W)

Physical Education 057.150

Psychology 017.120

A course that satisfies the mathematics requirement from Mathematics or Statistics Department.

6 credit hours of electives (in area of teachable minor)

Bachelor of Exercise and Sport Science

Minimum 24 credit hours in University 1. The following courses are suggested in order to complete the degree in the shortest time:

Biology B 071.125 (required of all applicants to Athletic Therapy and strongly recommended for all others). A minimum grade of "C" is required.

English Literature (6 credit hours from 004.120W, 004.126W, 004.131W, and/or 004.132W)

Physical Education 057.150 and 057.120

Psychology 017.120

A course that satisfies the mathematics requirement from Mathematics or Statistics Department.

3 credit hours of electives

NOTE: Students who are transferring credits from another university may apply a maximum of 50 credit hours to the B.P.E. degree; 60 credit hours may be transferred to the B.E.S.S. program; and 63 credit hours may be transferred to the B.R.S. program.

Other Requirements for Bachelor of Physical Education and Bachelor of Exercise and Sport Science

High school prerequisites: Biology 40S, Chemistry 40S, Math 40S (pre-calculus), and Physics 40S, are all helpful but not required.

The written English requirement is satisfied by the English Literature requirement: 004.120W or 004.126W, or 004.131W and/or 004.132W. Mathematics 136.101M or 136.120M are recommended to fulfil the mathematics requirement.

Minimum GPA for consideration: 2.0, but admission is competitive.

All applicants must complete an assessment of physical activities and leadership experiences. An interview and written exercise, as well as valid CPR (Basic Rescuer Level) and standard first aid (Red Cross/St. John Ambulance) certification, is required for applicants to the Athletic Therapy program.

Course Requirements for Admission:

Recreation Studies

Minimum 24 credit hours in University 1. The following courses are suggested in order to complete the degree in the shortest time.

Psychology 017.120

Recreation Studies 123.140 (strongly recommended)

Sociology 077.120

3 credit hours to fulfil the mathematics requirement

3 credit hours to fulfil the written English requirement

plus 6 credit hours of electives

Other Requirements: Recreation Studies

Minimum GPA for consideration: 2.0, but admission is competitive.

An interview is part of the selection process. Applicants must supply a resume or summary of related experiences and a commentary on why they are interested in Recreation Studies. Three letters of reference are also required.

Selection criteria: 70% grades, 30% for related experiences, interview, supplementary application information, and references.

SECTION 4: Academic Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Faculty of Physical Education and Recreation Studies has regulations and requirements, published below, that apply specifically to its students.

Attendance and Withdrawal

Students absent from class for three days or more due to illness are required to present a certificate from a physician. Two and one-half hours or more of unexcused absences from a practical course will result in the student being required to withdraw from the course or will result in an "F" being assigned. Unexcused absence of more than three hours of class time in a

theory course will result in the student being required to withdraw from the course or will result in an "F" grade being assigned.

Dean's Honour List

To qualify for this list a student must have completed 60 per cent of a full course load during the regular session, and attained a minimum Grade Point Average (GPA) of 3.50 on all courses taken during the session.

Time Limit for Completion of the Degrees

Students admitted to the B.P.E., B.E.S.S., or B.R.S. degree programs must complete all requirements to graduate within ten years of admission to the program. Students with questions relating to the time limit regulation should consult the Coordinator, Physical Education or the Coordinator, Recreation Studies.

SECTION 5: Program Requirements for Bachelor of Physical Education

Students admitted between 1987 and 1998: Details of the pre-1999 program are available from the Physical Education general office.

The following requirements apply to students admitted in September 1999, and later:

5.1 Requirements for Graduation: B.P.E.

To graduate with a three-year Bachelor of Physical Education degree, a student must have passed the 100 credit hours of the program outlined below and must have achieved a Cumulative Grade Point Average (CGPA) of 2.00 as well as a 2.00 Grade Point Average (GPA) in all Physical Education courses.

A maximum of 132 credit hours may be attempted in order to obtain the 100 credit hours required for graduation with the B.P.E. degree.

5.2 Scholastic Standards: B.P.E.

A student's CGPA will be determined from the total of all courses attempted with the exception that, when a course has been repeated or when a substitute for a course has been approved, the highest grade for the repeated or substitute course will be used in the CGPA calculation process.

Students who do not equal or exceed the following minimum cumulative GPA standards at the specified stages in their academic careers will be placed on probation.

Cumulative Credit Hours	Minimum Cumulative GPA
24-65	1.85
66-99	1.90
100+	2.00

A student who is placed on probation must register in the next (or a subsequent) 12 month period (including regular session, intersession and summer session) for a minimum of 24 credit hours and a maximum of 30 credit hours, and must achieve a cumulative grade point average of 2.00 or better. Any failed required courses must be included in this registration.

A student on probation who fails to achieve the standard stated above, or who comes off probation, but falls below the minimum standard stated above on a second occasion, will be required to withdraw from the degree program.

A student who has been required to withdraw from the B.P.E. degree program may apply for re-admission after the successful completion of 24 credit hours of coursework in another faculty. To gain re-admission, the student must be successful in the annual competitive admission process.

Students required to withdraw from the B.P.E. degree program are placed on academic suspension for a period of one calendar year. Students on academic suspension cannot enter any other faculty at the University of Manitoba.

5.3 Program Requirements: B.P.E.

For courses recommended in University 1, see Section 3, Admission to Physical Education and Recreation Studies. It is strongly recommended that 071.125 Biology B be completed during University 1 to enable the student to complete the B.P.E. degree in three years, since it is a prerequisite to several required courses. A minimum grade of "C" is required in 071.125 for admission to 022.133.

The minimum number of practical (activity) credit hours (includes required and elective courses) is 13. Within these credits, students must select a minimum of three credit hours of Individual/Group Activities, and a minimum of two credit hours of Team Sports for graduation purposes, (see Section 7.2 Activity Course Descriptions for a list of practical activity courses).

Year 1 – University 1

Year 2

Required Theory Courses		
<i>Course No.</i>		<i>Credit Hours</i>
057.231	Kinesiology	3
057.232	Human Anatomy	3
057.234	Philosophy of Physical Activity	3
057.255	Growth and Motor Development	3
057.310	Design and Assessment of Physical Activity	3
057.344	Health Education	3
022.133	Physiology of the Human Body	3
	Non-Faculty Teaching Minor	6
	<i>Credit Hours (Required Theory)</i>	27

Required Practical Courses

057.142	Principles of Human Movement Education	2
057.265	Early and Middle Years Physical Education (Required for students entering the Early and Middle Years after degree program in the Faculty of Education)	2
057.312	Recreational Gymnastics	1
	Practical Electives:	
	Early and Middle Years Students	3
	Senior Years Students	5
	<i>Credit Hours (Practical courses)</i>	8
	<i>Total credit hours</i>	35

Year 3

Required Theory Courses

057.308	Principles of Planning and Administration in Physical Education	3
057.339	Adapted Physical Education	3
057.341	Movement Principles and the Expressive Arts	3
057.343	Exercise Physiology 1	3
057.345	Motor Learning	3
	Non-Faculty Teaching Minor	6
	<i>Credit hours (Required Theory)</i>	21

Required Practical Courses

057.136	Aquatics (Unless student holds Bronze Medallion or equivalent)	2
057.314	Creative Dance	1

Elective Practical Courses:

<i>Credit hours (Practical Courses)</i>	2 or 5
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Elective Theory Courses

(choose up to a maximum of two of the following five courses:)		
057.305	Principles of Coaching	3
057.306	Principles of Athletic Therapy	3
057.309	Principles of Fitness Training	3
057.346	Sociology of Sport	3
057.406	Drugs and Ergogenic Aids in Sport	3

Additional Elective (theory)

<i>Credit Hours (Elective Theory Courses)</i>	6 or 9
<i>Total credit hours</i>	35

SECTION 6: Program Requirements for Bachelor of Exercise and Sport Science

6.1 Requirements for Graduation: B.E.S.S.

Physical Health and Wellness stream or Exercise and Sport Science stream

To graduate with a four-year Bachelor of Exercise and Sport Science degree specializing in Physical Health and Wellness or Exercise and Sport Science, a student must have passed the 120 credit hours of the program out-

lined below and must have achieved a cumulative Grade Point Average (CGPA) of 2.00 as well as a 2.00 Grade Point Average (GPA) in all Physical Education courses.

A maximum of 158 credit hours may be attempted in order to obtain the 120 credit hours required for graduation with the B.E.S.S. degree (Physical Health and Wellness stream or Exercise and Sport Science stream).

Athletic Therapy stream

To graduate with a four-year Bachelor of Exercise and Sport Science degree specializing in Athletic Therapy, a student must have passed the 135 credit hours of the program outlined below and must have achieved a CGPA of 2.00 as well as a 2.00 GPA in all Physical Education courses. A minimum grade of “C” is required to pass all courses offered by the School of Medical Rehabilitation (068), and a minimum grade of “C+” is required to pass supplemental exams, or repeat courses in the School of Medical Rehabilitation.

A maximum of 178 credit hours may be attempted in order to obtain the 135 credit hours required for graduation with the B.E.S.S. (Athletic Therapy).

6.2 Scholastic Standards: B.E.S.S.

A student’s CGPA will be determined from the total of all courses attempted with the exception that, when a course has been repeated or when a substitute for a course has been approved, the highest grade for the repeated or substitute course will be used in the CGPA calculation process.

Students who do not equal or exceed the following minimum cumulative GPA standards at the specified stages in their academic careers will be placed on probation.

Cumulative Credit Hours	Minimum Cumulative GPA
24-60	1.85
61-90	1.90
91-119	1.95
120+	2.00

A student who is placed on probation must register in the next (or a subsequent) 12 month period (including regular session, intersession and summer session) for a minimum of 24 credit hours and a maximum of 30 credit hours, and must achieve a cumulative grade point average (CGPA) of 2.00 or better. Any failed required courses must be included in this registration.

A student on probation who fails to achieve the standard stated above, or who comes off probation, but falls below the minimum standard stated above on a second occasion, will be required to withdraw from the degree program.

A student who has been required to withdraw from the B.E.S.S. degree program may apply for re-admission after the successful completion of 24 credit hours of coursework in another faculty. To gain re-admission, the student must be successful in the annual competitive admission process.

Students required to withdraw from the B.E.S.S. degree program are placed on academic suspension for a period of one calendar year. Students on academic suspension cannot enter any other faculty at the University of Manitoba.

6.3 Program Requirements B.E.S.S.

Physical Health and Wellness stream, and Exercise and Sport Science stream, Years 1 and 2

For courses recommended in University 1, see Section 3, Admission to Physical Education and Recreation Studies. It is strongly recommended that 071.125 Biology B be completed in University 1, to enable the student to complete the degree in the subsequent three years, since biology is a prerequisite to several required courses in the B.E.S.S. degree. A minimum grade of “C” is required in 071.125 for admission to 022.253 and 022.254. Courses required in Year 2 are common to both streams. All entering students will be placed in the Physical Health and Wellness stream; students who wish to select the Exercise and Sport Science stream must inform the B.P.E./B.E.S.S. Coordinator, normally by the end of second year. While it will be possible to move between streams after Year 2, additional course work may be required.

The required courses for the four-year degree appear below, under the recommended year for completing each course in each stream. Once admitted to the B.E.S.S. degree, students may take courses in any order, provided they have the necessary prerequisites.

The minimum number of practical (activity) credit hours is nine, and the maximum number is fifteen. 057.136 Aquatics (2) and 057.142 Principles of Human Movement Education (2) are required in both streams.

Year 1 – University 1

Year 2

Course No.	Credit Hours
022.253 Human Physiology 1	3
022.254 Human Physiology 2	3
057.142 Principles of Human Movement Education	2
057.231 Kinesiology	3
057.232 Human Anatomy	3
057.234 Philosophy of Physical Activity	3
057.255 Growth and Motor Development	3
074.126 Introduction to Computer Usage	3
123.201 Measurement and Evaluation	3
Theory Elective	3
Practical Elective	1
Total credit hours	30

Physical Health and Wellness stream, Years 3 and 4

Year 3

057.306 Principles of Athletic Therapy	3
057.309 Principles of Fitness Training	3
057.339 Adapted Physical Education	3
057.343 Exercise Physiology 1	3
057.344 Health Education	3
057.345 Motor Learning	3
*Theory/Practical Electives	12
Total credit hours	30

Year 4

017.366 Sport Psychology	
or	
057.305 Principles of Coaching	3
057.346 Sociology of Sport	3
*Theory/Practical Electives	24
Total credit hours	30

*NOTES:

A minimum of 15 credit hours of elective courses must be selected from within the faculty (057 or 123). A maximum of 18 credit hours of non-faculty electives may be selected.

Theory Electives available include (among others):

057.462 Supervised Fieldwork Experience (12 credit hours to be taken in Term 1 of Year 4). Admission to Fieldwork Experience is competitive; a description of the application and selection process is available in the general office.

Recreation courses (18 credit hours):

Option in Aging (18 credit hours)

Management Minor (18 credit hours). Details available in the general office. Minimum GPA of 3.0 required.

Lists of recommended theory electives are available from the B.P.E./B.E.S.S. Coordinator.

Exercise and Sport Science stream, Years 3 and 4

Year 3

Course No.	Credit Hours
017.366 Sport Psychology	
or	
057.305 Principles of Coaching	3
057.306 Principles of Athletic Therapy	3
057.309 Principles of Fitness Training	3
057.339 Adapted Physical Education	3
057.343 Exercise Physiology 1	3
057.345 Motor Learning	3
057.436 Biomechanics of Sport and Exercise	3
Theory Electives (Students may choose to select theory electives that enable them to specialize in one sub-discipline of sport science; see below)	6
Practical Electives	3
Total credit hours	30

Year 4

005.100 *Basic Statistical Analysis 1	3
005.200 *Basic Statistical Analysis 2	3
030.121 Nutrition for Health and Changing Lifestyles	3
057.346 Sociology of Sport	3
057.441 Exercise Physiology 2	3
Theory Electives (Students may choose to select theory electives that enable them to specialize in one sub-discipline of sport science; see below)	12
Practical Electives	3
Total credit hours	30

NOTES:

*Other courses which may fulfil the statistics requirements: 077.229 Introduction to Research Methods in Sociology (6), or 017.225 Introduction to Psychological Research (3) and 017.226 Introduction to Research Methods in Psychology (3).

Three credit hours of activity courses are required in Year 2 (including Principles of Human Movement Education), and a minimum of three credit hours per year in each of the two final years of the program.

Areas of Specialization

Students may specialize in a specific sub-discipline of exercise and sport science. Specialization requires successful completion of at least 12 credit hours of elective courses in a specific discipline from other departments. Possible areas of specialization include

- Biomechanics
- Exercise Physiology
- Sport Psychology
- Sociology of Sport
- Adapted Physical Education

A list of recommended elective courses for each area of specialization is available from the B.P.E./B.E.S.S. Coordinator.

Athletic Therapy stream

For courses recommended in University 1, see Section 3, Admission to Physical Education and Recreation Studies. Successful completion of 071.125 Biology B, with a minimum grade of "C", is a requirement for admission to the Athletic Therapy program.

Students are expected to progress through the Athletic Therapy program as outlined below. Courses designated 068 must be completed in the sequence and year indicated. It is strongly recommended that courses designated 057 also be completed in the sequence and year indicated, otherwise an additional year may be required. Prior to registering in each Practicum (057.291, 057.391, 057.491) students must have successfully completed, or be registered in, all of that year's courses. Students must successfully complete the previous year's Practicum prior to registering in the following year's courses.

Six credit hours of activity courses are required including 057.262 Resistance Training (1), 057.318 Athletic Taping and Splinting Skills (1), and 057.323 Sport Massage Techniques (1). 057.136 Aquatics 1 is a strongly recommended elective for Athletic Therapy students.

Year 1 – University 1

Year 2

Course No.	Credit Hours
022.253 Human Physiology 1	3
022.254 Human Physiology 2	3
068.148 Human Anatomy Systems	3
068.149 Musculoskeletal Anatomy 1	2
068.150 Musculoskeletal Anatomy 2	3
057.231 Kinesiology	3
057.255 Growth and Motor Development	3
057.262 Resistance Training (May have to be completed in Year 4 due to the program schedule)	1
057.306 Principles of Athletic Therapy	3
057.291 Practicum: Field/Clinical	8
Faculty Electives (Theory/Practical)	3
Total credit hours	35

Year 3

030.121 Nutrition for Health and Changing Lifestyles	3
057.343 Exercise Physiology 1	3
057.318 Athletic Taping and Splinting Skills	1
057.320 Basic Trauma and Emergency Support	3
057.323 Sport Massage Techniques	1

068.241	Pathology and Clinical Manifestations of Musculoskeletal Disorders	4
057.330	Functional Assessment & Restoration	6
068.272	Therapeutic Modalities/Electrotherapy	3
123.201	Measurement and Evaluation	3
057.391	Practicum: Field/Clinical	8
Total credit hours		35
Year 4		
017.366	Sport Psychology	3
057.405	Pathology and Clinical Manifestations 2: Cardiac, Respiratory, Neurologic	3
057.309	Principles of Fitness Training	3
057.436	Biomechanics of Sport and Exercise	3
068.346	Health Care Systems Management	3
068.347	Anatomy: Neuroanatomy	3
057.491	Practicum: Field/Clinical	8
	Faculty Electives (Theory/Practical)	9
Total credit hours		35

SECTION 7: Course Descriptions for Physical Education

All courses are not offered every year. The course schedule for the current academic session is published in the *Registration Guide* and at website umanitoba.ca.

7.1 Theory Course Descriptions

057.120 Physical Activity, Health and Wellness (3) An examination of the importance of physical activity for health and wellness, theories and determinants of health promoting behaviours, and strategies for promoting health behaviours.

057.150 Foundations of Physical Education and Exercise Science (3) An introduction to physical education and exercise science as a profession and a discipline, including an overview of sub-disciplines, resources, and careers; a personal physical assessment; and principles for achieving physical fitness. Note: A fieldwork fee is attached to the course. May not be held for credit with the former 057.132.

057.231 Kinesiology (3) The mechanical and anatomical analysis of human movement. *Prerequisite:* 057.232 or 068.149 or equivalent.

057.232 Human Anatomy (3) Structure of the skeletal, articular, and muscular systems of the human body. *Prerequisite:* 071.125 or equivalent. May not be held for credit with 068.148, 068.149, or 068.150.

057.234 Philosophy of Physical Activity (3) Issues in sport, physical education and recreation will be examined from a philosophical perspective.

057.255 Growth and Motor Development (3) Detailed study of physical growth and motor development from conception to adolescence, with implications for physical activity programs.

057.261 Health and Physical Aspects of Aging (3) An introduction to health, well-being and aging. Emphasis on health as multidimensional including physical, social and mental health. Integration of theory and research in examining selected issues related to health and physical aspects of aging. This is an Option in Aging course and may not be held for credit with 049.261.

057.291 Athletic Therapy Practicum (8) To provide clinical and on-field internship experiences on campus and in the community for prospective Athletic Therapy candidates.

057.305 Principles of Coaching (3) Philosophical and psychological components pertinent to coaching of sports.

057.306 Principles of Athletic Therapy (3) Analysis of types of injuries and emergency procedures, and practical experience in first aid, taping and wrapping, massage, and various preventive techniques. *Prerequisite:* 057.232 or 068.149 or equivalent.

057.307 Rise of Modern Sport and Physical Education (3) The course will emphasize the rise of modern sport in Canada and will reflect on the ways in which social change has influenced sport and physical activity.

057.308 Principles of Planning and Administration in Physical Education (3) This course covers the administrative and organizational aspects of physical education, intramural and inter-school programs. *Prerequisite:* 057.150 or the former 057.132.

057.309 Principles of Fitness Training (3) Theoretical concepts of designing programs employing the principles of overload and adaptation for all components of fitness for all age groups. *Prerequisite:* 057.343.

057.310 Design and Assessment of Physical Activities (3) Practical and theoretical aspects of the design, implementation, and assessment of physical activities appropriate to early years through senior years physical education. *Prerequisite:* 057.141 or 057.142. *Corequisite:* 057.265 (for Early and Middle Years students only). May not be held with the former 057.257.

057.320 Basic Trauma and Emergency Support (3) Assessment and management of medical emergencies common to sports. Topics will include on-field primary and secondary surveys, airway management, assessment and management of head, spinal, chest, abdominal and extremity trauma. *Prerequisites:* 057.306, 068.148, 068.149,

and 068.150. May not hold for credit with the former 057.319.

057.330 Functional Assessment and Restoration (6) Assessment of acute and chronic musculo-skeletal injuries and rehabilitation techniques to ensure full restoration of function. *Prerequisites:* 068.149, 068.150, 022.253 and 022.254.

057.339 Adapted Physical Education (3) Various adaptations of physical education for exceptional individuals. *Prerequisites:* completion of 59 credit hours of coursework. May not be held for credit with 123.306.

057.341 Movement Principles and the Expressive Arts (3) Interrelationship between Laban's principles of movement, and art, music, drama, and poetry, with particular emphasis on the needs of children, ages two to twelve. Note: A fieldwork fee is attached to the course. *Prerequisite:* 057.141 or 057.142. 057.341 must be taken during the same term as 057.314.

057.343 Exercise Physiology 1 (3) Physiological principles of physical training related to neuromuscular and physical development; immediate and long-term effects of various exercises on the human body. *Prerequisites:* 022.133 (B.P.E.), 022.253 and 022.254 (B.E.S.S.) (formerly 022.245).

057.344 Health Education (3) An overview of contemporary topics on health education with the intention of upgrading knowledge in health education related to present-day needs.

057.345 Motor Learning (3) Psychological components of human movement; human motor behaviour and the acquisition of motor skills. *Prerequisites:* 022.133 (B.P.E.) or 022.253 and 022.254 (B.E.S.S.) (formerly 022.245).

057.346 Sociology of Sport (3) Sociological factors related to physical education and sport.

057.383 Wilderness Leadership (3) Theoretical aspects of trip planning and administration; leadership development.

057.391 Athletic Therapy Practicum (8) To provide clinical and on-field internship experiences on campus and in the community for prospective Athletic Therapy candidates.

057.405 Pathology and Clinical Manifestations 2: Cardiac, Respiratory, and Neurologic Disorders (3) Basic principles of pathology and clinical manifestations of cardiac, respiratory, and neurologic disorders. Preventative measures, assessments and treatment methods employed in care of patients with these disorders will also be examined. *Prerequisites:* 068.148, 068.149, 068.150, 022.253, and 022.254, or permission of the B.P.E./B.E.S.S. Coordinator.

057.406 Drugs and Ergogenic Aids in Sport (3) A multidisciplinary examination of drugs, hormones, dietary supplement and methods used by athletes in attempting to enhance athletic performance. Ethical concerns and mechanisms of action will be examined for steroids, stimulants, masking agents, blood doping, and hormonal and dietary supplements among others. 022.133 or 022.253 and 022.254 are strongly recommended.

057.435 Directed Studies (3) Completion of an independent study or fieldwork experience, including a major written submission, approved by the B.P.E./B.E.S.S. Coordinator, and under the direction of a faculty member.

057.436 Biomechanics of Sport and Exercise (3) A biomechanical analysis of the skills and techniques of the major sports, games, and exercises. *Prerequisite:* 057.231 or equivalent.

057.437 Directed Research Project (3) Completion of a research project including a major written submission, approved by the department and under the supervision of a faculty member.

057.441 Exercise Physiology 2 (3) Physiological factors that affect human performance across a continuum from persons with disease to high performance athletes. Special emphasis on clinical and performance related uses of exercise testing and prescription for various populations. This will include exposure to related research and development of techniques for its critical assessment. *Prerequisite:* 057.343.

057.446 Fitness Appraisal and Lifestyle Counselling (3) Theoretical knowledge and practical training related to physical activity, fitness and lifestyle appraisal and counselling. *Prerequisite:* 057.343. *Prerequisites or Corequisites:* 057.120 and 057.309. May not be held for credit with the former 057.443, 057.444, and 057.445. **NOTE:** Prepares students to certify as "Certified Fitness Consultant."

057.450 Aging Adult Development, Health and Fitness (3) The study of the aging processes and the effects of exercise and lifestyle factors on the health and fitness of the aging adult. *Prerequisite:* 057.261, or permission of the instructor.

057.462 Supervised Fieldwork Experience (12) The fieldwork practicum is a professionally supervised field experience that provides the B.E.S.S. student an opportunity to apply knowledge gained in academic courses, and that provides exposure to new concepts of professional practice in the fields of physical activity, health and wellness.

057.491 Athletic Therapy Practicum (8) To provide clinical and on-field internship experiences on campus and in the community for prospective Athletic Therapy candidates.

123.201 Measurement and Evaluation in Leisure Services (3) The nature of valid measurement and evaluation including research methods, and the specific techniques used to survey and assess needs, personnel, physical resources, services, etc. May not be held for credit with the former 057.259.

7.2 Activity Course Descriptions

Introductory sport activity courses cover the development of both skills and knowledge of techniques, rules, and strategy as they relate to the activity. Advanced sport activity courses cover more advanced knowledge of coaching techniques and strategies. All one-credit hour practical courses

are evaluated pass-fail. All two-credit hour practical courses are evaluated with a letter grade.

The Aquatics requirement (057.136) must be met prior to graduation (B.P.E. and B.E.S.S. – Physical Health and Wellness and Exercise and Sport Science stream). Some elective practical courses may not be offered every year.

Activity courses are grouped to assist B.P.E. students in course selection (Individual/Group Activities, 3 credit hours required; Team Sports, 2 credit hours required).

Individual/Group Activities

057.138 Track and Field 1 (2) An introduction to the basics of sprinting, jumping, throwing, and distance events.

057.164 Group Fitness Activities (1) An introduction to a variety of land and aquatic group fitness programs and equipment.

057.245 Folk and Social Dance (1)

057.247 Wrestling 1 (1)

057.262 Resistance Training (1) Designing and teaching effective resistance training programs. *Prerequisite:* 057.232 (or equivalent), *pre- or co-requisite:* 057.231.

057.263 Aquafitness* (1) Designing and teaching effective aquafitness programs. *Prerequisite:* 057.164. Open to third- and fourth-year students only.

057.264 Exercise to Music* (1) Designing and teaching effective exercise to music programs. *Prerequisite:* 057.164. Open to third- and fourth-year students only.

057.304 Racquet Court Sports (1)

057.313 Physical Activity Practicum (1) May not be held for credit with the former 057.442.

057.315 Outdoor Activities (1) Note: A fieldwork fee is attached to the course. May not be held for credit with the former 057.439.

057.361 Tennis (1)

057.362 Badminton (1)

057.365 Golf (1) Note: A fieldwork fee is attached to the course.

057.370 Modern Gymnastics (Rhythmics) (1)

Team Sports

057.242 Soccer 1 (1)

057.243 Basketball 1 (1)

057.244 Football 1 (1)

057.246 Volleyball 1 (1)

057.249 Field Hockey 1 (1)

057.252 Hockey 1 (1)

057.363 Softball (1)

057.382 Team Handball (1)

Additional Activity Courses

057.136 Aquatics 1 (2) An introduction to water safety skills, stroke techniques, and aquatic activities. Students possessing RLSS Bronze Medallion are exempted from the aquatics requirement for graduation.

057.142 Principles of Human Movement Education (2) An introduction to movement education through physical activities and application of the concepts of body awareness, space, and qualities of movement. May not be held for credit with the former 057.141.

057.250 Skating (1)

057.265 Early and Middle Years Physical Education (2) May not be held for credit with the former 057.258. *Prerequisite:* 057.141 or 057.142, and *corequisite:* 057.310.

057.301 Directed Activity Study (1) Completion of an independent study or fieldwork experience, approved by the B.P.E./B.E.S.S. Coordinator and under the direction of a faculty member.

057.311 Apparatus Gymnastics (1) May not be held for credit with the former 057.137.

057.312 Recreational Gymnastics (1) May not be held for credit with the former 057.137.

057.314 Creative Dance (1) May not be held for credit with the former 057.390. Must be taken during the same term as 057.341.

057.318 Taping and Splinting (1) *Prerequisite:* 068.149.

057.323 Sport Massage Techniques (1) *Prerequisite:* 068.149.

057.351 Track and Field 2 (1) *Prerequisite:* 057.138.

057.354 Basketball 2 (1) *Prerequisite:* 057.243.

057.356 Hockey 2 (1) *Prerequisite:* 057.252.

057.357 Soccer 2 (1) *Prerequisite:* 057.242.

057.358 Volleyball 2 (1) *Prerequisite:* 057.246.

057.359 Wrestling 2 (1) *Prerequisite:* 057.247.

057.367 Cross Country Skiing (1) Note: A fieldwork fee is attached to the course.

057.384 Wilderness Skills (2) A five-day wilderness camping experience; which may also include canoeing activities. Note: A fieldwork fee is attached to the course. Students are required to transport themselves to the site. *Prerequisite or corequisite:*

057.383 or 123.330.

057.388 Camping 1 (1) A three-day wilderness camping experience. Note: A fieldwork fee is attached to the course. Students are required to transport themselves to the site. *Prerequisite or corequisite:* 057.383 or 123.330.

057.389 Winter Camping (1) A three-day wilderness camping experience. Note: A fieldwork fee is attached to the course. Students are required to transport themselves to the site. *Prerequisite or corequisite:* 057.383 or 123.330.

057.397 Beginning Kayaking (1) This course usually includes an overnight campout. A fieldwork fee is attached to the course. Students are required to transport themselves to the site.

057.398 Rock Climbing (1) A fieldwork fee is attached to the course.

057.399 Rowing (1) A fieldwork fee is attached to the course.

057.464 Exercise for Older Adults (1) Design and implementation of exercise programs for older adults. *Prerequisite:* 057.164, 057.262, 057.264, *corequisite:* 057.450.

* NOTE: 057.263, 057.264 are open to third and fourth year students only, as the subject matter requires knowledge of anatomy, physiology and fitness theory. Students should also have participated in fitness classes of this type prior to registering in these courses. Related classes are available as non-credit classes offered by Recreation Services in the faculty. These courses (as well as 057.262 and 057.464) are recognized by the Manitoba Fitness Council (MFC) to prepare individuals for MFC Fitness Leader Accreditation. Note that MFC accreditation is optional following completion of the courses, and requires an additional fee. A minimum 10-hour practicum, a practical evaluation, CPR and First Aid are also required prior to MFC accreditation in any of these areas. Students who wish to seek accreditation as MFC Personal Fitness Trainers should consult the B.P.E./B.E.S.S. Coordinator for a list of recommended electives.

SECTION 8: Program Requirements for Bachelor of Recreation Studies

8.1 Scholastic Standards

To graduate with a B.R.S. degree, a student must have passed 129 credit hours of coursework and must have obtained a minimum Grade Point Average of 2.00 overall, as well as a 2.00 Grade Point Average for all Recreation Studies courses.

Students must fulfil all the requirements of the core curriculum, general education, supporting minor, activity course options, supervised fieldwork experience, and Recreation options.

A maximum of 161 credit hours may be attempted in order to obtain the 129 hours of credit.

Students must equal or exceed the following minimum Cumulative GPA standards at the specified stages in their academic careers. Students who fail to achieve the standard will be placed on academic probation and advised by the B.R.S. Coordinator as to the steps required to clear their academic status.

Credit Hours	Minimum Cumulative GPA
24-63	1.80
64-96	1.85
96-128	1.90
129+	2.00

8.2 Course Requirements for the Bachelor of Recreation Studies

The Bachelor of Recreation Studies degree program (including University 1) consists of six curriculum components as follows:

- The Core Curriculum: 33 credit hours
 - General Education: 48 credit hours
 - Supporting Minor: 18 credit hours
 - Fieldwork Practicum: 15 credit hours
 - Activity Options:* 3 or 6 credit hours
 - Recreation Options (Approved by Advisor):** 9 or 12 credit hours
- Total credit hours: 129

NOTES:

* Activity courses are selected from those listed in B.P.E. curriculum, the Faculty of Education, Faculty of Arts, School of Music, or School of Art and approved by the Coordinator of the degree program.

** May include other courses as approved by B.R.S. Coordinator.

While course sequencing will vary based on transfer credits, a **sample** three-year program following 30 credit hours (minimum 24) in University 1 would be:

Year 2: (Sample)

Course No.		Credit Hours
123.201	Measurement and Evaluation in Leisure Services	3
123.253	Recreation Program Planning Principles	3
123.254	Major Recreation Program Areas	3
123.387	Human Resources Development in Leisure Services	3
057.255	Growth and Motor Development	
	or	
017.229	Child Development	
	or	
017.231	Adolescent Development	
	or	
017.237	Developmental Psychology from Adolescence to Old Age	3
017.241	Social Psychology 1	
	or	
017.242	Social Psychology 2	
	or	
077.233	Social Psychology in Sociological Perspective	3
	Supporting Minor	6
	Options (General Education)	3 or 6
	Activity Options	3 or 0
Total credit hours		33

Year 3 (Sample)

123.306	Introduction to Recreation and Special Populations	3
123.307	Fieldwork Seminar	3
123.308	Supervised Fieldwork Experience	12
123.330	Nature-Based Outdoor Recreation/Education	3
123.385	The Planning of Recreation Areas and Facilities	3
123.386	The Administration of Leisure Services	3
	Options (General Education)	0-3
	Supporting Minor	0-3
	Activity/Recreation Options	0-3
Total credit hours		33

Year 4 (Sample)

123.404	Community Organization and Leisure Delivery Systems	3
	Supporting Minor	9
	Options (General Education)	9-15
	Activity/Recreation Options	9-15
Total credit hours		33

SECTION 9: Course Descriptions for Recreation Studies

All courses are not offered every year. The course schedule for the current academic session is published in the *Registration Guide* and at website umanitoba.ca.

Courses with asterisk (*) compose the core curriculum.

123.120* Introduction to Leisure Travel (3) To provide an introduction to tourist behaviour and the tourism system through an overview of: why people travel; the components of tourism; the scope and organization of tourism in Canada; and the interrelationship between recreation and tourism.

123.140* Concepts of Recreation and Leisure (3) The nature and scope of recreation and leisure, the past influences and implications for the future. An overview of the types and roles of various components of the leisure service delivery system.

123.201* Measurement and Evaluation in Leisure Services (3) The nature of valid measurement and evaluation including research methods, and the specific techniques used to survey and assess needs, personnel, physical resources, services, etc. *Prerequisite:* 123.140.

123.253* Recreation Program Planning Principles (3) An examination of the rationale for the provision of program services and program planning systems. Specific topics include staging the major events, unit planning, program needs, and master planning. *Prerequisite:* 123.140.

123.254* Major Recreation Program Areas (3) Planning considerations including outdoor programs, physical and social recreation, facility programming, creative arts programs and programming for specific age groups. *Prerequisite:* 123.253.

123.265 The Social Aspects of Aging (3) An examination of the social aspects of aging. Emphasis on understanding the aging process as a life transition involving adaptation through interaction with social and physical environments. This is an Option in Aging course and may not be held for credit with 051.265 or 028.265 or 047.265.

123.301 Directed Activity Study (1) Completion of an independent study or fieldwork experience, approved by the Coordinator, Recreation Studies, and under the direction of a faculty member.

123.306* Introduction to Recreation and Special Population (3) The nature of the provision of recreation services for specific populations (e.g., aging, physically disabled, socio-economically disadvantaged). Characteristics of special population groups, the settings for therapeutic recreation, service delivery systems models, and program planning are examined. *Prerequisite:* 123.140.

123.307 Fieldwork Seminar (3) This course is 39 hours of classroom orientation to the field experience. Students apply, interview, and select field situation.

123.308 Supervised Fieldwork Experience (12) Supervised field study (14 weeks; 35-40 hours per week) within a leisure service agency. Field exposure will be jointly supervised by an agency official and a B.R.S. staff member. *Prerequisite:* 123.307 and successful completion of 70 per cent of the core curriculum in Recreation Studies.

123.330* Nature-Based Outdoor Recreation/Education (3) Basic concepts of nature-based outdoor recreation/education including natural resource/environmental awareness, resource identification and assessment, programs and activities, outdoor program planning. Note: A fieldwork fee is attached to the course. *Prerequisite:* 123.140. May not be held for credit with 123.402.

123.385* The Planning of Recreation Areas and Facilities (3) The process used to plan both recreational open spaces and facilities. Special consideration is given to the role of the recreation professional in relationship to other planners. *Prerequisite:* 123.140.

123.386* The Administration of Leisure Services (3) Basic management principles and practices and their applicability to the delivery of leisure services. Topics include management styles and systems, legal aspects, the financial base, budgeting, planning, etc. *Prerequisite:* 123.140.

123.387* Human Resource Development in Leisure Services (3) The purpose of this course is to develop personal interaction skills with respect to personnel management techniques. Basic concepts of leadership and leadership training, and volunteer development and use. *Prerequisite:* 123.140.

123.404* Community Organization and Leisure Delivery Systems (3) The nature of the community and the roles of leisure agencies. The processes leading to interagency coordination and cooperation. Public recreation agency as facilitator and the concepts of community education. *Prerequisites:* must have completed 70 per cent of core Recreation Studies courses.

123.406 Person Centred Leisure Education (3) A detailed examination of person centered leisure education with an emphasis on both theoretical and practice models and their application to the recreation service delivery system. *Prerequisites:* 123.140 and 123.306.

123.410 Major Essay Readings or Creative Work (3) *Prerequisite:* 123.140 and department approval. May not be held for credit with 123.411 or other 123.410.

123.411 Directed Studies (3) Research, independent study or special experience approved by the department and under the direction of an instructor. *Prerequisite:* 123.140 and department approval. May not be held for credit with 123.410 or other 123.411.

123.412 Recreational Travel and Tourism (3) The purpose of this course is to provide students with a better understanding of the travel and tourism industry through an examination of its history, service systems and issues. *Prerequisites:* 123.201 and 123.120.

123.413 Leisure Services for the Aging (3) The nature of the aging process and its impact on leisure behaviour. The factors influencing leisure among older adults, policy issues, and program and service methods and implications will be examined. *Prerequisite:* 123.306.

123.414 Marketing Recreation and Park Services (3) A review of the general principles of marketing and an introduction to strategies for their implementation in public sector and not-for-profit recreation agency programs and services. *Prerequisites:* 118.221 and 123.386.

123.415 Clinical Aspects of Therapeutic Recreation (3) An examination of the current principles of therapeutic recreation in relation to their practical application to individuals in clinical settings such as nursing homes, hospitals and other long-term care facilities. *Prerequisite:* 123.306.

123.417 Sport Management (3) The purpose of this course is to assist students in gaining an in-depth appreciation of national and provincial sport organizations. Topics include structure, policies, programs, marketing, funding and communications as they relate to Fitness and Amateur Sport Canada and governance in the Canadian Sport System. *Prerequisite:* 123.140 or 057.150 (formerly 057.132).

123.418 Social and Psychological Aspects of Leisure (3) An examination of leisure behaviour and experience of individuals in social and situational contexts, focusing on the role of leisure in the social psychological adjustment of the individual and implications for managing and delivering leisure services. *Prerequisite:* 123.140.

123.420 Special Topics (3) A theoretical and practical examination of a selected issue in the field of leisure studies. The topics will vary depending on faculty expertise and student need. *Prerequisites:* 123.140 and departmental approval.

123.430 Nature-Based Outdoor Recreation/Education 2 (3) Expands upon the basic concepts and theories studied in Nature-Based Outdoor Recreation/Education 1. Topics to be studied include: environmental awareness and ethics, principles of natural resource management and interpretation, resource identification and assessment, planning programs and activities in outdoor pursuits, leadership and followership. Exploration of emerging issues in outdoor recreation/education such as: recreation impacts, interpretation, ROS, LAC, carrying capacity, VAMP, ecosystem-based management principles, land use and resource conflicts. A practical application of theory is required. Note: A fieldwork fee is attached to the course. *Prerequisite:*

123.330. May not be held for credit with 123.432.

123.431 The Administration of Leisure Services 2 (3) Advanced management principles and practices and their applicability to the delivery of leisure services. *Prerequisite:* 123.386. *Corequisite:* 123.387.

123.434 The Planning of Recreation Areas and Facilities 2 (3) Advanced planning considerations with opportunity for application of planning process theories. *Prerequisite:* 123.385.

SECTION 10: Interfaculty Option in Aging

An Option in Aging is offered by and in the following faculties: Architecture (Interior Design), Arts, Human Ecology, Nursing, Physical Education

and Recreation Studies, and Social Work. To complete the option, students will need to complete each of the following requirements: a) 051.265 or 028.265 or 123.265 or 047.265, The Social Aspects of Aging; b) 049.261 or 057.261, Health and Physical Aspects of Aging; c) at least three credits of professional/discipline specific applied work on aging within the student's unit of registration; and d) an additional nine credits in aging from the participating units. Lists of courses are available in faculty general offices.

Upon completion of these requirements, a "Comment" will be added to the student's transcript. For further information concerning the option, interested students are directed to the general office of the Faculty of Physical Education and Recreation Studies.

Faculty of Science

General Office

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Dean: James Jamieson

Associate Deans: Arthur Gerhard, Gordon Robinson, Michael Butler

Executive Assistant to the Dean: Trevor Schultz

Executive Assistant (Student Affairs): Joan McConnell

Administrative Assistant: Betty-Ann Wiebe

Student Advisors: Val Matthes, Laura Bean

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SECTION 1: Preface

1.1 History of the Faculty of Science

The first four members of the Science faculty were appointed in 1904. In 1921, a combined Faculty of Arts and Science was formed and at that time provided instruction in undergraduate courses in both Arts and Science and, to a limited extent, in graduate studies.

The Faculty of Science became a separate faculty in 1970 and at present includes the departments of Botany, Chemistry, Computer Science, Mathematics, Microbiology, Physics and Astronomy, Statistics, Zoology, and interdisciplinary programs in Biology, Biochemistry, Biotechnology, Ecology, Genetics, Psychology and Actuarial Mathematics. With the creation of the Faculty of Environment in September 2003, programs in Environmental Science and Geological Sciences are no longer offered by the Faculty of Science except to continuing students.

SECTION 2: Admission to the Faculty of Science

2.1 Entrance to Science from University 1

Most students newly admitted from high school and those who have completed less than 24 credit hours at another post-secondary institution will complete the first year of their degree programs in University 1. After completion of University 1, students may apply for admission to their desired faculty or school or transit to Arts or Science for further study. Upon completion of 30 credit hours of courses, students *must* exit University 1 prior to their next registration. For information see the chapters for Admission and University 1 in this *Calendar*.

To enter the Faculty of Science a student must have completed a minimum of 24 credit hours of courses. Students entering the Faculty of Science are placed in the three year General degree program, unless they have applied to enter a specific four year Major or Honours program. Entrance to a four year Major or Honours program requires that students have successfully completed the specific courses for the intended program, and that an application be approved by the department or program coordinator and a Faculty of Science student advisor prior to registration. See Section 3, below, Degree Programs in the Faculty of Science. Students intending to enter a specific four year Major or Honours program should refer to the program charts in Section 4, Programs and Courses Offered by the Faculty of Science, for courses required for entry into each program. Completion of these courses in University 1 will ensure that a student may complete a four year Major or Honours program in four calendar years.

2.2 Transfer Students

Students who wish to transfer to the Faculty of Science must have completed a minimum of 24 credit hours of post-secondary courses to be eligible for consideration. External transfer students with 24 credit hours or more of transfer credit are assessed upon admission to the Faculty of Science.

Students who have completed less than 24 credit hours may be admitted to University 1 or the Continuing Education Division.

Students on academic suspension as a result of work completed at another post-secondary institution will not normally be considered for admission to the University of Manitoba until the suspension has been served.

Transfer of Credit

Internal: See General Academic Regulations and Policy, Transfer of Credit in this *Calendar*.

External: See Admissions section of this *Calendar*. Courses completed at an external institution ten years prior to registration in the Faculty of Science are not considered for transfer credit. Students should contact a Science student advisor regarding departmental transfer credit policies. All courses acceptable to the Faculty of Science must be transferred, and will bear the grade and course classification of "TX" (transfer).

2.3 Special Students

After Degree Special Students

Students who have successfully completed a first degree from a recognized university program with a cumulative Grade Point Average of 2.00 or better are eligible for admission as Special Students.

Undergraduate Special Students

Undergraduate Science students may take extra courses as Special Students (course classification "SS") but these courses do not count towards the degree nor in the student's Grade Point Average. The marks will appear on the student's history and courses taken as a Special Student do count in the student's sessional load. Students may change their course classification from that of a "Regular Student" to a "Special Student" (and vice versa) only until the end of the registration revision period. Courses classified as "special" do not have to be courses that are acceptable for credit in the Faculty of Science, however, registration in such courses cannot be authorized without the written permission of the department and faculty offering the course. Students registering in "SS" courses must register for those courses after the initial access period.

2.4 Second Degree Students

Students possessing a first degree from a recognized university program and who have a minimum cumulative Grade Point Average of 2.00 (or a 2.30 adjusted Grade Point Average) on all previous university work are eligible for admission as Second Degree students.

The Second Degree requirements may be shortened by up to 60 credit hours, and once admitted to a Second Degree Program, students will be expected to conform with all continuation, residency and graduation requirements as described in Section 3 below.

Specific information on requirements for a Bachelor of Science degree following a degree in another faculty or school, or at another university, is available in the general office.

2.5 Auditing Students

Students who wish to audit courses must have written permission from the instructor of the desired course before they can register. Auditing students must register in person in the Faculty of Science general office. The Faculty of Arts will prohibit auditors from registering in their courses until after the initial access period for registration.

SECTION 3: Degree Programs in the Faculty of Science

Degrees Offered

Bachelor of Science

Minimum time to graduation: Three years (University 1 plus two years). This degree is also called the General program.

Bachelor of Science (Major)

Minimum time to graduation: Four years (University 1, plus three years). This degree is also called the four year Major.

Bachelor of Science (Honours)

Minimum time to graduation: Four years (University 1, plus three years).

Bachelor of Computer Science (Honours)

Minimum time to graduation: Four years (University 1, plus three years).

Cooperative options are available to students in Biochemistry (Honours and Major), Computer Science (Honours and Major), Ecology (Major), Environmental Science (Major) (continuing students only), Genetics (Hon-

ours), Microbiology (Honours and Major) and Zoology (Honours and Major).

All students are urged to examine their interests and future goals carefully to make a proper choice of program. Consultation with departments and with student advisors in the general office is encouraged.

Reminder

It is the student's responsibility to ensure that degree and program requirements are met. Science student advisors are available to clarify faculty and university regulations and degree requirements. A final and thorough program check is done after students have registered for their final year or course. The Faculty of Science is not responsible for those students who do not satisfy degree requirements.

3.1 Regulations Applicable to All Programs

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Faculty of Science has regulations and requirements, published below that apply specifically to its students.

University Written English and Mathematics Requirement

Students are required to complete the University written English and Mathematics requirements as outlined in the Chapter, General Academic Regulations and Requirements, of this *Calendar*. The list of courses which satisfy the written English and Mathematics requirements appears in Appendix A of that chapter. The only course offered by the Faculty that satisfies the written English requirement is Botany 001.101W.

In the course descriptions section of this *Calendar*, course numbers of designated **written English** courses are marked with a 'W' and designated **mathematics** courses are marked with an 'M.'

Prerequisite, Corequisite, and Recommended Courses: Definitions

Prerequisite: If a first course is prerequisite for a second course, a student must have credit in the first course before registering for the second course. The department giving the second course may require a minimum grade of "C" in the first course to register in the second course.

Corequisite: If a first course is a corequisite for a second course, the first course (unless previously completed) must be taken concurrently with the second course.

Recommended: If a course is strongly recommended as a pre- or corequisite, a student is advised to take it. The final decision as to whether or not to take the course rests with the student. Students are advised to consult with the department for specific instructions.

NOTES:

Students who are allowed to enrol in courses or programs provisionally pending satisfactory completion of pre- or corequisite must, if unsuccessful, withdraw or amend their registration accordingly within the stipulated deadline for adding courses. Those who do not may be withdrawn automatically and may relinquish the opportunity to add appropriate courses. The Faculty of Science reserves the right not to send reminders of the requirement to withdraw.

Any prerequisite or corequisite may be waived with written consent of the department.

Supplemental Examinations

There are no supplemental examinations in the Faculty of Science.

Repeating a Course

Science students are subject to the University of Manitoba regulations (see General Academic Regulations and Policy, Repeating a Course) and the Faculty of Science degree regulations with regard to eligibility to repeat a course.

Repeating a course will **not** result in the removal of the first attempt and grade in that course from the student's record. The course will appear on the transcript twice if it is attempted twice. Both grades will be included in the calculation of the student's Grade Point Average.

Voluntary Withdrawals

The responsibility for initiating withdrawals rests solely with the student. When eligible to do so, Voluntary Withdrawals must be done through UM-REG, otherwise withdrawals must be authorized first by the Science gener-

al office and then through Student Records. No withdrawals will be permitted after the deadlines posted in the Academic Schedule.

Since September 1993, Science students are limited to 30 credit hours of VW's (i.e. courses dropped after the normal registration revision period) in their degree program. When the maximum VW limit is reached, students may decrease their VW count by one full course equivalent for every subsequent 30 credit hours successfully completed after consultation with a Science student advisor. In exceptional circumstances, Authorized Withdrawals may be permitted on presentation of appropriate documentation. See the chapter, General Academic Regulations and Policy, section Voluntary Withdrawal from Programs and Courses or consult a Science student advisor for information.

Letter of Permission to Take Courses at Another University

Students wishing to complete courses at another institution for credit at this university must obtain written permission from Student Records prior to registering at the other institution or no credit will be permitted. Any grades earned are transferred in and form part of the Grade Point Average. Students who register for courses elsewhere without a Letter of Permission must reapply to the Faculty of Science before July 2.

Students who are on academic suspension may not elect courses at another institution for credit toward a Science degree at this university.

Students in an Honours program may not normally complete courses at another institution for credit at this university. Individual exceptions must be referred both to the Honours department concerned and the general office for consideration.

Attendance at Other Institutions

Students who attend other post-secondary institutions without a Letter of Permission must reapply for admission to the Faculty of Science before the application deadline and be academically competitive for admission. Similarly, students registered in Science here may not be registered at another academic institution at the same time unless they are registered elsewhere on a Letter of Permission. The penalty for unauthorized or undisclosed attendance may be disciplinary withdrawal or academic suspension.

Dean's Honour List

Students enrolled in 24 credit hours or more who achieve a sessional Grade Point Average of 3.50 or higher during a regular session will be placed on the Dean's Honour List.

Where the standard department program specifies a number of credit hours in excess of 30, the assessment for Dean's Honour List shall be based on completion of at least 80 per cent of that specified number of credit hours during the regular session.

The Dean's Honour List designation will appear on the student's transcript of marks.

For the additional requirements for Dean's Honour List in the Honours or Major Cooperative Option, see the regulations for these programs.

Academic Dishonesty

Academic dishonesty is intentional cheating, fabrication, impersonation, or plagiarism. It is also knowingly helping or attempting to help others to be dishonest. Academic dishonesty lowers scholastic quality and defrauds others who will eventually depend on their own knowledge and integrity.

Plagiarism or any other form of cheating on examinations, term tests, or assignments is subject to academic penalty as serious as suspension or expulsion from the faculty or university.

Students who are unsure of what constitutes academic dishonesty should refer to the regulations in General Academic Regulations and Policy, Plagiarism and Cheating and consult with a Science student advisor or a faculty member.

Termwork and Debarment

A student is responsible for the completion of laboratory work, assignments, tests and other class work as prescribed by departments. A student who does not meet termwork requirements to the satisfaction of a department will receive a warning to this effect from the department or the general office. If this warning is ignored, a student may be debarred from the course. Any student debarred from a course receives an automatic grade of "F" in that course.

Deferred Examinations

A student who is unable to write a final examination because of illness or other disability or compassionate reasons must file an application in the faculty general office for a deferred examination. The application must be filed within seven days of the last examination that the student is scheduled to write in that series. Appropriate documentation must be provided that verifies that the incapacity existed at the time the examination was to be written.

A deferred examination is offered in a manner prescribed by the head of the department concerned. This would normally be written within 30 working days of the last examination in that series. Any other consideration would be determined by the department head.

Students requesting deferred examinations on the grounds that the examinations conflict with vacation or holiday plans shall not be granted deferrals.

A deferred examination is not normally granted to a student who has written the final examination.

Challenge for Credit

Any student wishing to challenge a course for credit should contact the Science General Office.

Appeals Involving Academic Regulations

The Committee on Student Standing in Science considers appeals from students who request special consideration in respect of rules and regulations governing their programs of study and qualification for graduation.

Appeals should be addressed to: The Secretary, Committee on Student Standing, General Office, Faculty of Science, 239 Machray Hall.

Incidental Fees

Incidental fees are assessed for some courses. Refer to department offices and the Registration Guide for details.

3.2 Three Year General Degree:

B.Sc. (General)

The three year General program is intended to provide diversified training in Science. The design of the program is such that a student is exposed to several areas of science at an introductory level together with a requirement for more advanced study in at least two Science areas. These requirements will ensure that a student's program of study will have elements of breadth and depth.

This program is not intended for students who desire to practise in some field of specialization in the Sciences. Students with that intent are recommended to the Honours or the four year Major program. However, the three year General program is flexible enough in most departments to allow a student to choose courses that would facilitate transferring to the four year Major program should that become desirable.

B.Sc. (General): Academic Regulations

A student must complete 90 credit hours (equivalent to 15 full courses) with passing grades ("D" or better) in each course and with a minimum Grade Point Average of 2.00 on the 90 credit hours which constitute the degree to qualify for the degree of Bachelor of Science (General).

Hours of credit for which a student registers without subsequent withdrawal are called attempted credit hours (or simply, attempts). There is no limit on the number of attempts within the B.Sc. (General), provided a student does not exceed 48 credit hours of failed and/or repeated courses.

Twenty four credit hours must be chosen from the following list of introductory Science courses, with at least six credit hours from each of four subject areas:

- Astronomy: 016.180
- Biology: 071.125
- Chemistry: 002.130 and 002.131
- Computer Science: 074.101 and 074.102
- Environmental Science: 128.100 and 128.200 (*Cannot be used to fulfil the introductory science requirement if taken after the 2003 Summer Session*)
- Geological Sciences: 007.123, 007.124, or one of 007.134 or 007.144, and one of 007.135, 007.136 or 007.137 (*Cannot be used to fulfil the introductory science requirement if taken after the 2003 Summer Session*)

- Mathematical Sciences: six credit hours chosen from: 136.120M, 136.130M, 136.131M, 136.150M, 136.151M, 136.152M, 136.153M, 136.168M, 136.169M, 136.170M, 136.171M, 136.173M
- Physics: 016.102M and 016.103M, or 016.105 and 016.107
- Statistics: 005.100M and 005.200M

A minimum of 30 credit hours at the 200 and/or 300 level must be chosen from **two** Science departments with at least 12 credit hours from each department. Students should note prerequisite requirements for upper level courses when planning their program. Appropriate courses and combinations of courses are detailed in each department's section of this chapter. Other courses from that department may be taken with written authorization from that department.

NOTES:

1) 002.236 (060.236) and 002.237 (060.237) may be held for credit in the B.Sc. General degree program, but may not be used to fulfil the minimum requirement of 12 credit hours in 200-level Chemistry.

2) Students who wish to use Mathematics to satisfy this requirement should not elect 136.168 to satisfy the six credit hours of introductory mathematics above.

A maximum of seven full courses or equivalent (42 credit hours) from **one** department and a maximum of ten full courses or equivalent (60 credit hours) from **two** departments is allowed.

At least two full courses or equivalent (12 credit hours) from outside the Faculty of Science and acceptable in the Faculty of Science must be taken, of which six credit hours must be from the Faculty of Arts. A maximum of six full courses or equivalent (36 credit hours) may be taken from outside the Faculty of Science. See Section 4.18 below, Courses Offered by Other Faculties and Schools Acceptable for Credit in the Faculty of Science.

Students having difficulty with the interpretation of these regulations or the way in which they are applied, are urged to contact a Science student advisor in the general office. Students are responsible for their own degree progress and completion.

B.Sc. (General): Performance Regulations

A student's performance will be evaluated after each April and August examination series.

Minimum Performance Level

To remain in good standing, students must meet minimum performance levels as described in the table below. For the first 60 credit hours of coursework completed, a student must achieve a minimum Grade Point Average of 2.00 on half of their coursework. Between 60 and 120 credit hours, only the worst 30 credit hours are forgiven. After 120 credit hours, the assessment of 2.00 is on the best 90 credit hours.

Minimum Performance Table

Effective September 1998, this table applies to all students in the General degree program in the Faculty of Science. For students admitted to Science prior to the introduction of University 1, the first point of assessment occurs when a student has attempted 24 credit hours, as shown in Column 1. The number of credit hours on which the performance is to be assessed is described in Column 2. Column 3 indicates the required minimum Grade Point Average the student must achieve in order to remain in good standing. The first point of assessment for students transiting from University 1 and for internal transfer students occurs upon admission to the Faculty of Science. External transfer students who have a minimum of 24 credit hours of transferred courses are assessed upon admission.

Column 1	Column 2	Column 3
Total Number of Credit Hours Attempted at this point	Number of Credit Hours on which performance is to be assessed (Best grades included in assessment)	Required Minimum Grade Point Average
24	12	2.00
27	12	2.00
30	15	2.00
33	15	2.00
36	18	2.00
39	18	2.00

42	21	2.00
45	21	2.00
48	24	2.00
51	24	2.00
54	27	2.00
57	27	2.00
60	30	2.00
63	33	2.00
66	36	2.00
69	39	2.00
72	42	2.00
75	45	2.00
78	48	2.00
81	51	2.00
84	54	2.00
87	57	2.00
90	60	2.00
93	63	2.00
96	66	2.0
99	69	2.00
102	72	2.00
105	75	2.00
108	78	2.00
111	81	2.00
114	84	2.00
117	87	2.00
120	90	2.00
123	90	2.00
126	90	2.00
129	90	2.00
132	90	2.00
135	90	2.00
138	90	2.00

Students who fail to meet this standard will be placed on probation. The notation "On Probation" will be recorded on the transcript. Once on probation, a student will be allowed to register for **one** additional session (with intersession, summer evening and summer day being treated as one session for the purpose of this regulation) to enable them to achieve the required Grade Point Average applicable to their **new** number of attempts. If the student succeeds in this he/she will be allowed to continue. If the student does not succeed, he/she will be placed on **academic suspension for one calendar year**. Because of the importance of the first session in which a student registers after being placed on probation, students must consult the Faculty of Science student advisors to ensure that this registration is able to make their removal from probation feasible. Students who have been suspended for one year as a result of their failure to clear their probationary status will subsequently be suspended for two calendar years if they fail to clear their probationary status during their first registration on their return to the Faculty of Science. Those serving two-year suspensions are required to start the degree afresh should they choose to return to the Faculty of Science.

Students who fail or repeat more than 48 credit hours will be placed on academic suspension for two calendar years. Students serving two-year suspensions are required to start the degree afresh should they choose to return to the Faculty of Science. Students may appeal for transfer credit of up to 30 credit hours in courses in which a minimum grade of "C" was achieved.

A student placed on academic suspension is not allowed to register in the Faculty of Science during the term of the suspension. Students wishing to return to the Faculty of Science are required to achieve certain academic standards upon their return. For information regarding these standards, consult a Science student advisor.

Residence Requirements for General Students

There are two ways in which the student may fulfil the minimum requirement of credit hours that must be taken at the University of Manitoba: by taking at least 48 credit hours (eight full courses) at the University of Manitoba; or by taking at least the final 30 credit hours (five full courses) here. The courses used to satisfy the residence requirement must be acceptable for credit in the Faculty of Science.

Recognition of Academic Merit

Dean's Honour List

Students enrolled in 24 credit hours or more who achieve a sessional Grade Point Average of 3.50 or higher during a regular session will be placed on the Dean's Honour List. See Section 3.1 above.

Degree with Distinction

To obtain a Degree with Distinction a student must achieve a minimum cumulative Grade Point Average of 3.50 on all courses taken in the degree. The term "Degree with Distinction" will appear both on the parchment and on the student's transcript of marks.

3.3 Four Year Major Degree:

B.Sc. (Major)

The four year Major program provides indepth study of a subject or subject areas and enables graduates to function competently in a career in their chosen subject area.

While this program is not intended for students who wish to pursue graduate study, most programs allow students to do so with a minimum of difficulty.

The four year Major program may be pursued on a part-time basis, although it must be recognized that under those conditions students would require more than four years to complete degree requirements.

To be eligible for any award granted exclusively on the basis of academic performance, a student normally must be enrolled in 100% of a full program as defined by the department.

Prior to entry to the four year Major or Honours program, a student is subject to the performance regulations of the B.Sc. (General) program.

B.Sc. (Major): Academic Regulations

To qualify for the degree Bachelor of Science (Major), a student must complete the equivalent of 20 full courses (120 credit hours) with passing grades ("D" or better) in each course and with a minimum cumulative average of 2.00 on the 120 credit hours which constitute the degree.

Students must complete the university written English and Mathematics requirement as described in the chapter, General Academic Regulations and Policy, of this *Calendar*.

At least one course (six credit hours) **must** be taken from outside the Faculty of Science. As of the 1999-2000 regular session, students admitted to a Major program must complete six credit hours of courses from the Faculty of Arts. With the exception of students enrolled in Computer Science and Environmental Science, students may take a maximum of six courses (36 credit hours) from outside the Faculty of Science. For acceptable course choices see Section 4.18 below, Courses Offered by Other Faculties and Schools Acceptable for Credit in the Faculty of Science.

The course requirements of each department are listed under that department's heading.

Entrance to the Four Year Major

To enter a four year Major program, a student must normally have achieved a minimum grade of "C+" in at least one introductory course designated by the department(s). Departments may, however, specify higher performance levels in individual courses, or combinations of courses, for entry to their program. In addition, to enter a four year Major program a student shall normally have completed at least 30 credit hours, although a student may enter on the recommendation of the department with only 24 credit hours completed.

Any student who, prior to being admitted to a four year Major program, has completed more than 30 credit hours will be allowed to apply those excess credit hours which meet the specifications of the program to the four year Major program.

Students must attain a cumulative Grade Point Average of at least 2.00 regardless of the point of entry, and must meet continuation requirements as outlined below.

Continuation in the Four Year Major

To continue in the program, a student must maintain a cumulative Grade Point Average of 2.00 computed on all courses applied to, and attempted in, the program. Assessment for continuation in the program shall be carried out initially following the attempt of 54 credit hours; for Second De-

gree students the initial assessment shall be carried out following the attempt of 24 credit hours. After the initial assessment, until the completion of degree requirements, a student will be assessed for the 2.00 cumulative Grade Point Average *after each April and August examination series*. Students who do not meet this minimum will be required to withdraw from the Major program.

The continuation and (or) graduation requirement for the Major programs in Chemistry, Computer Science, Statistics and Zoology differ from the above. See the *Calendar* entry for these departments for clarification.

Failed courses: A student who receives failing grades in more than 18 credit hours following admission to the program will be required to withdraw from the Major program.

A student will be required to repeat those failed courses which are specified as required courses for the program; however, with the approval of the department the student may be allowed to substitute a new course for any elective course failed.

Program Approval: The department must approve a student's Major program each session. Students must also obtain departmental approval for any and all revisions to their program.

Major students reverting to the General program must fulfil all academic requirements of that degree.

Residence Requirement for Four Year Major Students

A student must successfully complete a minimum of 60 credit hours (10 full courses) at the University of Manitoba. The courses used to satisfy the requirement must be acceptable for credit in the Faculty of Science. Residence requirements apply both to first and second degree students.

Recognition of Academic Merit

Dean's Honour List

Students enrolled in 24 credit hours or more who achieve a sessional Grade Point Average of 3.50 or higher during a regular session will be placed on the Dean's Honour List.

Degree with Distinction

To obtain a Degree with Distinction a student must achieve a minimum 3.50 Grade Point Average on the last 60 credit hours of the program. All sessions, regular and summer, will be considered in descending chronological order. When the last 60 credit hours are found in a session containing more hours than are needed, the best grades from that session will be used for the Grade Point Average calculation.

The term "Degree with Distinction" will appear both on the parchment and on the student's transcript of marks.

3.4 B.Sc. (Major) Cooperative Option

The Major programs that offer a Cooperative Option are Biochemistry, Computer Science, Ecology, Environmental Science (continuing students only), Microbiology and Zoology.

A cooperative education program is an arrangement whereby a student spends alternating periods in university and employment. There are several advantages to cooperative education programs for students. One benefit is that students are able to acquire both theoretical knowledge and practical experience. This experience assists them in selecting areas of specialization for their senior courses. During an employment period students can also typically earn enough to defray the total cost of their university education. The contacts developed with potential employers are also valuable to graduating students.

All regulations governing regular Major programs apply to the Cooperative Option. In addition, the following variations apply:

Entrance

To enter the Cooperative Option a student must be eligible to enter the Major program offered by the department.

The normal point of entry to a Major Cooperative Option is following the completion of second year in the Faculty of Science.

Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Option in those departments where the demand for places exceeds the number of places available. In such situations the department reserves the right to determine and select the best qualified applicants.

Structure and Sequencing

The Cooperative Option consists of both academic terms and employment terms.

Each academic term can be either four months in duration or eight months in duration, as designated by the Major department.

Each employment term can be either four months in duration or eight months in duration, as designated by the Major department.

Each academic term and each employment term will commence in January, May or September.

The sequence of academic terms and employment terms is variable to suit the needs of each department, and is designated by each department.

Students are expected to follow the academic/employment term sequence defined by their department from admission through to graduation.

Employment Term Requirements

All Cooperative Options will include at least 12 months spent in employment terms with a department-approved employer. Normally, each employment term will be completed with one employer.

Students are required to register in the appropriate employment term course and pay the fee prior to starting their employment term. Cooperative Option students are required to submit three written employment reports on their employment term activities. These reports are due at times designated by the Major department. Each Major department will provide students with instructions regarding the content and format requirements of the employment reports.

Indications of unsatisfactory performance by a student on an employment term will be thoroughly investigated by the Major department. As a result of the investigation, if benefits from further professional training are questionable, the student may be required to withdraw from the Cooperative Option. The student would then be eligible to enter the regular four year Major program or the General program.

While on an employment term, a Cooperative Option student is not permitted to take more than six hours of academic credit, and may not take more than one course at a time.

Academic Term Requirements

Coursework requirements of the Cooperative Option are equivalent to the coursework requirements of the four year Major program with the exception of the Microbiology and Zoology programs.

Cooperative Option students are expected (but are not required) to maintain a full-time course load while registered for an academic term. The "normal full load" per four-month term is five half courses (15 credit hours), per eight-month term is five full courses or equivalent (30 credit hours).

To continue in a four year Major Cooperative Option a student must attain a minimum cumulative Grade Point Average of 2.00 at each point of assessment with the exception of the Computer Science program. A student's performance will be evaluated following each academic term. A student in the Major Cooperative Option in Computer Science must attain a 2.50 cumulative Grade Point Average in order to continue. Students in Zoology must obtain a sessional grade point of 2.00 and a grade of 'C' or better in each Zoology course required in the program in order to graduate. In addition the student must meet all individual course prerequisites for further study. Departments may designate courses within the four year Major Cooperative Option in which students are required to attain a grade above "C."

A student who receives failing grades in more than 18 credit hours following admission to the four year Major program will be required to withdraw from the Major program.

A student who does not meet the academic requirements for continuation in a four year Major Cooperative Option will be required to withdraw from it.

Continuation in a four year Major Cooperative Option is contingent upon satisfactory performance in employment terms.

Four year Major Cooperative Option students who are required to revert or voluntarily revert to an alternative degree program must fulfil all academic requirements of that degree.

Recognition of Academic Merit

Dean's Honour List

A student's eligibility for the Dean's Honour List designation is evaluated at the "points of assessment" of academic terms.

To qualify for the Dean's Honour List a student must complete a minimum of 12 credit hours in a four-month academic term, 24 credit hours in an eight-month academic term, and achieve a sessional Grade Point Average of 3.50 or higher. See Section 3.1 above.

Degree with Distinction

To obtain a Degree with Distinction a student must achieve a minimum 3.50 Grade Point Average on the last 60 credit hours of the program. All sessions, regular and summer, will be considered in descending chronological order. When the last 60 credit hours are found in a session containing more hours than are needed, the best grades from that session will be used for the Grade Point Average calculation.

The term "Degree with Distinction" will appear both on the parchment and on the student's transcript of marks.

3.5 Four Year Honours Degree:

B.Sc. (Honours) and B.C.Sc. (Honours)

The Honours programs in the Faculty of Science are the most heavily concentrated programs offered. These programs lead most directly to graduate study and are in most cases prescribed extensively by the departments. A student is required to pursue this degree full-time and may be required to achieve higher grade standards than in other degree programs. The programs are regarded as professional training.

Students graduating from the Honours program in Computer Science receive the degree designation Bachelor of Computer Science (Honours), also noted as B.C.Sc. (Honours).

A student electing an Honours program will normally begin Honours work in second year and must meet the entrance requirements set out below. Honours work will consist of three years of study in prescribed courses beyond the first year and will lead to the B.Sc. (Honours) or the B.C.Sc. (Honours).

To be eligible for any award granted exclusively on the basis of academic performance, a student normally must be enrolled in 100% of a full program as defined by the department.

See below for additional regulations of the Honours Cooperative Option.

Students must complete the university written English and Mathematics requirement as described in the chapter, General Academic Regulations and Policy, of this *Calendar*.

As of the 1999-2000 regular session, students admitted to Honours programs must complete six credit hours from the Faculty of Arts. Because many Honours programs in the Faculty of Science do not have room for electives in Years 2, 3 and 4 of the programs, these six credit hours, including the three credit hours of written English, should be completed in University 1.

Entrance to Honours

To enter an Honours degree program in Year 2, a student must have a grade of "B" or better in at least one introductory course designated by the department(s). A student is required to have no failures and 12.00 grade points on up to the first 30 credit hours. Any credit hour deficiencies from Years 1 and (or) 2 should be cleared by the end of summer session following Year 2; that is, students must normally successfully complete 60 credit hours before entry to Year 3 Honours. Where the standard departmental Honours program for second year stipulates more than 30 credit hours, students must successfully complete those credit hours before entry to Year 3 Honours.

Students who are ineligible to enter Honours after their first year may establish their eligibility to enter Honours in third year on the basis of their academic performance in second year. Students must take at least 24 credit hours in the regular session, and must achieve a minimum "B" average on 18 credit hours of the courses required in the Honours Program. See a Science student advisor for further information.

Continuation in Honours

A minimum sessional Grade Point Average of 2.00 is required **after each April and August examination series** (without any failures). Students must

meet all individual course prerequisites for further study. Departments may designate courses within the Honours program in which students are required to obtain a grade above "C".

NOTE:

The continuation requirements of the Honours programs in Biochemistry, Biotechnology, Botany, Chemistry, Computer Science, Ecology, Genetics, Microbiology, Physics and Astronomy, Statistics and Zoology differ somewhat from above. See the sections of these departments in this chapter for applicable regulations.

Students who do not meet the minimum requirement will be required to withdraw from the Honours program.

The total number of attempted credit hours in Honours may not exceed by more than 18 the total number of credit hours in the student's Honours program (exclusive of work done outside the prescribed Honours program).

Honours students must complete a minimum of 24 credit hours during each regular session.

Program Approval

The department must approve a student's Honours program each session. Students must also obtain departmental approval for any and all revisions to their program.

Residence Requirement for Honours Students

A student must successfully complete a minimum of 60 credit hours (10 full courses) at the University of Manitoba. The courses used to satisfy the requirement must be acceptable for credit in the Faculty of Science. Residency requirements apply both to first and second degree students.

To graduate with an Honours degree, a student must obtain a sessional Grade Point Average of 2.00 or higher (with no failures) in Year 4. Also, to qualify for the Honours degree, a student must have a minimum 2.00 cumulative Grade Point Average at the point of graduation, that is, on all courses taken in the degree.

NOTE:

The graduation requirements of the Honours program in Biochemistry, Biotechnology, Botany, Chemistry, Computer Science, Ecology, Genetics, Microbiology, Physics and Astronomy, Statistics and Zoology differ from the above. See the departmental sections of this chapter for clarification.

Voluntary Withdrawal from Honours

A student who deletes a course or courses from the Honours program will be reverted to the four year Major program or a General degree program unless the Honours department has authorized the student's continuation in Honours. All Honours programs must contain a minimum of 24 credit hours during each regular session.

Honours students reverting to an alternative degree program must fulfil all academic requirements of that degree.

Recognition of Academic Merit

Dean's Honour List

Students enrolled in 24 credit hours or more who achieve a sessional Grade Point Average of 3.50 or higher during a regular session will be placed on the Dean's Honour List. Where the standard department program specifies a number of credit hours in excess of 30, the assessment for the Dean's Honour List shall be based on completion of at least 80 per cent of that specified number of credit hours during the regular session. See Section 3.1 above.

First Class Honours

To graduate with First Class Honours the student must complete a minimum of 24 credit hours during the regular session in each of Year 3 and Year 4. First Class Honours will be granted to a student who achieves a cumulative Grade Point Average of 3.50 or higher on all courses taken in Year 3 and Year 4. Where the standard department program specifies a number of credit hours in excess of 30, a student must complete a minimum of 80 per cent of that specified number of credit hours in the regular session in each of Year 3 and Year 4 to be eligible for First Class Honours.

The term "First Class Honours" will appear on both the parchment and the student's transcript of marks.

Double Honours Programs

Double Honours programs may be available as specified under departmental headings. Other programs may be arranged in consultation with the departments concerned.

3.6 B.Sc. (Honours) and B.C.Sc. (Honours): Cooperative Option

The Honours programs which offer a Cooperative Option are Biochemistry, Computer Science, Genetics, Microbiology, Zoology and the Joint Computer Science-Mathematics Honours program.

A cooperative education program is an arrangement whereby a student spends alternating periods in university and employment. There are several advantages to cooperative education programs for students. One benefit is that students are able to acquire both theoretical knowledge and practical experience. This experience assists them in selecting areas of specialization for their senior courses. During an employment period students can also typically earn enough to defray the total cost of their university education. The contacts developed with potential employers are also valuable to graduating students. The Honours Cooperative Option therefore offers valuable work experience and simultaneously ensures an academic program of Honours calibre.

All regulations governing regular Honours programs apply to the Cooperative Option. In addition, the following variations apply:

Entrance

To enter the Cooperative Option a student must be eligible to enter the Honours program offered by the department.

The normal point of entry to an Honours Cooperative Option is following the completion of second year in the Faculty of Science. Following that point of entry all requirements of the Cooperative Option must normally be completed in no more than four years (48 months).

Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Option in those departments where the demand for placements exceeds the number of places available. In such situations the department reserves the right to determine and select the best qualified applicants.

Structure and Sequencing

The Cooperative Option consists of both academic terms and employment terms.

Each academic term can be either four months in duration or eight months in duration, as designated by the Honours department.

Each employment term can be either four months in duration or eight months in duration, as designated by the Honours department.

Each academic term and each employment term will commence in January, May or September.

The sequence of academic terms and employment terms is variable to suit the needs of each department, and is designated by each department.

Students are expected to follow the academic/employment term sequence defined by their department from admission through to graduation.

Employment Term Requirements

All Cooperative Options will include at least 12 months spent in employment terms with a department-approved employer. Normally, each employment term will be completed with one employer.

Cooperative Option students are required to submit at least three written employment reports on their employment term activities. These reports are due at times designated by the Honours department. Each Honours department will provide students with instructions regarding the content and format requirements of the employment reports.

Indications of unsatisfactory performance by a student on an employment term will be thoroughly investigated by the Honours department. As a result of the investigation, if benefits from further professional training are questionable, the student may be required to withdraw from the Cooperative Option. The student would then be eligible to enter the regular Honours program, the four year Major program or the General program.

While on an employment term, a Cooperative Option student is not permitted to take more than six hours of academic credit, and may not take more than one course at a time.

Academic Term Requirements

Coursework requirements of the Cooperative Option are equivalent to the coursework requirements of the Honours program with the exception of the Biochemistry, Genetics and Microbiology programs.

Cooperative Option students must maintain a full-time course load while registered for an academic term. The “normal full load” per four-month term is five half courses (15 credit hours), per eight-month term is five full courses or equivalent (30 credit hours).

With the permission of the Honours department the normal full load may be reduced by three credit hours per four-month term or six credit hours per eight-month term. In such situations, any coursework deficiencies must be made up prior to the start of the subsequent academic term.

To continue in an Honours Cooperative Option a student must attain a Grade Point Average of 2.00 or higher (without any failures) at each point of assessment. A student’s performance will be evaluated following each academic term which precedes an employment term with the exception of the Computer Science program. An assessment of a Computer Science student’s sessional Grade Point Average will only take place if two academic terms containing a minimum of 24 credit hours have been completed since the last assessment. In addition the student must meet all individual course prerequisites for further study and departmental continuation and graduation requirements. Departments may designate courses within the Honours Cooperative Option in which students are required to attain a grade above “C.”

Continuation in an Honours Cooperative Option is contingent upon satisfactory performance on Employment Terms.

Honours Cooperative Option students who are required to revert or voluntarily revert to an alternative degree program must fulfil all academic requirements of that degree.

Recognition of Academic Merit

Dean’s Honour List

A student’s eligibility for the Dean’s Honour List designation is evaluated at the points of assessment of Academic Terms.

To qualify for the Dean’s Honour List, a student must complete a minimum of 12 credit hours in a four-month academic term, 24 credit hours in an eight-month academic term, and achieve a sessional Grade Point Average of 3.50 or higher. Where the standard department program specifies a number of credit hours in an academic term in excess of 15 credit hours in a four-month term or 30 credit hours in an eight-month term, the assessment for Dean’s Honour List shall be based on completion of at least 80 per cent of that specified number of credit hours in the academic term. See Section 3.1 above.

First Class Honours

To graduate with First Class Honours the student must complete a minimum of 12 credit hours in each four-month academic term, 24 credit hours in each eight-month academic term comprising Year 3 and Year 4. First Class Honours will be granted to a student who achieves a cumulative Grade Point Average of 3.50 or higher on all courses constituting Year 3 and Year 4. Where the standard department program specifies a number of credit hours in excess of 15 in a four month academic term, 30 in an eight month academic term, a student must complete a minimum of 80 per cent of that specified number of credit hours during each academic term in Year 3 and Year 4 to be eligible for First Class Honours.

The term “First Class Honours” will appear both on the parchment and on the student’s transcript of marks.

3.7 Minor

Students in B.Sc. Major and Honours programs may, if they wish, declare and complete a Minor from departments and interdisciplinary programs in which a Minor is offered. In the Faculty of Science these are listed in the program charts for each department or interdisciplinary program. Available Minors in the Schools of Music and Art and the Faculties of Arts, Environment and Management are to be found within the appropriate description of departmental/school/faculty/program offerings. Completion of a Minor is entirely optional. Students may **not**, however, declare both their Major and Minor from the same department/interdisciplinary program. It should

be noted that for Honours students any consideration of completing a Minor should be made early due to restricted opportunities in later years of their programs. Completion of a Minor may, in fact, require that a student take more than the minimum number of credit hours for graduation.

The Minor is not available to students in the General degree program.

A Minor will normally consist of a minimum of 18 credit hours, with a minimum of 12 credit hours being at the 200, 300 and 400 level (although there are some exceptions). It should be noted that no course can be used as part of a prescribed Honours or Major program and also be part of a prescribed Minor. An alternate course will have to be selected to satisfy the Minor requirement. For example: if a course in Economics is part of a student’s Major or Honours program in Statistics, then that course may **not** be used as part of a Minor in Economics.

Important Course Selection Information

The courses required to complete the Honours, Major, General and Minor programs are listed in program charts in the department and program sections of this chapter.

Not all courses included in the course description sections are offered. The course schedule for the current academic session is published in the Registration Guide and at www.umanitoba.ca.

3.8 School of Optometry, University of Waterloo

The Province of Manitoba has an agreement with the Province of Ontario for up to three places annually at the School of Optometry, University of Waterloo. Under this agreement students from Manitoba may apply toward the end of their pre-optometry program to the University of Waterloo which carries out the initial screening for admission.

Students eligible for admission must be *bona fide* residents of Manitoba. Students must pay their own tuition and other compulsory fees. They are eligible for full Manitoba student aid assistance subject to the usual needs assessment.

The pre-optometry program may be taken at the University of Manitoba. Interested students should contact the Faculty of Science general office, University of Manitoba for further information about course requirements.

SECTION 4: Programs and Courses Offered by the Faculty of Science

NOTE:

The letter “M” after the course number indicates that the course may be used to meet the university’s mathematics requirement.

The letter “W” after the course number indicates that the course may be used to meet the university’s written English requirement. The only course offered by the Faculty that satisfies the written English requirement is Botany 001.101W.

The letter “F” after the course number indicates that the course is taught at Collège Universitaire de Saint-Boniface. See the college calendar and timetable for information.

A number in parentheses after the title of each course indicates the credit hour weighting assigned to that course. The presence of the letter “L” after the credit hour weighting indicates that laboratory work is required in that course.

EXAMPLE:

005.100M Basic Statistical Analysis 1 (3) This course may be used to meet the university’s *mathematics* requirement. This course has been assigned a three credit hour weight. There is no laboratory requirement on the Fort Garry Campus.

071.125 Biology B (6) L This course has been assigned a six credit hour weight. There is also laboratory work required.

NOTE:

Students should note that space in Honours and Major courses may be reserved for students in those programs. See the *Registration Guide* for information.

Any prerequisite may be waived with written consent of the department.

4.1 Actuarial Mathematics Program

Program Director: Michael Byrne

General Office: 268 Drake Centre

Telephone: 204 474 7426

Website: www.umanitoba.ca/faculties/management/actuarial_and_management_sc/actuarial.html

Email: mbyrne@cc.umanitoba.ca

4.1.1 Program Information

This is an interdisciplinary program leading to a Bachelor of Science (Honours) degree in Actuarial Mathematics that is offered in collaboration with the Warren Centre for Actuarial Studies and Research of the I.H. Asper School of Business. The program covers mathematical, statistical, financial and economic concepts required to develop skills in the modelling and management of financial risk and contingent events. In the Faculty of Sci-

ence the program has a greater emphasis on the mathematical and statistical courses.

The Warren Centre and the departments of Statistics and Mathematics offer joint Honours programs (see Section 4.16 and Section 4.12).

To enter the program, a student must have 005.100, 136.150 and 136.170 (or 136.169) and 136.130 or any equivalent with a grade of at least "B" in 136.170 (or 136.169) and 136.130 and have satisfied the Faculty of Science requirements for entry to the Honours program. Courses 074.101 and 018.120 are strongly recommended in University 1.

The department must approve a student's Honour program each session. Students must also obtain departmental approval for any and all revisions to their program.

4.1.2 Actuarial Mathematics, Department Code: 010

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
HONOURS ACTUARIAL² 120 CREDIT HOURS			
136.169 (B), (or 136.150 ¹ and 136.170 ¹ (B)), 136.130 ¹ (B), and 005.100	010.202, 010.212, 010.221, 005.200 ³ , 136.275 (or 136.270 and 136.271), 027.215 ⁵	010.313, 010.323, 010.333, 005.305, 005.350, 005.360, 136.370	010.414, 010.415, 010.424, 010.434, 005.347 ⁴ or 005.312 ⁴ , 005.349 ⁴ , 136.230 ⁵
Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course			
30 Hours	30 Hours	30 Hours	30 Hours

JOINT MATHEMATICS-ACTUARIAL MATHEMATICS HONOURS: See Section 4.12, Mathematics

JOINT STATISTICS-ACTUARIAL MATHEMATICS HONOURS: See Section 4.16, Statistics

NOTES:

¹ 136.151, 136.152 or 136.153 may be taken instead of 136.150; 136.131 may be taken instead of 136.130; 136.171 or 136.173 may be taken instead of 136.170.

² The courses required in this program will satisfy the university mathematics requirement.

³ 005.200 may be taken in University 1 or Year 2.

⁴ 005.347 or 005.312 and (or) 005.349 may be taken in Year 3 or 4.

⁵ 136.230 and 027.215 may be taken in Year 2, 3 or 4.

(Letters in brackets indicate minimum prerequisite standing for further study.)

The electives in Year 3 and Year 4 are to be chosen from Actuarial Mathematics, approved Business courses, Computer Science, Economics, Mathematics (136.220 and 300 or 400 level) and Statistics (005.348 or 400 level courses). Other electives may be selected through consultation with the program director.

Recommended Electives

Double Honours programs can usually be arranged.

University 1: Computer Science 074.101; Economics 018.120

Year 2: Accounting and Finance 009.110, 009.111, 009.220; Economics 018.245

Year 3: Accounting and Finance 009.341, Actuarial Mathematics 010.353

Year 4: Actuarial Mathematics 010.405, 010.406; Business Administration 027.200, 027.423; Statistics 005.414.

4.2 Biochemistry

Program Coordinators:

Peter Loewen, Head, Department of Microbiology;

Harry Duckworth, Head, Department of Chemistry

Program Office: 418 Buller Building

Telephone: 204 474 9372

Website: <http://www.umanitoba.ca/science/microbiology>

E-mail: peter_loewen@umanitoba.ca

4.2.1 Program Information

The program administrator must approve a student's Honour or Major program each session. Students must also obtain approval for any and all revisions to their program.

Honours Biochemistry Requirements

The requirements for entry to the joint Honours program are a minimum of "B" in each of 002.130 and 002.131, and a minimum of "C+" in

071.125; or a minimum of "C+" in each of 002.130 and 002.131, and a minimum of "B" in 071.125. Also, standing in 016.107 or 016.103, and 136.150 plus one of 136.120, 136.130 or 136.170 or equivalent is required. In addition, students must satisfy the general faculty requirements for entry to Honours programs. In order to satisfy prerequisite requirements for courses taken in Year 2 and subsequent years, students must take the courses indicated below in University 1.

To continue in the Honours program, i.e., to proceed from Year 2 to Year 3 and from Year 3 to Year 4, and to successfully complete Year 4 of the Honours program, a student must have a sessional Grade Point Average of 2.50, and in addition, must have a 3.00 Grade Point Average on all Chemistry and Microbiology courses during that session.

Students who achieve less than a 2.50 sessional Grade Point Average in summer session will be allowed to continue in the Honours program if they maintain a 3.00 cumulative Grade Point Average in all Microbiology

and Chemistry courses (including that summer session) and at least a 2.00 sessional Grade Point Average in the summer session.

In Years 3 and 4, the optional 33 credit hours will be chosen from the lists of optional courses below in the following way: a minimum of 24 credit hours from the departments of Chemistry and Microbiology combined, with not less than six of these 24 credit hours from each department. The remaining optional nine credit hours may be chosen from any of the options listed. Other suitable optional courses may be selected through consultation with the heads of the departments of Chemistry and Microbiology.

Honours Biochemistry Cooperative Option

Students interested in alternating academic terms and terms of paid employment as part of their Honours Biochemistry program may enter the Cooperative Option in their third year. The five year program provides students with minimum 12 months of paid employment by the time they graduate. It enables them to obtain work experience in research and industry with participating firms, government agencies and University units.

The course and grade requirements for entry and continuation in the Cooperative Option are the same as that for regular Honours program. Each academic term in the third and subsequent years must comprise 15 credit hours. Students who achieve less than a 2.50 Grade Point Average while taking a course on an employment term will be allowed to continue in the Honours Cooperative program if they maintain a 2.50 cumulative Grade Point Average including that employment term, and at least a 2.00 sessional Grade Point Average in the employment term. Students should refer to the general faculty regulations for B. Sc. (Honours) Cooperative Options in Section 3.6.

Students will apply for openings in the Cooperative Option in September of their third year in the Biochemistry Honours program. They will be notified of their provisional acceptance in the program by October. Acceptance into the program is dependent upon the students receiving an employment placement. Employment term positions available to the students will be approved by the department, and the employers will select the students they wish to employ. The first work term can be taken in January or May. Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Option if the demand for places exceeds the number of places available. The department reserves the right to determine and select the best qualified applicants.

Students are required to register in and pay fees for each employment term prior to the commencement of each employment term. Students will be required to submit an employment report upon the completion of each employment term.

Biochemistry Four Year Major Requirements

The requirements for entry to the joint four year Major program are a minimum of "C+" in each of 002.130 and 002.131, and a minimum of "C" in 071.125; or a minimum of "C+" in 071.125 and a minimum of "C" in each of 002.130 and 002.131; plus standing in 016.107 or 016.103, 136.150 plus one of 136.120, 136.130, 136.170 or equivalent. In addition, students must satisfy the general faculty requirements for entry to four year Major programs.

Students in this program should note the following:

Students must satisfy any course prerequisites and corequisites for courses selected. Care should be taken to select courses in their proper sequence, e.g., 002.237 (060.237) should be taken in Year 2 as it is prerequisite to a number of subsequent required or optional courses.

Normally 400 level courses are available only to students in their fourth year. 060.453 and 060.457 are not available to Major students.

Students are encouraged to elect other courses pertinent to the study of biochemistry although this is not required for completion of the degree. The departments of Microbiology and Chemistry will be glad to suggest such supplementary courses upon request by students.

Students who may wish to transfer to the Honours program in Biochemistry following Year 2 should be sure to complete all courses recommended in Year 2 (see chart below).

Major Biochemistry Cooperative Option

Students interested in alternating academic terms and terms of paid employment as part of their program may enter the Major Biochemistry Cooperative Option in their third year. The five year program provides students with a minimum 12 months of paid employment by the time they graduate. It enables them to obtain work experience in research and industry with participating firms, government agencies and University units.

The course and grade requirements for entry and continuation in the Cooperative Option are the same as that for the regular Major program. Students are encouraged, but not required, to take 15 credit hours in each academic term in the third and subsequent years. Students should refer to the general faculty regulations for B. Sc. (Major) Cooperative Options in Section 3.4.

Students will apply for openings in the Cooperative Option in September of their third year in the Biochemistry Major program. They will be notified of their provisional acceptance in the program by October. Acceptance into the program is dependent upon the students receiving an employment placement. Employment term positions available to the students will be approved by the department and the employers will select the students they wish to employ. The first work term can be taken in January or May. Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Option if the demand for places exceeds the number of places available. The department reserves the right to determine and select the best qualified applicants.

Students are required to register in and pay fees for each employment term prior to the commencement of each employment term. Students will be required to submit an employment report upon the completion of each employment term.

Optional Courses:

Chemistry: 002.336, 002.337, 002.338, 002.339, 002.347, 002.349, 002.358, 002.457, 002.458, 002.460, 002.464, 002.465, 002.468, 002.469, 002.470¹, 002.471¹.

Microbiology: 060.228, 060.301, 060.341, 060.343, 060.344, 060.347, 060.348, 060.401, 060.402², 060.432, 060.441, 060.447, 060.451, 060.453¹, 060.454³, 060.457, 060.458², 060.460, 060.461.

Other departments: 001.246, 001.301, 001.412, 005.100, 005.200, 016.220, 016.227, 016.228, 022.228, 022.353, 022.354, 022.415, 022.427, 022.460, 074.101, 074.102, 074.126, 074.127, 136.201 or 136.382, 136.270, 136.271, 136.280. Other courses can be considered with the approval of the department.

¹Not available in the Honours and Major Cooperative Options

²Available only for Major and Major Cooperative Options

³Required in the Honours and Honours Cooperative Options

4.2.2 Microbiology - Chemistry Joint Programs in Biochemistry, Department Code: 060C

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
JOINT HONOURS⁵ 123 CREDIT HOURS			
002.130, 002.131, 071.125, 016.105 and 016.107, or 016.102 and 016.103, 136.150 ¹ , Plus one of: 136.120, 136.130 ¹ , 136.170 ¹	002.221, 002.222, 002.228, 002.229, 002.236 (060.236), 002.237 (060.237), 060.210, 060.211, and whichever two of 136.120, 136.130 ¹ , 136.170 ¹ not yet taken ²	002.238, 002.247, 060.345, 060.346 Plus 18 credit hours from option list above	002.436, 002.437, 002.462, 002.463, 002.470, 060.454 Plus 15 credit hours from option list above

program requirements continued next page

In University 1 or Year 2 the following must be completed:

6 credit hours from the Faculty of Arts, which should include the required "W" course

The 33 credit hours of options must include 24 credit hours from Chemistry and Microbiology with at least 6 hours from each department. The remaining 9 credit hours may be from any of the options listed.

30 Hours

30 Hours

30 Hours

33 Hours

JOINT HONOURS COOPERATIVE OPTION^{5,6} 123 CREDIT HOURS

002.130, 002.131, 071.125, 016.105 and 016.107, or 016.102 and 016.103, 136.150¹

002.221, 002.222, 002.228, 002.229, 002.236 (060.236), 002.237 (060.237), 060.210, 060.211, and whichever two of 136.120, 136.130¹, 136.170¹ not yet taken²

002.238, 002.247, 060.345, 060.346

002.436, 002.437, 002.462, 002.463, 060.454

Plus one of: 136.120, 136.130¹, 136.170¹

In University 1 or Year 2 the following must be completed:

6 credit hours from the Faculty of Arts, which should include the required "W" course

060.398, 060.399, 060.498 and/or 060.499

Plus 36 credit hours from option list above which must include 24 credit hours from Chemistry and Microbiology with at least 6 hours from each department. The remaining 12 credit hours may be from any of the options listed.

30 Hours

30 Hours

30 Hours

33 Hours

JOINT FOUR YEAR MAJOR^{5,7} 120 CREDIT HOURS

002.130, 002.131, 071.125, 016.105 and 016.107, or 016.102 and 016.103, 136.150¹

002.221, 002.222, 002.228, 002.229, 002.236 (060.236), 002.237 (060.237), 060.210, 060.211, and whichever two of 136.120, 136.130¹, 136.170¹ not yet taken²

002.238, 002.247, 060.345, 060.346

Two of 002.436, 002.437, 002.462, 002.463³

Plus one of: 136.120, 136.130¹, 136.170¹

In University 1 or Year 2 the following must be completed:

6 credit hours from the Faculty of Arts, which should include the required "W" course

Plus 24 credit hours of Chemistry and Microbiology courses. The 24 credit hours must include 12 credit hours at the 400 level and at least 6 credit hours from each of Chemistry and Microbiology.

JOINT MAJOR COOPERATIVE OPTION^{5,6,7} 120 CREDIT HOURS

002.130, 002.131, 071.125, 016.105 and 016.107, or 016.102 and 016.103, 136.150¹

002.221, 002.222, 002.228, 002.229, 002.236 (060.236), 002.237 (060.237), 060.210, 060.211, and whichever two of 136.120, 136.130¹, 136.170¹ not yet taken²

002.238, 002.247, 060.345, 060.346

Two or more of 002.436, 002.437, 002.462, 002.463

Plus one of: 136.120, 136.130¹, 136.170¹

In University 1 or Year 2 the following must be completed:

6 credit hours from the Faculty of Arts, which should include the required "W" course

060.398, 060.399, 060.498 and/or 060.499

Plus 24 credit hours of Chemistry and Microbiology courses. The 24 credit hours must include 12 credit hours at the 400 level and at least 6 credit hours from each of Chemistry and Microbiology.

NOTES:

¹ 136.131 may be taken in place of 136.130; 136.151, 136.152 or 136.153 may be taken in place of 136.150; 136.171 or 136.173 may be taken in place of 136.170; 136.169 may be taken in place of 136.150 and 136.170.

² Other combinations of mathematics courses may be acceptable with the approval of the department heads.

³ Only two of 002.436, 002.437, 002.462 and 002.463 are required, but all may be taken.

⁴ As there are no electives in Year 2 of the program, students should complete the university written English requirement in University 1. If not completed in University 1, a "W" course must be completed prior to Year 3 in addition to the required Year 2 courses.

⁵ The courses required in this program satisfy the University mathematics requirement.

⁶ IMPORTANT: Students in the cooperative programs must ensure that they are able to satisfy the prerequisites for all 300 and 400 level courses they plan to take.

⁷ The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program.

(Letters in brackets indicate minimum prerequisite standing for further study.)

4.3 Biology Program

Program Coordinator: Michael Sumner

Program Office: 208 Buller Building

Telephone: 204 474 9732

Web Site: www.umanitoba.ca/faculties/science/biological_science/

Email: mshaw@cc.umanitoba.ca & Biography_Program@umanitoba.ca

4.3.1 Academic Staff

Associate Professor:

Sumner, M.J., B.Sc., M.Sc. (Alberta), Ph.D. (Manitoba).

Instructor:

Shaw, M.P., B.Sc. (Calgary), M.Sc. (Manitoba) (Instructor II).

4.3.2 Program Information

The Biology unit administers the Biology Four Year Major program and is responsible for teaching 071.125, which is a required course for further work in Botany, Microbiology and Zoology, and for teaching 071.100, 071.101, 071.134, 071.201. Students should contact U1 for information about the course 071.111.

Biology Four Year Major Entry Requirements:

To enter the four year Major program, a student must have a "C+" in either 071.125 or 002.131 and not less than "C" in the other course. In addition, all other faculty requirements for entry to the four year Major program must be satisfied. Statistics 005.100 and the 3 credit hours of specified Mathematics or Physics courses can be completed in University 1 or Year 2.

The program administrator must approve a student's Major program each session. Students must also obtain approval for any and all revisions to their program.

4.3.3 Biology Program, Department Code: 071

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
FOUR YEAR MAJOR^{2,3} 120 CREDIT HOURS			
002.130, 002.131, 071.125, 005.100	Either: 002.221 plus 002.236 and 002.237 (060.236 and 060.237); or 002.277 and 002.278 (060.277 and 060.278) Plus 001.246 and 022.228 3 credit hours from GROUP 1 (Botany): 001.201, 001.202, 001.211, 001.221, 001.229 3 credit hours from GROUP 2 (Microbiology): 060.210, 060.211 3 credit hours from GROUP 3 (Zoology): 022.232, 022.260, 022.215, 022.253 3 credit hours from GROUP 4 (Ecology) 060.228, 001.237, 022.237 or 065.237 Plus an additional 3 credit hours from either Group 1,2, 3 or 4.	6 credit hours at the 200, 300 or 400 level from each department (Botany, Microbiology and Zoology) with a maximum of 15 credit hours at the 200 level	6 credit hours at the 300 or 400 level from each department (Botany, Microbiology and Zoology)
In University 1 or Year 2 the following must be completed: 3 credit hours from Mathematics or Physics from: 136.120, 136.130 ¹ or 136.150 ¹ , 016.102 or 016.105 Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course			
30 Hours	30 Hours	30 Hours	30 Hours

NOTES:

¹ 136.151, 136.152, 136.153, 136.168 or 136.169 may be taken in place of 136.150; 136.131 may be taken in place of 136.130.

² The courses in this program will satisfy the university mathematics requirement.

³ IMPORTANT: The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program with a view to satisfying the prerequisites of the required courses.

4.3.4 Biology Course Descriptions

All courses are not offered every year. The course schedule for the current academic session is published in the *Registration Guide*.

071.100 Biology: Foundations of Life (3) A course in unifying principles of biology including cell biology, bioenergetics, cell division, genetics and evolution. May not be used for credit in a Major or Honours program in the biological sciences. Not to be held with 071.125, 071.201 or the former 071.123.

071.100F Biologie: les fondements de la vie (3) Ce cours étudiera certains principes unificateurs de la vie. On portera une attention particulière à la biologie cellulaire, la bioénergétique, la division cellulaire, la génétique et l'évolution. Ne peut être utilisé dans un programme de majeure ou de spécialisation. On ne peut se faire créditer à la fois le 071.100 et les 071.125, 071.201 ou l'ancien 071.123. Donné seulement au Collège universitaire de Saint-Boniface.

071.101 Biology: Biological Diversity and Interaction (3) An introduction to biological diversity including prokaryotes, protists, fungi, plants and animals; the form and function of plants and animals and basic concepts of ecology. May not be used for credit in a Major or Honours program in the biological sciences. Not to be held with 071.125, 071.201 or the former 071.123.

071.101F Biologie: la diversité biologique et ses interactions (3) Une introduction à la diversité (les procaryotes, les protistes, les champignons, les plantes et les animaux), à la forme et à la fonction des plantes et des animaux ainsi qu'aux principaux concepts de l'écologie. Ne peut être utilisé dans un programme de majeure ou de spécialisation. On ne peut se faire créditer à la fois le 071.101 et les 071.125, 071.201 ou l'ancien 071.123. Donné seulement au Collège universitaire de Saint-Boniface.

071.111 Health and Health Professions (3) Students discuss the inter-relationship between health, health determinants, and the impact that science, health-science, behavioural-social sciences, and technology, have on health care and the health professions. Participants will consider their own role as health care consumers. Open only to students who have completed less than six credit hours. For further information contact University 1.

071.125 Biology B (6)L A course in the theories and principles of biology, the origin of life, cell theory, metabolism, genetics, the classification of animals, microorganisms, and plants, the relation between structure and function, ecology and evolution. Not to be held with 071.100, 071.101, 071.201 or the former 071.123.

NOTE: 071.125 is a prerequisite to further courses in Microbiology and to most courses in Botany and Zoology. It is also intended for students proceeding to Agricultural and Food Sciences, Dentistry, Human Ecology, Medicine, Optometry, Pharmacy, Veterinary Science, Physical Education, and Science.

071.125F Biologie B (6)L Cours sur les théories et les principes de la biologie, les origines de la vie, la théorie cellulaire, le métabolisme, les génétiques, la classification des animaux, les micro-organismes, les plantes, les relations entre la structure et la fonction, l'écologie et l'évolution. On ne peut se faire créditer à la fois le 071.100, le 071.101, le 071.125, le 071.201 et l'ancien 071.123. Donné seulement au Collège universitaire de Saint-Boniface.

071.134 The State of the Earth's Environment: Contemporary Issues (3) A presentation of contemporary environmental issues focusing on the scientific basis of problems caused by the growth of human population, use and depletion of resources, pollution, and damage to the environment. The current state of our knowledge bases will be discussed, along with improvements in them that may be necessary. The

course will consider needs for action, priorities, and opportunities. May not be used to meet a program requirement of an Honours or Major program in the Biological Sciences. Not to be held with 128.100.

Service Course

071.201 Biosystems for Engineers (3)L The structure, function and energy transformations of biosystems at the cellular, organismal and population levels affecting the solutions to engineering problems. Effects of engineering activities on various ecosystems will be considered. Not to be held with 071.100, 071.101 (or the former 071.123) or 071.125. Primarily for Biosystems Engineering students. *Prerequisite:* 002.130 (or the former 002.127).

4.4 Biotechnology

Program Coordinators:

Peter Loewen, Head, Department of Microbiology;
Harry Duckworth, Head, Department of Chemistry

Program Office: 418 Buller Building

Telephone: 204 474 9372

Website: www.umanitoba.ca/science/microbiology

E-mail: peter_loewen@umanitoba.ca

4.4.1 Program Information

Honours Biotechnology Requirements

The requirements for entry to the joint Honours program are a minimum of "B" in each of 002.130 and 002.131, and a minimum of "C+" in 071.125; or a minimum of "C+" in each of 002.130 and 002.131, and a minimum of "B" in 071.125. Also, standing in 016.107 or 016.103, 136.150¹ and 136.170¹ (or 136.169) is required. In addition, students must satisfy the general faculty requirements for entry to Honours programs. To satisfy prerequisite requirements for courses taken in Year 2 and subsequent years, students must take the courses indicated below in University 1.

To continue in the Honours program, i.e., to proceed from Year 2 to Year 3 and from Year 3 to Year 4, and to complete successfully Year 4 of the Honours program, a student must have a sessional Grade Point Average of 2.50, and in addition, must have a 3.00 Grade Point Average on all Chemistry and Microbiology courses during that session. The program must approve a student's Honour program each session. Students must also obtain approval for any and all revisions to their program.

Students who achieve less than a 2.50 sessional Grade Point Average in summer session will be allowed to continue in the Honours program if they maintain a 3.00 cumulative Grade Point Average in all Microbiology and Chemistry courses (including that summer session) and at least a 2.00 sessional Grade Point Average in the summer session.

The optional courses are:

Chemistry: 002.336, 002.337, 002.338, 002.349, 002.358, 002.436, 002.437, 002.457, 002.458, one of 002.460 or 002.470, whichever of 002.462 or 002.463 not yet taken, 002.464, 002.465, 002.468, 002.469, 002.471.

Microbiology: 060.301, 060.343, 060.345, 060.346, 060.348, 060.401, 060.432, 060.441, 060.453, 060.454.

Other departments in Science: 001.201, 001.202, 001.301, 001.322, 001.346, 001.412, 005.100, 005.200, 016.220, 016.227, 016.228, 022.215, 022.228, 022.353, 022.354, 022.415, 022.427, 022.460, 074.101, 074.102, 074.126, 074.127, 136.120, 136.130, 136.131, 136.201, 136.270, 136.271, 136.280, 136.353, 136.382.

Agricultural and Food Sciences: 035.350, 035.428, 039.314, 039.352, 039.450, 039.451, 078.301, 078.401, 078.415, 078.428.

Arts: 076.286, 076.289.

Medicine: 125.302.

Other suitable courses may be selected through consultation with the department heads.

4.4.2 Microbiology - Chemistry Joint Program in Biotechnology, Department Code: 060T

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
JOINT HONOURS² 120 CREDIT HOURS			
002.130, 002.131, 071.125, 016.105 and 016.107 (or 016.102 and 016.103), 136.150 ¹ and 136.170 ¹ (or 136.169)	002.221, 002.222, 002.228, 002.229, 002.236 (060.236), 002.237 (060.237), 060.210, 060.211, 060.228, 001.246	002.238, 002.247, 002.339, 060.341, 060.344, 060.347, 039.433 Plus 9 credit hours from option list above	002.347, 002.462 or 002.463, 060.447, 060.451, 060.457, 060.460, 060.461 Plus 6 credit hours from option list above
In University 1 or Year 2 the following must be completed:			
6 credit hours from the Faculty of Arts, which should include the required "W" course			
30 Hours	30 Hours	30 Hours	30 Hours

NOTES:

¹ 136.151, 136.152 or 136.153 may be taken in place of 136.150; 136.171 or 136.173 may be taken in place of 136.170.

² The courses required in this program will satisfy the university mathematics requirement.

³ As there are no electives in Year 2 of the program, students should complete the university written English requirement in University 1. If not completed in University 1, a "W" course must be completed prior to Year 3 in addition to the required Year 2 courses.

4.5 Department of Botany

Head: Thomas Booth

General Office: 505 Buller Building

Telephone: 204 474 9368

Website: umanitoba.ca/science/botany/

E-mail: booth@cc.umanitoba.ca

4.5.1 Academic Staff

Professor Emerita

Shay, J.M., B.Sc.(Hons.) (London), M.Sc., Ph.D. (Manitoba).

Senior Scholars

Stewart, J.M., B.Sc.(Hons.), M.Sc., Ph.D. (McMaster); **VanCaesele, L.**, B.Sc., M.Sc., Ph.D. (Manitoba).

Professors

Booth, J.T., B.A. (Eastern College), M.S. (Ohio), Ph.D. (UBC); **Kenkel, N.C.**, B.Sc.(Hons.), M.Sc. (UBC), Ph.D. (Western); **Punter, D.**, M.A., Ph.D. (Cambridge); **Robinson, G.G.C.**, B.Sc.(Hons.) (St. Andrew's), Ph.D. (UBC).

Associate Professors

Ford, B.A., B.Sc.(Hons.) (Trent), Ph.D. (Toronto); **Goldborough, L.G.**, B.Sc., Ph.D. (Manitoba); **Sumner, M.J.**, B.Sc.(Hons.), M.Sc. (Alberta), Ph.D. (Manitoba).

Assistant Professors

Markham, J.H., B.Sc.(Hons.) (Guelph), B.Ed. (Dalhousie), Ph.D. (UBC); **McLachlan, S.M.**, B.Sc.(Hons.) (McMaster), M.Sc. (Guelph), Ph.D. (York); **Piercey-Normore, M. D.**, B.Sc. (Gen.), B.Sc. (Hons.), M.Sc., Ph.D. (Memorial); **Renault, S.**, B.Sc., M.Sc., Ph.D. (Poitiers); **Worley, A.C.**, B.Sc. (Victoria), M.Sc. (Calgary), Ph.D. (Toronto).

Instructor

Waters, I., B.A., B.S.A., M.Sc., Ph.D. (Manitoba) (Senior Instructor).

4.5.2 Program Information

Botany involves the study of green plants - algae, mosses, ferns, conifers and flowering plants - and fungi. Plants are the primary producers that supply energy to all ecosystems. Fungi are important as parasites and, in their role as decomposers, recycle nutrients. Botanists examine plants at all levels from molecular to landscape and their findings are applied in agriculture, forestry, medicine, conservation of biodiversity and environmental studies. Opportunities exist in many botany courses for laboratory and field projects. The department fosters an informal atmosphere and free interaction between faculty and students.

Students are responsible for all prerequisites and corequisites of the courses required or selected in all programs below.

If listed as prerequisite for any Botany course, 071.125 may be waived under special circumstances at the discretion of the department head. This waiver applies in all Botany programs. Students should contact the department head to arrange for substitutions for 071.125. However, students who intend to seek admission to professional faculties which require 071.125 (such as Dentistry, Pharmacy, and Optometry) will not be eligible for admission to these faculties without credit in that course.

Students registering for 300 and 400 level courses in which prerequisites are not specified must have completed two years in a university program or have written permission of the department head.

Since 002.130 and 002.131 are required in both the four year Major and Honours programs, students should note the requirement of the Department of Chemistry that Senior 4 (Grade 12) mathematics and chemistry are prerequisites for these courses.

The department must approve a student's Honour or Major program each session. Students must also obtain departmental approval for any and all revisions to their program.

Honours

The Honours program is designed for students planning a professional career in Botany at the graduate level. Such students are strongly advised to enter the Honours program at the beginning of second year.

Appropriate courses will be arranged in consultation with the department head who may be contacted through the Botany department office, 505 Buller Building.

To enter the Botany Honours program a student must have a "B" in 071.125 or 002.131 and not less than a "C+" in the other course. In addition, a student is required to have no failures, 12.00 grade points on up to their first 30 credit hours with the 12.00 grade points taken on no more than 30 credit hours in order to enter Honours Botany in Year 2. If 071.125 has been waived (see above), then the entrance requirement will be 002.131 and the replacement for 071.125, with a "B" in either course and not less than a "C+" in the other. Statistics 005.100 and the 3 credit hours of specified Mathematics or Physics courses can be completed in University 1 or Year 2.

To continue in the Honours program, i.e., to proceed from Year 2 to Year 3 and Year 3 to Year 4, a student must have a sessional Grade Point Average of 2.50 with no failures, and in addition, must have a 3.00 average on all Botany courses during that session and a grade of "C+" or better in each Botany course.

In Year 4, in order to graduate with an Honours degree, a student must obtain a Grade Point Average of 3.00 or better on the year's work, with no failures, and must have a grade of "C+" or better in all Botany courses.

Four Year Major

The four year Major program is also designed for students planning a professional career in Botany, but who may not be considering graduate training. It will provide intensive training in all areas of Botany comparable to that of the Honours program, but has less demanding performance requirements. Students who so wish, and who have an appropriate standing and course selection, may transfer to the Honours program at any time up to the commencement of Year 4.

Course 001.460 is not normally available to students in this program.

To enter the four year Major program, a student must have 071.125 and 002.131, with a "C+" standing in one of these required courses and not less than "C" in the other, and have satisfied the faculty requirements for entry to the four year Major program. If 071.125 has been waived (see above), then the entrance requirement will be 002.131 and the replacement for 071.125, with a "C+" standing in either course and not less than a "C" in the other. Statistics 005.100 and the 3 credit hours of specified Mathematics or Physics courses can be completed in University 1 or Year 2.

Three Year General

Courses taken for a General degree provide an introduction to the major fields of study in Botany. As prescribed with all other faculty regulations in Section 3.2, students in this program must select 30 credit hours of 200 and (or) 300 level courses from **two** Science departments. To satisfy the requirement in the Department of Botany, students must take a minimum of 12 credit hours of 200, 300 and (or) 400 level Botany courses as prescribed in the chart below. Course 001.460 is not available to students in this program.

Students anticipating a transfer to either the four year Major or Honours program at the end of their second or third year should consult with the department head before registering.

Ecology Program

The Department of Botany, in conjunction with the Department of Zoology, offers a Joint Honours program, a Joint four year Major program and a Joint four year Major Cooperative Option program in Ecology. See Section 4.8 *Ecology Program* for full details.

4.5.3 Botany, Department Code: 001

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
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HONOURS³ 120 CREDIT HOURS

071.125, 002.130, 002.131,	001.201, 001.202, 001.237 (022.237 or 065.237) ² , 001.246, 022.228 and	001.301, 001.307, 001.357	001.403, 001.460
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Either: 002.221 plus 002.236 and 002.237 (060.236 and 060.237); or 002.277 and 002.278 (060.277 and 060.278)

In University 1 or Year 2 the following must be completed:

3 credit hours of Mathematics or Physics from 136.120, 136.130¹, 136.150¹, 016.102 or 016.105

001.211

005.100, 005.200

6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" requirement.

Plus 24 credit hours of 300 or 400 level Botany courses; plus 18 credit hours from Botany, Microbiology, Zoology or related fields

30 Hours

30 Hours

30 Hours

30 Hours

HONOURS DOUBLE³ MINIMUM 120 CREDIT HOURS

071.125, 002.130, 002.131, 005.100	Upper year courses can be arranged in consultation with departments concerned
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Plus 3 credit hours of Mathematics or Physics from 136.120, 136.130¹, 136.150¹, 016.102 or 016.105

In University 1 or Year 2 the following must be completed:

6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" requirement.

FOUR YEAR MAJOR^{3,4} 120 CREDIT HOURS

071.125, 002.130, 002.131,	001.201, 001.202, 001.237 (022.237 or 065.237) ² , 001.246, 022.228	001.301, 001.307	001.403
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Either: 002.221 plus 002.236 and 002.237 (060.236 and 060.237); or 002.277 and 002.278 (060.277 and 060.278)

In University 1 or Year 2:

Plus 21 credit hours of 300 or 400 level Botany courses

3 credit hours of Mathematics or Physics from 136.120, 136.130¹, 136.150¹, 016.102 or 016.105

001.211

005.100, 005.200

6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" requirement.

THREE YEAR GENERAL

Minimum of 12 hours of Botany courses at the 200, 300 and (or) 400 level

MINOR

071.125

Minimum of 12 hours of Botany courses at the 200, 300 and (or) 400 level

JOINT BOTANY-ZOOLOGY HONOURS AND FOUR YEAR MAJOR ECOLOGY PROGRAMS See Section 4.8 Ecology Programs

NOTES:

¹ 136.131 may be taken in place of 136.130; 136.151, 136.152, 136.153, 136.168 or 136.169 may be taken in place of 136.150.

² 001.237 (022.237 or 065.237) has 005.100 as corequisite.

³ The courses in this program will satisfy the university mathematics requirement.

⁴ IMPORTANT: The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program with a view to satisfying the prerequisites of the required courses.

4.5.4 Botany Course Descriptions

NOTE: To fulfil prerequisite requirements, a grade of “C” must be achieved in any Botany course stipulated as a prerequisite to a further course in Botany. When 071.125 is stipulated as a prerequisite to a Botany course, a minimum grade of “C” is required.

All courses are not offered every year. The course schedule for the current academic session is published in the *Registration Guide*.

Students registering in certain courses may be required to pay a portion of the costs associated with field trips. For details, contact the department general office.

General Courses

001.101W Economic Plants (3) A survey of economically important plants and their products. The history of plant use, plants in folklore and medicine, fermentation and viticulture, domestication of plants, and forestry are the major topics covered. Chemical, structural, and nutritional aspects of plant products are also discussed. Not to be held with the former 001.206 or 001.233.

001.201 Plant Structure and Function 1 (3)L A study of the structure and function of the flowering plants. Part 1 will focus on vegetative organs at the cellular and tissue levels. Seed germination and seedling physiology will be included. Not to be held with the former 001.230. *Prerequisite:* 071.101 (or the former 071.123) with a minimum grade of “B”, or 071.125.

001.202 Plant Structure and Function 2 (3)L A study of the structure and function of the flowering plants. Part 2 will focus on photosynthesis, reproduction, and the role of hormonal and extrinsic factors in the regulation of plant development. Not to be held with the former 001.230. *Prerequisite:* 001.201.

001.211 Mosses, Ferns and Conifers (3)L An introduction to the mosses and liverworts, ferns and their allies, and conifers, specifically treating their structure, reproduction, identification and ecological significance. Not to be held with the former 001.210. *Pre- or corequisite:* 071.125.

001.218 Introductory Toxicology (3) A survey of general principles underlying the effects of toxic substances on biological systems, including consideration of the history, scope and applications of toxicology, the mechanisms of toxic action, and some major types of toxicants. This course is also taught in the Department of Zoology as 022.218, in Environmental Science as 128.218, and in Agriculture as 065.218. Not to be held with 001.219, 128.219, 022.219, 065.219 and the former 001.337. *Prerequisites:* 071.125, and 002.131 (or the former 002.128) or 002.132.

001.219 Toxicological Principles (1.5) A survey of general principles underlying the effects of toxic substances on biological systems, including consideration of the history, scope and applications of toxicology, and the mechanisms of toxic action. This course is also taught in the Department of Zoology as 022.219, in Environmental Science as 128.219, and in Agriculture as 065.219. Not to be held with 001.218, 128.218, 022.218, 065.218, and the former 001.337. *Prerequisites:* 071.125 and 002.131 (or the former 002.128) or 002.132.

001.221 Biology of Fungi and Lichens (3)L An introduction to the fungi, both free living and lichenized, with emphasis on the major taxonomic groupings, their organization and structure, their life histories, identification and general economic significance. Not to be held with the former 001.321. *Prerequisite:* 071.101 (or the former 071.123) with a minimum grade of “B”, or 071.125.

001.228 Introductory Ecology (3) The course involves a study of the interrelationships of living organisms (including human) with each other and with their environment. This course is also given in the Zoology department as 022.229. It is not normally acceptable as a prerequisite to other courses in ecology. Not to be held with 001.237 (022.237 or 065.237). *Prerequisite:* 071.125.

001.229 Biology of Algae (3)L Lectures and laboratories dealing with the cellular features of major groups of algae and their phylogenetic and adaptive significance. The basics of algal taxonomy are also covered. Not to be held with the former 001.323 or 001.341. *Prerequisite:* 071.125.

001.237 Principles of Ecology (3)L Principles of ecology at the individual, population, community, and ecosystems levels. This course is also given in the Zoology department as 022.237 and in the Faculty of Agricultural and Food Sciences as 065.237. It is the normal prerequisite to other courses in ecology. Not to be held with 001.228 (022.229). *Prerequisite:* 071.125. *Pre- or corequisite:* 005.100.

001.237F Principes d'écologie (3)L Principes d'écologie au niveau de l'individu, la population, la communauté et l'écosystème. Ce cours est également offert dans le Département de zoologie sous le numéro 022.237 et dans la Faculté de sciences de l'agriculture et de nutrition sous le numéro 065.237. On ne peut se faire créditer à la fois le 001.237, 065.237 et le 022.237 ou 022.229 (001.228). *Préalable:* 071.125.

Pré-ou corequis: 005.100. Donné seulement au Collège universitaire de Saint-Boniface.

001.246 Genetics 1 (3)L Principles of heredity, gametogenesis and the cytological basis of inheritance in plants and animals. The concepts of dominance and genetic interaction, sex and inheritance, linkage, chromosomal variations, quantitative and population genetics, the genetic code. Not to be held with 039.252 (or the former 039.209). *Prerequisite:* 071.125.

001.246F Génétique 1 (3)L Les principes de l'hérédité, de la gamétogénèse et des fondements cytologiques de la transmission héréditaire chez les plantes et animaux. Les concepts de dominance et d'interaction génétique, de détermination du sexe, de la transmission des caractères liés au sexe et des gènes liés, les variations chromosomiques, la génétique des populations et le code génétique feront l'objet du cours. On ne peut se faire créditer à la fois le 001.246 et le 039.252 ou l'ancien 039.209. *Préalable:* 071.125. Donné seulement au Collège universitaire de Saint-Boniface.

001.301 Plant Ecological Physiology (3)L An integrated study of the major physiological processes in higher plants, and how these processes influence growth and development of plants in natural ecosystems. Stress responses of plants to water, light and nutrients will be emphasized. Not to be held with 039.350 or the former 001.317 or 001.467. *Prerequisite:* 001.202 (or the former 001.230) and 002.131.

001.307 Vascular Flora of Manitoba (3)L A survey of the vascular plants of Manitoba emphasizing identification, nomenclature and classification, and including brief accounts of the distribution and post-glacial history of the main floristic associations within the province. Students must submit a collection of at least 20 different vascular plants identified to species. A guide to the collection should be obtained from the Botany department office in the Spring/Summer prior to commencing the course. Not to be held with the former 001.207 or 001.231. *Prerequisite:* 071.101 (or the former 071.123) with a minimum grade of “B”, or 071.125.

001.320 Introductory Scientific Photography (3)L Lectures and demonstrations introducing the principles of photographic processes in use today and techniques in field and laboratory photography. Offered in Summer Session only. Available to all students: written permission is not required.

001.322 Fungal Physiology (3)L A study of structure, function, and reproduction in the major groups of fungi. Genetic and physiological principles underlying growth, sporulation and reproduction, and variability are emphasized. Not to be held with the former 001.345. *Prerequisites:* 001.221 (or the former 001.321) and 002.131 (or the former 002.128) or consent of department head.

001.325 Fungal Ecology (3)L A description of fungal lifestyles, distribution and distributional dynamics in natural environments. Saprotrophic, biotrophic, and necrotrophic substratum exploitation and the role of fungi in nutrient cycling in various environments are discussed along with the fungal, plant and animal interactions. Topics in applied fungal ecology include: fungi and ecologically disturbed sites, poisonous and hallucinogenic fungi, food and fungi, and medical mycology. *Prerequisite:* 001.221 (or the former 001.210 or 001.321) or consent of the department head.

001.326 Bryology (3)L The biology, ecology, and evolution of bryophytes. Laboratory will consist of an examination of the diversity of bryophytes using morphological and molecular characters. Next offered in the 2004-2005 Regular Session. *Prerequisite:* 001.211.

001.342 Field Ecology (3)L Problems, techniques and assumptions involved in measuring parameters of biological populations and environmental variables. A field trip will be held prior to the start of classes. Students must register in the department office by August 5. This course is also given in Zoology as 022.345. *Prerequisites:* 001.237 (022.237 or 065.237), and 005.200.

001.346 Genetics 2 (3)L The course complements introductory genetics (001.246) and deals with various aspects of linkage and crossing over, gene function, allelism, mutation and repair, the use of bacteria and viruses as genetic tools, basics of developmental genetics and extra-nuclear inheritance. *Prerequisite:* 001.246 or 039.252 (or the former 039.209). *Pre or corequisite:* 002.237 (060.237) (or the former 002.235) (060.235) or 002.278 (060.278) (or the former 002.240 (060.240)), or consent of department head.

001.354 Community Ecology (3)L Lectures and laboratories emphasizing the structure and function of terrestrial biotic communities with emphasis upon selected Manitoba situations. *Prerequisite:* 001.237 (022.237 or 065.237) or consent of department head.

001.357 Directed Studies in Botany (3)L Each student will conduct a comprehensive review of the literature relating to a research topic chosen in consultation with the department head and an appropriate supervising faculty member. A written literature review and research proposal as well as an oral presentation of a selected topic will normally be required. The course is restricted to Major and Honours students in the biological sciences. Not to be held with the former 001.414 or 001.466.

001.358 Wetland Ecology(3)L Lectures and field exercises examine the biotic (algae, macrophytes, invertebrates, and vertebrates) and abiotic (hydrology, nutrient cycling) properties of Delta Marsh, a prairie lakeshore wetland. Other wetland types, including peatlands, will also be considered in lectures and field trips. The course is offered in Summer Session at the university Field Station (Delta Marsh). This course is also given in the Zoology department as 022.358. *Prerequisite:* 001.237 (022.237 or 065.237) or consent of instructor.

001.398 Work Term 1 (0) Work assignment in business, industry, or government for students registered in the Ecology Cooperative Option. Requires submission of a written report covering the work completed during the four-month professional assignment. This course is also offered by Zoology as 022.398. (Pass/Fail grade only)

001.399 Work Term 2 (0) Work assignment in business, industry, or government for students registered in the Ecology Cooperative Option. Requires submission of a written report covering the work completed during the four-month professional assignment. This course is also offered by Zoology as 022.399. (Pass/Fail grade only)

001.401 Aquatic Botany (3)L This course examines the relationship between algae, fungi and macrophytes, and the physical, chemical and biological properties of the aquatic environment. Specific adaptations to life in water, and patterns of distribution and succession in rivers, lakes and wetlands will be covered. *Prerequisite:* 001.237 (022.237 or 065.237) or consent of instructor.

001.402 Forest Botany (3)L Lectures, laboratories and assignments dealing with the structure, diversity and dynamics of plant communities in forested ecosystems. Particular emphasis will be placed on the Boreal forest region. *Prerequisites:* 001.201 (or the former 001.230) and 001.237 (022.237 or 065.237), or consent of department head.

001.403 Plant Anatomy and Microtechnique (3)L A study of the anatomical aspects of the growth and development of plant cells, tissues, and organs. Laboratory exercises will complement this material and will also illustrate the fundamental microtechniques used in the study of plant anatomy. Not to be held with the former 001.224 or 001.316. *Prerequisite:* 001.201 (or the former 001.230).

001.404 Advanced Plant Systematics (3)L An examination of biosystematic principles and methods as they relate to all groups of plants. Offered in 2003-2004 and in alternate years thereafter. Next offered in 2004-2005 and alternate years thereafter. Not to be held with the former 001.231, 001.318 or 001.456. *Prerequisite:* 001.307 (or the former 001.207 or 001.231).

001.405 Lichen Symbioses (3)L The biology, diversity, systematics and evaluation of lichens including the molecular biology and coevolution of the algal and fungal symbionts. Offered in 2003-2004 and in alternate years thereafter. *Prerequisite:* 001.221 or consent of instructor.

001.412 Advanced Plant Stress Physiology (3)L Selected topics on plant responses to environmental stress at the physiological and biochemical levels. Laboratory will consist of supervised projects in the above areas. Next offered in the 2004-2005 Regular Session. Not to be held with the former 001.417. *Prerequisites:* 001.301 (or the former 001.317) or 039.350; 002.221 (or the former 002.220) and 002.237 (060.237)(or the former 002.235 (060.235)) or 002.278 (060.278)(or the former 002.240 (060.240)).

001.413 The Evolution of Plant Structures and Systems (3)L A comparative study of the morphological and anatomical characteristics of extant and extinct plants in the

context of current evolutionary theory. Offered in the 2003-2004 and alternate years thereafter. *Prerequisite:* 001.201 (or the former 001.230) or consent of department head.

001.416 Advanced Mycology (3)L Emphasis is placed on the taxonomy, morphology and life histories of fungi, especially those that are important as pathogens. Other current topics in mycology will also be examined. Offered in 2004-2005 and in alternate years thereafter. Not to be held with the former 001.451. *Prerequisite:* 001.221 (or the former 001.321) or consent of the department head.

001.421 Principles of Plant Pathology (3)L A study of the interactions of causal agents, environment, and host plants in the development of disease. Special attention will be given to diseases of local and regional significance. Laboratory exercises will illustrate the basic techniques of plant pathology. Offered in 2003-2004 and in alternate years thereafter. Not to be held with the former 001.450. *Prerequisites:* 001.202 (or the former 001.230) and 001.221 (or the former 001.321) or 001.322, or consent of department head.

001.460 Project in Botany (6) A research project chosen in consultation with the department head and an appropriate supervising Faculty member. A written report will normally be required. The course is restricted to final year Honours students in Botany or Ecology. Not to be taken concurrently with 001.488 (022.488). *Prerequisite:* 001.357 or consent of department head.

001.465 Analysis of Biological Communities (3)L Methods and approaches to the analysis of biological communities are reviewed. Emphasis is placed on planning the steps of a biological investigation. *Prerequisites:* 001.237 (022.237 or 065.237), 005.200.

001.480 Special Topics in Field Biology (3) Lectures, field studies and research projects on a selected topic. Course content to vary from year to year depending on instructor. Usually offered during the summer months. *Prerequisite:* At discretion of instructor.

001.488 Analysis of Ecological Problems (3)L Teams of students will analyze emerging regional ecological problems and present results or solutions in a written report and oral presentation. This course is also offered by the Department of Zoology as 022.488. Due to advance preparation necessary for this course, students will not be permitted to register after October 31. Not to be taken concurrently with 001.460 or 022.411. *Prerequisites:* 001.342 or 022.345, 001.354, 022.348, 022.375 and eligibility for graduation in the current academic year.

001.489 Special Topics in Biology (3) Biology encompasses a broad array of ideas and special topic areas. In this course, students can pursue a specific topic in detail through lectures, seminars and research projects. Normally restricted to third and fourth year Honours and Major students. This course is also offered by Zoology as 022.489. *Prerequisite:* Consent of department.

001.498 Work Term 3 (0) Work assignment in business, industry, or government for students registered in the Ecology cooperative option. Requires submission of a written report covering the work completed during the four-month professional assignment. This course is also offered by Zoology as 022.498. (Pass/Fail grade only)

001.499 Work Term 4 (0) Work assignment in business, industry, or government for students registered in the Ecology cooperative option. Requires submission of a written report covering the work completed during the four-month professional assignment. This course is also offered by Zoology as 022.499. (Pass/Fail grade only)

4.6 Department of Chemistry

Head: Harry Duckworth

General Office: 350 Parker Building

Telephone: 204 474 9321

Website: umanitoba.ca/science/chemistry/

E-mail: chemdpt@pauli.chem.umanitoba.ca

4.6.1 Academic Staff

Distinguished Professor

Schaefer, T., B.Sc.(Hons.), M.Sc. (Manitoba), D.Phil. (Oxford), F.R.S.C.

Professor Emeritus

Gesser, H.D., B.Sc. (Loyola), Ph.D. (McGill).

Senior Scholars

Charlton, J.L., B.Sc.(Hons.), Ph.D. (Western); Chow, A., B.Sc., M.A., Ph.D. (Toronto); Queen, A., B.Sc.(Hons.), M.Sc., Ph.D. (Durham); Westmore, J.B., B.Sc.(Hons.), Ph.D. (London).

Professors

Baldwin, W.G., B.Sc.(Hons.), M.Sc. (Manitoba), Ph.D. (Melbourne); Duckworth, H.W., B.Sc.(Hons.) (McMaster), Ph.D. (Yale); Hruska, F.E., B.Sc.(Hons.), M.Sc., Ph.D. (Manitoba); Hunter, N.R., B.Sc., M.Sc. (Carleton), Ph.D. (New Brunswick); Jamieson, J.C., B.Sc. (Heriot Watt), Ph.D. (Aberdeen); Janzen, A.F., B.Sc.(Hons.) (McMaster), Ph.D. (Western); O'Neil, J.O.J., B.Sc., Ph.D. (Toronto); Secco, A.S., B.Sc.(Hons.) (St. Francis Xavier), Ph.D. (UBC); Wallace, R., B.Sc., Ph.D. (Glasgow).

Associate Professors

Cullen, J.M., B.Sc., M.Sc. (Windsor), M.Sc., Ph.D. (Guelph); Gough, K.M., B.Sc.(Hons.) (Loyola), M.Sc., Ph.D. (Manitoba); Hultin, P.G., A.B. (Dartmouth), M.Sc., Ph.D. (Toronto); Perreault, H., B.Sc., M.Sc. (Montreal), Ph.D. (Dalhousie).

Assistant Professor

Bieringer, M., B.Sc. (Duisburg), Ph.D. (McMaster); Freund, M., B.Sc. (Florida Atlantic), Ph.D. (Florida); Kroeker, S.C., B.Sc. (Winnipeg), M.Sc. (Manitoba), Ph.D. (Dalhousie); Schweizer, F., B.Sc. (Brock), Ph.D. (Alberta).

Instructors

Gavin, F., B.Sc. (Sherbrooke), M.Sc. (Laval), Ph.D. (McGill) (Instructor II); Hickling, G., B.Sc., B.Ed., M.Sc. (Manitoba), Ph.D. (McMaster) (Senior Instructor); Kruczynski, L.J., B.Sc.(Hons.), Ph.D. (Manitoba) (Senior Instructor); Scoot, A., B.Sc.(Hons.) (Newcastle, UK), M.Sc., Ph.D. (Saskatchewan) (Senior Instructor); Smirnova, E., Ph.D (Moscow State) (Instructor II); Wayborn, H., B.Sc., B.Ed., M.Sc. (Manitoba) (Senior Instructor).

4.6.2 Program Information

Chemistry is the science concerned with the properties of atoms and molecules, of which all matter is composed. Chemistry is important for all aspects of the material world - food production; the manufacture of medicines, textiles, and plastics; energy production; identifying environmental problems and remedies; and understanding the workings of living

organisms. The department offers study in analytical, inorganic, organic and physical chemistry, and in biochemistry.

Chemistry Club: The Chemistry Club is the University of Manitoba Student Chapter of the Chemical Institute of Canada. The aim of the organization is to advance interest in chemistry. All students engaged in chemical studies are eligible for membership in the chapter and are encouraged to apply. Regular meetings, tours, publications, etc., are planned by each year's membership.

Scholarships and Awards: Several scholarships and awards are granted each year to Honours and Major students in Chemistry, Biochemistry, and Biotechnology on the basis of outstanding academic performance. To be eligible for these awards for any regular session, students are normally required to have completed a full program with a minimum of 18 credit hours of Chemistry in that session. They must also be registered for a full program with a minimum of 18 credit hours of Chemistry in the next regular session. Additional information is available from the Chemistry general office.

The department must approve a student's Honour or Major program each session. Students must also obtain departmental approval for any and all revisions to their program.

Honours Requirements

To enter the Honours program in Chemistry, students must have 002.130 (B) and 002.131 (B); 016.105 (C) and 016.107 (C), or 016.102 (C+) and 016.103 (C+); 136.150 (C), plus one of: 136.120, 136.130 or 136.170 or any equivalent with a grade of "C"; and have satisfied all faculty requirements for entry to the Honours program.

To continue in and graduate from the Honours program, i.e., to proceed from Year 2 to Year 3 and from Year 3 to Year 4 and successfully complete Year 4 of the Honours program, a student must have a regular sessional Grade Point Average of 2.50 and in addition, must have a 3.00 average on all Chemistry courses during that session and a grade of "C+" or better in each Chemistry course. Students who achieve less than a 2.50 sessional Grade Point Average in a summer session will be allowed to continue in the Honours program if they maintain a 3.00 cumulative Grade Point Av-

erage in all Chemistry courses (including that summer session), a minimum grade of "C+" in each Chemistry course and at least a 2.00 Grade Point Average in summer session.

Four Year Major Requirements

To enter the four year Major in Chemistry, students must have 002.130 (C+) and 002.131 (C+); 016.105 and 016.107, or 016.102 and 016.103; 136.150, plus one of 136.120, 136.130, 136.170, or any equivalent and have satisfied all faculty requirements for entry to the four year Major program.

To continue in and graduate from the Major program, a student must have a sessional Grade Point Average of 2.00 in the regular session. To graduate with the Major degree, students must present a grade of "C" or better on the 57 credit hours of Chemistry required in the degree.

Students who, at the end of University 1, are undecided between the four year Major and Honours programs should note that the prescription for Honours Year 2 satisfies both the Honours and Major programs.

Three Year General Requirements

As prescribed with all other faculty regulations in Section 3.2, students in this program must select 30 credit hours of 200 and (or) 300 level courses from two Science departments. To satisfy the requirement in the department of Chemistry, students must select a minimum of 12 credit hours from: 002.221, 002.222, 002.228, 002.229, 002.238, 002.247. Additional courses may be selected from 002.236 (060.236), 002.237 (060.237), 002.436, 002.437 and 300 level Honours or Major courses, with permission of the department.

Biochemistry and Biotechnology Programs

The Department of Chemistry, in conjunction with the Department of Microbiology, offers a Joint Honours program, a Joint Honours Cooperative Option, a Joint four year Major program and a Joint four year Major Cooperative Option program in Biochemistry. See Section 4.2 *Biochemistry Program* for full details. They also offer a Joint Honours program in Biotechnology. See Section 4.4 *Biotechnology Program* for full details.

4.6.3⁴ Chemistry, Department Code: 002

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
HONOURS 123 CREDIT HOURS			
002.130(B), 002.131(B), 016.105(C) and 016.107(C)(or 016.102(C+) and 016.103(C+)), 136.150 ¹ (C), plus one of 136.120, 136.130 ¹ , 136.170 ¹ with a grade of "C"	At least 12 credit hours from: 002.221, 002.222, 002.228, 002.229, 002.236 (060.236), 002.237 (060.237) ² , 002.238, 002.247, Whichever two of: 136.120, 136.130 ¹ , 136.170 ¹ not yet taken ³	At least 18 credit hours from: any of 002.221, 002.222, 002.228, 002.229, 002.236 (060.236), 002.237 (060.237) ² , 002.238, 002.247, not yet taken, and 002.336, 002.337, 002.338, 002.339, 002.358, 002.457, 002.468, 002.469	002.460 and 002.471 Plus sufficient credit hours from Chemistry courses not yet taken ⁶ to total a minimum of 63 credit hours Plus sufficient electives ⁵ to total a minimum of 33 credit hours
Plus 6 credit hours of electives ²	Plus 12 credit hours of electives ⁵ which may include 6 credit hours of Chemistry ⁶	Plus 12 credit hours of electives ⁵ which may include 6 credit hours of Chemistry ⁶	
In University 1 or Year 2 the following must be completed:			
6 credit hours from the Faculty of Arts, which should include the required "W" course.			
30 Hours	30 Hours	30 Hours	33 Hours

FOUR YEAR MAJOR⁷ 120 CREDIT HOURS

002.130(C+), 002.131(C+), 016.105 and 016.107(or 016.102 and 016.103), 136.150 ¹ , plus one of 136.120, 136.130 ¹ , 136.170 ¹ Plus 6 credit hours of electives ²	At least 12 credit hours from: 002.221, 002.222, 002.228, 002.229, 002.236 (060.236), 002.237 (060.237) ² , 002.238, 002.247, Whichever two of 136.120, 136.130 ¹ , 136.170 ¹ not yet taken ³ Plus 12 credit hours of electives ⁵ which may include 6 credit hours of Chemistry ⁶	At least 18 credit hours from: any of 002.221, 002.222, 002.228, 002.229, 002.236 (060.236), 002.237 (060.237) ² , 002.238, 002.247, not yet taken, and 002.336, 002.337, 002.338, 002.339, 002.358, 002.457, 002.468, 002.469 Plus 12 credit hours of electives ⁵ which may include 6 credit hours of Chemistry ⁶	002.460 Sufficient credit hours from Chemistry courses not yet taken ⁶ to total a minimum of 57 credit hours Plus sufficient electives ⁵ to total a minimum of 30 credit hours
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In University 1 or Year 2 the following must be completed:

6 credit hours from the Faculty of Arts, which should include the required "W" course.

THREE YEAR GENERAL

002.130(C) and 002.131(C) A minimum of 12 credit hours from: 002.221, 002.222, 002.228, 002.229, 002.238, 002.247

MINOR

002.130 (C) and 002.131 (C) Normally 002.221 and 002.222, plus an additional 6 credit hours

JOINT MICROBIOLOGY-CHEMISTRY HONOURS AND FOUR YEAR MAJOR IN BIOCHEMISTRY: See Section 4.2 Biochemistry Program

JOINT MICROBIOLOGY-CHEMISTRY HONOURS IN BIOTECHNOLOGY: See Section 4.4 Biotechnology Program

NOTES:

¹ 136.151, 136.152 or 136.153 may be taken in place of 136.150; 136.131 may be taken in place of 136.130; 136.171 or 136.173 may be taken in place of 136.170; 136.169 may be taken in place of 136.150 and 136.170.

² Students intending to elect 002.236 and 002.237 (060.236 and 060.237) in either the Honours or the four year Major program should note that Biology 071.125 is a prerequisite.

³ Other combinations of mathematics courses may be acceptable with the approval of the department head.

⁴ The courses required in this program will satisfy the university mathematics requirement.

⁵ Electives chosen during Years 2, 3 and 4 must include at least nine credit hours of Science courses other than Chemistry at the 200 level or higher.

⁶ Students must complete a minimum of six credit hours in each of the following subject areas:

Analytical: 002.247, 002.347

Inorganic: 002.238, 002.338, 002.457, 002.468

and a minimum of nine credit hours in each of the following areas:

Organic/Biochemistry: 002.221, 002.222, 002.236 (060.236), 002.237 (060.237), 002.339, 002.358, 002.436, 002.437, 002.458, 002.462, 002.463, 002.469, 002.470

Physical/Polymer: 002.228, 002.229, 002.336, 002.337, 002.349, 002.464, 002.465

⁷ IMPORTANT: The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program. (Letters in brackets indicate minimum prerequisite standing for further study.)

4.6.4 Chemistry Course Descriptions

To fulfil prerequisite requirements, a grade of "C" must be achieved, unless otherwise stated, in any Chemistry course stipulated as a prerequisite to a further course in Chemistry.

All courses are not offered every year. The course schedule for the current academic session is published in the *Registration Guide*.

General Courses

002.090 Preparatory Chemistry (0) one term. A course designed for students with little or no background in chemistry who wish to achieve the prerequisites for advanced courses, or for students who require a refresher course in basic chemistry. Graded Pass/Fail. Concurrent registration in both 002.090 and any of 002.130, 002.131 or 002.132 is not permitted.

002.100 Understanding the World through Chemistry (3) This course introduces students to the principles of chemistry necessary for an understanding of contemporary issues in agriculture, the environment, industry, medicine, and the economy. High school chemistry is not required. May be used as a prerequisite (minimum grade "B") for 002.130 (Developmental section). Not to be held with the former 002.125. May not be used to fulfil chemistry requirements in a Chemistry Honours, Major, General or Minor program. Not available to students who have previously obtained credit in, or are concurrently registered in, any 200 level university Chemistry course.

002.100F Comprendre le monde par le biais de la chimie (3) Ce cours présente à l'étudiante et à l'étudiant les principaux principes de la chimie nécessaires pour comprendre les problèmes contemporains de l'agriculture, l'environnement, l'industrie, la médecine et l'économie. La chimie du secondaire n'est pas requise. Peut être utilisé comme prérequis au 002.130 (note minimale de "B"). Ne peut être utilisé dans un

programme général, de spécialisation, de majeure ou de mineure en chimie. Une personne ayant déjà des crédits ou qui est présentement inscrite à un cours de chimie de niveau 200 n'est pas admissible à ce cours. On ne peut se faire créditer à la fois le 002.100 et l'ancien 002.125. Donné seulement au Collège universitaire de Saint-Boniface.

002.103 Carbon Chemistry in Nature and Society (3) This course introduces organic molecules and illustrates the principles of organic chemistry with topics from cosmetics and personal care products, the petroleum industry, food preparation chemistry, polymers and plastics, poisons and biological toxins, and risk assessment. May not be used to fulfil chemistry requirements in a Chemistry Honours, Major, General or Minor program. Not available to students who have previously obtained credit in, or are concurrently registered in, any 200 level university Chemistry course. Not to be held with the former 002.125. *Prerequisite:* 002.100 or 002.130 or Chemistry 40S (or equivalent).

002.103F La chimie du carbone dans la nature et la société (3) Ce cours présente certains principes de la chimie organique au moyen de molécules choisies dans différents domaines tels que l'industrie des cosmétiques et des produits des soins personnels, l'industrie pétrochimique, la préparation des produits alimentaires, les polymères et les plastiques, les poisons, les toxines biologiques, et la détermination de leur facteur de risque. Ne peut être utilisé dans un programme général, de spécialisation, ou de majeure ou de mineure en chimie. Une personne ayant déjà des crédits ou qui est présentement inscrite à un cours de chimie de niveau 200 n'est pas admissible à ce cours. On ne peut se faire créditer à la fois le 002.103 et l'ancien 002.125. *Préalables:* 002.100 ou 002.130 ou Chimie 40S (ou son équivalent). Donné seulement au Collège universitaire de Saint-Boniface.

002.130 University 1 Chemistry: Structure and Modelling in Chemistry (3)L Atomic and molecular models and their applications to chemistry, including a discussion of solid, liquid, and gaseous states, and of mixtures. Not to be held with the former

002.123 or 002.127. *Prerequisites:* Applied Mathematics 40S or Pre-calculus Mathematics 40S, or the former Mathematics 40S (300), and Chemistry 40S (or equivalent) or 002.090 or a minimum grade of "B" in 002.100 (or the former 002.125).

002.130F Université 1 Chimie: La structure et la modélisation chimique (3)L La structure et les modèles atomiques, leurs applications à la chimie incluant une étude des états solide, liquide et gazeuse des substances chimiques et des mélanges. On ne peut se faire créditer à la fois le 002.130 et les anciens 002.123 ou 002.127. *Préalables:* Mathématiques appliquées 40S ou mathématiques 40S (pré-calcul), ou les anciens mathématiques 40S (300), chimie 40S (ou son équivalent) ou le 002.090 ou le 002.100 (ou l'ancien 002.125) (avec la note minimale de "B"). Donné seulement au Collège universitaire de Saint-Boniface.

002.131 University 1 Chemistry: An Introduction to Physical Chemistry (3)L Thermochemistry, chemical thermodynamics, and chemical kinetics. Not to be held with 002.124 or the former 002.123 or 002.128. *Prerequisite:* 002.130 (or the former 002.127).

002.131F Université 1 Chimie: Une introduction à la chimie physique (3)L La thermochimie, la thermodynamique chimique, la cinétique chimique. On ne peut se faire créditer à la fois le 002.131 et le 002.124 et les anciens 002.123, ou 002.128. *Préalable:* 002.130 (ou l'ancien 002.127). Donné seulement au Collège universitaire de Saint-Boniface.

002.132 University 1 Chemistry: An Introduction to Organic Chemistry (3)L Structures, properties and reactions of organic molecules. Not to be held with 002.221 or the former 002.123 or 002.220. *Prerequisite:* 002.130 (or the former 002.127).

002.221 Introductory Organic Chemistry 1: Structure and Function (3)L An introduction to the concepts of organic reactivity and bonding in organic molecules. Preparation and properties of functionalized organic molecules. Not to be held with 002.132 or the former 002.220. *Prerequisite:* 002.131 (or the former 002.128).

002.221F Introduction à la chimie organique 1: structure et fonction (3)L Une introduction aux concepts de réactivité organique et de liaison chez les molécules organiques. Préparation et propriétés de molécules organiques renfermant un groupe fonctionnel. On ne peut se faire créditer à la fois le 002.221 et le 002.132 (ou l'ancien 002.220). *Préalable:* 002.131 (ou l'ancien 002.128). Donné seulement au Collège universitaire de Saint-Boniface.

002.222 Introductory Organic Chemistry 2: Reactivity and Synthesis (3)L An introduction to the reactivity of organic compounds and organic spectroscopy. The application of functional group interconversions to syntheses. Not to be held with the former 002.220. *Prerequisite:* 002.221.

002.222F Introduction à la chimie organique 2: réactivité et synthèse (3)L Une introduction à la réactivité des composés organiques et à la spectroscopie organique. L'application de l'interchangeabilité des groupes fonctionnels dans les synthèses de composés. On ne peut se faire créditer à la fois le 002.222 et l'ancien 002.221. *Préalable:* 002.221. Donné seulement au Collège universitaire de Saint-Boniface.

002.228 Physical Chemistry: Microscopic Descriptions of Matter (3)L Molecular based approach to understanding physical behaviour of matter. Introduction to principles of quantum mechanics, electronic structure and bonding, molecular spectroscopy. Not to be held with the former 002.230. *Prerequisites:* 002.131 (or the former 002.128), 016.103 (or 016.107), plus six credit hours of 100 level mathematics (preferably calculus) with the exception of 136.100, 136.101, 136.119 or 136.102 (or 054.102).

002.228F Chimie physique: description microscopique de la matière (3)L Une approche basée sur le plan moléculaire pour comprendre les propriétés physiques de la matière. Une introduction aux principes de la mécanique quantique, de la structure électronique et de la liaison, de la spectroscopie moléculaire. On ne peut se faire créditer à la fois le 002.228 et l'ancien 002.230. *Préalables:* 002.131 (ou l'ancien 002.128), plus 016.103 ou 016.107, et 6 heures-crédits de niveau 100 en mathématiques (de préférence Calcul) exceptés 136.100, 136.101, 136.119, et 136.102 (ou le 054.102). Donné seulement au Collège universitaire de Saint-Boniface.

002.229 Chemical Energetics and Dynamics: Macroscopic Descriptions (3)L Chemical energetics, entropy and the second law of thermodynamics, chemical dynamics. Not to be held with the former 002.230. *Prerequisites:* 002.131 (or the former 002.128), 016.103 (or 016.107), plus six credit hours of 100 level mathematics (preferably calculus) with the exception of 136.100, 136.101, 136.119 or 136.102 (or 054.102).

002.229F L'énergétique et la dynamique chimique: description macroscopique (3)L L'énergétique chimique, l'entropie et la deuxième loi de la thermodynamique, la dynamique chimique. On ne peut se faire créditer à la fois le 002.229 et l'ancien 002.230. *Préalables:* 002.131 (ou l'ancien 002.128), plus 016.103 ou 016.107, et 6 heures-crédits de niveau 100 en mathématiques (de préférence Calcul) exceptés 136.100, 136.101, 136.119, et 136.102 (ou le 054.102). Donné seulement au Collège universitaire de Saint-Boniface.

002.236 Biochemistry 1: Biomolecules and an Introduction to Metabolic Energy (3)L An introductory course dealing with kinds of molecules encountered in biochemistry, and the concept of metabolic energy as a product of catabolism and a requirement for biosynthesis. This course is also given in Microbiology as 060.236. Not to be held with 002.277 (or the former 002.240), or 060.236, or 060.277 (or the former 060.240), or with the former 002.235 or 060.235. *Prerequisites:* 002.131 (or the former 002.128) and 071.125, both courses with a minimum grade of "C." **NOTE: Students may hold this course for credit in the B.Sc. General degree program, but**

may not use it to fulfil the minimum requirement of 12 credit hours in 200 level Chemistry.

002.236F Biochimie 1: les molécules biochimiques et une introduction à l'énergie métabolique (3)L Une introduction aux différents types moléculaires rencontrés en biochimie ainsi qu'au concept d'énergie métabolique comme produit du catabolisme nécessaire à la biosynthèse. Ce cours est aussi offert par le Département de microbiologie sous la cote 060.236. On ne peut se faire créditer à la fois les 002.277 (ou l'ancien 002.240), ou le 060.236, ou le 060.277 (ou l'ancien 060.240), ou les anciens 002.235 ou 060.235. *Préalables:* une note de "C" dans le 002.131 (ou l'ancien 002.128) et le 071.125. **NOTE: On peut utiliser ce cours dans son Baccalauréat ès sciences général. Par contre, ce cours ne peut pas être utilisé pour satisfaire les exigences de 12 heures-crédits aux niveaux 200 et 300 en chimie.** Donné seulement au Collège universitaire de Saint-Boniface.

002.237 Biochemistry 2: Catabolism, Synthesis, and Information Pathways (3)L An introductory course dealing with the basic metabolic processes that occur in living cells, including the production and use of metabolic energy, the breakdown and synthesis of biomolecules; the synthesis of DNA, RNA and proteins; and the regulation of these processes. This course is also given in Microbiology as 060.237. Not to be held with 002.278 (or the former 002.240), or 060.237, or 060.278 (or the former 060.240), or with the former 002.235 or 060.235. *Prerequisites:* 002.236 (or 060.236) and 002.221 (or the former 002.220), both courses with a minimum grade of "C." **NOTE: Students may hold this course for credit in the B.Sc. General degree program, but may not use it to fulfil the minimum requirement of 12 credit hours in 200 level Chemistry.**

002.237F Biochimie 2: catabolisme, synthèse et les voies d'information (3)L Une introduction aux processus métaboliques cellulaires de base incluant la production et l'utilisation de l'énergie métabolique, la dégradation et la synthèse des molécules biochimiques, la synthèse de l'ADN, de l'ARN et des protéines et la régulation de ces processus. Ce cours est aussi offert par le Département de microbiologie sous la cote 060.237. On ne peut se faire créditer à la fois le 002.278 (ou l'ancien 002.240), ou le 060.237, ou le 060.278 (ou l'ancien 060.240), ou les anciens 002.235 ou 060.235. *Préalables:* une note de "C" dans le 002.236 (ou le 060.236) et le 002.221 (ou l'ancien 002.220). **NOTE: On peut utiliser ce cours dans son Baccalauréat ès sciences général. Par contre, ce cours ne peut pas être utilisé pour satisfaire les exigences de 12 heures-crédits aux niveaux 200 et 300 en chimie.** Donné seulement au Collège universitaire de Saint-Boniface.

002.238 Chemistry of the Main Group Elements (3)L Descriptive chemistry of the main group elements including explanation of their chemical and physical properties using current theories of structure and bonding. *Prerequisite:* 002.131 (or the former 002.128).

002.238F Chimie des éléments représentatifs (3)L Chimie descriptive des éléments représentatifs et interprétation de leurs propriétés physiques et chimiques d'après les théories habituelles de structure et de liaison. *Préalable:* 002.131 (ou l'ancien 002.128). Donné seulement au Collège universitaire de Saint-Boniface.

002.247 Introductory Analytical Chemistry (3)L An introduction to common laboratory techniques of chemical analysis including gravimetric, volumetric and selected instrumental methods. *Prerequisites:* 002.238 and three credit hours of Introductory Mathematical Sciences.

002.247F Introduction à la chimie analytique (3)L Une introduction aux techniques courantes de laboratoire en analyse chimique comprenant les méthodes gravimétriques, volumétriques et quelques autres méthodes instrumentales. *Préalables:* 002.238 et un cours de 3 heures-crédits de Mathématiques scientifiques de niveau 100. Donné seulement au Collège universitaire de Saint-Boniface.

002.255 Environmental Chemistry (3)L An introduction to the chemistry of the environment. Emphasis will be on the composition of the natural environment and the processes of natural and human-introduced chemical species that take place within it. The course will provide students with the chemical basis for understanding the environment and environmental problems. This course is also taught in Environmental Science as 128.255. *Prerequisite:* 002.131.

002.355 Environmental Analysis (3)L An introduction to classical and modern techniques for the sampling, sample pre-treatment, and analysis of chemical substances in aquatic, atmospheric and terrestrial environments and the interpretation of data obtained from such analyses. Not to be held with 002.347. This course is also taught in Environmental Science as 128.355. *Prerequisite:* 002.255 (128.255) (C) or permission of the instructor.

002.436 Signalling and Regulation of Gene Expression (3) The biochemistry of cell response to external stimuli, with emphasis on animals. Cell surface receptors and ligands; signalling to the nucleus; phosphorylation and proteolysis; transcription; gradients in cell patterning. *Prerequisite:* 002.237 (060.237) (or the former 002.235 (060.235)).

002.436F Signalisation et régulation de l'expression génétique (3) La biochimie de la réponse cellulaire aux stimuli externes, en mettant l'accent sur les animaux. Les récepteurs à la surface des cellules ainsi que les ligands, la signalisation au noyau, la phosphorylation et la protéolyse; la transcription; les gradients dans le typage cellulaire. *Préalable:* 002.237 (060.237) (ou l'ancien 002.235 (060.235)). Donné seulement au Collège universitaire de Saint-Boniface.

002.437 Glycobiology and Protein Activation (3) The role of carbohydrate containing biomolecules in biochemistry and their importance for understanding some genetic diseases. The importance of limited proteolysis in activation of biomolecules.

Not to be held with the former 002.449. *Prerequisite:* 002.237 (060.237) (or the former 002.235 (060.235)).

002.437F Glycobiologie et activation des protéines (3) Le rôle des biomolécules contenant des glucides en biochimie et leur importance dans la connaissance des maladies génétiques. L'importance de la protéolyse limitée dans l'activation des biomolécules. Un étudiant ou une étudiante ne peut se faire créditer à la fois le 002.436 et l'ancien 002.449. *Préalable:* 002.237 (060.237) (ou l'ancien 002.235 (060.235)). Donné seulement au Collège universitaire de Saint-Boniface.

002.455 Aquatic Chemistry (3) An examination of biogeochemical processes affecting the distribution, speciation and bioavailability of chemical substances in the aquatic environment. The theoretical basis for the chemical behaviour of natural water systems is discussed, as well as the description of processes involved in wastewater treatment. Offered in 2004-05 and in alternate years thereafter. This course is also taught in Environmental Science as 128.455. *Prerequisite:* A grade of 'C' in one of 002.347, 002.355 or 128.355 or permission of the instructor.

Honours and Four Year Major Courses

002.336 Elementary Quantum Chemistry and Molecular Bonding (3)L Elementary quantum chemistry and its applications to structure and bonding in molecules and solids. *Prerequisite:* 002.228 (or the former 002.230).

002.337 Symmetry, Spectroscopy and Structure (3)L Applications of symmetry in chemistry; molecular spectroscopy; structure of solids. *Prerequisite:* 002.228 (or the former 002.230).

002.338 Inorganic Chemistry (3)L A continuation of the chemistry of the elements, with emphasis on the transition metals. The laboratory will include preparation of inorganic compounds and their characterization by spectroscopic and chemical means. *Prerequisite:* 002.238.

002.339 Structural Transformations in Organic Chemistry (3)L An intermediate course dealing with the reactions of organic chemistry involving functional group transformations and carbon - carbon bond forming reactions. *Prerequisite:* 002.222 (or the former 002.220). 002.229 is recommended.

002.347 Instrumental Methods of Analysis (6)L A course designed to follow a classical analytical chemistry course; the theory and use of standard instruments are discussed. *Prerequisite:* 002.247. Not to be held with 128.355 or 002.355.

002.349 Introduction of Polymers (3) An introduction to the formation, structure, physical properties, and degradation of polymers. *Prerequisites:* 002.222 (or the former 002.220) and 002.229 (or the former 002.230).

002.358 Methods in Physical Organic Chemistry (3)L A course dealing with the application of physical chemical principles to organic reaction mechanisms. *Prerequisite:* 002.222 (or the former 002.220). *Corequisite:* 002.229 (or the former 002.230).

002.457 Topics in Inorganic Chemistry (3) A variety of topics from recent literature. *Prerequisite:* 002.338.

002.458 Topics in Organic Chemistry (3) Selected topics dealing with the structure and reactivity of organic compounds. *Prerequisite:* 002.339 or 002.358.

002.460 Advanced Chemical Techniques (3) A workshop course consisting of lectures, problem solving, and advanced instrumental techniques. The course is designed to train potential research students in techniques like NMR, mass spectroscopy, and chromatography. This course is required of all final year Honours students in Chemistry. *Prerequisite:* one of 002.336, 002.338, 002.339 or 002.358.

002.462 Biochemistry of Nucleic Acids (3) The structure of nucleic acids; synthesis and sequence determination; interaction with drugs and protein. *Prerequisite:* 002.237 (060.237) (or the former 002.235 (060.235)).

002.462F Biochimie des acides nucléiques (3) La structure des acides nucléiques; synthèse et détermination des séquences; interactions avec les protéines et les médicaments. *Préalable:* 002.237 (060.237) (ou l'ancien 002.235 (060.235)). Donné seulement au Collège universitaire de Saint-Boniface.

002.463 Biochemistry of Proteins (3) The structure and function of proteins, their physical and chemical properties and methods for studying them. *Prerequisite:* 002.237 (060.237) (or the former 002.235 (060.235)).

002.463F Biochimie des protéines (3) Les structures et fonctions des protéines, leurs propriétés physiques et chimiques et les méthodes utilisées pour les étudier. *Préalable:* 002.237 (060.237) (ou l'ancien 002.235 (060.235)). Donné seulement au Collège universitaire de Saint-Boniface.

002.464 Spectroscopy, Relaxation and Structure Not currently offered.

002.465 Molecular States and Processes (3) A course dealing with various aspects of molecular states and processes including student selected topics. *Prerequisite:* 002.337.

002.468 Organometallic Chemistry (3) Chemistry of organometallic compounds of the transition metals and representative elements. *Prerequisite:* 002.338.

002.469 Specific Methods in Organic Synthesis (3) Advanced methods and principles of organic synthesis of complex molecules. *Prerequisite:* 002.339.

002.470 Advanced Biochemistry Laboratory (3)L A laboratory and workshop consisting of lectures, problem solving, and advanced instrumental techniques such as magnetic resonance spectroscopy, mass spectrometry, circular dichroism, x-ray crystallography, fluorescence spectroscopy and computer analysis of protein sequences. This course is required for all final year Honours students in Biochemistry. *Corequisite:* concurrent registration in both 002.462 and 002.463.

002.471 Research Project in Chemistry or Biochemistry (6) A research project in any aspect of chemistry or biochemistry, chosen in consultation with the course administrator and an appropriate supervising faculty member. Written reports and oral presentation at the end of the project will be required. The course is normally available only to final year students in chemistry programs. Not to be held with 060.453. *Prerequisite:* Permission of the course administrator.

Service Courses

002.224 Applied Chemistry for Engineers (3) Bonding, surface chemistry, phase rule, electrochemistry, materials and descriptive inorganic chemistry of selected elements. *Prerequisite:* 002.130 (or the former 002.124 or 002.127).

002.277 Elements of Biochemistry 1 (3)L Basic concepts of biochemistry including the properties of biomolecules (amino acids and proteins, enzymes, carbohydrates, lipids, and nucleic acids) and aspects of energy production in cells. For students in Agricultural and Food Sciences, Human Ecology, and Botany or Zoology programs in Science. May not be used as part of an Honours, Major, General, or Minor program in Chemistry or in Microbiology. This course is also given in Microbiology as 060.277. Not to be held with 002.236 (060.236) (or the former 002.235, 002.240, 060.235) or 060.277 (or the former 060.240). *Prerequisites:* 002.131 or 002.132 (or the former 002.123 or 002.128), plus six credit hours of university level biological sciences.

002.278 Elements of Biochemistry 2 (3)L The continuation of 002.277 (060.277), dealing with nitrogen and lipid metabolism, representative biosynthetic pathways, and synthesis and importance of DNA, RNA and proteins. For students in Agricultural and Food Sciences, Human Ecology, and Botany or Zoology programs in Science. May not be used as part of an Honours, Major, General, or Minor program in Chemistry or Microbiology. This course is also given in Microbiology as 060.278. Not to be held with 002.237 (060.237) (or the former 002.235, 002.240, 060.235) or 060.278 (or the former 060.240). *Prerequisites:* 002.277 (060.277) or 002.236 (060.236).

4.7 Department of Computer Science

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4.7.1 Academic Staff

Distinguished Professor

Stanton, R.G., B.A.(Hons.) (Western), M.A., Ph.D. (Toronto), Cert.Ling.Port. (Rio de Janeiro), Hon.D.Sc. (Newcastle, NSW), F.S.S., F.I.M.A., Killam Laureate, Hon.D.Sc. (Queensland), Hon.D.Sc. (Natal), Hon.D.Math. (Waterloo).

Professors

Arnason, A.N., B.Sc., M.Math. (Waterloo), Ph.D. (Edinburgh); **Hoskins, J.A.**, B.E.S., M.Sc., Ph.D. (Manitoba); **King, P.R.**, B.Sc., Ph.D. (Nottingham), I.S.P.; **Kocay, W.L.**, B.Sc.(Hons.) (Manitoba), M.Math., Ph.D. (Waterloo); **Meek, D.S.**, B.Math. (Waterloo), M.Sc. (Toronto), Ph.D. (Manitoba); **Scuse, D.H.**, B.A. (York), M.Sc., Ph.D. (Manitoba); **van Rees, G.H.J.**, B.Math.,

M.Math., Ph.D. (Waterloo); **Walton, D.J.**, B.Sc.(Hons.) (South Africa), M.S.Math (Illinois), M.Sc., Ph.D. (Manitoba);

Associate Professors

Baltes, H., B.Sc., Ph.D (Calgary), **Bate, J.A.**, B.Sc.(Hons.), M.Sc., Ph.D. (Manitoba); **Cameron, H.A.**, B.Sc., M.Sc. (Manitoba), Ph.D. (Waterloo); **Ehikioya, S.**, B.Sc.(Hons.) (Benin), M.Sc. (Lagos), Ph.D. (Manitoba); **Graham, P.**, B.C.Sc.(Hons.), M.Sc., Ph.D. (Manitoba); **Laucht, C.M.**, B.Sc., M.Sc., Ph.D. (Manitoba);

Assistant Professors

Anderson, J.E., B.Sc.(Hons.), M.Sc., Ph.D. (Manitoba); **Eskicioglu, M.R.**, B.Sc. (Istanbul Technical), M.Sc. (Middle East Technical); **Irani, P.** B.Sc., Ph.D. (New Brunswick); **Kemke, C.**, B.Sc. (Dortmund), B.Sc. (Open U.), Ph.D.(Bielefeld); **Li, P.**, B.Sc.(Hons.), M.Sc., Ph.D. (Manitoba); **Thulasiram, R.**, B.Sc., M.Sc. (Madursi-Kamaraj), M.Sc., Ph.D. (Indian Inst. Of Science); **Thulasiraman, P.**, B.Eng., M.A.Sc. (Concordia), Ph.D. (McGill), Ph.D. (Delaware); **Toulouse, M.**, B.Comm. (Quebec), B.A. (Laval), M.Sc., Ph.D. (Montreal)

Instructors

Andres, T. B.Sc (Hon), M.Sc. (Manitoba), **Boyer**, G., B.Sc.(Hons.), M.Sc. (Manitoba) (Instructor I); **Hussain**, S., B.Sc. (Univ. of Engin & Tech., Lahore), M.Sc. (King Fahd Univ. of Petroleum & Minerals) (Instructor I); **Marshall**, A., B.C.Sc.(Hons.) (Manitoba), B.Ed. (Winnipeg) (Instructor I); **Penner**, C., B.Sc. (Manitoba) (Instructor I); **Zapp**, M. B.Sc., M.Sc. (Manitoba) (Instructor I).

4.7.2 Program Information

Computer technology continues to advance and computer applications are being applied in situations previously considered impossible. As new applications proliferate, opportunities for careers in computing will continue to be strong. Both the Major and the Honours programs offer a co-op option so students may combine education with employment experience.

The department must approve a student's Honour or Major program each session. Students must also obtain departmental approval for any and all revisions to their program.

The Computer Science Honours and Major programs, including the Coop programs, are accredited by the Computer Science Accreditation Council.

Honours

The Honours program in Computer Science at the University of Manitoba was the first Honours program in Canada to be given professional accreditation by the Canadian Information Processing Society. The program provides an opportunity to study the subject in greater depth than the other programs in Computer Science and leads to a Honours Bachelor of Computer Science degree (B.C.Sc.). In addition, this program gives professional preparation for careers in areas such as software engineering, system design or project management.

An outline of the Honours program is provided below. 136.170 or equivalent is strongly recommended as an option. Optional courses are selected in consultation with the department advisor.

To enter the Computer Science Honours program, a student must have a "B" in 074.102 and a "C" average in Mathematics 136.130 and 136.150 or any equivalent. In addition, a student is required to have no failures and 12.00 grade points on up to their first 30 credit hours. To continue in the Honours program, the student must, by the end of second year, receive a grade of "C" or better in 005.100. Students ineligible to enter after Year 1 can establish eligibility in Year 2, see Section 3.5 Entrance to Honours. For additional information on the second year entry route contact a program advisor.

To continue in the Honours program, i.e., to proceed from Year 2 to Year 3 and from Year 3 to Year 4, and to complete Year 4 of the Honours program successfully, a student must have a regular sessional Grade Point Average of 2.50, and in addition, must have a 3.00 cumulative Grade Point Average. Students who achieve less than a 2.50 sessional Grade Point Average in a Summer Session will be allowed to continue in the Honours program if they maintain a 3.00 cumulative Grade Point Average (including that Summer Session) and at least a 2.00 sessional Grade Point Average in the Summer Session.

To graduate with the Honours degree, a student must present a minimum grade of "C" in each of 074.208, 074.213, 074.214, 074.215, 074.222, 074.223, 074.303, 074.317, 074.335, 074.343 and 074.337 and each Computer Science Course that applies to the Computer Science component of their degree program.

Students can take at most 90 credit hours of computer science, statistics and mathematics courses. Outside of computer science and mathematics courses, students are encouraged to select courses such that their programmes include at least 15 credit hours of study in science, engineering, or business, and at least 9 credit hours of study in the humanities or social sciences.

Honours Cooperative Option

The first class of students graduated from the Cooperative program in October 1983. This program provides students with a total of 12 months of paid employment by the time they graduate. It enables them to obtain work experience with participating firms in Winnipeg as well as other parts of Canada. For example, students have, in the past, found employment in Calgary, Edmonton, Toronto, Vancouver and Ottawa, and they have found the program an invaluable preparation for their working lives.

Students interested in alternating employment terms and academic terms as part of their Honours Computer Science program may apply to enter the

Cooperative Option in their third year in Honours Computer Science. The course and grade requirements for entry to this option are the same as those required for entry to the regular Honours program, as indicated in the chart below.

Students should refer to the general faculty regulations for Cooperative Options in Section 3.6, especially for information on performance requirements.

Students should note that the course and grade requirements for the Cooperative Option are the same as that of the regular Honours program but the assessment of a Sessional Grade Point Average is computed differently. To continue in the Honours Cooperative program, i.e., to proceed from Year 3 to Year 4, and to complete Year 4 of the Honours Cooperative program successfully, a student must have a Grade Point Average of 2.50 on the combined 3A and 3B academic terms (24 credit hours) in Year 3 and on the combined 4A and 4B academic terms (24 credit hours) in Year 4, and in addition, must have a 3.00 cumulative Grade Point Average. An assessment of a student's sessional Grade Point Average will only take place if two academic terms containing a minimum of 24 credit hours have been completed since the last assessment. REMINDER: Students must complete at least 24 CH to remain in the Honours program.

To graduate with the Honours degree, a student must present a minimum grade of "C" in each of 074.208, 074.213, 074.214, 074.215, 074.222, 074.223, 074.303, 074.317, 074.343, 074.335 and 074.337 and each Computer Science course that applies to the Computer Science component of their degree program.

Students can take at most 90 credit hours of computer science, statistics and mathematics courses. Outside of computer science and mathematics courses, students are encouraged to select courses such that their programmes include at least 15 credit hours of study in science, engineering, or business, and at least 9 credit hours of study in the humanities or social sciences.

Students in this program will normally graduate following the completion of the Year 4 academic requirements in December, will receive their degree in February, and will be eligible to attend the May Convocation.

Employment term positions available to the students will be approved by the department, and the employers will select the students they wish to employ. Students will apply for openings in the Cooperative Option in September of their third year in the Honours program. They will be notified of their provisional acceptance in the program by October. Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Option if the demand for places exceeds the number of places available. The department reserves the right to determine and select the best qualified applicants.

The employment terms will be designed to provide students with the opportunity to acquire practical experience in a computer installation site and to acquire insight into areas of specialization within the computing field. Students can also typically earn enough to defray the cost of their university education.

Students are required to register in and pay fees for each employment term prior to the commencement of each employment term. Students will be required to submit an employment report upon the completion of each of their three employment terms.

Four Year Major

Refer to the chart below for entrance requirements to this program.

To continue in the Major program a student must have a minimum sessional Grade Point Average of 2.00. To graduate with the Major degree, a student must present a minimum grade of "C" in each of 5.100, 074.208, 074.213, 074.214, 074.215, 074.222, 074.223, 075.335, 074.343 and in each of the 24 credit hours of 300 and 400 level Computer Science courses that apply to the Computer Science component of their degree program.

Students who achieve less than a 2.00 sessional Grade Point Average in summer session will be allowed to continue in the Major program if they maintain a 2.00 cumulative Grade Point Average.

This program is suitable for those students interested in combining a fairly extensive program in Computer Science with broad coverage of another subject or subjects of their choice (Science or non-Science). The program offers greater scheduling flexibility, more relaxed entrance requirements, and a wider range for the inclusion of electives from other disciplines than the Honours program, but it is not considered to offer the same profession-

al training as the Honours program. Admission to graduate programs may be conditional upon completion of additional courses. Students intending to proceed to a master's degree from the four year Major program must consult with the department at the beginning of their second year of undergraduate study and in each subsequent year.

The student will be able to transfer to the Honours program at the end of the second year, provided that departmental and faculty requirements for the Honours program at that stage are satisfied.

Students, who at the end of University 1, are undecided between the four year Major program and the Honours program should note that the required courses in Year 2 Honours satisfy the requirements for both the Honours and Major programs. It is suggested that students with the necessary prerequisite standing in University 1 may wish to register in the courses listed for Year 2 of the Honours program, and thus keep both options open.

Students can take at most 90 credit hours of computer science, statistics and mathematics courses. Outside of computer science and mathematics courses, students are encouraged to select courses such that their programmes include at least 15 credit hours of study in science, engineering, or business, and at least 9 credit hours of study in the humanities or social sciences. Students may be allowed to take up to 48 credit hours of courses outside the Faculty of Science with departmental permission, despite the faculty maximum of 36 credit hours. The permission would typically be granted if a student is completing a minor outside of Science and may have completed a variety of electives outside the Faculty prior to declaring a minor in one department.

Four Year Major Cooperative Option

To continue in the Major program a student must have a cumulative Grade Point Average of 2.50. To graduate with the Major degree, a student must present a minimum grade of "C" in each of 5.100, 074.208, 074.213, 074.214, 074.215, 074.222, 074.223, 074.335, 074.343 and in each of the 24 credit hours of 300 and 400 level Computer Science courses that apply to the Computer Science component of their degree program.

Students can take at most 90 credit hours of computer science, statistics and mathematics courses. Outside of computer science and mathematics courses, students are encouraged to select courses such that their programmes include at least 15 credit hours of study in science, engineering, or business, and at least 9 credit hours of study in the humanities or social sciences. Students may be allowed to take up to 48 credit hours of courses outside the Faculty of Science with departmental permission, despite the faculty maximum of 36 credit hours. The permission would typically be granted if a student is completing a minor outside of Science and may have completed a variety of electives outside the Faculty prior to declaring a minor in one department.

This program provides students with a minimum of 12 months of paid employment by the time they graduate. It enables them to obtain work experience with participating firms in Winnipeg as well as other parts of Canada.

Students interested in alternating employment terms and academic terms as part of their four year Major program in Computer Science may apply to enter the Cooperative Option in their third year of the four year Major program in Computer Science. The course and grade requirements for entry to this option are the same as those required for entry to the regular four year Major program, as indicated in the chart above. Students should refer to the general faculty regulations for Cooperative Options in Section 3.4.

Students should note that the course and grade requirements for the Cooperative Option are the same as that for the regular Major program but the sessional and cumulative Grade Point Average assessments are different. Students in this program will normally graduate following the completion of the Year 4 academic requirements in December, will receive their degree in February, and will be eligible to attend the May Convocation.

Employment term positions available to the students will be approved by the department, and the employers will select the students they wish to employ. Students will apply for openings in the Cooperative Option in September of their third year in the Major program. They will be notified of their provisional acceptance in the program by October. Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Option if the demand for places exceeds the number of places available. The department reserves the right to determine and select the best qualified applicants.

The employment terms will be designed to provide students with the opportunity to acquire practical experience in a computer installation site and to acquire insight into areas of specialization within the computing field. Students can also typically earn enough to defray the cost of their university education.

Students are required to register in, and pay fees for, each employment term prior to the commencement of each employment term. Students will be required to submit an employment report upon the completion of each of their three employment terms.

Three Year General

As prescribed with all other faculty regulations in Section 3.2, students in this program must select 30 credit hours of 200 and (or) 300 level courses from **two** Science departments. To satisfy the requirement in the Computer Science department, students must select 074.214 and a minimum of nine credit hours from the 200 and (or) 300 level courses offered by the department.

Area Specializations

For students who wish to increase their specialization within certain areas of Computer Science, below are recommended courses for each area.

Numerical Computing

074.219, 074.312, 074.314, 074.349, 074.449, 074.453. Also, 136.170 is a useful option.

Computational Discrete Mathematics

074.312, 074.313, 074.414, 074.422, 074.427, 074.434.

Theoretical Computer Science

Especially recommended: 074.422, 074.430, 074.431, 074.434, 074.442. The following courses are also recommended: 074.312, 074.313, 074.414.

Artificial Intelligence

074.319, 074.344, 074.419, one or both of 074.420, 074.436. Related courses: 074.312, 074.335, 074.338, 074.362, 074.442.

Computer Systems

074.309, 074.337, 074.343, 074.430, 074.451. Related courses: 074.329, 074.338, 074.429, 074.438, 074.453.

Human Interfaces

074.219, 074.302, 074.349, 074.402. Related courses: 074.338, 074.362, 074.449.

Software Engineering

074.216, 074.301, 074.302, 074.304, 074.335, 074.337, 074.338, 074.362, 074.405, and one of 074.435, 074.438, 074.402, 074.456.

4.7.3 Computer Science, Department Code: 074

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
HONOURS ^{4,5,8} 120 CREDIT HOURS			
074.101 and 074.102 (B) Plus 136.130 ¹ and 136.150 ¹ , with a (C) average	074.208, 074.213, 074.214, 074.215, 074.222, 074.223	074.303, 074.317, 074.335, 074.337, 074.343 Plus 3 credit hours of 300 level Computer Science courses	21 credit hours of 400 level Computer Science courses

program requirements continued next page

In University 1 or Year 2 the following must be completed:

005.100 (C)²

6 credit hours from the Faculty of Arts, which should include the required "W" course.

30 Hours	30 Hours	30 Hours	30 Hours
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HONOURS COOPERATIVE OPTION ^{3,4,5,8} 120 CREDIT HOURS

074.101 and 074.102(B) 136.130 ¹ and 136.150 ¹ , with a (C) average	074.208, 074.213, 074.214, 074.215, 074.222, 074.223	074.303, 074.317, 074.335, 074.337, 074.343 Plus 3 credit hours of 300 level Computer Science courses	21 credit hours of 400 level Computer Science courses
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In University 1 or Year 2 the following must be completed:

005.100 (C)²

6 credit hours from the Faculty of Arts, which should include the required "W" course.

074.298, 074.398, 074.498 must be completed prior to the last academic term

30 Hours	30 Hours	30 Hours	30 Hours
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FOUR YEAR MAJOR ^{4,5,7,8} 120 CREDIT HOURS

074.101 and 074.102(C+) 136.130 ¹ and 136.150 ^{1,4} with a (C) average	074.208, 074.213, 074.214, 074.215, 074.222, 074.223	074.335, 074.343 Plus 24 credit hours of 300 or 400 level Computer Science courses of which 6 credit hours must be at the 400 level Plus 9 credit hours approved by the department ⁸	
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In University 1 or Year 2 the following must be completed:

005.100(C)

6 credit hours from the Faculty of Arts, which should include the required "W" course.

MAJOR COOPERATIVE OPTION ^{3,4,5,7,8} 120 CREDIT HOURS

074.101 and 074.102(C+) Plus 136.130 ¹ and 136.150 ¹ , with a (C) average ⁴	074.208, 074.213, 074.214, 074.215, 074.222, 074.223	074.335, 074.343 Plus 24 credit hours of 300 or 400 level Computer Science courses of which 6 credit hours must be at the 400 level 074.298, 074.398, 074.498 must be completed prior to the last academic term Plus 9 credit hours approved by the department ⁸	
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In University 1 or Year 2 the following must be completed:

005.100 (C)

6 credit hours from the Faculty of Arts, which should include the required "W" course.

THREE YEAR GENERAL

074.101 and 074.102 ⁶	074.214 Plus a minimum of 9 credit hours from 200 and (or) 300 level Computer Science courses
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MINOR

074.101 and 074.102 ⁶	074.214 Plus a minimum of 9 credit hours from 200 and (or) 300 level Computer Science courses
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NOTES:

¹ 136.131 may be taken in place of 136.130; 136.151, 136.152, 136.153 or 136.169 may be taken in place of 136.150.

² It is recommended that 005.200 be taken as an elective.

³ Entry to the Honours Cooperative Option and four year Major Cooperative Option is in third year. Employment terms follow 3A (September-December), 3B (May-August) and 4A (January-April). Students in the Cooperative Option must complete three employment terms and receive a passing grade in 074.298, 074.398 and 074.498 prior to the last academic term.

⁴ The courses required in this program will satisfy the university mathematics requirement.

⁵ Additional information on how students may select their courses can be found at the beginning of this section.

⁶ Note that 074.102 has a corequisite requirement of 136.130¹ and 136.150¹.

⁷ IMPORTANT: The four year Major need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program. Students in the Cooperative Option should be aware that while other arrangements are possible, they may jeopardize their chances of obtaining employment by selecting such arrangements. Students should discuss their planned sequence of courses with the department prior to making adjustments to the sequence above.

⁸ IMPORTANT: at most 90 credit hours of computer science, statistics and mathematics courses can be included in a majors or honours program.

(Letters in brackets indicate minimum prerequisite standing for further study.)

4.7.4 Computer Science - Mathematics Joint Program, Department Code: 074M

The departments of Computer Science and Mathematics offer a joint Honours program for in-depth study in both Computer Science and Mathematics.

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
JOINT HONOURS² 120 CREDIT HOURS			
074.101 and 074.102(B), 136.130 ¹ (B), 136.169 (B), (or 136.150 ¹ and 136.170 ¹ (B)), 005.100(C)	074.208 ⁴ , 074.214, 074.222, 074.223, 136.220, 136.235, 136.275 plus one of 136.260 or 136.280	074.303, 074.317, 074.337, 074.343, 074.430, 074.431 (or 074.442) Two of 074.329, 074.335, 074.338 One of 074.429, 074.435, 074.438	Plus an additional 3 credit hours of 300 or 400 level Computer Science ⁶ 136.375 or 136.376, 136.335 (or 136.330 and 136.331), 136.340, which ever of 136.260 or 136.280 not yet taken Plus 12 credit hours of 300 or 400 level Mathematics courses, of which 3 credit hours must be at the 400 level
30 Hours	30 Hours	30 Hours	30 Hours
JOINT HONOURS COOPERATIVE OPTION² 120 CREDIT HOURS			
	074.208 ⁴ , 074.214, 074.222, 074.223, 074.298 ³ , 136.220, 136.235, 136.275 plus one of 136.260 or 136.280	074.101 and 074.102 (B), 136.130 ¹ (B), 136.169 (B), (or 136.150 ¹ and 136.170 ¹ (B), 005.100 (C) Plus 6 credit hours from the Faculty of Arts, which should include the re- quired "W" course ³	
30 Hours	30 Hours	30 Hours	30 Hours

NOTES:

¹ It is suggested that 136.153 be taken in place of 136.150; any of 136.151, 136.152, 136.153, or 136.169 may be taken in place of 136.150; 136.131 may be taken in place of 136.130; 136.171 or 136.173 may be taken in place of 136.170.

² The courses required in this program will satisfy the university mathematics requirement.

³ As there are no electives in Year 2 of the program, students should complete the written English requirement in University 1. If not completed in University 1, a "W" course must be completed prior to Year 3 in addition to the required Year 2 courses.

⁴ Students in this program will not take 074.213 or 074.313. 074.213 is waived as a prerequisite for students in this program.

⁵ The work terms 074.298, 074.398 and 074.498 will be completed in the summers following Year 2, Year 3 and Year 4, respectively.

⁶ Students who plan a master's degree in Computer Science or Mathematics should take suitable 400 level courses in the appropriate department.

(Letters in brackets indicate minimum prerequisite standing for further study.)

4.7.5 Computer Science – Physics & Astronomy Joint Program

(Subject to approval of the Council on Post-Secondary Education)

The departments of Computer Science and Physics & Astronomy offer a joint Honours program for in-depth study in both Computer Science and Physics & Astronomy.

To enter the Joint Honours Computer Science-Physics program, the student must have a minimum grade of "B" in each of 016.105 (or "B+" in 016.102), 016.107, 136.130, 136.153, 136.173 (or any equivalent), 074.101 and 074.102.

To graduate with the Honour degree, a student must present a minimum grade of "C" in each of 074.208, 074.213, 074.214, 074.219, 074.222, 074.317, 074.343, 016.226, 016.237, 016.250, 016.260, 016.261, 016.265, 016.341, 016.370 and each Computer Science and Physics & Astronomy course that applies to the Computer Science and Physics & Astronomy component of their degree program.

The department must approve a student's Honour or Major program each session. Students must also obtain departmental approval for any and all revisions to their program.

4.7.6 Computer Science – Physics & Astronomy Joint Program Department Code: 074P

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
JOINT HONOURS¹ 120 CREDIT HOURS			
016.105 (B) (or 016.102 (B+)) and 016.107 ² (B), 136.130 ³ (B), 136.153 ³ (B), 136.173 ³ (B), 074.101, 074.102 (B) Plus 6 credit hours from the Faculty of Arts, which must include the required "W" course ⁴ Plus 3 credit hours of electives	016.226, 016.237, 016.250, 016.265 ⁵ , 074.208, 074.213, 074.214, 074.219, 074.222	016.260, 016.261, 016.341, 016.370, 074.317, 074.343 Plus 9 credit hours of 300 and 400 level courses from Computer Science	15 credit hours of 300 and 400 level Honours Physics courses, with at least 6 credit hours at the 400 level Plus 12 credit hours of 300 or 400 level courses from Computer Science, with at least 9 credit hours at the 400 level by the end of Year 4 Plus 3 credit hours of electives
30 Hours	30 Hours	30 Hours	30 Hours

NOTES:

¹ The courses required in this program will satisfy the University mathematics requirement.

² 016.103 is not suitable for entry to the Honours and four year Major program. Students must also take 016.107 if they have already taken 016.103. Students can hold credit for both 016.103 and 016.107.

³ 136.131 may be taken in place of 136.130; 136.150, 136.151 or 136.152 may be taken in place of 136.153; 136.170 or 136.171 may be taken in place of 136.173; 136.169 may be taken in place of 136.153 and 136.173.

⁴ As there are no electives in Year 2 of the program, students should complete the University written English requirement in University 1. If not completed in University 1, a "W" course must be completed prior to Year 3 in addition to the required Year 2 courses.

⁵ The corequisite of 136.270 is waived for students in this program.

4.7.7 Computer Science Course Descriptions

To fulfil prerequisite requirements, a grade of "C" must be achieved for any course stipulated as a prerequisite to a further course in Computer Science.

All courses are not offered every year. The course schedule for the current academic session is published in the *Registration Guide*.

074.101 Introductory Computer Science 1 (3)L An introduction to computer programming using a procedural high level language. Not to be held with the former 074.112, 074.121, 074.123, or 074.125.

074.101F Introduction à l'informatique 1 (3)L Introduction à la programmation par un langage procédural évolué. On ne peut se faire créditer plus d'un cours parmi les suivants: les anciens 074.112, 074.121, 074.123 ou 074.125. Donné seulement au Collège universitaire de Saint-Boniface.

074.102 Introductory Computer Science 2 (3)L More features of a procedural language, elements of programming. Not to be held with the former 074.121, 074.123 or 074.125. *Prerequisite:* 074.101. *Corequisites:* One of 136.130 or 136.131 (or the former 010.114 or 013.146), and one of 136.150, 136.151, 136.152, 136.153 or 136.169 (or the former 006.125, 010.115, 013.139, 013.159).

074.102F Introduction à l'informatique 2 (3)L D'autres caractéristiques d'un langage procédural, les éléments de la programmation. On ne peut se faire créditer plus d'un des cours suivants: les anciens 074.121, 074.123 ou 074.125. *Préalable:* 074.101. *Concomitants:* Un de 136.130 ou 136.131 (ou les anciens 010.114 ou 013.146), et un de 136.150, 136.151, 136.152, 136.153 ou 136.169 (ou les anciens 006.125, 010.115, 013.139, ou 013.159). Donné seulement au Collège universitaire de Saint-Boniface.

074.126 Introductory Computer Usage 1 (3)L This course offers an introduction to modern computer services. Areas covered will include word processing, spreadsheets, data management systems and graphics. No prior computer knowledge is necessary. May not be taken within the Computer Science Honours or Major program.

074.126F Introduction aux services informatiques modernes 1 (3)L Entre autres, l'accent est mis sur le traitement de texte, les chiffriers, les systèmes pour la gestion de données et le traitement graphique. Ce cours ne demande aucune connaissance préalable en informatique. On inscrit à un programme de majeure ou de spécialisation en Informatique ne peut s'inscrire à ce cours. Donné seulement au Collège universitaire de Saint-Boniface.

074.127 Introductory Computer Usage 2 (3)L This course continues the material from 074.126. It will also explore program concepts by having the students create elementary interactive programs. May not be taken within the Computer Science Honours or Major program. *Prerequisite:* 074.126 or consent of department.

074.127F Introduction aux services informatiques modernes 2 (3)L La suite du cours 074.126. Une attention particulière sera portée aux concepts de la programmation où l'étudiant sera appelé à créer des programmes interactifs élémentaires. On inscrit à un programme de majeure ou de spécialisation en Informatique ne peut s'inscrire à ce cours. *Préalable:* 074.126 ou le consentement du département. Donné seulement au Collège universitaire de Saint-Boniface.

074.206F Structures discrètes et programmation (6)L Introduction aux éléments de la représentation, de l'organisation et de la manipulation des données dans les systèmes informatisés. Méthodes permettant de concevoir et d'utiliser des logiciels d'envergure. On ne peut se faire créditer à la fois le 074.206 et le 074.214. *Préalables:* 074.102 (ou l'ancien 074.123), un de 136.130 ou 136.131 (ou les anciens 010.114 ou 013.146), et un de 136.150, 136.151, 136.152, 136.153 ou 136.169 (ou les anciens 006.125, 010.115, 013.139 ou le 013.159). Donné seulement au Collège universitaire de Saint-Boniface.

074.208 Analysis of Algorithms (3) Methods of analyzing the time and space requirements of algorithms. Average case and worst case analysis. Models of computation. *Prerequisites:* 074.213 and 074.214 (or the former 074.206) or 074.206F. 005.100 (or the former 005.101 or 005.221) is strongly recommended.

074.213 Discrete Mathematics for Computer Science (3) An introduction to the set theory, logic, integers, combinatorics and functions for today's computer scientists. *Prerequisites:* 074.102 (or the former 074.123), and a "C" average in one of 136.130 or 136.131 (or the former 010.114 or 013.146) and one of 136.150, 136.151, 136.152, 136.153 or 136.169 (or the former 006.125, 010.115, 013.139, or 013.159).

074.214 Data Structures and Algorithms (3)L Introduction to the representation and manipulation of data structures. Topics will include lists, stacks, queues, trees, and graphs. Not to be held with 074.206F or the former 074.206. *Prerequisites:* 074.102 (or the former 074.123), and a "C" average in one of 136.130 or 136.131 (or the former 013.146) and one of 136.150, 136.151, 136.152, 136.153 or 136.169 (or the former 006.125, 013.139, or 013.159).

074.215 Object Orientation (3)L Design and development of object-oriented software. Topics will include inheritance, polymorphism, data abstraction and encapsulation. Examples will be drawn from several programming languages. Not to be held with the former 074.227. *Prerequisite:* 074.214 (or the former 074.206) or 074.206F.

074.216 Programming Practices (3)L Introduction to issues involved in "real-world" computing. Topics will include memory management, debugging, compilation, performance, and good programming practices. Not to be held with the former 074.225. *Prerequisite:* 074.214 (or the former 074.206) or 074.206F.

074.219 Introduction to Scientific Computing (3) An applied computational course introducing topics such as approximation by polynomials, solution of non-linear equations, linear systems, simulation and computational geometry. *Prerequisites:* 074.102 (or the former 074.123), and one of 136.150, 136.151, 136.152, 136.153 or 136.169 (or the former 006.125, 010.115, 013.139, 013.159). *Corequisite:* One of 136.130 or 136.131 (or the former 010.114 or 013.146).

074.219F Introduction au calcul scientifique (3) Un cours en informatique appliquée introduisant des concepts tels que l'approximation par polynômes, la résolution d'équations non linéaires, les systèmes linéaires, la simulation et la géométrie analytique. *Préalables:* 074.102 (ou l'ancien 074.123, et un de 136.150, 136.151, 136.152, 136.153 ou 136.169 (ou les anciens 006.125, 010.115, 013.139, ou 013.159). *Concomitants:* Un de 136.130 ou 136.131 (ou les anciens 010.114 ou 013.146). Donné seulement au Collège universitaire de Saint-Boniface.

074.222 Introduction to Assembler Language Programming (3)L Programming at the machine language and assembler language level. A comparison of several contrasting computer architectures and their effect on programming. Not to be held with the former 074.240. *Prerequisite:* 074.214 (or the former 074.206) or 074.206F.

074.223 Introduction to Digital Logic (3)L An introduction to design and construction of digital logic circuits. Combinatorial circuits, sequential circuits, state machines, data buses, memories, and simple computer architecture. Not to be held with 074.222 or the former 074.240. *Prerequisite:* 074.102 (or the former 074.123).

074.226F Concepts appliqués en informatique (3)L Une discussion de plusieurs applications importantes des ordinateurs. Entre autres, l'attention sera portée à l'édition assistée par ordinateur, les réseaux et la communication. Ce cours n'est pas disponible aux étudiants qui auraient préalablement obtenu des crédits ou qui sont concurremment inscrits dans un des cours suivants: 074.101, 074.102, ou les anciens 074.111, 074.112, 074.121, 074.123 ou 074.125. *Préalable:* 074.126 ou le consentement du département. Donné seulement au Collège universitaire de Saint-Boniface.

074.298 Workterm 1 (0) Work assignment in business, industry, or government for students registered in the Computer Science Cooperative Option. Requires submission of a written report covering the work completed during the four-month professional assignment. (Pass/Fail)

074.301 Distributed Computing (3) Introduction to distributed computing. Topics include task models, server-side computing, database connectivity, information sharing. *Prerequisite:* 074.214 (or the former 074.206) or 074.206F.

074.302 Human-Computer Interaction 1 (3) Human-computer interaction: human factors and usability, user-centered design, prototyping, usability evaluation. Not to be held with the former 074.371. *Prerequisite:* 074.214 (or the former 074.206) or 074.206F. A course in cognitive psychology (such as 017.248) is recommended.

074.303 Automata Theory and Formal Languages (3) An introduction to automata theory, grammars, formal languages and their applications. Topics: finite automata, regular expressions and their properties; context-free grammars, pushdown automata and properties of context-free languages; turing machines. Applications: lexical analysis, text editing, machine design, syntax analysis, parser generation. Not to be held with the former 074.327. *Prerequisites:* 074.214 (or the former 074.206) or 074.206F, and 074.208.

074.304 Technical Communication in Computer Science (3) This course is designed to help students become more effective and confident writers in the context of the computing profession. Students will be introduced to a broad range of written and oral presentation styles used in the computing workplace. *Prerequisite:* Students must be enrolled in third year (or higher) of a majors or honours programme in the Department of Computer Science.

074.309 Digital Logic 2 (3) Design and implementation of digital circuits. Minimization and state reduction, asynchronous circuits, arithmetic circuits, implementation using modern hardware techniques. Not to be held with the former 074.342, 074.447 or 074.422. *Prerequisite:* 074.223 (or the former 074.240).

074.312 Computational Linear Algebra (3) Methods of computational linear algebra such as linear spaces, determinants, algorithms for bases, algorithms for eigenvalues and eigenvectors. Not to be held with the former 074.389. *Prerequisite:* 074.213.

074.313 Discrete Math 2

074.442 Advanced Design and Analysis of Algorithms (3) Algorithm design with emphasis on formal techniques in analysis and proof of correctness. Computational geometry, pattern matching, scheduling, numeric algorithms, probabilistic algorithms, approximation algorithms and other topics. *Prerequisites:* 074.317 and 005.100 (or the former 005.101).

074.449 Computer Graphics 2 (3) Methods in computer graphics including topics such as representation of curves and surfaces, viewing in three dimensions, and colour models. *Prerequisite:* 074.349.

074.451 Introduction to Parallel Computation (3)L An overview of the architectures of current parallel processors and the techniques used to program them. Not to be held with the former 024.446. *Prerequisites:* 074.337 and 074.343.

074.452 Undergraduate Honours Project (3) A research based project on a specific area of computer science. Students must find a faculty supervisor and write a proposal in their penultimate term. If acceptable, the defined research is to be carried out in the student's final term. Permission to take the course is given on an individual basis. Available to Year 4 students only. *Prerequisite:* Departmental permission.

074.453 Introduction to Simulation and Model Building (3) Representation of systems by deterministic and stochastic models. Algorithms, data structures, and high-

level languages for model manipulation and performance measurement. Methods for random number and variate generation. Not to be held with the former 074.423 or 024.447. *Prerequisites:* 074.214 (or the former 074.206) or 074.206F, 005.100 (or the former 005.101 or 005.221) and one of 136.169, 136.170, 136.171 or 136.173 (or the former 006.126, 013.149, or 013.159).

074.455 Real-Time Systems (3) An introduction to the theory and practice of real-time systems. Topics include the design of real-time systems, scheduling, event based processing, and real-time control. *Prerequisites:* 074.343 and 074.337.

074.456 Industrial Project (3) Students will work in teams on an industrial project. Projects are supplied by the Department. *Prerequisites:* 074.335 and Departmental permission.

074.458 Computer Security (3) Computer security and information management. This course will examine state-of-the-art knowledge about the issues relevant to data and computer security. *Prerequisite:* 074.343.

074.498 Workterm 3 (0) Work assignment in business, industry, or government for students registered in the Computer Science Cooperative Option. Requires submission of a written report covering the work completed during the four-month professional assignment. (Pass/Fail). *Prerequisite:* 074.398.

4.8 Ecology Program

Program Coordinator: Isobel Waters

Program Office: 318 Buller Building

Telephone: 204 474 8739

Website: umanitoba.ca/science/ecology

E-mail: waters@cc.umanitoba.ca

4.8.1. Program Information

The departments of Botany and Zoology offer a joint Honours program and a joint four year Major in Ecology. The programs involve scientific examinations of the interactions among living organisms and with their environment as individuals, as members of a population, and as components in an ecosystem. Students can combine an interest in living organisms with field studies. The Honours program gives students the opportunity to do independent ecological research, while the Major program offers a coop option combining education with employment experience.

Ecology Program Prerequisite Information

Though normally a prerequisite for all Zoology and some Botany courses, 071.125 may be waived under special circumstances at the discretion of the department head. Students who qualify should contact the department head to arrange for substitutions for 071.125. However, students seeking admission to professional faculties which require 071.125 (such as Dentistry, Pharmacy, Optometry, Veterinary Science) will not be eligible for admission to those faculties without credit in 071.125.

Students registering for 300 and 400 level Botany courses in which prerequisites are not specified must have completed two years in a university program or have written permission of the department head.

The program must approve a student's Honour or Major program each session. Students must also obtain approval for any and all revisions to their program.

Honours

To enter the Honours program, students must have a "B" in 071.125 or 002.131 and not less than "C+" in the other course. In addition, all other faculty requirements for entry to the Honours program must be satisfied. If 071.125 has been waived (see above), then the entrance requirement will be 002.131 and the replacement for 071.125, with a "B" standing in either course and not less than a "C+" in the other. Statistics 005.100 and the 3 credit hours of specified Mathematics of Physics courses can be completed in University 1 or Year 2.

To continue in the Honours program, i.e., to proceed from Year 2 to Year 3 and Year 3 to Year 4, a student must have a sessional Grade Point Average of 2.50, with no failures, and in addition, must have a 3.00 average on all Botany and Zoology courses during that session and a grade of "C+" or better in each Botany and Zoology course. Individual courses may be designated in which a grade of "B" or better is required.

In Year 4, in order to graduate with an Honours degree, a student must obtain a Grade Point Average of 3.00 or better on the year's work, with no failures, and must have a grade of "C+" or better in all Botany and Zoology courses.

Four Year Major

To enter the four year Major program, a student must have a "C+" in either 071.125 or 002.131 and not less than a "C" in the other course. In addition, all other faculty requirements for entry to the four year Major program must be satisfied. If 071.125 has been waived (see above), then the entrance requirement will be 002.131 and the replacement for 071.125, with a "C+" standing in either course and not less than a "C" in the other. Statistics 005.100 and the 3 credit hours of specified Mathematics of Physics courses can be completed in University 1 or Year 2.

Students who so wish, and who have an appropriate standing and course selection may transfer to the Honours program at any time up to the commencement of Year 4.

Four Year Major Cooperative Option

To be eligible to enter the Cooperative Option, students must have met the requirements for entry to the program and have successfully completed 60 credit hours including the following courses: 071.125, 002.130, 002.131, 005.100, 005.200, 001.201, 001.202, 001.237 (022.237 or 065.237), 022.232, 022.260 and 3 credit hours from 136.120, 136.130, 136.150, 016.102 or 016.105 or any equivalent.

Entry into the Cooperative Option is competitive and may be based on academic performance. Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Option if the demand for places exceeds the number of places available. Acceptance into the program is dependent upon the student receiving a job placement through the cooperative option coordinator. Students will be required to submit work reports upon the completion of each employment term. In order to stay in the Cooperative program, a student must obtain a grade of "pass" for each work term report. Students must register in and pay fees for the appropriate employment term course prior to the commencement of that employment term. Students may complete four work terms but must complete a minimum of three. Work terms may commence in the winter term of Year 3.

First work term	001.398/022.398
Second work term	001.399/022.399
Third work term	001.498/022.498
Fourth work term	001.499/022.499

The summer after Year 2 may be used to clear academic deficiencies or for additional employment purposes.

Students should refer to the general faculty regulations for Cooperative Options in Section 3.4.

4.8.2 Ecology Program, Department Code: 001E

UNIVERSITY 1

YEAR 2

YEAR 3

YEAR 4

JOINT HONOURS⁴ 120 CREDIT HOURS

071.125, 002.130, 002.131

001.201, 001.202, 001.237
(022.237 or 065.237)², 001.246,
022.228, 022.232, 022.260001.301 or 022.354³, 001.307,
022.375

001.413 or 022.400

Either: 002.277 and 002.278
(060.277 and 060.278); or
002.221 plus 002.236 and
002.237 (060.236 and 060.237)

In University 1 or Year 2 the following must be completed:

3 credit hours of Mathematics or Physics from 136.120, 136.130¹,
136.150¹,

016.102 or 016.105,

005.100 and 005.200,

6 credit hours from the Faculty of Arts, which should include the required
"W" course.Plus 001.342 (022.345), 001.354, and 022.348 which may be taken in
Year 3 or 4Plus additional courses from the approved option list for a total of 30 credit hours in each of Year 2, 3 and 4.
Included in these additional courses must be a minimum of 12 credit hours at the 400 level in Botany and/or
Zoology in Year 3 or 4

30 Hours

30 Hours

30 Hours

30 Hours

JOINT FOUR YEAR MAJOR^{4,5} 120 CREDIT HOURS

071.125, 002.130, 002.131

001.201, 001.202, 001.237,
(022.237 or 065.237)², 001.246,
022.228, 022.232, 022.260001.301 or 022.354³, 001.307Plus 001.342 (022.345), 001.354 and 022.348 which may be taken in
Year 3 or 4

In University 1 or Year 2 the following must be completed:

3 credit hours of Mathematics or Physics from 136.120, 136.130¹,
136.150¹,

016.102 or 016.105,

005.100 and 005.200 ,

6 credit hours from the Faculty of Arts which should include the required
"W" course.Either: 002.277 and 002.278 (060.277 and 060.278); or 002.221 plus 002.236 and 002.237 (060.236 and
060.237);Plus an additional 30 credit hours to be chosen from the approved option list, a minimum of 12 credit hours of
which must be at the 400 level in Botany and/or Zoology**JOINT FOUR YEAR MAJOR^{4,5} COOPERATIVE OPTION 120 CREDIT HOURS**

071.125, 002.130, 002.131

001.201, 001.202, 001.237
(022.237 or 065.237)², 001.246,
022.228, 022.232, 022.260001.301 or 022.354³, 001.307,
001.398/ 022.398, 001.399/
022.399001.498/022.498, 001.499/
022.499

In University 1 or Year 2 the following must be completed:

3 credit hours of Mathematics or Physics from 136.120, 136.130¹,
136.150¹,

016.102 or 016.105

005.100 and 005.200

6 credit hours from the Faculty of Arts which could include the required
"W" course.Plus 001.342 (022.345), 001.354 and 022.348 which may be taken in
Year 3 or 4*program requirements continued next page*

Either: 002.277 and 002.278 (060.277 and 060.278); or 002.221 plus 002.236 and 002.237 (060.236 and 060.237);

Plus an additional 30 credit hours to be chosen from the approved option list, a minimum of 12 credit hours of which must be at the 400 level in Botany and/or Zoology

MINOR

001.237 (or 022.237 or 065.237), 001.354 and 022.348

Plus a minimum of 9 credit hours from the following list: 001.211, 001.221, 001.229, 001.301, 001.307, 001.325, 001.326, 001.342, 001.358, 001.401, 001.402, 001.405, 001.465, 022.310, 022.338, 022.345, 022.350, 022.354, 022.358, 022.361, 022.420, 022.421, 022.422, 022.423, 022.424, 022.425, 022.428, 022.484, 022.488.

NOTE: 071.125, 001.201, 001.202, 001.211, 001.301 (or 039.350), 002.131, 002.132, 002.221, 002.237 (or 002.278), 005.100, 005.200, 022.232, 022.253, 022.260, 022.310, 022.353 and 022.375 are listed as prerequisites for some courses.

NOTES:

¹ 136.151, 136.152, 136.153, 136.168 or 136.169 may be taken in place of 136.150; 136.131 may be taken in place of 136.130.

² 001.237 (022.237 or 065.237) has 005.100 as corequisite.

³ For students who completed 022.253 and 022.254 before entering the Honours or four year Major program, the 022.354 requirement will be waived if they received a minimum grade of "B" in 022.254 and complete and pass the laboratory component of 022.354.

⁴ The courses in this program will satisfy the university mathematics requirement.

⁵ IMPORTANT: The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program.

Approved Option List

The approved optional courses for both the four year Major and Honours programs are:

001.211, 001.218, 001.221, 001.229, 001.320, 001.322, 001.325, 001.326, 001.358, 001.401, 001.402, 001.404, 001.405, 001.412, 001.465, 001.480, 001.488, 002.238, 002.247, 002.255, 002.355, 002.455, 005.312, 005.313, 007.239, 007.331, 007.431, 007.463, 022.215, 022.218, 022.310, 022.338, 022.346, 022.350, 022.358, 022.361, 022.417, 022.420, 022.421, 022.422, 022.423, 022.424, 022.425, 022.428, 022.471, 022.472, 022.480, 022.481, 022.482, 022.484, 022.488, 038.205, 038.425, 038.428, 038.436, 038.450, 038.452, 038.454, 039.354, 039.427, 039.436, 039.441, 040.306, 040.350, 040.351, 040.406, 040.409, 040.412, 040.413, 040.450,

040.451, 040.454, 053.373, 060.210, 060.211, 060.223, 060.228, 060.344, 060.348, 060.432, 065.218, 065.250, 128.218, 128.255, 128.311, 128.325, 128.411, 128.455.

The following courses are optional for the four year Major program: 022.375 and 022.400.

001.460 and 022.411 are only available to Honours Ecology students.

Other courses not on the option list may be selected with the approval of the program coordinator.

By an appropriate selection of courses from this list, students can obtain a particular program emphasis in either terrestrial or aquatic ecological systems.

4.9 Environmental Science Program

Program Director: Norman R. Hunter

Program Office: 231 Machray Hall

Telephone: 204 474 9897

Website: umanitoba.ca/science/esp/

E-mail: environmental_science@umanitoba.ca

4.9.1 Program Information

Starting September 2003, the newly formed Faculty of Environment offers interdisciplinary programs leading to a B.Env.Sc. and B.Env.St. The Faculty of Science will permit students already registered in the B.Sc. Major degree in Environmental Science to complete their degree in the Faculty of Science. Students completing their degree in Science would normally do so no later than the 2007 - 2008 Regular Session.

No new students will be admitted to the Faculty of Science Environmental Science program after the 2003 Summer Session. Students may transfer to the new Faculty of Environment and complete the new degree requirements if they choose. See Faculty of Environment section for further information.

Program Note (For continuing students only)

Students in the B.Sc. program must complete a minimum of 60 credit hours of courses offered by the Faculty of Science or Faculty of Environment (code 128). Students who convert to another program are required to satisfy the requirements of that new program; for Science programs, students are generally required to take a minimum of 84 credit hours in the Faculty of Science.

The program administrator must approve a student's Honour or Major program each session. Students must also obtain approval for any and all revisions to their program.

Cooperative Option

To be eligible to enter the Cooperative Option, students must have met the requirements for entry to the program and normally have completed 60

credit hours including the following courses: 128.100, 128.200, 128.205, 128.217, 002.130, 002.131, 005.100, 005.200, 007.134 (or 007.123), 001.237 (022.237 or 065.237), 060.223, and 071.125.

Entry into the Cooperative Option is competitive and may be based on academic performance. Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Option if the demand for placements exceeds the number that are available. Acceptance into the program is dependent upon the student receiving a job placement through the Cooperative Option coordinator.

Students will be required to submit work reports upon the completion of each employment term. In order to stay in the Cooperative program, a student must obtain a grade of "pass" for each work term report. Students must register in and pay fees for the appropriate employment term course prior to the commencement of that employment term.

The Cooperative Option is structured in the manner indicated below, although scheduling is flexible to permit timetabling of required and focus area courses. Students may complete four work terms but must complete a minimum of three. The following course numbers apply to the work terms:

First work term	128.398	Second work term	128.399
Third work term	128.498	Fourth work term	128.499

The summer after Year 2 may be used to clear academic deficiencies or for additional employment purposes.

Students should refer to the general faculty regulations for Cooperative Options in Section 3.4.

Electives

Students should consider the following courses as electives: 128.218, 128.255, 128.300, 128.301, 128.302, 128.335, 128.355, 128.400, 128.401, 128.402, 128.421, 128.422, 128.450, 128.455, 016.235, 045.329, 076.250, 053.129, 053.252, 053.352, 053.361 and 053.373.

Three Year General Requirements

This option is no longer available to new students; continuing students should consult a Science student advisor.

Minor

New students should refer to the Faculty of Environment; continuing students should consult a Science student advisor.

4.9.2 Environmental Science Program, Program Code: 128

UNIVERSITY 1

YEAR 2

YEAR 3

YEAR 4

FOUR YEAR MAJOR^{4,5} 120 CREDIT HOURS

128.100, 002.130, 002.131,
007.134¹, 016.102, 016.103²,
071.125, 136.150³

128.200, 128.205, 128.217,
001.237 (022.237 or 065.237),
005.100, 005.200, 015.275,
018.239, 060.223

128.311, 128.315, 128.325

128.411

Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course

Plus a focus area in a defined area of Environmental Science, approved by the program administrator, consisting of 27 credit hours of 200 (or higher) level courses with a minimum of 12 credit hours at the 300 or 400 level

MAJOR^{4,5} COOPERATIVE OPTION 120 CREDIT HOURS

128.100, 002.130, 002.131,
007.134¹, 016.102, 016.103²,
071.125, 136.150³

128.200, 128.205, 128.217,
001.237 (022.237 or 065.237),
005.100, 005.200, 015.275,
018.239, 060.223

128.398, 128.399, 128.311,
128.315, 128.325

128.411, 128.498, 128.499

Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course

Plus a focus area in a defined area of Environmental Science, approved by the program administrator, consisting of 27 credit hours of 200 (or higher) level courses with a minimum of 12 credit hours at the 300 or 400 level

NOTE: The Cooperative Option is a five year program

THREE YEAR GENERAL (Not available to new students; continuing students should consult a Science student advisor.)

MINOR see Faculty of Environment

NOTES:

¹ 007.123 may be used in place of 007.134.

² 016.105 and 016.107 may be used in lieu of 016.102 and 016.103.

³ 136.120, 136.130, 136.131, 136.151, 136.152, or 136.153 may be taken in place of 136.150.

⁴ The courses in this program will satisfy the university mathematics requirement.

⁵ IMPORTANT: The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program.

Environmental Courses

All Faculty of Environment courses are available to Science students; for a complete course listing see the Faculty of Environment section.

4.10 Genetics Program

Program Coordinator: Peter Loewen

Program Office: 418 Buller Building

Telephone: 204 474 9372

Website: umanitoba.ca/science/microbiology

E-mail: peter_loewen@umanitoba.ca

4.10.1 Program Information

The Faculty of Science offers an interdisciplinary program leading to a B.Sc. (Honours) degree in Genetics. Genetics is the science of heredity dealing with the mechanisms of inheritance and has generated concepts basic to modern biology. Three areas are represented in this program: classical genetics, population genetics, and molecular genetics. Courses from Arts, Agricultural and Food Sciences and Medicine are included in this program.

Genetics Entry Requirements and Optional Courses

The requirements for entry to the Genetics Honours program are a "B" in each of 002.130 and 002.131, and not less than a "C+" in 071.125; or a "B" in 071.125 and a "C+" in each of 002.130 and 002.131; plus a grade of "C" in 005.100 and standing in 136.150 and one of 136.120, 136.130, 136.170 or any equivalent. In addition, students must satisfy the general

faculty requirements for entry to Honours programs. The Genetics Program Coordinator must approve a student's Honour program each session. Students must also obtain approval for any and all revisions to their program.

To proceed from Year 2 to Year 3, and Year 3 to Year 4, and to complete Year 4 of the program successfully, students must have a sessional Grade Point Average of 2.50. Students who achieve less than a 2.50 sessional Grade Point Average in summer session will be allowed to continue in the Honours program if they maintain a 2.50 cumulative Grade Point Average (including that summer session) and at least a 2.00 sessional average in the summer session.

Honours Cooperative Option

Students interested in alternating academic terms and terms of paid employment as part of their Honours Genetics program may enter the Cooperative Option in their third year in Genetics Honours. This five year program provides students with minimum 12 months of paid employment by the time they graduate. It enables them to obtain work experience in research and industry with participating firms, government agencies and University units.

The course and grade requirements for entry and continuation in the Co-operative Option are the same as that for regular Honours program. Each academic term in the third and subsequent years must comprise 15 credit hours. Students who achieve less than a 2.50 Grade Point Average while taking a course on an employment term will be allowed to continue in the Honours Cooperative program if they maintain a 2.50 cumulative Grade Point Average including that employment term, and at least a 2.00 sessional Grade Point Average in the employment term. Students should refer to the general faculty regulations for B. Sc. (Honours) Cooperative Options in Section 3.6.

Students will apply for openings in the Cooperative Option in September of their third year in the Genetics Honours program. They will be notified of their provisional acceptance in the program by October. Acceptance

into the program is dependent upon the students receiving an employment placement. Employment term positions available to the students will be approved by the department, and the employers will select the students they wish to employ. The first work term can be taken in January or May. Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Option if the demand for places exceeds the number of places available. The department reserves the right to determine and select the best qualified applicants.

Students are required to register in and pay fees for each employment term prior to the commencement of each employment term. Students will be required to submit an employment report upon the completion of each 4-month employment term.

4.10.2 Genetics Program, Department Code: 060G			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
HONOURS¹ 120 CREDIT HOURS			
002.130, 002.131, 071.125, 005.100, 136.150 ² Plus either 136.120, 136.130 ² , or 136.170 ² ; and 6 credit hours of electives or from the list of optional courses In University 1 or Year 2: 6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" require- ment. ³	001.246, 002.221, 002.222, 002.236 (060.236), 002.237 (060.237), 005.200, 022.228, 060.210, 060.211	001.346, 039.314, 060.341, 076.289, 125.302 Plus 42 credit hours from list of optional courses, a minimum of 18 of which must be at the 400 level	
30 Hours	30 Hours	30 Hours	30 Hours
HONOURS COOPERATIVE OPTION^{1,5} 120 CREDIT HOURS			
002.130, 002.131, 071.125, 005.100, 136.150 ¹ Plus either 136.120, 136.130 ² or 136.170 ² and 6 credit hours of electives or from the list of optional courses In University 1 or Year 2: 6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" require- ment. ³	001.246, 002.221, 002.222, 002.236 (060.236), 002.237 (060.237), 005.200, 022.228, 060.210, 060.211	001.346, 039.314, 060.341, 076.289, 125.302 ⁴ 060.398, 060.399, 060.498 and/or 060.499 Plus 42 credit hours from list of optional courses, a minimum of 18 of which must be at the 400 level	
30 Hours	30 Hours	30 Hours	30 Hours

NOTES:

¹ The courses in this program will satisfy the university mathematics requirement.

² 136.131 may be taken in place of 136.130; 136.151, 136.152 or 136.153 may be taken in place of 136.150; 136.171 or 136.173 may be taken in place of 136.170; 136.169 may be taken in place of 136.150 and 136.170.

³ As there are no electives in Year 2 of the program, students should complete the University written English requirement in University 1. If not completed in University 1, a "W" course must be completed prior to Year 3 in addition to the required Year 2 courses.

⁴ Students that begin their first work term in May must take 125.302 in Year 3, while students that begin their first work term in January must take 125.302 in Year 4.

⁵ IMPORTANT: Students in the cooperative program are advised to ensure that they are able to satisfy the prerequisites for all 300 and 400 level courses they plan to take.

The optional courses are:

- Chemistry:* 002.228, 002.229, 002.436, 002.437, 002.462, 002.463
- Zoology:* 022.215, 022.253, 022.254, 022.306, 022.414, 022.415, 022.427
- Microbiology:* 060.301, 060.343, 060.344, 060.345, 060.346, 060.401, 060.453*, 060.454, 060.457, 060.460, 060.441, 060.461.
- Computer Science:* 074.101, 074.102, 074.126, 074.127
- Physics:* 016.102, 016.103, 016.105, 016.107
- Animal Science:* 035.350, 035.428
- Plant Science:* 039.350, 039.352, 039.433, 039.450
- Human Genetics:* 125.401*

By an appropriate selection of courses from this list, students can obtain particular program emphasis in either plant, human or molecular genetics.

All programs must contain a minimum of 18 credit hours of 400 level courses as options in Years 3 and 4.

Other suitable optional courses may be arranged through consultation with the Genetics program committee.

NOTE: * 060.453 is a project course. A research project is chosen in consultation with the Microbiology department and the Genetics program committee, and is supervised by a staff member. Only one of 060.453 and 125.401 may be elected in this program. 060.453 and 125.401 are not available to students in the Cooperative Option.

4.10.3 Course Descriptions

125.302 Introduction to Human Genetics (6) Topics to be included are the chromosomal level of genetic inheritance, Mendelian genetics, gene mutation and its conse-

quences, the problems of multiple loci, and genetic environmental interaction as these areas apply to human beings; the application of human genetics in medicine.

125.401 Project Course in Human Genetics (6) A research project chosen in consultation with and supervised by a faculty member. A written report is required. The course is available primarily to final year Honours students in the Honours Genetics

program. Selection of project and supervision to be arranged prior to September 30 and submitted in writing to department head. Deadline for submission of first draft to supervisor by March 1. Deadline for submission of final draft to department head is March 31.

4.11 Department of Geological Sciences

Head: Norman Halden

General Office: 240 Wallace Building

Telephone: 204 474 9371

Website: umanitoba.ca/science/geological_sciences/

E-mail: eb_ross@umanitoba.ca

As of September 2003, courses and programs in Geological Sciences are offered by the newly formed Faculty of Environment; refer to the Faculty of Environment section for further information. Students already completing a three year General program in which they have chosen Geology as a subject area should consult a Science student advisor. All Faculty of Environment courses, including Geology courses, are available to Science students.

4.12 Department of Mathematics

Head: Grant Woods

General Office: 342A Machray Hall

Telephone: 204 474 8703

Website: umanitoba.ca/science/mathematics/

E-mail: mathematics_dept@umanitoba.ca

4.12.1 Academic Staff

Distinguished Professors

Cohen, H., B.Sc. (Hons.) (Manitoba), M.Sc. (Brown), Ph.D. (Minnesota), P.Eng. F.A.A.M.; **Gratzer**, G., B.Sc. (Eötvös), Ph.D. (Hungarian Academy of Sciences), Dr. Rerum Naturalis (Eötvös), D.Sc. (Hungarian Academy of Sciences), F.R.S.C.; **Gupta**, N.D., B.A. (Kashmir), LL.B., M.A. (Aligarh), Ph.D. (Australian National), F.R.S.C.; **Mendelsohn**, N.S., B.A., M.A., Ph.D. (Toronto), F.R.S.C.

Senior Scholars

Clutton-Brock, M., B.A. (Cambridge), M.Sc. (Victoria), Ph.D. (Washington); **Dowling**, D.M., B.Sc.(Hons.), M.Sc. (Manitoba), Ph.D. (Toronto); **Dowling**, R.J., B.Sc.(Hons.) (Manitoba), M.A. (Minnesota); **Finlayson**, H.C., B.Sc., M.Sc. (Alberta), Ph.D. (Minnesota); **Losey**, N.E., B.A.(Hons.) (Toronto), M.Sc., Ph.D. (Wisconsin), S.U.A.C; **McClure**, J.P., B.Sc., M.A. (Waterloo), Ph.D. (Newcastle, UK); **Parameswaran**, M.R., B.A., Dip. Ger. (Madras), B.Sc.(Hons.), M.A., M.Sc., D.Sc. (Annamalai), M.A. (Manitoba); **Quackenbush**, R.W., B.S. (M.I.T.), M.S., Ph.D. (Stevens Institute of Technology); **Rayburn**, M.C., B.A. (Evansville), M.S. (Auburn), Ph.D. (Kentucky); **Venkataraman**, R., B.A.(Hons.) (Loyola, India), Dip. French, M.Sc., Ph.D. (Madras).

Professors

Aitchison, P.W., B.Sc.(Hons.) (London), M.A. (Colorado), Ph.D. (Australian National); **Berry**, T.G., B.Math.(Hons.), M.Math, Ph.D. (Waterloo); **Doob**, M., A.B. (Columbia), M.A., Ph.D. (CUNY); **Gerhard**, J.A., B.Sc., M.Sc., Ph.D. (McMaster); **Ghahramani**, F., B.Sc.(Hons.) (Tehran), M.Sc. (Tehran Teacher Training), Ph.D. (Edinburgh); **Guo**, B., B.Sc. (Fudan), M.Sc., Ph.D. (Maryland); **Gupta**, C.K., B.A. (Kashmir), M.A. (Aligarh), M.A.(Hons.), Ph.D. (Australian National), F.R.S.C.; **Hoskins**, W.D., B. Tech., Ph.D. (Brunel); **Kelly**, D., B.A.Sc. (UBC), Ph.D. (Queen's); **Krause**, G.R., Dipl. Math., Dr. Phil. Nat. (Frankfurt); **Lakser**, H., B.Sc.(Hons.) (Manitoba), A.M. (Princeton), Ph.D. (Manitoba); **Padmanabhan**, R., B.Sc., M.Sc. (Madras), Ph.D. (Madurai); **Platt**, C.R., B.Sc., M.Sc. (Iowa State), Ph.D. (Pennsylvania State); **Shivakumar**, P.N., B.Sc. (Mysore), M.Sc. (Banaras) (London), Ph.D., D.Sc. (London), C.Math., F.I.M.A.; **Sichler**, J.J., M.Sc., R.N.Dr., Ph.D. (Charles, Prague); **Thomas**, R.S.D., B.Sc.(Hons.) (Toronto), M.A. (Waterloo), Ph.D. (Southampton), C.Math., F.I.M.A.; **Trim**, D.W., B.Sc.(Hons.), M.Sc., Ph.D. (Waterloo); **Williams**, J.J., B.Sc.(Hons.), M.Sc., Ph.D. (Toronto); **Woods**, R.G., B.Sc.(Hons.), M.Sc. (Manitoba), Ph.D. (McGill); **Zorboska**, N., B.S., M.S. (Skopje), Ph.D. (Toronto).

Associate Professors

Gumel, A.B., B.Sc. (Bayero), Ph.D. (Brunel); **Kopotun**, K., M.Sc. (Kiev), Ph.D. (Alberta); **Kucera**, T.G., B.Sc.(Hons.), M.Sc. (Manitoba), Ph.D. (McGill).

Assistant Professors

Charette, V. B.Sc. M.Sc. (Quebec at Montreal) Ph.D. (Maryland); **Craigien**, R., B.Sc. (UBC), M.Math, Ph.D. (Waterloo); **Holens**, T.F., B.Sc.(Hons.), M.Sc. (Manitoba); **Gunderson**, D. B.Sc., M.Sc. (Calgary), Ph.D. (Emory);

Lui, S.H., B.Sc., M.Sc. (Toronto), Ph.D. (CA Inst. Of Technology); **Zhang**, Y., M.Sc. (Shandong), Ph.D. (Manitoba).

Instructors

Kalajdziewski, S., B.Sc., M.S. (Cyril and Methodius), Ph.D. (Toronto) (Instructor II); **Penner**, P., B.Sc. (Hons.), M.Sc., Ph.D. (Manitoba) (Instructor II).

4.12.2 Program Information

Mathematics provides the language, reasoning and analytic tools that many other disciplines use to investigate their areas. These include all the physical sciences, computer and engineering sciences, social sciences, and the biological and health sciences. A wide range of business, industrial, and government programs rely on mathematics to provide insight and analysis. Students may specialize in mathematics alone or in combinations with physics, computer science, economics, statistics, or actuarial mathematics.

The department must approve a student's Honour or Major program each session. Students must also obtain approval for any and all revisions to their program.

Mathematics Prerequisite Information

Unless otherwise specified, a minimum grade of "C" must be achieved for any course stipulated as prerequisite to a further course in Mathematics.

NOTE: Students entering either the Faculty of Arts or Science, and intending to take courses from the department, are strongly advised to speak to a Science student advisor or a faculty advisor in the department concerning an appropriate choice of mathematics courses. They may also consult the Department of Mathematics website at umanitoba.ca/science/mathematics/.

Honours Requirements

To enter the Honours program in Mathematics a student must have a minimum grade of "B" in 136.130 and either 136.170 or 136.169 or any equivalent. In addition, students must have satisfied the Faculty requirements for entry to the Honours program.

The program for students who elect Honours in Mathematics is as follows:

Year 2 Mathematics courses as indicated in the chart below and 9 credit hours from such fields as physics, chemistry, actuarial mathematics, computer science, statistics, philosophy, or economics. Other fields may be elected with the approval of the department.

Year 3 Mathematics courses as indicated in the chart below and electives to be chosen from the subject fields below or a third year Mathematics course not already elected. Students performing satisfactorily in Year 2 may obtain permission to take an additional course.

Year 4 Mathematics courses as indicated in the chart below and electives to be chosen from the subject fields below or a Mathematics course not already elected. Students performing satisfactorily in Year 3 may obtain permission to take an additional course.

Electives normally allowed are:

Statistics: 005.200, 005.318, 005.347, 005.348, 005.350, 005.360, 005.414, 005.452, 005.453, 005.458, 005.459, 005.460, 005.462, 005.463, 005.469.

Physics: 016.250, 016.260, 016.261, 016.265, 016.341, 016.365, 016.366, 016.369, 016.370, 016.437, 016.462, 016.464, 016.465.

Chemistry: 002.228, 002.229, 002.336, 002.337, 002.464, 002.465.

Economics: 018.253, 018.270, 018.370, 018.373, 018.412, 018.413.

Mechanical Engineering: 025.349.

Other courses may be elected with permission of the department. Students are required to obtain the approval of the department concerning their choice of electives.

A student may elect Honours in Mathematics and one other field, subject to the approval of both departments. The Mathematics prescription for a Double Honours program is as indicated in the table below.

Honours programs must be approved each year by the department.

Four Year Major Requirements

To enter the four year Major in Mathematics, a student must have a "C+" in either 136.169 or in two of 136.130, 136.150 and 136.170 or any equivalent and have satisfied all Faculty requirements for entry to the program.

It is suggested that among their electives, students might choose courses in which mathematics is extensively used, for example, courses in physics, chemistry and certain courses in economics. For advice on this point students should talk to a faculty member in the department.

Four Year Major in Applied Mathematics with Option (Computer Science, Economics, Management Sciences, Statistics)

These programs provide a sound general knowledge of applied mathematics together with a significant number of courses in the option area. Courses

in the Computer Science option provide training in aspects of computer science which are most useful to the practicing mathematician. Courses in the Computer Sciences, Economics, Management Sciences and Statistics options are fundamental to each area and provide a strong, mathematical basis for further study.

To enter the four year Major in Applied Mathematics with one of the above four options, a student must have a "C+" in either 136.169 or two of 136.120, 136.130, 136.150, or 136.170, one of which must be either 136.150, or 136.170, and have satisfied all faculty requirements for entry to the program. It is recommended that students take all 12 credit hours of 100 level mathematics courses in their initial 30 credit hours; however, students should take at least 136.130, 136.150 and 136.170. See the individual charts below for additional requirements for each option.

Options List: 136.245, 136.250, 136.255, or any 3rd or 4th year Mathematics course.

Three Year General

As prescribed with all other faculty regulations in Section 3.2, students in this program must select 30 credit hours of 200 and (or) 300 level courses from two Science departments. To satisfy the requirement in Mathematics, students must select a minimum of 12 credit hours of 200 and/or 300 level Mathematics courses.

See a Science student advisor or a faculty advisor in the department for information regarding entry to or completion of any of the programs outlined below.

4.12.3 Mathematics, Department Codes: 136

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
MATHEMATICS HONOURS⁴ 120 CREDIT HOURS			
136.130 ¹ (B), 136.169 (B), (or 136.150 ¹ and 136.170 ¹ (B)), 005.100 ² , 074.101 ²	136.220, 136.235, 136.260, 136.275, 136.280	48 credit hours ³ of 300 and 400 level Mathematics ⁵ courses, which must include 136.323, 136.330 or 136.335 ⁷ , 136.340, 136.370 or 136.371 ⁸ , 136.376, 136.380 and two modules listed below: Topology ^{7,8} : 136.324, 136.420 Algebra ^{7,8} : 136.435 Analysis ^{7,8} : 136.471, 136.475 Combinatorics ⁷ : Two of 136.440, 136.441, and 136.442. Analytical Applied Mathematics ⁶ : 136.381, 136.382, one of 136.480 or 136.481 Computational Mathematics ⁶ : 136.360 and two of 136.350, 136.461 and 136.480	
30 Hours	30 Hours	30 Hours	30 Hours
MATHEMATICS HONOURS DOUBLE⁴ MINIMUM 120 CREDIT HOURS			
136.130 ¹ (B), 136.169 (B) (or 136.150 ¹ and 136.170 ¹ (B)), 005.100 ² , 074.101 ²	136.220, 136.235, 136.260, 136.275, 136.280	136.323, 136.335, 136.371, 136.376	136.380 Plus 12 credit hours from 136.420, 136.421, 136.435, 136.471, 136.472, 136.475 ³ Plus at least an additional 3 credit hours from among the above and 136.322, 136.324, 136.340, 136.343, 136.345, 136.425, 136.440, 136.441, 136.442, 136.443, 136.480, 136.492, 136.496
30 Hours	30 Hours	30 Hours	30 Hours
MATHEMATICS JOINT HONOURS COMPUTER SCIENCE-MATHEMATICS See Section 4.7 Computer Science			
MATHEMATICS JOINT HONOURS STATISTICS-MATHEMATICS⁴ See Section 4.16 Statistics			

MATHEMATICS FOUR YEAR MAJOR^{4,9} 120 CREDIT HOURS

136.130¹, 136.150¹ and 136.170¹ (or 136.169), 005.100², 074.101² 136.220, 136.235, 136.260, 136.275, 136.280 136.330 or 136.335, 136.340, 136.370 or 136.371, 136.375 or 136.376, 136.380 and enough courses from 136.240, 136.250, 005.200 and all third and fourth year Mathematics courses to make 48 credit hours

Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course

APPLIED MATHEMATICS FOUR YEAR MAJOR WITH COMPUTER SCIENCE OPTION^{4,9} 120 CREDIT HOURS

136.120, 136.130¹, 136.150¹ and 136.170¹ (or 136.169), 074.101, 074.102 136.230, 136.260, 136.270, 136.271, 136.280, 074.214 136.240, 136.360, 136.370, 136.375, 136.380, 136.381, 136.382

Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course

Plus 005.100 and 005.200; plus an additional 6 credit hours from options list; plus one of the following patterns:

Graphics: 074.219, 074.349, 074.449;

or Software: 074.215, 074.344, and ONE OF 074.216, 074.338, or 074.302;

or Theoretical Computer Science: 074.208, 074.213, 074.317 or 074.453;

or Hardware: 074.222, 074.223, 074.337 or 074.343;

or Artificial Intelligence: 074.319, two of: 074.419, 074.420, 074.436

APPLIED MATHEMATICS FOUR YEAR MAJOR WITH ECONOMICS OPTION^{4,9} 120 CREDIT HOURS

136.120, 136.131¹, 136.150¹ and 136.170¹ (or 136.169), 018.120 (or both 018.121 and 018.122) 136.230, 136.260, 136.270, 136.271, 136.280 136.240, 136.350, 136.360, 136.370, 136.375, 136.380, 136.381, 136.382

Plus 005.100 and 005.200; 074.101; plus an additional 3 credit hours from options list; plus 018.253 and 018.373, and at least two of 018.245, 018.246, 018.247 and 018.248

A "W" course must be taken in University 1 or Year 2

APPLIED MATHEMATICS FOUR YEAR MAJOR WITH MANAGEMENT SCIENCES OPTION^{4,9} 120 CREDIT HOURS

136.120, 136.131¹, 136.150¹ and 136.170¹ (or 136.169) 136.230, 136.240, 136.260, 136.270, 136.271, 136.280, 136.350, 136.351, 136.360, 136.370, 136.375, 136.380, 136.381, 136.382, 018.120 (or both 018.121 and 018.122), 005.100, 005.200, 074.101

Plus 027.215, 027.340 and six (6) credit hours Management Sciences Courses approved by the department

A "W" course must be taken in University 1 or Year 2

APPLIED MATHEMATICS FOUR YEAR MAJOR WITH STATISTICS OPTION⁹ 120 CREDIT HOURS

136.120, 136.130¹, 136.150¹ and 136.170¹ (or 136.169), 005.100 005.200, 136.230, 136.260, 136.270, 136.271, 136.280 136.240, 136.360, 136.370, 136.375, 136.380, 136.381, 136.382, 005.312 (or 005.347), 005.313 (or 005.348), 005.350, 005.360

Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course

074.101, plus an additional 6 credit hours from the options list, plus 6 credit hours of 300 or 400 level Statistics courses

THREE YEAR GENERAL

A minimum of 12 credit hours from 200 and (or) 300 level Mathematics

MINOR

136.130¹, 136.150¹ and 136.170¹ (or 136.169) plus a minimum of 9 credit hours from 136.120 and 200 and (or) 300 level Mathematics courses

NOTES:

- ¹ 136.151, 136.152 or 136.153 may be taken in place of 136.150; 136.131 may be taken in place of 136.130; 136.171 or 136.173 may be taken in place of 136.170.
- ² 005.100 and 074.101 do not have to be taken in University 1, but they have to be taken by the end of Year 2.
- ³ Students considering graduate work in pure mathematics should note that many graduate schools may require a student to rectify any deficiencies in 136.420, 136.421, 136.435, 136.471, 136.472 and 136.475.
- ⁴ The courses required in this program will satisfy the University mathematics requirement.
- ⁵ 136.320, 136.321, 136.375 and 136.391 cannot be used in an Honours program.
- ⁶ If both Analytical Applied Mathematics and Computational Mathematics are chosen as the modules, then at least 3 of 136.350, 136.461, 136.480 and 136.481 must be taken.
- ⁷ The Topology, Algebra, Analysis and Combinatorics modules require 136.335.
- ⁸ The Topology, Algebra and Analysis modules require 136.371.
- ⁹ IMPORTANT: The four year Major programs need not be completed in the manner prescribed in the charts above. Each chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their programs with a view to satisfying the prerequisites of the required courses. Please refer to the text above for the minimum requirements for entry to a four year Major.
(Letters in brackets indicate minimum prerequisite standing for further study.)

4.12.4 Mathematics - Actuarial Mathematics Joint Program, Department Code: 136M

The Department of Mathematics and the Warren Centre for Actuarial Studies and Research offer a joint Honours program for students wishing in-depth study in both Mathematics and Actuarial Mathematics.

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
JOINT HONOURS² 120 CREDIT HOURS			
136.169 (B) (or 136.150 ¹ and 136.170 ¹ (B)), 136.130 ¹ (B), 005.100, 005.200 (B) Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course Plus 9 credit hours of electives	010.212, 010.221, 005.350, 005.360, 136.220, 136.235, 136.275, 136.280	010.313, 010.323, 010.333, 136.323, 136.371, 136.376, 005.305 Plus 6 credit hours of approved electives	010.202, 010.414, 136.335, 136.340, 136.475 Plus 9 credit hours of approved electives
30 Hours	30 Hours	30 Hours	30 Hours

NOTES:

- ¹ 136.131 may be taken in place of 136.130; 136.151, 136.152 or 136.153 may be taken in place of 136.150; 136.171 or 136.173 may be taken in place of 136.170.
- ² The courses required in this program satisfy the University mathematics requirement.
(Letters in brackets indicate minimum prerequisite standing for further study.)

Honours Requirements

To enter the Honours program in Mathematics-Actuarial Mathematics, a student must have satisfied the Faculty of Science requirements for entry to the program, and have completed 005.100, 005.200, 136.130¹, and either 136.169 or 136.150¹ and 136.170¹ with a minimum grade of B in each of 005.200, 136.130¹ and 136.169 or 136.170¹.

Recommended Electives:

Actuarial 010.353, 010.424, 010.434; Accounting and Finance 009.110, 009.220; Computer Science 074.101, 074.126; Economics 018.120, 018.245; Statistics 005.347, 005.349.

4.12.5 Mathematics - Physics and Astronomy Joint Program, Department Code: 136P

The Departments of Mathematics and Physics and Astronomy offer a joint Honours program for students wishing in-depth study in both Mathematics and Physics.

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
JOINT HONOURS⁴ 132 CREDIT HOURS			
136.130 ¹ (B), 136.151 ¹ and 136.171 ¹ (B) (or 136.169 (B)), 016.105 (B) (or 016.102 (B+)) ² and 016.107 (B), 005.100, 074.101 Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course ⁵	016.226, 016.250, 016.260 ³ , 016.261, 016.265, 136.220, 136.235, 136.275, 136.280	136.323, 136.335 (or 136.330 and 136.331), 136.370 or 136.371, 136.376, 016.341, 016.365, 016.369 ⁶ , 016.370	136.380, 136.481 ⁷ Plus 9 credit hours of 300 or 400 level Mathematics courses, of which 3 credit hours must be at the 400 level 016.343, 016.366, 016.437 Plus 3 credit hours from 300 and 400 level Physics Honours courses
30 Hours	33 Hours	36 Hours	33 Hours

NOTES:

- ¹ 136.131 may be taken in place of 136.130; 136.150, 136.152 or 136.153 may be taken in place of 136.151; 136.170 or 136.173 may be taken in place of 136.171.
- ² 016.103 is not suitable for entry to the program. Students must also take 016.107 if they have already taken 016.103. Students can hold credit for both 016.103 and 016.107.
- ³ The corequisite of 016.237 is waived. It is recommended that students audit 016.237 in second year.
- ⁴ The courses required in this program will satisfy the University mathematics requirement.
- ⁵ As there are no electives in Year 2 of the program, students should complete the university written English requirement in University I. If not completed in University I, a "W" course must be completed prior to Year 3 in addition to the required Year 2 courses.
- ⁶ The prerequisite of 016.237 is waived.
- ⁷ The prerequisite of 136.381 has been waived for students who have completed 016.369 and 016.370.
(Letters in brackets indicate minimum prerequisite standing for further study.)

4.12.6 Mathematics Course Descriptions

Unless otherwise specified, a minimum grade of "C" must be achieved for any course stipulated as prerequisite to a further course in Mathematics.

All courses are not offered every year. The course schedule for the current academic session is published in the Registration Guide.

136.168 (or the former 013.128 or 013.129) may be used as a prerequisite in place of 136.150, 136.151, 136.152 or 136.153 but should not be taken by students intending to enter a program which requires 136.130 or 136.131.

136.100M College Mathematics with Applications (3)L Not currently offered.

136.101M Applied Finite Mathematics (3)L For students needing to fill the requirement of a university level mathematics course. Introduces students to modern applications of discrete mathematics. Topics include: mathematics of finance, linear programming, graph theory, and game theory. Not available to any student already holding a grade of "C" or better in any of 136.100, 136.120, 136.130, 136.131, 136.150, 136.151, 136.152, 136.153, 136.168, 136.169, 136.170, 136.171, 136.173 or the former 006.120, 006.121, 006.125, 006.126, 006.127, 006.144, 006.147, 013.128, 013.129, 013.139, 013.146, 013.149, or 013.159. This course cannot be used as part of an Honours, Major, General or Minor program in the Mathematical Sciences. No prerequisite.

136.102M Mathematics in Art (3) Specific theory, structuring systems, and mathematical methods and principles used in works of art from various historical periods and contexts will be explored in relation to Euclidean and non-Euclidean geometries. Topics include: linear perspective; shapes, patterns, balance and symmetry; ratio, proportion and harmony; and order, dynamics, and chaos. The course will be one half art and one half mathematics, team-taught by faculty from the School of Art and the Department of Mathematics. This course is also given in the School of Art as 054.102. Not to be held with 054.102. No prerequisite.

136.119M Topics in Mathematics (6) This course is designed to give students in various faculties a measure of insight into modern mathematics. Topics are taken from number systems, geometry, and combinatorics. This is a terminal course and may not be used as a prerequisite for other Mathematics courses. It may not be used as part of an Honours, Major, General, or Minor program in the mathematical sciences. Not to be held with the former 013.123 or 013.238. Not available to students who have previously obtained credit in, or are currently registered in, any of 136.100, 136.120, 136.130, 136.131, 136.150, 136.151, 136.152, 136.153, 136.168, 136.169, or the former 006.120, 006.121, 006.125, 006.144, 006.147, 010.115, 013.128, 013.129, 013.139, 013.146, or 013.159. No prerequisite. This course cannot be used as part of an Honours, Major, General, or Minor program in the Mathematical Sciences.

136.119FM Sujets choisis en mathématiques (6) Ce cours offre à l'étudiant un aperçu superficiel des mathématiques modernes. Les sujets étudiés sont tirés des systèmes de nombres, de la géométrie et de la combinatoire. Ce cours est terminal et sert comme préalable à aucun autre cours universitaire en mathématiques. Il peut être comptabilisé dans aucun programme spécialisé ou général, majeure ou mineure en sciences mathématiques. On ne peut se faire créditer à la fois le 136.119 et les anciens 013.123 et 013.238. Un étudiant ne peut pas s'inscrire à ce cours s'il a reçu des crédits pour l'un des cours suivants ou s'il y est déjà inscrit: 136.100, 136.120, 136.130, 136.131, 136.150, 136.151, 136.152, 136.153, 136.168, 136.169 et les anciens 006.120, 006.121, 006.125, 006.144, 006.147, 010.115, 013.128, 013.139, 013.146, 013.159. Donné seulement au Collège universitaire de Saint-Boniface. Aucun de préalable.

136.120M Elements of Discrete Mathematics (3)L Sequences and series, trigonometry, complex numbers, algebra of polynomials, approximation of zeros of functions, linear difference equations. Not to be held with the former 006.120, 006.144 or 006.147. *Prerequisite:* a minimum grade of 60 per cent in Pre-calculus 40S or the former Mathematics 40S (300), or a grade of "C" or better in either 136.100 or the Mathematical Skills course taught by the Continuing Education Division.

136.120FM Éléments de mathématiques discrètes (3)L Suites et séries, trigonométrie, nombres complexes, algèbre de polynômes, approximation des zéros de fonctions, équations aux différences. On ne peut se faire créditer à la fois le 136.120 et les anciens 006.120, 006.144 ou 006.147. *Préalable:* Mathématiques 40S (pré-calcul) ou l'ancien mathématiques 40S (300) avec une note minimum de 60 pour cent, ou une note de "C" dans le cours 100 ou le cours "Mathematical Skills" enseigné par la Division de l'éducation permanente. Donné seulement au Collège universitaire de Saint-Boniface.

136.130M Vector Geometry and Linear Algebra (3)L An introduction to vectors, matrices, systems of linear equations and three-dimensional geometry. Not to be held for credit with 136.131, 136.168, or the former 006.121, 013.128, 013.129, or 013.146. *Prerequisite:* a minimum grade of 60 per cent in Pre-calculus Mathematics 40S or the former Mathematics 40S (300), or a grade of "C" or better in either 136.100 or the Mathematical Skills course taught by the Continuing Education Division. **NOTE:** A minimum grade of 70 per cent in Applied Mathematics 40S may be used as a prerequisite to this course.

136.130FM Géométrie vectorielle et algèbre linéaire (3)L Une introduction aux vecteurs, matrices, systèmes d'équations linéaires et géométrie à trois dimensions. On ne peut se faire créditer plus d'un des cours suivants: 136.130, 136.131, 136.168 ou les anciens 006.121, 013.128, 013.129 ou 013.146. *Préalable:* Mathématiques 40S (pré-calcul) ou l'ancien mathématiques 40S (300) avec une note minimum de 60 per cent, ou une note de "C" dans le cours 136.100 ou le cours "Mathematical Skills" enseigné par la Division de l'éducation permanente. Donné seulement au Collège universitaire de Saint-Boniface. **NOTE:** Une note minimum de 70 pour cent en Mathématiques appliquées 40S peut servir de prérequis pour ce cours.

136.131M Matrices for Management and Social Sciences (3)L Matrix methods with examples relevant to the Management and Social Sciences. Topics include vectors, matrices, systems of linear equations, and determinants; applications include economic models, the simplex method for linear programming, Markov chains, and game theory. Not to be held with 136.130, 136.168, or the former 006.121, 013.128, 013.129 or 013.146. *Prerequisite:* a minimum grade of 60 per cent in Pre-calculus Mathematics 40S or the former Mathematics 40S (300), or a grade of "C" in either 136.100 or the Mathematical Skills course taught by the Continuing Education Division. **NOTE:** A minimum grade of 70 per cent in Applied Mathematics 40S may be used as a prerequisite to this course.

136.150M Introduction to Calculus (3)L Differentiation and integration of elementary functions, with applications to maxima and minima, rates of change, area, and volume. Not to be held with 136.151, 136.152, 136.153, 136.168, 136.169, or the former 006.125, 010.115, 013.128, 013.129, 013.139, or 013.159. *Prerequisite:* a minimum grade of 60 per cent in Pre-calculus Mathematics 40S or the former Mathematics 40S (300), or a grade of "C" or better in either 136.100 or the Mathematical Skills course taught by the Continuing Education Division.

136.150FM Introduction au calcul (3)L Différentiation et intégration des fonctions élémentaires avec application à la théorie des extrêmes, aux taux de changements ainsi qu'aux aires et aux volumes. On ne peut se faire créditer plus d'un des cours suivants: 136.150, 136.151, 136.152, 136.153, 136.168, 136.169, ou les anciens 006.125, 010.115, 013.128, 013.129, 013.139, or 013.159. *Préalable:* Mathématiques 40S (pré-calcul) ou l'ancien mathématiques 40S (300) avec une note minimum de 60 pour cent, ou une note de "C" dans le cours 136.100 ou le cours "Mathematical Skills" enseigné par la Division de l'éducation permanente. Donné seulement au Collège universitaire de Saint-Boniface.

136.151M Applied Calculus 1 (3)L Functions and graphs; limits and continuity; differentiation of functions defined explicitly, implicitly and parametrically; applications of derivatives to velocity and acceleration, related rates, maxima and minima; differentials, indefinite and definite integrals, application of integration to area. Physical applications in this course make it especially suitable for students intending to take programs in engineering. Not to be held with 136.150, 136.152, 136.153, 136.168, 136.169, or the former 006.125, 010.115, 013.128, 013.129, 013.139, or 013.159. *Prerequisite:* a minimum grade of 60 per cent in Pre-calculus Mathematics 40S or the former Mathematics 40S (300), or a grade of "C" or better in either 136.100 or the Mathematical Skills course taught by the Continuing Education Division, and Physics 40S (300) or a "P" in 016.090.

136.152M Introductory Calculus for Management and Social Sciences (3)L Differentiation and integration of functions of one variable and partial differentiation of functions of several variables. Emphasizes applications in the areas of management and social science. Not to be held with 136.150, 136.151, 136.153, 136.168, 136.169, or the former 006.125, 010.115, 013.128, 013.129, 013.139, or 013.159. *Prerequisite:* a minimum grade of 60 per cent in Pre-calculus Mathematics 40S or the former Mathematics 40S (300) or equivalent or a grade of "C" in either 136.100 or the Mathematical Skills course taught by the Continuing Education Division.

136.153M Calculus with Computers (3)L Differentiation of elementary functions with applications to maxima and minima and rates of change. Curve sketching, antidifferentiation and applications to area. Software with symbolic manipulation capability will be used. This course is particularly well-suited for students planning to major in Computer Science. Not to be held with 136.150, 136.151, 136.152, 136.168, 136.169 or the former 006.125, 010.115, 013.128, 013.129, 013.139, or 013.159. *Prerequisite:* a minimum grade of 60 per cent in Pre-calculus Mathematics 40S or the

former Mathematics 40S (300), or a grade of "C" or better in either 136.100 or the Mathematical Skills course taught by the Continuing Education Division. *Corequisite:* 074.101 or permission of the instructor.

136.168M Mathematics for Agriculture and Related Sciences (6L) Differentiation and integration of elementary functions, a brief introduction to vectors, matrices, systems of linear equations in two and three dimensions. Applications to maxima and minima, rates of change, areas and volumes. The balance of topics has been chosen to suit the particular needs of students proceeding in agricultural and related sciences; for that reason there is somewhat less emphasis on linear algebra. Not to be held with 136.130, 136.131, 136.150, 136.151, 136.152, 136.153, 136.169, or the former 006.121, 010.115, 013.128, 013.129, 013.139, 013.146 or 013.159. *Prerequisite:* a minimum grade of 60 per cent in Pre-calculus Mathematics 40S or the former Mathematics 40S (300), or a grade of "C" or better in either 136.100 or the Mathematical Skills course taught by the Continuing Education Division.

136.169M Calculus (6L) An introduction to the calculus of functions of one variable. This course covers the same material as 136.150 and 136.170 together, but in greater depth. Exposure to high school calculus is desirable, but not essential. Recommended for students with a strong aptitude for and interest in Mathematics. Not to be held with 136.150, 136.151, 136.152, 136.153, 136.168, 136.170, 136.171, 136.173 or the former 006.125, 006.126, 010.115, 013.128, 013.129, 013.139, 013.149, 013.159. *Prerequisite:* a minimum grade of 80 per cent in Pre-calculus Mathematics 40S or the former Mathematics 40S (300).

136.170M Calculus 2 (3L) Theory and techniques of integration, curve sketching, volume, arc length, surface area and partial derivatives. Not to be held with 136.169, 136.171, 136.173 or the former 006.126, 013.149, or 013.159. *Prerequisite:* 136.150, 136.151, 136.152, 136.153 or 136.168, or the former 006.125, 010.115, 013.128, 013.129, or 013.139.

136.170FM Calcul 2 (3L) Théories et techniques d'intégration, tracés de courbes, calculs de volume, de longueurs d'arc, d'aires et des dérivés partiels. On ne peut se faire créditer plus d'un des cours suivants: 136.169, 136.170, 136.171, 136.173 ou les anciens 006.126, 013.149, ou 013.159. *Préalable:* 136.150, ou 136.151, ou 136.152, ou 136.153 ou 136.168, ou un des anciens 006.125, 010.115, 013.128, 013.129, ou 013.139. Donné seulement au Collège universitaire de Saint-Boniface.

136.171M Applied Calculus 2 (3L) Applications of integration to volumes, centres of mass, moments of inertia, work and fluid pressure; differentiation of trigonometric, inverse trigonometric, exponential, and logarithmic functions; techniques of integration; polar coordinates. Physical applications in this course make it especially suitable for students intending to take programs in engineering. Not to be held with 136.169, 136.170, 136.173 or the former 006.126, 013.149, or 013.159. *Prerequisite:* 136.150, 136.151, 136.152, 136.153 or 136.168, or the former 006.125, 010.115, 013.128, 013.129, or 013.139. *Corequisite:* 016.105 (or the former 016.118).

136.173M Calculus 2 with Computers (3L) Theory and techniques of integration with applications to curve sketching, volume, arc length, and surface area using different coordinate systems. Software with symbolic manipulation capability will be used. This course is particularly well-suited for students planning to major in Computer Science. Not to be held with 136.169, 136.170, 136.171 or the former 006.126, 013.149 or 013.159. *Prerequisite:* 136.153 (or one of 136.150, 136.151, 136.152 and consent of instructor).

136.201 Mathematical Modelling without Calculus (3) This course shows how relatively elementary mathematics may be used in various disciplines by means of "case studies" where practical problems in science, social science, and other fields are examined. Stress will be laid on "discrete" models requiring only elementary matrix algebra. May not be used as part of a Major or Honours program in the Mathematical Sciences. Not to be held with the former 006.240 or 006.241. *Prerequisite:* 136.130 or 136.131 (or the former 013.146). Not currently offered.

136.220 Sets and Real Numbers (3) The language of mathematics: logic, methods of proof, elementary set theory. Foundations of calculus: the real numbers, continuity. Not to be held with the former 013.237. This course is taught at an Honours/Major level. *Prerequisites:* a grade of "C+" or better in 136.130 or 136.131 (or the former 013.146), and a grade of "C+" or better in one of 136.169, 136.170, 136.171 or 136.173 (or the former 013.149, 013.159, or 006.126).

136.230 Linear Algebra 2 (3) A continuation of 136.130 (136.131 or the former 013.146). Finite dimensional vector spaces; linear transformation and matrices; eigenvalues and eigenvectors; diagonalization and applications; inner product spaces. Not to be held with 136.235 or the former 013.235 or 013.246. *Prerequisites:* 136.130 or 136.131 (or the former 013.146), and one of 136.150, 136.151, 136.152, 136.153 or 136.169 (or the former 013.139, 013.159, or 006.125).

136.230F Algèbre linéaire 2 (3) Suite du cours 136.130 (136.131 ou l'ancien 013.146). Espaces vectoriels à dimensions finies; transformations linéaires et matrices; vecteurs propres réels et valeurs propres réelles; la diagonalisation et ses applications; espaces avec produits scalaires. On ne pourra se faire créditer ce cours avec le 136.235 ou avec les anciens 013.235 ou 013.246. *Préalables:* 136.130 ou 136.131 (ou l'ancien 013.146), et un de 136.150, 136.151, 136.152, 136.153 ou 136.169 (ou les anciens 013.139, 013.159, ou 006.125). Donné seulement au Collège universitaire de Saint-Boniface.

136.235 Linear Algebra with Applications (6) Vector spaces, linear transformations, inner product spaces, eigenvalues and eigenvectors, orthogonal and Hermitian matrices, and applications. Not to be held with 136.230 (or the former 013.246 or 013.235). This course is taught at an Honours/Major level. *Prerequisites:* a grade of "C+" or better in 136.130 or 136.131 (or the former 013.146), and a grade of "C+"

or better in one of 136.169, 136.170, 136.171 or 136.173 (or the former 013.149, 013.159, or 006.126).

136.240 Applied Graph Theory (3) Graphs, planar graphs, directed graphs. Applications such as scheduling, assignments, timetabling, tournaments, networks with algorithms. Not to be held with the former 006.230. *Prerequisite:* 136.130 or 136.131 (or the former 013.146).

136.245 Combinatorial Mathematics (6) An introduction to several areas of current interest in combinatorial mathematics, including techniques of enumeration, graphs, block designs and generalizations, linear recursions. Not to be held with the former 013.247. Offered in 2003-2004 and alternate years thereafter. *Prerequisite:* An average of "C" or better in six credit hours of Year 1 Math courses with the exception of 136.100, 136.101, 136.102 (054.102) and 136.119 (or the former 013.123), or consent of instructor.

136.245F Mathématiques combinatoires (6) Une introduction à certains sujets d'intérêt courant en mathématiques combinatoires, c'est-à-dire les techniques d'énumération, les graphes, les dessins de blocs et les généralisations, les récursions linéaires. On ne peut se faire créditer le 136.245 à la fois avec l'ancien 013.247. *Préalable:* une moyenne de "C" ou plus dans un cours d'introduction en sciences mathématiques à l'exception de 136.100, 136.101, 136.102 (054.102) et 136.119 (ou un cours de Mathématiques de l'ancien niveau 100 à l'exception de l'ancien 013.123), ou consentement du département. Donné seulement au Collège universitaire de Saint-Boniface.

136.250 Introduction to Number Theory (3) Topics may include divisibility, unique factorization, linear and quadratic congruences, Fermat's theorem. Not to be held with the former 013.226. *Prerequisite:* An average of "C" or better in six credit hours of Year 1 Mathematics courses with the exception of 136.100, 136.101, 136.102 (054.102) and 136.119 (or the former 013.123), or consent of instructor.

136.250F Introduction à la théorie des nombres (3) Les sujets étudiés pourront inclure la divisibilité, la factorisation unique, les congruences linéaire et quadratique, le théorème de Fermat. On ne peut se faire créditer le 136.250 à la fois avec l'ancien 013.226. *Préalable:* une moyenne de "C" ou plus dans un cours d'introduction en sciences mathématiques à l'exception de 136.100, 136.101, 136.102 (054.102) et 136.119 (ou un cours de Mathématiques de l'ancien niveau 100 à l'exception de l'ancien 013.123), ou consentement du département. Donné seulement au Collège universitaire de Saint-Boniface.

136.255 Modern Geometry (6) A modern approach to geometry through the use of geometric transformations. Topics may include isometries, symmetries, similarities, circular inversion and groups. Not to be held with the former 013.224. Next offered in 2004-2005 and alternating years thereafter. *Prerequisites:* 136.169 (or the former 013.159); or 136.150 (or 136.151, 136.152, 136.153 or the former 013.139, 006.125, or 010.115), and one of 136.130, 136.131, 136.170, 136.171, or 136.173 (or the former 013.146, 013.149, or 006.126).

136.255F Géométrie moderne (6) Une approche moderne à la géométrie à l'aide de transformations géométriques. Les sujets étudiés pourront inclure les isométries, les symétries, les similarités, l'inversion circulaire et les groupes. On ne peut se faire créditer le 136.255 à la fois avec l'ancien 013.224. *Préalables:* 136.169 (ou l'ancien 013.159); un de 136.150, 136.151, 136.152, 136.153 (ou les anciens 013.139, 006.125, ou 010.115), et un de 136.130, 136.131, 136.170, 136.171, 136.173 (ou les anciens 013.146, 013.149, ou 006.126). Donné seulement au Collège universitaire de Saint-Boniface.

136.260 Numerical Mathematics 1 (3) Elementary techniques of numerical solution of mathematical problems: solution of equations, finite differences, interpolation, systems of equations, numerical differentiation and integration. Not to be held with the former 010.344, 006.220 or 006.331. *Prerequisites:* 136.130 or 136.131 (or the former 013.146), 136.169 or 136.170 or 136.171 or 136.173 (or the former 006.126 or 013.149 or 013.159) and 074.101 or equivalent, or consent of instructor.

136.260F Mathématiques numériques 1 (3) Techniques élémentaires de solution numérique de problèmes mathématiques: solution d'équations; différences finies; interpolation; systèmes d'équations; différentiation numérique, intégration numérique. On ne peut se faire créditer à la fois 136.260 et les anciens 010.344, 006.220 ou 006.331. *Préalables:* 136.130 ou 136.131 (ou l'ancien 013.146), 136.169 ou 136.170 ou 136.171 ou 136.173 (ou les anciens 006.126 ou 013.149 ou 013.159), et 074.101 ou son équivalent, ou consentement du département. Donné seulement au Collège universitaire de Saint-Boniface.

136.270 Calculus 3A (3) Calculus of several variables. Not to be held with 136.275 or the former 013.234, 006.227, 006.228, 006.243, or 013.239. *Prerequisites:* 136.130 (or 136.131 or the former 013.146) and one of 136.169, 136.170, 136.171, or 136.173 (or the former 013.149, 013.159, or 006.126).

136.270F Calcul 3A (3) Calcul des variables multiples. On ne peut recevoir de crédits pour plus d'un des cours suivants: 136.270, 136.275 ou les anciens 006.227, 006.228, 006.243, 013.239 ou 013.234. *Préalables:* 136.130 (ou 136.131 ou l'ancien 013.146) et un de 136.169, 136.170, 136.171 ou 136.173 (ou les anciens 013.149, 013.159, ou 006.126). Donné seulement au Collège universitaire de Saint-Boniface.

136.271 Calculus 3B (3) Introductory analysis, sequences and series. Not to be held with 136.275, or the former 013.234, 006.237, 006.238, 006.244, or 013.249. *Prerequisite:* one of 136.169, 136.170, 136.171 or 136.173 (or the former 013.149, 013.159, or 006.126). *Corequisite:* 136.130 or 136.131 (or the former 013.146).

136.271F Calcul 3B (3) Analyse, suites et séries. On ne peut recevoir de crédits pour plus d'un des cours suivants: 136.271, 136.275 ou les anciens 006.237, 006.238, 006.244, 013.249 ou 013.234. *Préalable:* un de 136.169, 136.170, 136.171 ou 136.173 (ou les anciens 013.149, 013.159, ou 006.126). *Concomitants:* 136.130 ou 136.131 (ou l'ancien 013.146). Donné seulement au Collège universitaire de Saint-Boniface.

136.275 Intermediate Calculus (6) Sequences, series and power series. Differentiation and integration of real-valued functions of several real variables. Not to be held with 136.270, 136.271 or the former 013.239, 013.249, 013.234, 006.227, 006.237, 006.228, 006.238, 006.243 or 006.244. This course is taught at an Honours/Major level. *Prerequisites:* a grade of "C+" or better in 136.130 or 136.131 (or the former 013.146), and a grade of "C+" or better in one of 136.169, 136.170, 136.171 or 136.173 (or the former 013.149, 013.159, or 006.126).

136.280 Ordinary Differential Equations with Applications 1 (3) An introduction to the theory of ordinary differential equations, and practical techniques of solution, principally relating to first order and linear higher order equations; linear systems. Applications to problems in science and other selected areas. Not to be held with the former 006.202, 006.226, 006.235. *Prerequisite:* 136.130 or 136.131 (or the former 013.146). *Corequisite:* 136.270 (or the former 013.239) or 136.275 (or the former 013.234).

136.280F Équations différentielles ordinaires et leurs applications 1 (3) Une introduction à la théorie des équations différentielles; techniques pratiques de solution, principalement en ce qui tient aux équations du premier ordre et aux équations linéaires d'ordre plus élevé; les systèmes linéaires. Applications à des problèmes en sciences ou à d'autres domaines. On ne peut se faire créditer à la fois le 136.280 et les anciens 006.202, 006.226 ou 006.235. *Préalable:* 136.130 ou 136.131 (ou l'ancien 013.146) *Concomitants:* 136.270 (ou l'ancien 013.239) ou 136.275 (ou l'ancien 013.234). Donné seulement au Collège universitaire de Saint-Boniface.

136.320 Set Theory and Logic (3) An introduction to set theory, relations and functions, arguments and proofs; the axiomatic nature of mathematics. Not to be held with the former 013.335. May not be used in an Honours program. This course is not currently offered. *Prerequisite:* 12 credit hours of 200 level mathematics courses or consent of instructor.

136.321 Topology (3) An introduction to topology. Topological spaces, metric spaces; compactness, connectedness; continuity of mappings. May not be used in an Honours program. Not to be held with 136.324 (or the former 013.371), 136.323 (or the former 013.338) or the former 013.336. This course is not currently offered. *Prerequisite:* 136.320 (or the former 013.335) or consent of instructor.

136.322 Set Theory (3) Axiom systems, cardinal and ordinal numbers, models of set theory, the axiom of choice, the generalized continuum hypothesis, etc. Not to be held with the former 013.376. Not offered in 2003-2004. *Prerequisite:* 136.220 (or the former 013.237) or consent of instructor.

136.323 Metric Spaces (3) Definition of metric spaces; examples. Compactness, connectedness and continuity in metric spaces. Applications to analysis. Not to be held with 136.321 (or the former 013.336) or the former 013.338. *Prerequisites:* 136.275 (or the former 013.234) and 136.220 (or the former 013.237) or consent of instructor.

136.324 Topology 1 (3) Topics include topologies, continuity, connectedness, compactness, and separation properties. Not to be held with 136.321 (or the former 013.336) or the former 013.371. *Prerequisite:* 136.323 (or the former 013.338) or consent of instructor.

136.330 Modern Algebra 1 (3) Introduction to the concepts and structures of modern algebra, including groups, rings and fields; substructure, isomorphism, quotients. Not to be held with 136.206 (or the former 013.229), 136.335 (or the former 013.345) or the former 013.333. *Prerequisites:* 136.230 (or the former 013.246) or 136.235 (or the former 013.235) and an additional 6 credit hours of 200 level mathematics courses, or consent of instructor.

136.331 Modern Algebra 2 (3) Continuation of 136.330. Further study of rings and fields: integral domains, polynomial rings; ideals and quotient rings; rational function fields. Lattices and Boolean algebras may be included. Not to be held with 136.206 (or the former 013.229), 136.335 (the former 013.345) or the former 013.333. *Prerequisite:* 136.330.

136.335 Advanced Algebra (6) An introduction to abstract algebra with topics taken from among the theories of groups, rings, modules, fields and lattices. Not to be held with 136.206 (or the former 013.229), 136.330, 136.331 or the former 013.333 and 013.345. This course is taught at an Honours/Major level. *Prerequisites:* 136.235 (or the former 013.235) and 136.220 (or the former 013.237) or consent of instructor.

136.340 Combinatorics 1 (3) Basic counting principles, pigeon-hole principle, recursion, graphs. This course is taught at an Honours/Major level. Not to be held with the former 013.347. *Prerequisites:* 136.220 (or the former 013.237) and 136.235 (or the former 013.235) or consent of instructor.

136.343 Modern Geometry (3) Topics in modern euclidean geometry, affine and projective geometry, inversive geometry, etc. This course is taught at an Honours/Major level. Not to be held with the former 013.375. *Prerequisites:* 136.275 (or the former 013.234) and 136.235 (or the former 013.235) or consent of instructor.

136.345 Theory of Numbers (6) Divisibility, congruences; quadratic residues and reciprocity; introduction to analytic and algebraic number theory. Not to be held with the former 013.349. Offered in 2003-2004 and alternate years thereafter. *Prerequisites:* 136.275 (or the former 013.234) and 136.220 (or the former 013.237) or consent of instructor.

136.350 Applied Linear Algebra (3) Topics in linear algebra and matrix methods with emphasis on applications such as eigenvalues, special matrices, error analysis, and iterative methods. Not to be held with the former 006.441 or 006.336. *Prerequisites:* 136.260 (or the former 006.220) and one of 136.230 (or the former 013.246) or 136.235 (or the former 013.235).

136.351 Mathematical Theory of Operational Research (3) Linear and non-linear optimization techniques of operational research such as linear systems, mathematical programming, networks, convexity, duality, classical optimization and non-linear programming; some assignments will be done using a computer. Not to be held with the former 006.329. Next offered in 2003-2004. *Prerequisites:* 136.230 (or the former 013.246), 136.235 (or the former 013.235) or consent of department.

136.352 Mathematical Elements for Computational Graphics (3) Two- and three-dimensional transformations, affine and non-affine, descriptions of plane and space curves, and surfaces; development of Frenet-Serret frame; Gaussian curvature and surface fairness. Stress is placed on the mathematical and conceptual framework. May not be held with the former 006.333 or 006.334. *Prerequisites:* 136.270 (or the former 013.239) or 136.211 (or the former 006.261) or 136.275 (or the former 013.234) and 136.260 (or the former 006.220) or 136.212 (or the former 006.270) or 074.219 or consent of department.

136.353 Mathematical Problems in the Biological Sciences (3) Circulatory system, flow of blood. Enzyme kinetics. Cell populations. Diffusion in biology. Some ecological systems. Not to be held with the former 006.328. Offered in 2003-2004 and alternate years thereafter. *Prerequisites:* 136.230 (or the former 013.246), 136.271 (or the former 013.249) and 136.380 (or the former 006.245 or 006.236) or consent of department.

136.354 Techniques of Applied Analysis (3) Applied mathematical topics such as asymptotics, transform theory and special functions. Not to be held with the former 006.332. This course is not currently offered. *Prerequisites:* 136.370 (or the former 006.325) and 136.380 (or the former 006.245 or 006.236) or consent of department. *Corequisite:* 136.375 or the former 013.332 or consent of department.

136.360 Numerical Mathematics 2 (3) Numerical differentiation and Gaussian quadrature; curve-fitting by splines; numerical methods for initial-value problems, boundary-value problems, and transforms; problems involving large, sparse or ill-conditioned linear systems. Not to be held with the former 006.320 or 006.331. *Prerequisites:* 136.260 (or the former 6.220), 136.280 (or the former 006.235 or 006.226), 136.270 (or the former 013.239) and 136.271 (or the former 013.249) (or 136.275 (or the former 013.234)), and either 074.101 (or the former 074.123, or consent of instructor).

136.360F Mathématiques numériques 2 (3) Différentiation numérique; quadrature Gaussienne; lissage à l'aide de splines; méthodes numériques pour les problèmes à valeurs initiales et problèmes aux frontières; transformations; problèmes où interviennent les systèmes de grade taille, épars ou mal conditionnés. On ne peut se faire créditer le 136.360 à la fois avec les anciens 006.320 ou 006.331. *Préalables:* 136.260 (ou l'ancien 006.220), 136.280 (ou les anciens 006.235 ou 006.226), 136.270 (ou l'ancien 013.239) et 136.271 (ou l'ancien 013.249) (ou 136.275 (ou l'ancien 013.234)) et le 074.101 (ou l'ancien 074.123 ou le consentement du professeur. Donné seulement au Collège universitaire de Saint-Boniface.

136.370 Applied Complex Analysis (3) Concepts and techniques of complex variable theory in the context of applied mathematics. Not to be held with 136.311 (or the former 006.343) or 136.371 (or the former 013.372) or the former 006.325. *Prerequisites:* 136.270 (or the former 013.239) and either 136.271 (or the former 013.249) (or 136.275 (or the former 013.234)) or 016.237 or consent of department.

136.371 Complex Analysis 1 (3) The geometry of the complex plane, analytic functions, contour integration. Cauchy's theorem and formula, the residue theorem, etc. Not to be held with 136.311 (or the former 006.343) or 136.370 (or the former 006.325) or the former 013.372. *Corequisite:* 136.323 (or the former 013.338) or consent of instructor.

136.375 Calculus 4 (6) Uniform convergence of series and integrals. Transformations, inverse and implicit function theorems. Vector analysis including Green's and Stokes' theorems. May not be used in an Honours program. Not to be held with 136.376 (or the former 013.340) or the former 013.332. *Prerequisites:* 136.230 (or the former 013.246), 136.270 (or the former 013.239), 136.271 (or the former 013.249), or consent of the instructor.

136.376 Advanced Calculus (6) Vector analysis; The Riemann and Riemann-Stieltjes integral, uniform convergence of series and integrals, power series and Fourier series. This course is taught at an Honours/major level. Not to be held with 136.375 (or the former 013.332) or the former 013.340. *Prerequisites:* 136.275 (or the former 013.234), 136.235 (or the former 013.235) and 136.220 (or the former 013.237) or consent of instructor.

136.380 Ordinary Differential Equations with Applications 2 (3) Laplace transforms, series solutions of ODEs, systems of linear ODEs, applications, introduction to dynamical systems. Not to be held with the former 006.236 or 006.245. *Prerequisite:* 136.280 (or the former 006.226 or 006.235). *Corequisite:* 136.271 (or the former 013.249) or 136.275 (or the former 013.234).

136.381 Partial Differential Equations 1 (3) Fourier series and introductory Sturm-Liouville theory. Derivation of wave, diffusion and Laplace equations. Solution by separation of variables. Not to be held with the former 006.347 or 013.457. *Prerequisites:* 136.270 (or the former 013.239), and 136.271 (or the former 013.249) (or 136.275 (or the former 013.234)) and 136.380 (or the former 006.245 or 006.236) or consent of department.

136.382 Introduction to Mathematical Modelling (3) An introduction to the principles and techniques involved in the design, development, solution, testing and revision of mathematical models of "real-world" phenomena illustrated through the discussion of case studies. Not to be held with the former 006.240, 006.250 or 006.337. *Prerequisites:* 136.260 (or the former 006.220) and 136.280 (or the former 006.235). *Corequisite:* 005.100.

136.390 Problem Solving Seminar (3) Classical problem solving methods and heuristics; Polya's method; assorted problems in geometry, algebra, combinatorics, analysis and logic; proof technique and presentation of mathematics. Students will be required to: i) participate in mathematical competitions; ii) present solutions to problems in class; iii) give in-class presentations about material based on readings. *Corequisites:* 136.170 (or 136.169) and 136.130 or consent of instructor.

136.391 Topics in General Mathematics (3) Topics of general interest in Mathematics or Applied Mathematics that will vary depending upon the interest and requirements of students and faculty, and may include specialized topics not available in regular course offerings. May not be used in an Honours program. *Prerequisite:* consent of instructor.

136.420 Topology 2 (3) Topics include Tychonoff spaces, ordered spaces, arbitrary products, the Stone-Cech compactification, various types of disconnectedness, generalizations of compactness, paracompactness, and introductory homotopy theory. Not to be held with the former 013.463. *Prerequisite:* 136.324 (or the former 013.371).

136.421 Topology 3 (3) A selection of intermediate and advanced topics in general topology. These may include: an introduction to geometric topology, an introduction to independence results in set-theoretic topology, Stone duality, metrization, compactification theory, uniformities, absolutes and perfect maps, and realcompactness. Not to be held with the former 013.463. *Prerequisite:* 136.420.

136.425 Mathematical Logic (6) The mathematical study of propositional and predicate logic; proof theory. Introduction to model theory (completeness, compactness, Lowenheim-Skolem theorems). Recursion theory, undecidability, incompleteness. Not to be held with the former 013.456. Next offered in 2004-2005 and alternating years thereafter. *Prerequisite:* 136.335 (or the former 013.345) or consent of instructor.

136.435 Modern Algebra (6) A continuation of the topics of 136.335, and an introduction to such further topics as category theory, universal algebra, multilinear algebra, and homological algebra. Not to be held with the former 013.448. *Prerequisite:* 136.335 (or the former 013.345).

136.440 Combinatorics 2 (3) Generating functions, combinatorial geometry, symbolic dynamics, forbidden configurations, topics from combinatorial matrix theory. Not to be held with the former 013.465. *Prerequisites:* 136.275 (or the former 013.234), 136.340 (or the former 013.347) and 136.335 (or the former 013.345).

136.441 Graphs, Codes and Designs (3) Graph decompositions, colourings, and applications, adjacency matrices, triple systems and generalizations, BIBD's, orthogonal designs, linear codes, Hamming codes, error-correction codes, public key cryptography, secret sharing. *Prerequisites:* 136.340 (or the former 013.347) and 136.335 (or the former 013.345).

136.442 Finite Geometry (3) Finite fields, finite affine and projective planes, partial geometries and related configurations. *Prerequisite:* 136.335 (or the former 013.345) and 136.340.

136.443 Introduction to Elliptic Curves (3) Homogeneous coordinates, non-singular cubic curves, cubic curves of finite fields. *Prerequisites:* 136.250 (or the former 013.226), 136.235 (or the former 013.235), and either 136.330 and 136.331, or 136.335 (or the former 013.345).

136.460 Topics in Numerical Analysis (3) Mathematical approach to an in-depth study of two of the following topics: computational methods of linear algebra, numerical solution of ordinary differential equations, numerical solution of partial differential equations, numerical solution of integral equations, spline functions with applications, finite elements. Not to be held with the former 006.445. *Prerequisite:* 136.360 (or the former 006.320) or consent of department.

136.461 Introduction to Finite Elements and Boundary Elements (3) Introduction to finite element and boundary element techniques for solving partial differential equations. Not to be held with the former 006.448. *Prerequisites:* 136.360 (or the former 006.320) and either 136.375 or 136.376 (or the former 013.332 or 013.340).

136.470 Applied Functional Analysis (3) Elements of metric, normed and inner product spaces; operators and inverses; applications in analysis and numerical analysis. Not to be held with the former 006.446. *Prerequisite:* 136.375 (or the former 013.332).

136.471 Complex Analysis 2 (3) Conformal mappings, space of analytic functions, space of meromorphic functions, harmonic functions. Not to be held with the former 013.462. *Prerequisites:* 136.324 (or the former 013.371), 136.371 (or the former 013.372) and 136.376 (or the former 013.340).

136.472 Complex Analysis 3 (3) Subharmonic functions, infinite products, entire functions, analytic continuation. Not to be held with the former 013.462. *Prerequisite:* 136.471.

136.473 Tensor and Variational Calculus (3) An introduction to tensor calculus, differential forms, and variational principles on differentiable and Riemannian manifolds. Not to be held with the former 006.442. Offered in 2003-2004 and alternate years thereafter. *Prerequisites:* six credit hours of 200 level calculus and 136.280 (or

the former 006.235) or consent of department. *Corequisite:* one of 136.375 (or the former 013.332), 136.376 (or the former 013.340), or consent of instructor.

136.475 Real Variables (6) Measure and integration on the real line and on abstract spaces. Classical Banach spaces of functions, and basic functional analysis. Not to be held with the former 013.452. *Prerequisites:* 136.235 (or the former 013.235), 136.323 (or the former 013.338) and 136.376 (or the former 013.340) or consent of instructor.

136.480 Dynamical Systems: Theory and Applications (3) Systems of differential equations, linear systems, applied dynamics, phase space, stability, introduction to chaos. *Prerequisites:* 136.360 (or the former 006.320) and 136.380 (or the former 006.236 or 006.245).

136.481 Partial Differential Equations 2 (3) Partial differential equations and their classification. Special functions and generalized eigen function expansions. Solution by separation of variables, and transform methods. Not to be held with the former 006.447. *Prerequisite:* 136.381 (or the former 006.347).

136.482 Advanced Mathematical Modelling (3) Interactive development of mathematical models for real life situations using more advanced mathematics; topics and methods used will vary from year to year. Not to be held with the former 006.444. *Prerequisite:* 136.382 (or the former 006.337) and consent of department.

136.490 Project Course in Applied Mathematics 1 (3) A research project chosen by the student in consultation with the department head and an appropriate supervising Faculty member. A written report will be required, to be submitted by March 31. An oral examination may be required. This course is restricted to students in fourth year of the Honours program in Mathematics. *Prerequisite:* 136.382 (or the former 006.337).

136.492 Topics in Mathematics 1 (3) Topics of current interest in Mathematics or Applied Mathematics depending upon the interests and requirements of students and faculty, and will include specialized topics not available in regular course offerings. *Prerequisite:* consent of instructor.

136.495 Project Course in Applied Mathematics 2 (6) A research project chosen by the student in consultation with the department head and an appropriate supervising Faculty member. A written report will be required, to be submitted by March 31. An oral examination may be required. This course is restricted to students in fourth year of the Honours program in Mathematics. *Prerequisite:* 136.382 (or the former 006.337).

136.496 Topics in Mathematics 2 (6) Topics will vary depending upon the interests and requirements of students and faculty, and will include specialized topics not available in regular course offerings. *Prerequisite:* consent of instructor.

Service Courses

136.210 Mathematical Methods for Engineers 1 (4L) Fundamental techniques for solving engineering problems including series, elements of linear algebra, and ordinary differential equations. For Engineering and Geophysics students only. Not to be held with the former 006.237, 006.238, 006.244 or 006.260. *Prerequisite:* one of 136.169, 136.170, 136.171 or 136.173 (or the former 006.126, 013.149 or 013.159).

136.211 Mathematical Methods for Engineers 2 (4L) Laplace transforms and calculus of several variables including partial differentiation, multiple integrals, and applications. For Engineering and Geophysics students only. Not to be held with the former 006.227, 006.228, 006.243 or 006.261. *Prerequisite:* 136.210 (or the former 006.260).

136.212 Introductory Numerical Methods for Engineers (4L) Numerical methods applied to problems in engineering; roots of nonlinear equations and systems of linear equations, numerical differentiation and integration, initial-value problems. For Engineering students only. Not to be held with 136.260 (or the former 006.220), the former 010.344 or the former 006.270. *Prerequisites:* 074.101 (or the former 074.111 or 074.112), and 136.210 (or the former 006.260).

136.310 Mathematical Methods for Engineers 3 (3L) Vector integral calculus, series solutions of ordinary differential equations, Fourier series, and an introduction to partial differential equations. For Engineering and Geophysics students only. Not to be held with the former 006.324 or 006.360. *Prerequisites:* 136.210 (or the former 006.260) and 136.211 (or the former 006.237, 006.238, 006.244 or 006.261).

136.311 Mathematical Methods and Complex Analysis (4) Theory and applications of complex function theory; complex Fourier series, Laplace transformation and its complex inversion; series solution of differential equations. For Engineering and Geophysics students only. Not to be held with 136.370 (or the former 006.325) or 136.371 (or the former 013.372) or the former 006.343. *Prerequisite:* 136.310 (or the former 006.360) or consent of department.

136.312 Applied Discrete Mathematics (3)L Sets, groups, graphs, and Boolean algebra. For Engineering students only. Not to be held with 074.213 or the former 074.212 and the former 006.371. *Prerequisites:* 136.210 (or the former 006.260) and 136.212 (or the former 006.270).

136.313 Linear Spaces for Physicists (3) A course intended for honours/major students in Physics. Review of linear algebra (136.130); vector spaces, linear transformations; eigenvalues and eigenvectors; inner product spaces; additional topics as time permits. Not to be held with 136.230 (or the former 013.246) or 136.235 (or the former 013.235) or the former 013.355. *Prerequisites:* 136.275 (or the former 013.234) or both 136.270 (or the former 013.239) and 016.237.

The following courses are for Education students only:

136.205M Number Systems and Geometry with Applications (6) An introductory course for prospective teachers of elementary school mathematics. Topics include development of number systems, geometry and elementary combinatorics. Not to be held with the former 013.228. Not currently offered.

136.205FM Les systèmes des nombres, la géométrie et les applications (6) Cours d'introduction pour futurs professeurs de mathématiques à élémentaire. L'on étudiera les systèmes des nombres, la géométrie et l'analyse combinatoire élémentaire. On ne pourra se faire créditer à la fois le 136.205 et l'ancien 013.228. Donné seulement au Collège universitaire de Saint-Boniface.

4.13 Department of Microbiology

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4.13.1 Academic Staff

Professor Emeritus

Suzuki, I., B.Sc. (Tokyo), Ph.D. (Iowa).

Senior Scholar

Reid, J., B.Sc.(Hons.), M.Sc. (McMaster), Ph.D. (Toronto)

Professors

Butler, M., B.Sc. (Birmingham), M.Sc. (Waterloo), Ph.D. (King's College);

Klassen, G.R., B.Sc., M.Sc., Ph.D. (Manitoba); **Loewen, P.C.**, B.Sc., Ph.D. (Alberta); **Wright, J.A.**, B.Sc., M.Sc., Ph.D. (Manitoba).

Associate Professors

Court, D.A., B.Sc.(Hons.) (Regina), Ph.D. (Guelph); **Sparling, R.R.M.**, B.Sc. (McGill), Ph.D. (Iowa); **Worobec, E.A.**, B.Sc. (Winnipeg), Ph.D. (Alberta).

Assistant Professors

de Kievit, T., B.Sc. (Waterloo), B.Sc. Specialized Hons. (Guelph), Ph.D. (Guelph); **Dibrov, P.**, M.Sc., Ph.D. (Moscow State); **Hausner, G.**, B.Sc. (Winnipeg), M.Sc. (Manitoba) Ph.D. (Manitoba); **Londry, K.**, B.Sc.(Hons.), M.Sc. (Alberta), Ph.D. (Oklahoma); **Oresnik, I.J.**, B.Sc., M.Sc., (McMaster), Ph.D. (Queen's); **Yurkov, V.**, M.Sc. (Moscow State), Ph.D. (Moscow Academy of Sciences).

Instructors

Cameron, L.E., B.Sc., Ph.D. (Manitoba) (Senior Instructor).

4.13.2 Program Information

Microbiology is the study of microorganisms such as bacteria, viruses, fungi, protozoa, and algae, and their interactions with the environment. It also an area of study that plays a pivotal role in understanding other life science disciplines, such as medicine, agriculture, ecology, and pharmacy. Studies in cloning, recombinant DNA technology, and gene sequencing are part of the program. The departments of Microbiology and Chemistry offer a joint Honours program and a joint Four Year Major programs in biochemistry and a joint Honours program in biotechnology (See Sections 4.2 and 4.4).

The department must approve a student's Honour or Major program each session. Students must also obtain approval for any and all revisions to their program.

Microbiology Prerequisite Information

Students are advised to take courses in the year suggested, otherwise difficulties may arise with timetabling and prerequisite requirements. Students are responsible for all prerequisites and corequisites of the courses required or selected in all programs below. Since Chemistry courses form an integral part of all Microbiology programs, students should note that Grade 12 mathematics and chemistry are prerequisite to 002.130.

Honours Requirements and Options

To enter Honours Microbiology, students must have a minimum grade of "B" in each of 002.130 and 002.131, and a minimum of "C+" in 071.125; or a minimum of "C+" in each of 002.130 and 002.131, and a minimum of "B" in 071.125. In addition, a student is required to have no failures, 12.00 grade points on up to their first 30 credit hours with the 12.00 grade points taken on no more than 30 credit hours in order to enter Honours Microbiology in Year 2. Statistics 005.100 and the 3 credit hours of speci-

136.206M Introduction to Algebraic Structures (6) An introduction to sets, logic and algebraic structures with applications to arithmetic and geometry, for prospective teachers of elementary school mathematics. Not to be held with 013.333, 013.345 or the former 013.229. *Prerequisite:* 136.205 (or the former 013.228). Not currently offered.

136.206FM Introduction aux structures algébriques (6) Introduction à la théorie des ensembles, à la logique mathématique et aux structures algébriques avec application à l'arithmétique et à la géométrie. Ce cours est pour futurs professeurs de mathématiques à l'élémentaire. On ne pourra se faire créditer ce cours avec le 013.333, 013.345 ou l'ancien 013.229. *Préalable:* 136.205 (ou l'ancien 013.228). Donné seulement au Collège universitaire de Saint-Boniface.

ified Mathematics or Physics courses can be completed in University 1 or Year 2.

To proceed from Year 2 to Year 3 and Year 3 to Year 4 and to complete Year 4 of the Honours program successfully, a student must have a sessional Grade Point Average of 2.50, and in addition, must have a 3.00 Grade Point Average on all Microbiology courses during that session.

Students who achieve less than a 2.50 sessional Grade Point Average in summer session will be allowed to continue in the Honours program if they maintain a 3.00 cumulative Grade Point Average in all Microbiology courses (including that summer session) and at least a 2.00 sessional Grade Point Average in the summer session.

Students who wish to elect 002.228, 002.229 or 002.247 as options, should note the prerequisites in making a choice of mathematics courses.

By careful choice of electives, programs may be selected giving emphasis to various areas of Microbiology, e.g., Biochemistry and Molecular Biology or Environmental and Ecological Microbiology. In choosing optional courses, students should be aware of any prerequisite requirements.

Honours Cooperative Option

Students interested in alternating academic terms and terms of paid employment as part of their Honours Microbiology program may enter the Cooperative Option in their third year in Honours Microbiology. This program provides students with a minimum of 12 months of paid employment by the time they graduate. It enables them to obtain work experience in research and industry with participating firms, government agencies and university units.

The course and grade requirements for entry to this option are the same as those required for entry to the regular Honours program, as indicated in the chart. Students should refer to the general faculty regulations for B.Sc. (Honours) Cooperative Options in Section 3.6.

Students should note that the grade requirements for the Cooperative Option are the same as that for the regular Honours program. To continue in the Honours Cooperative program, i.e., to proceed from Year 2 to Year 3 and from one academic term to the next and to complete the Honours Cooperative program successfully, a student must have a sessional Grade Point Average of 2.50, and in addition, must have a 3.00 Grade Point Average on all Microbiology courses during that session. Each academic term in the third and subsequent years must comprise 15 credit hours. Students who achieve less than a 2.50 Grade Point Average while taking a course on an employment term will be allowed to continue in the Honours Cooperative program if they maintain a 3.00 cumulative Grade Point Average in all Microbiology courses (including that employment term) and at least a 2.00 sessional Grade Point Average in the employment term.

Students will apply for openings in the Cooperative Option in September of their third year in the Honours program. They will be notified of their provisional acceptance in the program by October. Acceptance into the program is dependent upon the student receiving an employment placement. Employment term positions available to the students will be approved by the department, and the employers will select the students they wish to employ. The first work term can be taken in January or May. Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Option if the demand for places exceeds the number of places available. The department reserves the right to determine and select the best qualified applicants.

Students are required to register in and pay fees for each employment term prior to the commencement of each employment term. Students will be required to submit an employment report upon the completion of each employment term.

Four Year Major

The requirements for entry to the four year Major program in Microbiology are a minimum of "C+" in each of 002.130 and 002.131, and a minimum of "C" in 071.125; or a minimum of "C+" in 071.125 and a minimum of "C" in each of 002.130 and 002.131. Statistics 005.100 and the 3 credit hours of specified Mathematics or Physics can be completed in University 1 and Year 2. In addition, the faculty requirements for entry to the four year Major program must be satisfied.

Potential entrants to this program should note the following:

Students who wish to elect 002.228, 002.229 or 002.247 as options should note the prerequisites in making a choice of mathematics courses.

Chemistry 002.221 must be taken before 060.237 (002.237). Courses 060.236 and 002.236, and 060.237 and 002.237 are the same and credit cannot be held for both. Microbiology students will normally register in 060.236 and 060.237, but 002.236 and 002.237 will be regarded as its equivalent in the four year Major program.

Students intending to apply for transfer to the Honours program after Year 2 should register for 060.228 in Year 2.

Students must note course and grade prerequisites when selecting 300 and 400 level Microbiology courses.

Microbiology 060.453 is not available in this program.

By careful choice of electives, programs may be selected giving emphasis to various areas of Microbiology, e.g., Biochemistry and Molecular Biology or Environmental and Ecological Microbiology. In choosing optional courses, students should be aware of any prerequisite requirements.

The listed requirements are minimum requirements. Students are reminded that should they wish to take further courses in Microbiology, they are at liberty to do so within the degree regulations.

Four Year Major Cooperative Option

Students interested in alternating employment terms and academic terms as part of their Major Microbiology program may enter the Cooperative Option in their third year in Microbiology. This program provides students with a minimum of 12 months of paid employment by the time they graduate. It enables them to obtain work experience in research and industry with participating firms, government agencies and University units.

The course and grade requirements for entry to this option are the same as those required for entry to the regular Major program. In this program, 060.301 and 060.341 are required in Year 3. See the general faculty regulations for B.Sc. (Major) Cooperative Option in Section 3.4.

Students will apply for openings in the Cooperative Option in September of their third year in the Major program. They will be notified of their provisional acceptance in the program by October. Acceptance into the program is dependent upon the student receiving an employment placement. Employment term positions available to the students will be approved by the department, and the employers will select the students they wish to employ. The first work term can be taken in January or May. Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Option if the demand for places exceeds the number of

places available. The department reserves the right to determine and select the best qualified applicants.

Students are required to register in and pay fees for each employment term prior to the commencement of each employment term. Students will be required to submit an employment report upon the completion of each employment term.

Option List* for All Microbiology Programs:

Botany: 001.218, 001.221, 001.229, 001.237, 001.246, 001.301, 001.322, 001.325, 001.346, 001.405, 001.412, 001.413, 001.416, 001.421

Chemistry: 002.228, 002.229, 002.238, 002.247, 002.339, 002.347, 002.436, 002.437, 002.462, 002.463

Environmental Science: 128.218

Zoology: 022.215, 022.218, 022.237, 022.253, 022.254, 022.306, 022.307, 022.350, 022.353, 022.354, 022.400, 022.414,

022.415, 022.427, 022.460

Food Sciences: 078.415, 078.428

General Agriculture: 065.218

Mathematics: 136.201

NOTE: * Other suitable options may be selected with permission of the department.

Three Year General

As prescribed with all other faculty regulations in Section 3.2, students in this program must select 30 credit hours of 200 and (or) 300 level courses from **two** Science departments. To satisfy the requirement in the Department of Microbiology, students must take a minimum of 12 credit hours of Microbiology courses as prescribed in the chart below.

Students wishing to elect courses in Microbiology in fulfilment of the requirements for the B.Sc. (General) degree should note the following:

Students must have successfully completed 071.125 (C), and 002.130 and 002.131.

The regulations for the B.Sc. (General) degree allow election of up to 42 credit hours from a single department. Students are therefore encouraged to elect additional Microbiology courses above the required minimum.

Microbiology 060.277 and 060.278 (002.277 and 002.278) are not available in this program.

Minor

Students must complete 12 credit hours at the 200 and (or) 300 level. Note that 071.125 (C) and 002.131 or 002.132 are prerequisites to 060.210.

Biochemistry and Biotechnology Programs

The Department of Chemistry, in conjunction with the Department of Microbiology, offers a Joint Honours program, a Joint Honours Cooperative Option, a Joint four year Major program and a Joint four year Major Cooperative Option program in Biochemistry. See Section 4.2 *Biochemistry Program* for full details. They also offer a Joint Honours program in Biotechnology. See Section 4.4 for full details.

4.13.3 Microbiology, Department Code: 060

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
HONOURS³ 120 CREDIT HOURS			
071.125, 002.130, 002.131	060.210, 060.211, 060.228, 060.236 (002.236), 060.237 (002.237), 001.246, 002.221, 002.222, 022.228	060.301, 060.341, 60.344, 060.347, 060.348	060.401, 060.447, 060.453, 060.460, 060.461

program requirements continued next page

In University 1 or Year 2 the following must be completed:

3 credit hours of Mathematics or Physics from 136.120, 136.130¹, 136.150¹, 016.102 or 016.105

005.100

6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" requirement.

Plus 15 credit hours of Microbiology courses⁴ and 12 credit hours chosen from Microbiology courses^{2,4} or from the option list (see above)

30 Hours

30 Hours

30 Hours

30 Hours

HONOURS COOPERATIVE OPTION³ 120 CREDIT HOURS

071.125, 002.130, 002.131

060.210, 060.211, 060.228, 060.236 (002.236), 060.237 (002.237), 001.246, 002.221, 002.222, 022.228

060.301, 060.341, 60.344, 060.347, 060.348

060.401, 060.447, 060.460, 060.461

In University 1 or Year 2 the following must be completed:

3 credit hours of Mathematics or Physics from 136.120, 136.130¹, 136.150¹, 016.102 or 016.105

005.100

6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" requirement.

060.398, 060.399, 060.498 and/or 060.499

Plus 21 credit hours of Microbiology courses⁴ and 12 credit hours chosen from Microbiology courses^{2,5} or from the option list (see above)

30 Hours

30 Hours

30 Hours

30 Hours

FOUR YEAR MAJOR^{3,5} 120 CREDIT HOURS

071.125, 002.130, 002.131

060.210, 060.211, 060.236 (002.236), 060.237 (002.237), 001.246, 002.221, 002.222, 022.228

33 credit hours of Microbiology courses² including 15 credit hours at the 400 level²

Plus 9 credit hours from Microbiology courses² or from the option list (see above)

In University 1 or Year 2 the following must be completed:

3 credit hours of Mathematics or Physics from 136.120, 136.130¹, 136.150¹, 016.102 or 016.105

005.100

6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" requirement.

060.398, 060.399, 060.498 and/or 060.499

MAJOR COOPERATIVE OPTION^{3,5} 120 CREDIT HOURS

071.125, 002.130, 002.131

060.210, 060.211, 060.236 (002.236), 060.237 (002.237), 001.246, 002.221, 002.222, 022.228

060.301, 060.341

27 credit hours of Microbiology courses² including 15 credit hours at the 400 level³

Plus 9 credit hours from Microbiology courses² or from the option list (see above)

In University 1 or Year 2 the following must be completed:

3 credit hours of Mathematics or Physics from 136.120, 136.130¹, 136.150¹, 016.102 or 016.105

005.100

6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" requirement.

THREE YEAR GENERAL

12 credit hours of Microbiology at the 200 and (or) 300 level

MINOR

002.130, 002.131, 071.125 (C)

12 credit hours of Microbiology at the 200 and (or) 300 level

JOINT MICROBIOLOGY-CHEMISTRY HONOURS AND FOUR YEAR MAJOR IN BIOCHEMISTRY: See Section 4.2 Biochemistry

NOTES:

¹ 136.131 may be taken in place of 136.130; 136.151, 136.152, 136.153, 136.168 or 136.169 may be taken in place of 136.150.

² 060.401, 060.453 and 060.457 may be selected only by special permission.

³ The courses in this program will satisfy the University mathematics requirement.

⁴ 060.402 and 060.458 cannot be selected.

⁵ IMPORTANT: The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program.

(Letters in brackets indicate minimum prerequisite standing for further study.)

4.13.4 Microbiology Course Descriptions

A grade of "C" or better in 071.125 is a prerequisite for General, Major and Honours courses in Microbiology, with the exception of 060.122. To fulfil prerequisite requirements, unless otherwise specified, a minimum grade of "C" must be achieved in any Microbiology course stipulated as a prerequisite to a further course in Microbiology.

All courses are not offered every year. The course schedule for the current academic session is published in the *Registration Guide*.

General Courses

060.122 Essentials of Microbiology (3) A review of the essential principles of microbiology including immunity, with emphasis on microbial disease. This course is intended for students in the Faculty of Nursing. Not available to students who have previously obtained credit in or are currently enrolled in 060.301.

NOTE: 060.122 is offered primarily for students in the Faculty of Nursing but may be taken by students in other health care or related programs, or by students in other faculties intending to enter the Faculty of Nursing. Although this course may then be used as an elective in an Arts or Science program, it may not be used to meet a program requirement of an Honours, Major, General or Minor program in the biological sciences.

060.210 General Microbiology A (3)L Fundamental principles of and methods used in microbiology. An introduction to the major groups of microorganisms, their structure and function, growth, metabolism, physiology and regulatory systems. Not to be held with the former 060.220 or 060.222. *Prerequisite:* 002.131 or 002.132 (or the former 002.123 or 002.128).

060.210F Microbiologie générale A (3)L Principes fondamentaux de la microbiologie. Un cours d'introduction qui étudie les structures et leurs fonctions, la croissance, le métabolisme, la physiologie et les systèmes régulateurs des principaux groupes de microorganismes. On ne peut se faire créditer à la fois le 060.210 et les anciens 060.220 ou 060.222. *Préalables:* 002.131 ou 002.132 (ou l'ancien 002.123 ou 002.128) et le 071.125. Donné seulement au Collège universitaire de Saint-Boniface.

060.211 General Microbiology B (3)L Microbial synthesis of nucleic acids and proteins, introductions to bacterial and animal viruses, mutation, and bacterial genetics. Not to be held with the former 060.220 or 060.222. *Prerequisite:* 060.210.

060.211F Microbiologie générale B (3)L Cours d'introduction aux bactéries, aux virus des animaux, aux mutations, à la génétique bactérienne, à la pathogénicité microbienne, à la résistance de l'hôte en y incluant le système immunitaire. On ne peut se faire créditer à la fois le 060.211 et les anciens 060.220 ou 060.222. *Préalable:* 060.210. Donné seulement au Collège universitaire de Saint-Boniface.

060.223 Introductory Biogeochemistry (3) The roles and interactions of biological, chemical and geological reactions in determining the composition of the environment. Microorganisms as major agents of biogeochemical change and their roles in the element cycles will be especially emphasized. *Prerequisite:* 002.131 (or the former 002.128). It is recommended that 3 credit hours of 100 level Geological Sciences be taken concurrently with or prior to 060.223.

060.228 Microbial Ecology (3)L A survey of methods used to study microbial associations and their behaviour. Not to be held with the former 060.226. *Prerequisite:* 060.210 (or the former 060.220 or 060.222).

060.236 Biochemistry 1: Biomolecules and an Introduction to Metabolic Energy (3)L An introductory course dealing with kinds of molecules encountered in biochemistry, and the concept of metabolic energy as a product of catabolism and a requirement for biosynthesis. This course is also given in Chemistry as 002.236. Not to be held with 060.277 (or the former 060.240), or 002.236, or 002.277 (or the former 002.240), or with the former 060.235, or 002.235. *Prerequisites:* 002.131 (or the former 002.128) and 071.125, both courses with a minimum grade of "C." **NOTE: Students may hold this course for credit in the B.Sc. General degree program, but may not use it to fulfil the minimum requirement of 12 credit hours in 200 level Chemistry.**

060.236F Biochimie 1: les molécules biochimiques et une introduction à l'énergie métabolique (3)L Une introduction aux différents types moléculaires rencontrés en biochimie ainsi qu'au concept d'énergie métabolique comme produit du catabolisme nécessaire à la biosynthèse. Ce cours est aussi offert par le Département de chimie sous la cote 002.236. On ne peut se faire créditer le 060.236 à la fois avec les 060.277 (ou l'ancien 060.240), ou le 002.236, ou le 002.277 (ou l'ancien 002.240) ou les anciens 060.235 ou 002.235. *Préalables:* une note de "C" dans le 002.131 (ou

l'ancien 002.128) et le 071.125. Donné seulement au Collège universitaire de Saint-Boniface. **NOTE: On peut utiliser ce cours dans son Baccalauréat ès sciences général. Par contre, ce cours ne peut pas être utilisé pour satisfaire les exigences de 12 heures-crédits aux niveaux 200 et 300 en chimie.**

060.237 Biochemistry 2: Catabolism, Synthesis, and Information Pathways (3)L An introductory course dealing with the basic metabolic processes that occur in living cells, including the production and use of metabolic energy, the breakdown and synthesis of biomolecules; the synthesis of DNA, RNA and proteins; and the regulation of these processes. This course is also given in Chemistry as 002.237. Not to be held with 060.278 (or the former 060.240), or 002.237 or 002.278 (or the former 002.240), or with the former 060.235, or 002.235. *Prerequisites:* 060.236 (or 002.236) and 002.221 (or the former 002.220), both courses with a minimum grade of "C." **NOTE: Students may hold this course for credit in the B.Sc. General degree program, but may not use it to fulfil the minimum requirement of 12 credit hours in 200 level Chemistry.**

060.237F Biochimie 2: catabolisme, synthèse et les voies d'information (3)L Une introduction aux processus métaboliques cellulaires de base incluant la production et l'utilisation de l'énergie métabolique, la dégradation et la synthèse des molécules biochimiques, la synthèse de l'ADN, de l'ARN et des protéines et la régulation de ces processus. Ce cours est aussi offert par le Département de chimie sous la cote 002.237. On ne peut se faire créditer le 060.237 à la fois avec le 060.278 (ou l'ancien 060.240), ou le 002.237, ou le 002.278 (ou l'ancien 002.240) ou les anciens 060.235 ou 002.235. *Préalables:* une note de "C" dans le 060.236 (ou le 002.236) et le 002.221 (ou l'ancien 002.220). Donné seulement au Collège universitaire de Saint-Boniface. **NOTE: On peut utiliser ce cours dans son Baccalauréat ès sciences général. Par contre, ce cours ne peut pas être utilisé pour satisfaire les exigences de 12 heures-crédits aux niveaux 200 et 300 en chimie.**

060.301 Mechanisms of Microbial Disease (3) A consideration of host-parasite relationships, an introduction to the immune response, microbial pathogenesis, viral diseases, clinical microbiology and public health, and an introduction to antimicrobial agents. *Prerequisites:* 060.210 (or the former 060.220 or 060.222) and 060.237 (002.237) (or the former 060.235 (002.235)).

060.301F Mécanismes des maladies microbiennes (3) Ce cours a pour objet l'étude des éléments suivants: les relations hôtes-parasites, une introduction à la réponse immunitaire, la pathogénie microbienne, les maladies virales, la microbiologie clinique et la santé publique, ainsi qu'une introduction aux agents antimicrobiens. *Préalables:* 060.210 (ou les anciens 060.220 ou 060.222) et 060.237 (002.237) (ou l'ancien 060.235 (002.235)). Donné seulement au Collège universitaire de Saint-Boniface.

060.341 Molecular Biology (3) A rigorous treatment of the foundations of modern day molecular biology as it pertains to molecular disease, gene and cell manipulation, and cellular controls. *Prerequisites:* 060.211 (or the former 060.220 or 060.222) and 060.237 (002.237) (or the former 060.235 (002.235)).

060.341F Biologie moléculaire (3) Un traitement rigoureux des bases de la biologie moléculaire moderne reliées à la maladie moléculaire, aux manipulations génétiques et cellulaires, ainsi qu'aux contrôles cellulaires. *Préalables:* 060.211 (ou les anciens 060.220 ou 060.222) et 060.237 (002.237) (ou l'ancien 060.235 (002.235)). Donné seulement au Collège universitaire de Saint-Boniface.

060.343 Molecular Evolution (3) An analysis starting with prebiotic evolution, progressing through the elaboration of macromolecules and examining their adaptation to their function as cellular components. Proteins, carbohydrates, and nucleic acids as structural, catalytic, and genetic elements in evolution of living systems. *Prerequisite:* 060.211 (or the former 060.220 or 060.222) or consent of department head.

060.344 Microbial Physiology (3)L Physiology of microbial growth, metabolism development and differentiation. *Prerequisites:* 060.211 (or the former 060.220 or 060.222) and 060.237 (002.237) (or the former 060.235 (002.235)).

060.345 Regulation of Biochemical Processes (3) Mechanisms of regulation of enzyme activity, including allostery, control of selected biosynthetic and degradative pathways and regulation of gene expression. Contact department regarding availability. *Prerequisites:* 060.211 (or the former 060.220 or 060.222) or consent of the department, and 060.237 (002.237) (or the former 060.235 (002.235)).

060.345F Régulation des processus biochimiques (3) Mécanismes de régulation de l'activité enzymatique, incluant l'allostérie, le contrôle de certaines routes biosynthétiques ou dégradatives sélectionnées, ainsi que la régulation de l'expression génétique. *Préalables:* 060.211 (ou les anciens 060.220 ou 060.222) ou le consentement du département, et 060.237 (002.237) (ou l'ancien 060.235 (002.235)). Donné seulement au Collège universitaire de Saint-Boniface.

060.346 Membrane and Cellular Biochemistry (3)L Isolation, fractionation, structure and function of cellular membranes and subcellular components. The central role of these elements in the biochemistry of cellular processes will be stressed. *Prerequisites:* 060.211 (or the former 060.220 or 060.222) or consent of the department, and 060.237 (002.237) (or the former 060.235 (002.235)).

060.346F Biochimie membranaire et cellulaire (3)L Isolement, fractionnement, structure et fonction des membranes cellulaires et des composés subcellulaires. Le rôle central joué par ces éléments dans la biochimie des processus cellulaires sera mis en évidence. *Préalables:* 060.211 (ou les anciens 060.220 ou 060.222) ou le consentement du département, et 060.237 (002.237) (ou l'ancien 060.235 (002.235)). Donné seulement au Collège universitaire de Saint-Boniface.

060.347 Microbial Systematics (3)L Characterization and classification of the major group of micro-organisms. Bases for divisions and the relatedness among organisms will be studied. Laboratory work on the identification of representative species. Not to be held with the former 060.331. *Prerequisite:* 060.211 (or the former 060.220 or 060.222).

060.348 Microbial Diversity (3)L Study of selected groups of micro-organisms that exhibit distinctive properties such as phototrophy, nitrogen fixation, parasitism. Not to be held with the former 060.331. *Prerequisite:* 060.211 (or the former 060.220 or 060.222).

060.402 Immunology (3) Topics will include antigens, antibodies, antigen-antibody reactions, immunogenetics, regulation of immune reactions, complement, hypersensitivities, autoimmunity, immunodeficiencies, transplantation and tumour immunology. Not to be held with 060.401 or the former 060.444. *Prerequisite:* 060.301.

060.432 Environmental Microbiology (3)L Applications of microbial ecology and biogeochemistry to environmental concerns, including bioremediation, water treatment, and the terrestrial subsurface. *Prerequisites:* 060.228, 060.223 and 060.348 are recommended.

060.441 Virology (3) A comprehensive examination of fundamental properties of viruses, virus taxonomy, and the different ways in which viruses replicate. The ways viruses cause disease and experimental methods used in virology also will be examined. Not to be held for credit by students who have already taken 097.701. *Prerequisites:* 060.301 and 060.341.

Honours and Four Year Major Courses

Under normal circumstances the 400 level Microbiology courses listed below will be available only to students in Year 4.

060.398 Work Term 1 (0) Work assignments in business, industry or government for students registered in the Microbiology Honours or Major Cooperative program. Requires submission of a written report covering the work completed during the four-month professional assignment. (Pass/Fail grade only).

060.399 Work Term 2 (0) Work assignments in business, industry or government for students registered in the Microbiology Honours or Major Cooperative program. Requires submission of a written report covering the work completed during the four-month professional assignment. (Pass/Fail grade only).

060.401 Immunology H (3)L Topics will include antigens, antibodies, antigen-antibody reactions, immunogenetics, regulation of immune reactions, complement, hypersensitivities, autoimmunity, immunodeficiencies, transplantation and tumour immunology. Priority will be given to fourth year Science Honours students. Not to be held with 060.402 or the former 060.444. *Prerequisite:* 060.301.

060.401F Immunologie (3)L Les sujets abordés seront les antigènes, les anticorps, les réactions antigènes-anticorps, l'immunogénétique, la régulation de la réponse du système immunitaire, le complément, les réactions d'hypersensibilités, l'auto-immunité, les déficiences immunitaires, l'immunologie des greffes et des tumeurs. On ne peut se faire créditer à la fois le 060.401 et 060.402 et l'ancien 060.444. *Préalable:* 060.301. Donné seulement au Collège universitaire de Saint-Boniface.

060.447 Fermentations (3)L Biochemical and enzymatic mechanisms of microbial reactions in anaerobic fermentations and methods of their investigation. *Prerequisites:* 060.211 (or the former 060.220 or 060.222) and 060.237 (002.237) (or the former 060.235 (002.235)).

060.451 Industrial Microbiology (3)L A survey of microbial reactions used in industry. Fermentations, such as the production of amino acids and antibiotics, will be discussed. *Prerequisites:* 060.211 (or the former 060.220 or 060.222) and 060.237 (002.237) (or the former 060.235 (002.235)).

060.453 Project in Microbiology (6) A research project chosen in consultation with the department head, and supervised by a staff member. A written report is normally required. The course is available only to final year Honours students in Microbiology, the Joint Microbiology-Chemistry programs, or the Genetics program. Not to be held with 002.471.

060.454 Biological Energy Transduction (3) Biochemistry of biological processes involving interconversion of different forms of energy such as oxidative phosphorylation, membrane transport and contractile processes. *Prerequisite:* 060.211 (or the former 060.220 or 060.222) and 060.237 (002.237) (or the former 060.235 (002.235)) or consent of the department.

060.454F Transduction de l'énergie biologique (3) Biochimie des processus biologiques comportant l'interconversion des différentes formes d'énergie comme la phosphorylation oxydative, le transport dans les membranes et les processus de contractions. *Préalable:* 060.211 (ou les anciens 060.220 ou 060.222) et 060.237 (002.237) (ou l'ancien 060.235 (002.235)) ou le consentement du département. Donné seulement au Collège universitaire de Saint-Boniface.

060.457 Recombinant DNA Technology H (3)L Techniques for plasmid isolation, restriction nuclease digestion, cloning in plasmid and viral vectors, DNA sequencing, transformation and gene transfer will be described. Priority will be given to Science Honours students. Not to be held with 060.458. *Prerequisite:* 060.341.

060.458 Recombinant DNA Technology (3) Techniques for plasmid isolation, restriction nuclease digestion, cloning in plasmid and viral vectors, DNA sequencing, transformation and gene transfer will be described. Not to be held with 060.457. *Prerequisite:* 060.341.

060.458F Technologie de l'ADN recombinant (3) Techniques d'isolement de plasmides, la digestion de l'ADN par les enzymes (endonucléases) de restriction, le clonage, détermination de la séquence des nucléotides dans l'ADN, transformation de l'ADN, transfert de gènes. On ne peut se faire créditer à la fois le 060.458 et le 060.457. *Préalable:* 060.341. Donné seulement au Collège universitaire de Saint-Boniface.

060.460 Molecular Genetics of Prokaryotes (3)L A detailed examination of replication, expression, mutability, repair and transposition of DNA in bacteria and their viruses. Priority will be given to Science Honours students. Check with the department for availability. Not to be held with the former 060.452 or 060.456. *Prerequisites:* 060.211 (or the former 060.220, or 060.222) and 060.237 (002.237) (or the former 060.235 (002.235)). 001.246 is recommended.

060.460F Génétique moléculaire des procaryotes (3)L Une étude détaillée de la réplication, de l'expression, de la mutagenèse de la réparation de l'ADN ainsi que des éléments génétiques transposables des bactéries et des virus. On ne peut se faire créditer à la fois le 060.460 et les anciens 060.452 ou 060.456. *Préalables:* le 060.211 (ou les anciens 060.220 ou 060.222) et 060.237 (002.237) (ou l'ancien 060.235 (002.235)). Le 001.246 est recommandé. Donné seulement au Collège universitaire de Saint-Boniface.

060.461 Molecular Genetics of Eukaryotes (3)L A comprehensive study dealing with replication and expression of DNA, genome structure, and the involvement of genes in AIDS and cancer. Check with department for availability. Not to be held with the former 060.452 or 060.455. *Prerequisites:* 060.211 (or the former 060.220, or 060.222) and 060.237 (002.237) (or the former 060.235 (002.235)). 001.246 is recommended.

060.498 Work Term 3 (0) Work assignments in business, industry or government for students registered in the Microbiology Honours or Major Cooperative program. Requires submission of a written report covering the work completed during the four-month professional assignment. (Pass/Fail grade only).

060.499 Work Term 4 (0) Work assignments in business, industry or government for students registered in the Microbiology Honours or Major Cooperative program. Requires submission of a written report covering the work completed during the four-month professional assignment. (Pass/Fail grade only).

Service Courses

060.277 Elements of Biochemistry 1 (3)L Basic concepts of biochemistry including the properties of biomolecules (amino acids and proteins, enzymes, carbohydrates, lipids, and nucleic acids) and aspects of energy production in cells. For students in Agricultural and Food Sciences, Human Ecology, and Botany or Zoology programs in Science. May not be used as part of an Honours, Major, General, or Minor program in Chemistry or in Microbiology. This course is also given in Chemistry as 002.277. Not to be held with 002.277, 060.236 (002.236) (or the former 060.235, 002.235, 060.240 or 002.240). *Prerequisites:* 002.131 or 002.132 (or the former 002.123 or 002.128), plus six credit hours of university level biological sciences.

060.278 Elements of Biochemistry 2 (3)L The continuation of 060.277 (002.277), dealing with nitrogen and lipid metabolism, representative biosynthetic pathways, and synthesis and importance of DNA, RNA and proteins. For students in Agricultural and Food Sciences, Human Ecology, and Botany or Zoology programs in Science. May not be used as part of an Honours, Major, General, or Minor program in Chemistry or Microbiology. This course is also given in Chemistry as 002.278. Not to be held with 002.278, 060.237 (002.237) (or the former 060.235, 002.235, 060.240 or 002.240). *Prerequisites:* 060.277 (002.277) or 060.236 (002.236).

4.14 Department of Physics and Astronomy

Head: Gwyn Williams

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Telephone: 204 474 9817

Websites: www.physics.umanitoba.ca
umanitoba.ca/science/astronomy

E-mail: physics@umanitoba.ca

4.14.1 Academic Staff

Distinguished Professors:

Morrish, A.H., B.Sc.(Hons.) (Manitoba), M.A. (Toronto), Ph.D. (Chicago), F.R.S.C.; **van Oers**, W.T.H., Ph.D. (Amsterdam).

Professors Emeriti:

Connor, R.D., B.Sc., Ph.D. (Edinburgh); **Duckworth**, H.E., B.A. (Manitoba), B.Sc., Ph.D. (Chicago), F.R.S.C.; **McKee**, J.S.C., B.Sc., Ph.D. (Queen's, Belfast), D.Sc. (Birmingham); **Standing**, K.G., B.Sc.(Hons.) (Manitoba), A.M., Ph.D. (Princeton).

Senior Scholars:

Falk, W., B.Sc., M.Sc. (Saskatchewan), Ph.D. (UBC); **Jovanovich**, J., B.Sc. (Belgrade), M.Sc. (Manitoba), Ph.D. (Washington); **Smith**, G., B.Sc. (Case Institute of Technology), Ph.D. (Case Western Reserve); **Standil**, S., B.Sc., M.Sc. (Queen's), Ph.D. (Manitoba); **Vail**, J.M., B.Sc. (Hons), M.Sc. (Manitoba), Ph.D. (Brandeis).

Professors:

Barber, R.C., B.Sc.(Hons.), Ph.D. (McMaster); **Birchall**, J., B.Sc.(Hons.), Ph.D. (Birmingham); **Blunden**, P.G., B.Math. (Waterloo), Ph.D. (Queen's); **Davison**, N.E., B.Sc. (McMaster), Ph.D. (Alberta); **Ens**, E.W., B.Sc. (Winnipeg), Ph.D. (Manitoba); **Loly**, P.D., B.Sc., Ph.D. (London), D.I.C. (Imperial College); **Osborn**, T.A., B.Sc. (Cornell), Ph.D. (Stanford); **Page**, J.H., B.Sc.(Hons.) (Dalhousie), D.Phil. (Oxford); **Page**, S.A., B.Sc.(Hons.), Ph.D. (Queen's); **Roshko**, R.M., B.Sc. (Winnipeg), M.Sc., Ph.D. (Manitoba); **Sharma**, K.S., B.Sc.(Hons.), M.Sc., Ph.D. (Manitoba); **Southern**, B.W., B.Sc. (York), M.Sc., Ph.D. (McMaster); **Svenne**, J.P., B.Sc. (Toronto), Ph.D. (M.I.T.); **Tabisz**, G.C., B.A.Sc., M.A., Ph.D. (Toronto); **Williams**, G., B.Sc.(Hons.) (Bristol), Ph.D. (London), D.I.C. (Imperial College); **Zetner**, P.W., B.Sc.(Hons.), M.Sc., Ph.D. (Windsor).

Associate Professors:

Bhakar, B.S., B.Sc. (Agra), M.Sc. (Aligarh), Ph.D. (Delhi); **Bochonko**, R., B.Sc.(Hons.) (Manitoba), M.S., C. Phil., Ph.D. (Michigan);

Assistant Professors:

English, J., A.O.C.A. (Ont. Coll. Of Art), B.Sc. (Toronto), Ph.D. (Australian National Univ.); **Safi-Harb**, S., B.Sc. (American Univ. of Beirut), M.S., Ph.D. (Wisconsin).

4.14.2 Program Information

Physics is the discipline that by experiment and logical analysis examines the laws of nature that form the basis for all relationships and interactions between matter and energy. A knowledge of physics is also essential in other natural sciences, such as chemistry and geology, and to professions such as engineering, medicine and dentistry. Astronomy, the other focus of this department, examines the universe, the earth and the planets, as well as phenomena such as quasars, pulsars, comets, and asteroids; a planetarium and an astronomical observatory are part of this program. In both Physics and Astronomy mathematical skills are developed simultaneously.

The department must approve a student's Honour or Major program each session. Students must also obtain approval for any and all revisions to their program.

Physics and Astronomy Prerequisite Information

Students failing to obtain a minimum grade of 'C' in any course stipulated as a prerequisite to a further course in Physics and Astronomy are not allowed to proceed without written consent from the instructor.

Honours

To enter the Honours program in Physics and Astronomy, a student must have a "B" in 016.105 and 016.107, or a "B+" in 016.102 and a "B" in 016.107, standing in 136.150, a "B" in 136.170 and a "B" in 136.130 or any equivalents. In addition, a student must satisfy the faculty requirements for entry to the Honours program.

To continue in the Honours program, i.e., to proceed from Year 2 to Year 3 and Year 3 to Year 4, students must achieve a minimum grade of "C" in all Honours Physics and Astronomy courses which are either required in the program or required as prerequisites to other Physics and Astronomy courses taken in the Honours program. There are a number of awards — the Coish, the C.P. Loewen, the Neamtan, the Roulston, and the Sen Scholships — available in this program.

Joint Honours

The Department of Physics and Astronomy offers two joint honours programs, one in conjunction with the Department of Mathematics, and the other with the Department of Computer Science.

To enter the Joint Honours Mathematics-Physics program the student must have a minimum grade of B in 136.130, 136.151 and 136.171 (or 136.169), 016.105 (or B+ in 016.102) and 016.107.

To enter the Joint Honours Computer Science-Physics program, the student must have a minimum grade of B in 016.105 (or B+ in 106.102), 016.107, 136.130, 136.153, 136.173, and 074.102.

Four Year Major

The goal of this program is to cover approximately three years of the Physics and Astronomy Honours program in a longer period of time. The program allows greater scheduling flexibility and also accommodates a wider range of incoming student credentials.

To enter the four year Major program in Physics and Astronomy, a student must have 016.105 (C+) or 016.102 (B), and 016.107 (C+), 136.150³ and 136.170³ with a minimum grade of "C" and an average of "C+" on these two courses. In addition, students must have satisfied the faculty requirements for entry to the four year Major program.

Three Year General

As prescribed with all other faculty regulations in Section 3.2, students in this program must select 30 credit hours of 200 and (or) 300 level courses from **two** Science departments. To satisfy the requirement in the Department of Physics and Astronomy, students must select a minimum of 12 credit hours from the list in the below chart.

Variations in any of the programs listed above may be possible, but must be approved by the head of the department and the Science general office.

4.14.3 Physics and Astronomy, Department Code: 016

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
HONOURS^{1,7} 120 CREDIT HOURS			
016.105 (B) (or 016.102 ² (B+)) and 016.107 (B), 136.130 ³ (B), 136.150 ³ (B), 136.170 ³ (B) Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course ⁶	016.226, 016.237, 016.250, 016.260, 016.261, 016.265, 136.270 ⁸ Choose 1 of : Option A (Astronomy): 016.207 Option B (Physics): 6 credit hours to be chosen from 136.271 ⁸ , 136.280 or courses in Computer Science, Chemistry or Geophysics	016.341, 016.343, 016.365, 016.369, 016.370 Plus 3 credit hours of electives with one of the following strongly recommended: 016.322, 016.357, 016.366 and courses from Computer Science, Chemistry, Geological Sciences and Mathematics. Students who choose Option B may also want to consider 016.318 016.318 136.313	016.437, 016.451 ⁴ , 016.452 ⁴ Plus 9 credit hours from 016.357, 016.366, 016.425, 016.456, 016.458, 016.462, 016.463 016.423, 016.424 016.467, 136.370
30 Hours	30 Hours	30 Hours	30 Hours

JOINT COMPUTER SCIENCE – PHYSICS & ASTRONOMY HONOURS PROGRAM See Section 4.7.5 Computer Science**JOINT MATHEMATICS-PHYSICS AND ASTRONOMY HONOURS** See Section 4.12 Mathematics**FOUR YEAR MAJOR^{7,9} 120 CREDIT HOURS**

016.105 (C+) (or 016.102 ² (B)) and 016.107 (C+), 136.150 ^{3,5} and 136.170 ^{3,5} Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course	016.226, 016.237, 016.250, 016.260, 136.120, 136.130 ³	016.261, 016.265, 016.341, 016.370, 136.270 ⁸ Plus 18 credit hours which must include 016.369 or both of 024.216 and 024.222, with the remaining from the list of 300 and 400 level Honours and Major Physics and Astronomy courses	016.343, 016.365, 136.313, 136.370
Astronomy courses may be used in place of some of the above courses with permission of the department. Consult the department advisor for details.			

THREE YEAR GENERAL

A minimum of 12 credit hours from 016.207, 016.220, 016.225, 016.226, 016.227, 016.228, 016.235, 016.270, 016.271, 016.318, 016.336, 016.380.

MINOR

016.105 (C) and 016.107 (C) (or 016.102 (C+) and 016.103 (C+))	A minimum of 12 credit hours from 016.207, 016.220, 016.225, 016.226, 016.227, 016.228, 016.235, 016.270, 016.271, 016.318, 016.336, 016.380.
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NOTES:

¹ Students must achieve a minimum grade of "C" in all Honours Physics and Astronomy courses that are either required in the program or required as prerequisites to other Physics and Astronomy courses taken in the Honours program.

² 016.103 is not suitable for entry to the Honours and four year Major program. Students must also take 016.107 if they have already taken 016.103. Students can hold credit for both 016.103 and 016.107.

³ 136.131 may be taken in place of 136.130; 136.151, 136.152 or 136.153 may be taken in place of 136.150; 136.171 or 136.173 may be taken in place of 136.170; 136.169 may be taken in place of 136.150 and 136.170.

⁴ Other Honours Physics and Astronomy or Honours Mathematics courses may be substituted for one of 016.451 or 016.452 with permission of the department.

⁵ A minimum grade of "C" and an average of "C+" is required on these two Mathematics courses.

⁶ As there are no electives in Year 2 of the program, students should complete the University written English requirement in University 1. If not completed in University 1, a "W" course must be completed prior to Year 3 in addition to the required Year 2 courses.

⁷ The courses required in this program will satisfy the University mathematics requirement.

⁸ 136.275 may be taken in lieu of 136.270 and 136.271.

⁹ **IMPORTANT:** The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates the recommended arrangement of the required courses and is meant to be a guide around which students can plan their program (Letters in brackets refer to minimum prerequisite standing required for further study.)

4.14.4 Physics and Astronomy Course Descriptions

Students failing to obtain a minimum grade of 'C' in any course stipulated as a prerequisite to a further course in Physics and Astronomy are not allowed to proceed without written consent from the instructor.

All courses are not offered every year. The course schedule for the current academic session is published in the *Registration Guide*.

Students may not hold credit for more than one of 016.102 or 016.105 (or the former 016.118, 016.120 or 016.127).

Astronomy

NOTE: Students registering in certain courses may be required to pay a portion of the costs associated with field trips. For details, contact the department general office.

016.180 General Astronomy (6)L Nature, origin and evolution of the solar system, stars, interstellar gas, galaxies and the universe. Includes planetarium seminars, laboratory work, and evening observation sessions. Not to be held with the former 013.121.

016.207 Observational Astronomy (6)L Students will undertake a project on galaxies or nebulae using the University of Manitoba's Astronomical Observatory at Glenlea. Not to be held with the former 016.280 or 013.227. *Prerequisite:* 016.103 (B) or 016.107.

016.318 Stars (3) This course is an application of physics to the structure of stars, their formation and evolution; theoretical models and observations; comparisons of main sequence stars like our Sun, binary star systems, post-main sequence evolution, and the final stages of stellar evolution such as the formation of white dwarfs, neutron stars and black holes. *Prerequisite:* 016.107.

016.380 Topics in Astronomy (6)L An assignment and conference course to be taken only through consultation with the head of the department. The topics will vary, depending upon student needs and interests, and will include specialized topics not available in regular course offerings. Not to be held with the former 013.377.

016.423 The Phenomenology of Galaxies (3) This course describes the phenomenology of galaxies as determined by recent observational data. Topics include the characteristics and distribution of stars; radiation from the interstellar medium (hydrogen, molecular gas and dust); the kinematics of the stellar and gaseous components of the Milky Way; the formation and evolution of galaxies and clusters of galaxies. *Prerequisite:* 016.318.

016.424 Astronomy Project (6) A research oriented course involving processing, analysis, and interpretations of astrophysical data. Available topics include neutron stars, supernova remnants, astrophysical jet sources, the interstellar medium, and galactic structure. *Prerequisites:* 016.207 (or the former 016.280 or 013.227) and 016.318. *Corequisite:* 016.423.

Physics: General Courses

016.090 Preparing for University Physics (0) A review of elementary physics, emphasizing the laws of mechanics, for students considering enrolling in a first year university physics course. Mathematical techniques used in solving physics problems and the relevance of physics to everyday life will be stressed. Although this course may be used as part of the prerequisite requirements for first-year Physics courses, students are encouraged to take Physics 40S whenever possible.

016.102M General Physics 1 (3)L A non-calculus survey course in Physics covering topics in mechanics and thermodynamics, with illustrations drawn from the life and physical sciences. This course, together with the sequel 016.103, is recommended for students seeking either a single, comprehensive course in Physics or entry into health science programs. It may also be used for entry into the Honours Physics program ("B+" or better) or the Major Physics program ("B" or better). Not to be held with 016.105, 016.141 or 016.142 or the former 016.118, 016.120 or 016.127. *Prerequisites:* Either Physics 40S, 016.090 (with a "P"), or equivalent; and either Pre-calculus Mathematics 40S, Applied Mathematics 40S (with 70 per cent or better), or equivalent. It is strongly recommended that students attain a minimum of 70 per cent as the average of their marks in Physics 40S and Pre-calculus Mathematics 40S.

016.102F,M Physique générale 1 (3)L Ce cours d'initiation à la physique ne requiert pas de calcul et traite de certains thèmes tirés de la mécanique et de la thermodynamique avec des exemples tirés des sciences biologiques et physiques. Ce cours, de même que le 016.103, est particulièrement conseillé aux étudiants désireux d'avoir une vue d'ensemble de la physique ou qui ont l'intention d'entreprendre des études dans les sciences de la santé. Il peut aussi servir comme cours de base pour un programme de spécialisation en physique ("B+" ou mieux) ou de majeure en physique ("B" ou mieux). On ne peut se faire créditer à la fois le 016.102 avec le 016.105, le 016.141, ou le 016.142, ou les anciens 016.118, 016.120 ou 016.127. *Préalables:* Soit Physique 40S, 016.090 (avec "P") ou l'équivalent, et soit le cours de Mathématiques précalcul 40S, ou une note de 70% dans les cours de Mathématiques appliquées 40S, ou l'équivalent. Il est fortement recommandé aux étudiants d'obtenir une note de 70% dans les cours de Mathématiques précalcul 40S et de Physique 40S. Donné seulement au Collège universitaire de Saint-Boniface.

016.103M General Physics 2 (3)L A non-calculus survey in Physics covering topics in electricity, magnetism, optics, and modern physics, with illustrations drawn from the life and physical sciences. This course, together with its prerequisite 016.102, is recommended for students seeking either a single comprehensive course in Physics,

or entry into health science programs. Not suitable for entry to Major or Honours in Physics. This course may not be held with 016.141 or 016.142 or the former 016.120. *Prerequisite:* 016.102 or 016.105 (or the former 016.118).

016.103F,M Physique générale 2 (3)L Ce cours d'initiation à la physique ne requiert pas de calcul et traite de certains thèmes tirés de l'électricité, du magnétisme, de l'optique et de la physique moderne et appuyé d'exemples pris des sciences biologiques et physiques. Ce cours, de même que le 016.102, est particulièrement conseillé aux étudiants désireux d'avoir une vue d'ensemble de la physique ou qui ont l'intention d'entreprendre des études des sciences de la santé. Il ne peut servir aux programmes de majeure ou de spécialisation en physique. On ne peut se créditer à la fois le 016.103 et le 016.141 ou le 016.142 ou les anciens 016.120. *Préalable:* 016.102 ou 016.105 (ou l'ancien 016.118). Donné seulement au Collège universitaire de Saint-Boniface.

016.105 Physics 1: Mechanics (3)L A calculus-based introduction to classical mechanics which includes vectors, translational kinematics and dynamics, work and energy, linear momentum and collisions, rotational kinematics and dynamics, and oscillatory motion. This course is intended for students considering a program of study in engineering or the physical sciences. Not to be held with 016.102, 016.141 or 016.142 or the former 016.118, 016.120 or 016.127. *Prerequisites:* Pre-calculus Mathematics 40S (300) (or equivalent) and Physics 40S (300) (or equivalent) or 016.090 (with a grade of "P"). It is strongly recommended that students attain a minimum of 80 per cent as the average of their marks in Physics 40S (300) and Pre-calculus Mathematics 40S (300). *Corequisite:* One of 136.150, 136.151, 136.152, 136.153 or 136.169 (or the former 006.125, 013.139 or 013.159).

016.105F Physique 1: La Mécanique (3)L Une introduction, basée sur le calcul, à la mécanique classique. Les sujets suivants seront traités: les vecteurs, la dynamique et la cinématique du mouvement de translation. La cinématique de la rotation, l'énergie, le travail, le moment linéaire, les collisions, le mouvement oscillatoire. Ce cours est destiné particulièrement aux étudiants qui voudraient poursuivre leur programme d'études dans les sciences physiques ou en ingénierie. On ne peut se faire créditer à la fois le 016.105 et le 016.102 ou 016.141 ou le 016.142 et les anciens 016.118, 016.120 et 016.127. *Préalables:* Mathématiques précalcul 40S (ou l'équivalent) et Physique 40S (ou l'équivalent) ou le 016.090 (avec "P"). Il est fortement recommandé que l'étudiant obtienne une moyenne de 80% dans les préables de mathématiques précalcul 40S et de Physiques 40S. *Concomitants:* Un de 136.150, 136.151, 136.152, 136.153 ou 136.169 (ou des anciens 006.125, 013.139 ou 013.159). Donné seulement au Collège universitaire de Saint-Boniface.

016.107 Physics 2: Waves and Modern Physics (3)L A calculus based introduction to waves and modern physics which includes: oscillations, waves, superposition, interference, relativity, photoelectric effect, quantisation, Rutherford atom, Bohr model, atomic spectra, deBroglie waves, Heisenberg's uncertainty principle, nuclear reactions, fission, fusion, subatomic particles. This course, like Physics 1 (016.105), is intended for students intending a program in the physical sciences. Not to be held for credit with 016.141 or 016.142. *Prerequisites:* 016.105 (or the former 016.118) or 016.102 (B) and 136.150 (or 136.151, 136.152, 136.153 or the former 006.125 or 013.139). *Corequisite:* 136.170 (or 136.169, 136.171, 136.173 or the former 006.126, 013.149, or 013.159).

016.107F Physique 2: La Physique des ondes et la physique moderne (3)L Une introduction, basée sur le calcul, à la physique des ondes et à la physique moderne. Les sujets suivant seront traités: les oscillations: les ondes, la superposition, l'interférence, la relativité, l'effet photoélectrique, le modèle quantique, l'atome de Rutherford, le modèle de Bohr, les spectres atomiques, la théorie de deBroglie, le principe d'incertitude de Heisenberg, les réactions nucléaires, la fission, la fusion, les particules sous-atomiques. Ce cours, tout comme le 016.105 Physique, est destiné aux étudiantes et aux étudiants qui veulent suivre un programme d'études en sciences physiques. On ne peut se faire créditer à la fois le 016.107 avec le 016.141, ou le 016.142. *Préalables:* 016.105 (ou l'ancien 016.118) et 136.150 (ou 136.151, 136.152, 136.153 ou les anciens 006.125 ou 013.139). *Concomitants:* 136.170 (ou 136.169, 136.171, 136.173 ou les anciens 006.126, 013.149 ou 013.159). Donné seulement au Collège universitaire de Saint-Boniface.

016.130 Energy and the Environment (6) This course provides a broad physical outlook on the environment in which we live. Emphasis will be placed on topics of current interest such as the atmosphere, outer space, the fundamental structure of energy and matter, energy sources, the application of physical principles in modern technology, etc. The lectures will include films and demonstrations; student participation will be encouraged in discussions and in the choice of topics. The course is designed for students of all faculties and a prior knowledge of mathematics and physics is not a requirement. This course cannot be used as a part of a Major or Minor in Physics.

016.130F Energie et environnement (6) Ce cours présente les particularités physiques générales de notre environnement. On insistera sur certains problèmes d'actualité, à savoir l'atmosphère, le cosmos, la structure de la matière et de l'énergie, les sources d'énergie, l'application des principes de la physique à la technologie moderne, etc. Le cours comportera des projections de films et des démonstrations. La participation aux discussions et aux choix des sujets à traiter est encouragée. Ce cours est conçu pour les étudiants de toutes les facultés et n'exige aucune connaissance des mathématiques ou de la physique. Il ne peut faire partie des programmes de Mineure ou de Majeure en Physique. Donné seulement au Collège universitaire de Saint-Boniface.

016.141 The New Physics (3) This is the first of two half courses designed to achieve "physics literacy" through the presentation of the "Great Ideas." Features include developing intuition, connections with technology and the environment, social and philosophical issues, profiles of scientists and science in the media. The course will draw on high school math for simple numerical calculations with core formulae. Stu-

dents should expect to draw diagrams and to be introduced to some new concepts, but should not expect the “math problem” solving associated with the foundation courses 016.102, 016.103, 016.105, and 016.107. Discussed in this course: scientific method, mathematics as the language of science, regularities in the universe, mechanical universe, energy, thermodynamics, electromagnetism, waves and electromagnetic radiation, atomic physics, quantum mechanics (wave-particle duality and Heisenberg’s uncertainty principle), clusters of atoms, mind and matter (the physicist Pauli and the psychologist Jung). This course is intended for students pursuing a liberal arts program and may not be held for credit with 016.102, 016.103, 016.105, 016.107, or the former 016.106, 016.118, 016.120, or 016.128.

016.142 More New Physics (3) This is the second of two half courses designed to achieve “physics literacy” through the presentation of the “Great Ideas”. Features include developing intuition, connections with technology and the environment, social and philosophical issues, profiles of scientists and science in the media. The course will draw on high school math for simple numerical calculations with core formulae. Students should expect to draw diagrams and to be introduced to some new concepts, but should not expect the “math problem” solving associated with the foundation courses 016.102, 016.103, 016.105, and 016.107. Discussed in this course: materials, nuclear physics, elementary particles, relativity, planetary physics, astrophysics, cosmology, geometry of the universe, (Plato to Banchoff), computers and physics (cellular automata and Conway’s “Game of Life,” chaos, fractals,...). This course is intended for students pursuing a liberal arts program and may not be held for credit with 016.102, 016.103, 016.105, 016.107, or the former 016.106, 016.118, 016.120, or 016.128. *Prerequisite:* 016.141 or consent of department.

016.220 Electricity and Magnetism (6L) Electric field, electric potential, Gauss’ law, capacitors, dielectric materials, magnetic fields, Ampere’s law, magnetic induction, magnetic materials, displacement current, integral form of Maxwell’s equations, Ohm’s law, Kirchhoff’s laws, DC circuit analysis, equivalent circuits, AC circuit analysis, complex impedance, RLC circuits, magnetic coupling, transformers, diodes and diode circuits. Not to be held with 016.260 or 016.261. *Prerequisites:* one of 016.107 or the former 016.106 or 016.120, or 016.102 (C+) and 016.103 (C+) (or the former 016.118 or 016.127 and the former 016.128); and one of: 136.150, 136.151, 136.152, 136.153 or 136.169 (or the former 006.125, 013.139 or 013.159). *Corequisites:* 136.120 (or the former 006.144 or 006.147) and one of 136.169, 136.170, 136.171 or 136.173 (or the former 006.126, 013.149, or 013.159).

016.220F Electricité et magnétisme (6L) Champs électrostatique, potentiel électrostatique, loi de Gauss, capacité, matériaux diélectriques, champs magnétiques, loi d’Ampère, induction magnétique, matériaux magnétiques, courant de déplacement, forme intégrale des équations de Maxwell, loi d’Ohm, lois de Kirchhoff, analyse de circuits en courant continu, circuits équivalents, analyse de circuits en courant alternatif, impédance complexe, circuits RLC, couplage magnétique, transformateurs, diodes et circuits avec diodes. On ne peut se faire créditer à la fois le 016.220 et le 016.260 ou le 016.261. *Préalables:* Un de 016.107 (ou les anciens 016.106 ou 016.120), ou 016.102 (C+) et 016.103(C+) (ou les anciens 016.118 ou 016.127 et l’ancien 016.128); et un de 136.150, 136.151, 136.152, 136.153 ou 136.169 (ou un des anciens 006.125, 013.139, ou 013.159). *Concomitants:* 136.120 (ou les anciens 006.144 ou 006.147) et un de 136.169, 136.170, 136.171 ou 136.173 (ou un des anciens 006.126, 013.149, ou 013.159). Donné seulement au Collège universitaire de Saint-Boniface.

016.225 Introductory Modern Physics (3) An introductory course on atomic and nuclear physics. Kinetic theory of gases, special theory of relativity, quantum effects and atomic physics, nuclear physics. Not available to students who have previously obtained credit in, or are currently registered in 016.250. Not available to students in Honours or Major program in Physics. *Prerequisites:* One of: 016.107 (or the former 016.106 or 016.120), or 016.102 (C+) and 016.103 (C+) (or the former 016.118 or 016.127 and the former 016.128); and one of: 136.150, 136.151, 136.152, 136.153 or 136.169 (or the former 006.125, 013.139 or 013.159). *Corequisites:* 136.120 (or the former 006.144 or 006.147) and one of 136.169, 136.170, 136.171 or 136.173 (or the former 006.126, 013.149, or 013.159).

016.225F Introduction à la physique moderne (3) Un cours d’introduction en physique atomique et nucléaire. Théorie cinétique des gaz, théorie de la relativité, effets de quantum, physique atomique, physique nucléaire. Ce cours n’est pas disponible aux étudiants qui auraient préalablement obtenu des crédits ou qui sont actuellement inscrits dans le cours 016.250. Ce cours n’est pas disponible aux étudiants dans les programmes de spécialisation ou de majeure en Physique. *Préalables:* Un de: 016.107 (ou les anciens 016.106 ou 016.120), ou 016.102 (C+) et 016.103(C+) (ou les anciens 016.118 ou 016.127 et l’ancien 016.128); et un de 136.150, 136.151, 136.152, 136.153 ou 136.169 (ou les anciens 006.125, 013.139, ou 013.159). *Concomitants:* 136.120 (ou les anciens 006.144 ou 006.147) et un de 136.169, 136.170, 136.171 ou 136.173 (ou un des anciens 006.126, 013.149, ou 013.159). Donné seulement au Collège universitaire de Saint-Boniface.

016.226 Optics (3)L A survey of refraction, reflection, simple lens systems and optical systems, dispersion, achromatism and an elementary treatment of diffraction, interference, and polarization. *Prerequisites:* One of: 016.107 or the former 016.106 or 016.120, or 016.102(C+) and 016.103(C+) or the former 016.128; and one of 136.150, 136.151, 136.152, 136.153 or 136.169 (or the former 006.125, 013.139, or 013.159). *Corequisites:* 136.130 or 136.131 (or the former 013.146), and one of 136.169, 136.170, 136.171 or 136.173 (or the former 006.126, 013.149 or 013.159).

016.226F Optique (3)L Etude de la réfraction, réflexion, des systèmes de lentilles simples et des systèmes optiques, dispersion, achromatisme et vue élémentaire de la diffraction, interférence et polarisation. *Préalables:* Un de: 016.107 (ou l’ancien 016.106 ou 016.120), ou 016.102 (C+) et 016.103 (C+) ou l’ancien 016.128; et un

de 136.150, 136.151, 136.152, 136.153 ou 136.169 (ou les anciens 006.125, 013.139, ou 013.159). *Concomitants:* 136.130 ou 136.131 (ou l’ancien 013.146) et un de 136.169, 136.170, 136.171, ou 136.173 (ou un des anciens 006.126, 013.149 ou 013.159). Donné seulement au Collège universitaire de Saint-Boniface.

016.227 Physical Topics for Biologists A (3) Physical topics with a relation to biology are discussed. Radiative transfer of energy, boundary layers, heat conduction, diffusion, mass transport, and the use of radioactive materials in biology are considered. *Prerequisite:* 016.107 (or the former 016.106 or 016.120) or 016.103 or consent of department.

016.227F Eléments de physique pour les sciences biologiques A (3) Ce cours introduit les éléments de physique ayant un rapport direct avec les sciences biologiques. En particulier, le transfert d’énergie par rayonnement, les effets de surface, la conduction thermique, les phénomènes de diffusion, les phénomènes de transport ainsi que l’utilisation de matériaux radioactifs. *Préalable:* 016.107 (ou les anciens 016.106 ou 016.120) ou 016.103 ou le consentement du département. Donné seulement au Collège universitaire de Saint-Boniface.

016.228 Physical Topics for Biologists B (3) Physical properties of solids, liquids, and gases including diffusion and membranes; radiation and radioactivity. Aspects of particular interest to the biological sciences are stressed. *Prerequisite:* 016.107 (or the former 016.106 or 016.120) or 016.103 or consent of department.

016.228F Eléments de physique pour les sciences biologiques B (3) Ce cours traite des propriétés physiques des solides, des liquides et des gaz ainsi que des phénomènes de radiation et de la radioactivité. L’accent sera mis sur les aspects ayant un rapport direct avec les sciences biologiques. *Préalable:* 016.107 (ou les anciens 016.106 ou 016.120) ou 016.103 ou le consentement du département. Donné seulement au Collège universitaire de Saint-Boniface.

016.235 Energy Sources: Physical Aspects (3) A detailed investigation of the physical aspects of energy production and utilization. Critical comparison of the various energy sources including solar, nuclear, fossil, and wind will be emphasized. The physics of energy collection, production, storage, and distribution will be discussed in the context of thermodynamics, radiation, solid state and nuclear physics. *Prerequisite:* 016.107 (or the former 016.106 or 016.120) or 016.103 or consent of department.

016.270 Concepts of Physical Science to 1900 (3) The evolution of scientific thought is traced through three major historical periods, namely the early Greeks, the scientific revolution of the 16th and 17th centuries and the “modern” period up to 1900. The course is designed to present the key ideas of scientific inquiry into the nature of heat, light, matter and celestial mechanics within their historical context. Not to be held with the former 016.124, 016.131, or 071.129. This course is not to be held for credit in a Major or Honours program in Physics and Astronomy.

016.271 Concepts of Physical Science from 1900 (3) This course deals with the concepts of “modern physics” which arose near the turn of the twentieth century and revolutionized our view of the physical world. Einstein’s Theory of Relativity, the Bohr-Rutherford atom and wave-particle duality are discussed. The impact of these ideas on modern society is explored. N.B. This course should be preceded by 016.270 (or the former 016.131). Not to be held with the former 016.124, 016.132, or 071.129. This course is not to be held for credit in a Major or Honours program in Physics and Astronomy.

016.336 Intermediate Modern Physics (6) Introduction to wave mechanics and its applications in atomic, molecular, and solid state physics. A survey of nuclear and particle physics phenomena. An introduction to astrophysics. *Prerequisite:* 016.225.

016.464 Introduction to Quantum Mechanics for Advanced Students 1 (3) An introduction to the fundamentals of quantum mechanics for students of engineering and sciences other than Physics, in the context of modern materials. Postulates of quantum mechanics, harmonic oscillator, angular momentum, one-electron many-electron systems. Not to be held with 016.370 or 016.437 (or the former 016.358). *Prerequisites:* 016.107 (or the former 016.106), 136.130 (or 136.131 or the former 013.146), 136.170 (or 136.171 or 136.173 (or the former 006.126 or 013.149).

016.465 Introduction to Quantum Mechanics for Advanced Students 2 (3) A continuation of 016.464. Electron spin, approximation methods for stationary states, time-dependent perturbation theory, term project. Not to be held with 016.370 and 016.437 (or the former 016.358). *Prerequisite:* 016.464.

Honours and Four Year Major Courses

All second year Honours and four year Major courses require 016.107 (or the former 016.106 or 016.120) and one of 136.169, 136.170, 136.171 or 136.173 as prerequisites, or permission of the department.

Students must achieve a minimum grade of “C” in all Physics courses which are either required in the Honours program or required as prerequisite to other Physics courses taken in the Honours program.

016.237 Introduction to Theoretical Physics (6) This course provides an introduction to the mathematics required for both the Honours and Majors program in Physics and Astronomy. Topics include series expansions, partial derivatives, vector calculus, integral theorems, Fourier series, differential equations, special functions and transform methods.

016.250 Modern Physics 1 (3) The first in a sequence of two courses on modern physics. This course introduces the basic principles of quantum theory including cavity radiation and Planck’s postulate, wave-particle duality, the Bohr model, and the Schrödinger theory of quantum mechanics. Special emphasis is placed on derivation of the time independent Schrödinger equation and its solutions in one dimension.

016.260 Electromagnetic Field Theory (3) Electric field, electric potential, Gauss' law, capacitors, dielectric materials, magnetic fields, Ampere's law, magnetic induction, magnetic materials, displacement current, integral form of Maxwell's equations. Not to be held with 016.220 or the former 016.269.

016.261 Circuit Theory and Introductory Electronics (3) L Ohm's law, Kirchhoff's laws, DC circuit analysis, equivalent circuits, AC circuit analysis, complex impedance, RLC circuits, magnetic coupling, transformers, diodes and diode circuits. Not to be held with 016.220 or the former 016.269. *Prerequisite:* 016.260.

016.265 Classical Mechanics 1 (3) The first in a sequence of three courses on intermediate to advanced level mechanics. Topics include dynamics of a particle, conservation theorems, rotation, rolling motion, oscillations, gravitation and central force motion, and associated mathematical methods. *Prerequisite:* 016.107 (or the former 016.106). *Corequisites:* 016.237 and 136.270 (or the former 013.239) or 136.210 (or the former 006.244) or 136.275 (or the former 013.234).

016.322 Medical Physics and Physiological Measurement (3) This course will introduce the core subject areas of Medical Physics, in particular the physics of physiology and of radiology. The mechanics of body systems and the theory, medical applications and safety issues relating to the production, use, detection and measurements of electromagnetic radiation (both ionizing and non-ionizing) will be included. It will also cover Medical imaging (Ultrasound, CT and MRI) and will provide the student with an understanding of the physics underlying neurological, audiological, respiratory and vascular function and measurements. Also taught by Allied Health as 163.332. *Prerequisite:* 016.260 or 016.220, or consent of the Department.

016.341 Thermodynamics (6) The development of the laws of thermodynamics and their statistical basis with applications. *Prerequisite:* 016.250 or consent of department.

016.343 Honours Physics Laboratory (6) Six hours per week. *Prerequisites:* 016.226 and 016.261 (or the former 016.269) or consent of department.

016.357 Physics of Materials 1 (3) Introduction to the physics of materials. Solids within the elastic limit: stress and strain tensors, elastic constants. Liquids: continuity equation, Bernoulli, Euler and Navier-Stokes equations. *Recommended corequisite:* 016.341.

016.365 Classical Mechanics 2 (3) The second in a sequence of three courses on intermediate to advanced level mechanics. Topics include dynamics of a system of particles, noninertial reference frames, dynamics of rigid bodies, calculus of variations, Lagrangian and Hamiltonian dynamics. Not to be held with the former 016.233. *Prerequisite:* 016.265.

016.366 Classical Mechanics 3 (3) The third in a sequence of three courses on intermediate to advanced level mechanics. Topics include nonlinear oscillations and chaos, coupled oscillations, the wave equation in continuous media, special relativity. Not to be held with the former 016.356. *Prerequisite:* 016.365.

016.369 Electromagnetism and Special Relativity (6) Electrostatics, dielectrics, magnetic phenomena, induction, Maxwell's equations, electromagnetic radiation, and special relativity. Not to be held with the former 016.359. *Prerequisites:* 016.260 (or the former 016.269) and 016.237 or consent of department.

016.370 Modern Physics 2 (3) This course is the sequel to 016.250. It focuses on solutions of the three-dimensional Schrödinger equation with special emphasis on one electron atoms, multi-electron atoms, and single molecules. Not to be held with 016.464 or 016.465 (or the former 016.358). *Prerequisite:* 016.250.

016.425 Computational Physics (3) Application of numerical methods and programming skills to model a variety of physics problems on a computer. Topics include differential equations, boundary value and eigenvalue problems, special functions, and Monte Carlo methods, with examples from classical, quantum, and statistical mechanics. *Prerequisites:* 016.237, and 074.101 or consent of department.

016.430 Topics in Physics (3) Topics will vary depending upon student needs and interests, and will include specialized topics not available in regular course offerings. *Prerequisite:* 016.370 (or the former 016.358) or consent of department.

016.437 Wave Mechanics (6) Basic theory, general formalism and its interpretation, solution of Schrödinger's equation for various potentials, approximation methods and elementary applications. Not to be held with 016.464 or 016.465. *Prerequisites:* 016.237 and 016.370 (or the former 016.358), or consent of department.

016.451 Introduction to Nuclear Physics (3) Nuclear properties, the nuclear two-body problem; the deuteron and nucleon-nucleon scattering, nuclear models, nuclear disintegration; alpha-decay, gamma transitions, and beta-decay nuclear reactions; elementary particles. *Prerequisite:* 016.370 (or the former 016.358).

016.452 Introduction to Solid State Physics (3) An introduction to the following topics as they relate to the properties of solids: crystal structure and lattice energy; lattice vibrations and specific heat; free-electron theory and band theory-metals, semiconductors and insulators; vacancies, diffusion, dislocations, and simple alloys. *Prerequisite:* 016.370 (or the former 016.358).

016.456 Applied Nuclear Science (3) Review of nuclear physics, radioactive decay, nuclear reactions, interaction of radiation with matter, stopping powers, radiation dosimetry, radiation hazards; applications of nuclear science in medicine, nuclear reactors, chain reaction, moderators, neutron transport theory, nuclear fusion. *Prerequisite:* 016.451.

016.458 Lasers and Modern Optics (6) Coherence, Fourier analysis of optical problems, diffraction, holography, polarization of light, fibre optics, emission and absorption processes. Laser physics. *Prerequisite:* 016.370 (or the former 016.358).

016.462 Advanced Classical Mechanics (3) Canonical invariants and Lagrange and Poisson brackets. Hamilton-Jacobi theory, action-angle variables, normal modes of vibration. *Prerequisite:* 016.366 (or the former 016.356).

016.463 Physics of Materials 2 (3) Physics of materials beyond the elastic limit, emphasizing atomistic features. Structural aspects, crystal defects, plastic deformation, radiation damage, diffusion and dislocations. *Prerequisite:* 016.357.

016.467 Physics Laboratory (6)L For students in their final year in Honours. Experiments are available in nuclear physics, solid state physics, and optics. All are open ended, permitting the student to pursue the investigation of a phenomenon as far as desired. Six hours per week. Not to be held with the former 016.444 or 016.457. *Prerequisite:* 016.343 or consent of department.

Service Courses

016.206 Fundamentals of Physics in Radiation Therapy (3)L Provides the student with a fundamental understanding of the physical nature of photons and electrons and the manner in which they interact with an absorbing scattering medium. The concepts presented in this series will enhance the student's ability to make decisions regarding clinical radiation therapy treatments. Also taught by Allied Health as 163.206. Restricted to students in the Radiation Therapy program. *Prerequisite:* 016.103. *Corequisites:* 163.204, 163.208.

016.209 Radiation Protection in Radiation Therapy (3) Previews fundamental concepts used to minimize the risk when working with radiation, with emphasis on radiation therapy. Includes types and sources of radiation, radiation quantities and units, biological effect and potential risks, basic principles of protection, regulation and dose limits, methods of dose monitoring, and applications in radiation therapy. Also taught by Allied Health as 163.209. Restricted to students in the Radiation Therapy program. *Prerequisites:* 163.210, 163.206.

016.215 Radiation Biology (3) This course deals with the fundamentals of radiation biology and focuses on the effects of radiation at a cellular and molecular level. Also taught by Allied Health as 163.215. Restricted to students in the Radiation Therapy program. *Prerequisite:* 016.103.

4.15 Psychology Program

Head: G. Sande

Program Office: P404 Duff Roblin Building

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4.15.1 Program Information

Psychology is the scientific study of behaviour and mental processes, including the biological bases of behaviour and cognitive processes, and behavioural and cognitive neuroscience. The Honours and Major programs combine courses in Psychology with related courses in Science. Courses from the Faculty of Arts are included in this program. The Faculty of Science offers programs leading to a B.Sc. (Honours) degree in Psychology and a B.Sc. (Major) degree in Psychology.

Honours

To enter the Honours program, students must have obtained a grade of B⁺ or better in 017.120 (or in both 017.121 and 017.122) and a grade of B in six credit hours in courses offered by the Faculty of Science. In addition,

students must have obtained a Grade Point Average of 3.25 or better on their first 24-30 credit hours and have no failed courses. Introductory courses in Biology, Chemistry, Computer Science, Mathematics, Statistics or Zoology are highly recommended.

To continue in the Honours program, a student must register in a minimum of 24 credit hours in the Regular Session and must meet all of the continuation criteria of the Faculty of Science. In addition, students must maintain a minimum cumulative Grade Point Average of 3.25 based on all courses in the program, and a minimum sessional Grade Point Average of 2.00. Students who do not meet the minimum continuation requirement will be required to withdraw from the Honours program.

The department must approve a student's Honours program for each session. All revisions to the program must also have prior approval.

To graduate, a student must offer 120 credit hours of courses with passing grades (D or better) in each course and with a minimum cumulative Grade Point Average of 3.00 on the 120 credit hours that constitute the degree. In addition, students must complete the program of study in the chart below.

Four Year Major

To enter the Major program, students must normally have obtained a grade of C+ or better in 017.120 (or in both 017.121 and 017.122) and in six credit hours in courses offered by the Faculty of Science and meet the Faculty of Science requirements for entry to the Major program. Introductory courses in Biology, Chemistry, Computer Science, Mathematics, Statistics or Zoology are highly recommended.

To continue in the Major program, a student must meet all of the continuation criteria of the Faculty of Science. This includes maintaining a minimum cumulative Grade Point Average of 2.00 based on all courses applied to and attempted in the program, and no more than 18 credit hours of fail-

ing grades after entry to the program. Students who do not meet the minimum continuation requirement will be required to withdraw from the Major program. The department must approve a student's Major program for each session. All program revisions must also have prior approval.

To qualify for the degree of Bachelor of Science (Major), a student must offer 120 credit hours of courses with passing grades (D or better) in each course and with a minimum cumulative Grade Point Average of 2.00. In addition, the student must complete the program of study as listed in the program chart below.

4.15.2 Psychology, Department Code: 017			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
HONOURS⁹ 120 CREDIT HOURS			
017.120 (B+)(or 017.121 (B+) and 017.122 (B+)) 6 credit hours Science ¹ (B)	017.230 ^{W,M,2} 6 credit hours 200 or 300 level ³ Psychology 15 credit hours Science ⁶ 3 credit hours options ⁷	3 credit hours from 017.363, 017.450, or 017.457 15 credit hours Psychology ⁴ 9 credit hours Science ⁶ 3 credit hours options ⁷	017.452 18 credit hours Psychology ⁵ 6 credit hours Science ⁶
30 Hours	30 Hours	30 Hours	30 Hours
FOUR YEAR MAJOR^{9,10} 120 CREDIT HOURS			
017.120 (C+)(or 017.121 (C+) and 017.122(C+)) 6 credit hours Science ¹ (C+)	017.225, 017.226M 6 credit hours 200 or 300 level Psychology ⁸ Plus 30 credit hours of courses from departments in the Faculty of Science, including a minimum of 18 credit hours at the 200 level or above.	18 credit hours 200 or 300 level Psychology ⁸	18 credit hours 200 or 300 level Psychology ⁸
A "W" course must be taken in University 1 or Year 2			
MINOR			
017.120 or (017.121 and 017.122)		12 credit hours in Psychology courses numbered at the 200 or 300 level	
NOTES:			
¹ Introductory courses in Biology, Chemistry, Computer Science, Mathematics, Statistics or Zoology are highly recommended.			
² 017.225 and 017.226 are required when 017.230 is not offered.			
³ These 6 credit hours must include 3 credit hours from each of two different lettered categories of Psychology courses below.			
⁴ These 15 credit hours must include 3 credit hours from each of two different lettered categories of Psychology courses below and not sampled in Year 2.			
⁵ These 18 credit hours must include 6 credit hours at the 400 level; and 6 credit hours at any level including any remaining lettered category below.			
⁶ The Science courses that are chosen must be approved by the Department of Psychology and must include a minimum of 18 credit hours at the 200 level or above.			
⁷ Free options are to be chosen from courses that are acceptable for credit in the Faculty of Science and must be approved by the Department of Psychology.			
⁸ During Years 2 to 4 a total of 42 credit hours of 200 or 300 level Psychology courses must be completed, including a minimum of 3 credit hours from each of four of the five lettered categories of courses below.			
⁹ The courses required in this program satisfy the university mathematics requirement.			
¹⁰ IMPORTANT: The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program. (Letters in brackets indicated minimum prerequisite standing required for further study.)			

Categories of Psychology Courses

Category A:	Personality/Social	017.241, 017.242, 017.345, 017.346
Category B:	Developmental	017.229, 017.231, 017.237
Category C:	Learning	017.244, 017.247, 017.342
Category D:	Cognitive	017.248, 017.344, 017.358, 017.361
Category E:	Biological	017.333, 017.343

Psychology Courses

All Psychology courses are available to Science students, for a complete course listing see the Faculty of Arts section.

4.16 Department of Statistics

Head: Smiley Cheng

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Telephone: 204 474 9826

Website: www.umanitoba.ca/statistics/

E-mail: Stats_Dept@umanitoba.ca

4.16.1 Academic Staff

Senior Scholars

Johnston, B., B.Sc.(Hons.), M.Sc., Ph.D. (North Carolina); **Sinha**, S.K., B.Sc. (Hons.), M.A. (Patna), M.Sc. (London), A.M. (Chicago), Ph.D. (London).

Professors

Brewster, J.F., B.Sc.(Hons.) (UBC), M.Sc. (Toronto), Ph.D. (UBC); **Cheng**, S.W., B.Sc. (Taiwan), M.A., Ph.D. (Western); **Fu**, J.C., B.A. (Taiwan), M.Sc., M.A. (Cornell), Ph.D. (Johns Hopkins); **Macpherson**, B.D., B.Sc., M.Sc. (Manitoba), Ph.D. (Iowa State); **Samanta**, M., B.Sc.(Hons.) (Presidency College), M.Sc. (Calcutta), Ph.D. (Arizona); **Thavaneswaran**, A., B.Sc.(Hons.) (Sri Lanka), M.Math, Ph.D. (Waterloo).

Associate Professor

Mount, K.S., B.Sc. (Stevens Institute of Technology), M.A. (Columbia), Ph.D. (Iowa State); **Wang**, X., B.Sc. (Central China Normal Univ.), M.Sc., Ph.D., (Saskatchewan).

Assistant Professors

Mandal, S. B.Sc., M.Sc. (India), Ph.D. (Glasgow); **Slonowsky**, D., B.Sc. (Winnipeg), Ph.D. (Ottawa); **Wang**, L., B.Sc. (Northern Jiaotang), M.Sc. (Beijing), Ph.D. (Austria); **Zhang**, J., B.Sc. (Yunnan Normal), M.Sc. (Yunnan), Ph.D. (York).

Instructor

Loewen, D., B.Sc., M.Sc. (Manitoba) (Instructor II).

4.16.2 Program Information

Statistics is a discipline grounded in mathematics that has practical applications in many other areas. Statistics is an analytical discipline that helps other disciplines carry out research projects and studies that involve measurement, comparison, and interpretation. Statistics is a useful ancillary subject to other sciences, the social sciences, and many of the professional programs. The department offers joint programs with Mathematics and Actuarial Mathematics.

Honours Requirements

Students will normally take 005.200 in second year and enter Honours in Year 3, however a student may enter Year 2 Honours if 005.200 is successfully completed in University 1.

To enter the Honours program students must have a "B" or better in 005.200 and either: an average grade of "B" or better with a minimum grade of "C+" in each of 136.150 and 136.170 or any equivalents; or a minimum grade of "C+" in 136.169.

To continue in the Honours program a student must achieve a sessional Grade Point Average of 2.50 or better as assessed after each April and Au-

gust examination series, with a maximum of 6 credit hours of failures in each session. A student must have either a grade of "C+" or better in 136.275 or a grade of "C+" or better in each of 136.270 and 136.271.

The department must approve a student's Honours program each session. Students must obtain departmental approval for any and all revisions to their programs.

Four Year Major Requirements

Students will normally take 005.200 in Year 2 and enter the four year Major in Year 3, however a student may enter Year 2 of the Major program if 005.200 is successfully completed in University 1.

To enter the four year Major program in Statistics, students must have a "C+" or better in 005.200 and either: an average grade of "C+" or better with a minimum grade of "C" in each of 136.150² and 136.170²; or a minimum grade of "C" in 136.169. In addition, students must have satisfied the faculty requirements for entry to the four year Major.

To continue in the four year Major program a student must achieve a 2.00 cumulative Grade Point Average on all courses applied to, and attempted in, the program as assessed after each April and August examination series.

To graduate from the four year Major program a student must have a 2.00 cumulative Grade Point Average on all Statistics (005) courses used to meet a program requirement.

The department must approve a student's four year Major program each session. Students must obtain departmental approval for any and all revisions to their programs.

NOTE: If students envisage, even after a gap, pursuing a master's in Statistics, it is recommended they take 005.305, 005.347, 005.348, 005.414 and three courses from among 005.417, 005.458, 005.459, 005.460, 005.462, 005.463, 005.469 and 005.470.

In order to improve their academic backgrounds as well as job opportunities, students should carefully elect the optional courses in this program. They should particularly consider the following sequence of courses in Economics and Computer Science.

Economics: 018.120, 018.245, 018.246, 018.247, 018.248, 018.317, 018.318, 018.373, 018.412, 018.413.

Computer Science (Software and Artificial Intelligence): 074.126, 074.127, 074.101, 074.102, 074.208, 074.213, 074.214, 074.338, 074.344, 074.420, 074.438.

Computer Science (Numerical Analysis and Graphics): 074.126, 074.127, 074.101, 074.102, 074.208, 074.213, 074.214, 074.219, 074.314 or 074.349.

Three Year General

As prescribed with all other faculty regulations in Section 3.2, students in this program must select 30 credit hours of 200 and (or) 300 level courses from **two** Science departments. To satisfy the requirement in the Department of Statistics, students must select a minimum of 12 credit hours from the list in the chart.

4.16.3 Statistics, Department Code: 005

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
HONOURS¹ 120 CREDIT HOURS			
005.100, 136.169 (or 136.150 ² and 136.170 ²), 136.130 ²	136.230, 136.270 and 136.271 (or 136.275)	005.305, 005.347 and 005.348 (or 005.312 and 005.313 ³), 005.350, 005.360, 136.375	005.414, 005.452, 005.453
Plus sufficient credit hours of electives to total 30 credit hours	Plus sufficient credit hours of electives to total 30 credit hours ⁴		

*program requirements
continued next page*

The following courses must be taken in University 1 or Year 2

074.101, 005.200 (B), 136.120

6 credit hours from the Faculty of Arts, which should include the required "W" course

Plus 18 credit hours from 005.301, 005.317, 005.318, 005.338, 005.349, 005.458, 005.459, 005.460, 005.462, 005.463, 005.469, 005.470 with at least 9 credit hours from 005.417, 005.458, 005.459, 005.460, 005.462, 005.463, 005.469 and 005.470

Plus 12 credit hours⁴

30 Hours

30 Hours

30 Hours

30 Hours

HONOURS DOUBLE MINIMUM 120 CREDIT HOURS By arrangement with the departments concerned

FOUR YEAR MAJOR^{1,7} 120 CREDIT HOURS

005.100, 136.169 (or 136.150² and 136.170²), 136.130²

136.270, 136.271

005.312, 005.313, 005.350, 005.360

005.452, 005.453

The following courses must be taken in University 1 or Year 2

074.101, 005.200 (B), 136.120

6 credit hours from the Faculty of Arts, which should include the required "W" course

Plus 18 credit hours from 005.301, 005.305, 005.317, 005.318, 005.338, 005.349, 005.414, 005.417, 005.458, 005.459, 005.460, 005.462, 005.463, 005.469, 005.470

Plus 15 additional credit hours from list below⁵

THREE YEAR GENERAL

A minimum of 12 credit hours from 005.301, 005.305, 005.312, 005.313, 005.317, 005.318, 005.338, 005.349, 005.350⁶, 005.360⁶, 005.460, 005.463, 005.469

MINOR

005.100

005.200

Plus 12 credit hours from 005.301, 005.305, 005.312, 005.313, 005.317, 005.318, 005.338, 005.349, 005.350⁶, 005.360⁶, 005.460, 005.463, 005.469

NOTES:

¹ The courses required in this program satisfy the university mathematics requirement.

² 136.131 may be taken in place of 136.130; 136.151, 136.152 or 136.153 may be taken in place of 136.150; 136.171 or 136.173 may be taken in place of 136.170.

³ 005.312 and 005.313, with an average grade of "B" and a minimum grade of "C+" on each course, may be used in lieu of 005.347 and 005.348.

⁴ Of the electives required in Years 2, 3 and 4, 18 credit hours are to be selected from one department which represents a field of application such as: Actuarial Mathematics, Botany, Microbiology, Zoology, Economics, Psychology or Sociology. (Mathematics and Computer Science are excluded from this list.) In consultation with the department, combinations of courses from a coherent area of studies may be selected.

⁵ 15 credit hours are to be taken from either Computer Science and Mathematics, or from one of the following departments: Actuarial Mathematics, Botany, Microbiology, Zoology, Economics, Psychology or Sociology.

⁶ 005.350 and 005.360 have corequisites of 136.270 and 136.271. Therefore students who wish to take 005.350 and 005.360 should consider taking 136.130, 136.150 and 136.170 in University 1 or Year 2, as they are prerequisite to 136.270 and 136.271.

⁷ IMPORTANT: The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program.

4.16.4 Statistics - Actuarial Mathematics Joint Program, Department Code: 005A

The Department of Statistics and the Warren Centre for Actuarial Studies and Research offer a joint Honours program for students wishing in depth study in Statistics and Actuarial Mathematics.

Entry Requirements:

To enter the Honours program students must have satisfied the Faculty of Science requirements for entry to the program, and have completed 005.100, 136.130 and either 136.169, or 136.150 and 136.170 or any equivalent with a minimum grade of "B" in each of 005.100 and 136.169 (or a "B" average in 136.150 and 136.170).

Recommended Electives:

010.353, 010.405, 010.406, 010.415; Accounting and Finance 009.110, 009.220, 009.341; Business Administration 027.200; Economics 018.120, 018.245.

UNIVERSITY 1

YEAR 2

YEAR 3

YEAR 4

JOINT HONOURS³ 120 CREDIT HOURS

136.169 (or 136.150¹ and 136.170¹), 136.130¹

005.200⁴, 010.202, 010.212, 010.221, 136.275 (or 136.270 and 136.271), 136.230⁵

005.305, 005.347 and 005.348 (or 005.312 and 005.313⁶), 005.350, 005.360, 010.313, 010.323, 010.333

005.349, 005.414, 005.452, 005.453, 010.414, 010.424, 010.434, 027.215, 074.126

Plus 9 credit hours of electives

Plus 9 approved credit hours

Plus 6 approved credit hours

Plus 3 approved credit hours

program requirements continued next page

The following courses must be taken in University 1 or Year 2

074.101², 005.100 (B)

6 credit hours from the Faculty of Arts, which should include the required "W" course

30 Hours	30 Hours	30 Hours	30 Hours
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NOTES:

¹ 136.131 may be taken in place of 136.130; 136.151, 136.152 or 136.153 may be taken in place of 136.150; 136.171 or 136.173 may be taken in place of 136.170.

² 074.101 may be taken in University 1 or later in the program.

³ The courses required in this program satisfy the university mathematics requirement.

⁴ 005.200 may be taken in University 1 or Year 2.

⁵ 136.235 may be taken in place of 136.230.

⁶ 005.312 and 005.313, with an average grade of "B" and a minimum grade of "C+" on each course, may be used in lieu of 005.347 and 005.348.

(Letters in brackets indicate minimum prerequisite standing for further study.)

4.16.5 Statistics - Mathematics Joint Program, Department Code: 005M

The departments of Statistics and Mathematics offer a joint Honours program for students wishing in depth study in Statistics and Mathematics.

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
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JOINT HONOURS⁶ 120 CREDIT HOURS

136.130 ¹ (B), 136.169(B) (or 136.150 ¹ and 136.170 ¹ (B)), Plus 9 credit hours	005.200 ⁴ , 136.220, 136.235, 136.260, 136.275, 136.280 Plus 6 approved credit hours	005.305, 005.347, 005.348 (or 005.312 and 005.313 ³), 005.350, 005.360 Plus 3 approved credit hours	005.414 ³ , 005.452, 005.453 ³ Plus 6 approved credit hours
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The following courses must be taken in University 1 or Year 2

074.101², 005.100 (B)

6 credit hours from the Faculty of Arts, which should include the required "W" course

Plus a total of 30 credit hours from 136.240 and any 300 and 400 level Mathematics courses, which must include at least 3 credit hours at the 400 level and must also include 136.323, 136.375 (or 136.376), 136.335 (or 136.330), 136.370 (or 136.371), 136.340 and 136.380

30 Hours	30 Hours	30 Hours	30 Hours
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NOTES:

¹ 136.131 may be taken in place of 136.130; 136.151, 136.152 or 136.153 may be taken in place of 136.150; 136.171 or 136.173 may be taken in place of 136.170.

² May be taken in Year 2

³ May be taken in Year 3.

⁴ 005.200 may be taken in University 1.

⁵ 005.312 and 005.313, with an average grade of "B" and a minimum grade of "C+" on each course, may be used in lieu of 005.347 and 005.348.

⁶ The courses required in this program satisfy the university mathematics requirement.

(Letters in brackets indicate minimum prerequisite standing for further study.)

4.16.6 Statistics Course Descriptions

Unless otherwise specified, a minimum grade of "C" must be attained in any course stipulated as a prerequisite to a further course in Statistics.

All courses are not offered every year. The course schedule for the current academic session is published in the *Registration Guide*.

General Courses

005.100M Basic Statistical Analysis 1 (3) An introduction to the basic principles of statistics and procedures used for data analysis. Topics to be covered include: gathering data, displaying and summarizing data, examining relationships between variables, sampling distributions, estimation and significance tests, inference for means. Not to be held with 005.222 or the former 005.101, 005.120, 005.201, 005.210, 005.211, 005.220, 005.221, 005.231, 005.241 or 005.250.

005.100FM Analyse statistique de base 1 (3)L Une introduction aux principes fondamentaux de la statistique et aux procédures utilisées en analyse de données. Les sujets traités incluent: la cueillette des données, l'affichage et l'élagage des données, les relations entre variables, les distributions échantillonnelles, l'estimation et les tests de signification, l'inférence pour les moyennes. On ne peut se faire créditer à la fois le 005.100 et le 005.222 ou les anciens 005.101, 005.120, 005.201, 005.210, 005.211, 005.220, 005.221, 005.231, 005.241, 005.250. Donné seulement au Collège universitaire de Saint-Boniface.

005.200 Basic Statistical Analysis 2 (3) The study of estimation and hypothesis testing procedures for means and proportions in one, two and multiple sample situations, introduction to the analysis of variance; regression and correlation analysis; optional topics may include nonparametric procedures, design of experiments, probability models. Not to be held with 005.222 or the former 005.120, 005.201, 005.210, 005.211, 005.221, 005.231, 005.241, 005.250. *Prerequisite:* 005.100, or the former 005.101 or 005.210.

005.200F Analyse statistique de base 2 (3)L L'étude des procédures d'estimation et de tests d'hypothèses pour les moyennes et les proportions dans les contextes d'échantillonnage à une, deux ou plusieurs variables; introduction à l'analyse de variance; régression et corrélation; les sujets optionnels peuvent inclure les méthodes nonparamétriques, la conception d'expériences, les modèles probabilistes. On ne peut se faire créditer à la fois le 005.200 et le 005.222 et les anciens 005.120, 005.201, 005.211, 005.221, 005.231, 005.241, 005.250. *Préalable:* 005.100 ou les anciens 005.101 ou 005.210. Donné seulement au Collège universitaire de Saint-Boniface.

005.301 Topics in Statistical Analysis Applied to Business (3) An introduction to decision theory, time series, index numbers and statistical quality control.. *Prerequisite:* 005.200 (or the former 005.201, 005.211 or 005.221).

005.305 Introduction to Probability Theory and Its Applications (3) Development of the basic concepts of probability theory and application in areas of biostatistics, actuarial science, reliability theory, queuing theory. *Prerequisites:* 005.350, (or the former 005.331 or 005.341) and 136.270 and 136.271.

005.312 Topics in Regression Analysis (3) Linear regression and correlation, multiple regression, polynomial regression, selecting the best regression model. Not to be held with 005.347. *Prerequisite:* 005.200 (or the former 005.201, 005.211 or 005.221).

005.313 Statistical Analysis of Designed Experiments (3) Analysis of variance, completely randomized designs, randomized complete block, interaction, factorial arrangement of treatments, analysis of covariance. Not to be held with 005.348. *Prerequisite:* 005.200 (or the former 005.201, 005.211 or 005.221).

005.317 Statistical Quality Control (3) Techniques for quality improvement through the use of statistical process control. Topics will include acceptance sampling, Pareto diagrams, boxplots, normal probability plots, control charts (EWMA and CUSUM), measurements of process capability and process performance. *Prerequisite:* 005.200 (or the former 005.201, 005.211 or 005.221).

005.318 Exploratory Data Analysis (3) Graphical and numerical techniques will be investigated for use in summarizing and exploring real data. *Prerequisite:* 005.200 (or the former 005.201, 005.211(A) or 005.221 (A)).

005.338 An Introduction to Nonparametric Statistics (3) Parametric versus nonparametric inference; inference using ranks and order statistics; tolerance intervals; contingency tables; goodness-of-fit tests; examples from the social and physical sciences. *Prerequisite:* 005.200 (or the former 005.201, 005.211 or 005.221).

005.350 Intermediate Statistical Theory 1 (3) Basic probability theory, distribution theory, special distributions and functions of random variables. Not to be held with the former 005.331 or 005.341. *Prerequisite:* 005.200. *Corequisite:* 136.270 or 136.271.

005.360 Intermediate Statistical Theory 2 (3) Transformations, sampling distributions, convergence and introduction to estimation and hypothesis testing. Not to be held with the former 005.331 or 005.341. *Prerequisite:* 005.350. *Corequisite:* Which-ever of 136.270 or 136.271 not yet taken.

Honours and Four Year Major Courses

005.347 Statistical Methods for Research Workers 1 (3) Linear regression, multiple regression, correlation analysis, introduction to one way analysis of variance, some related topics. Not to be held with 005.312. *Corequisite:* 005.350 (or the former 005.331 or 005.341).

005.348 Statistical Methods for Research Workers 2 (3) Analysis of variance, randomized block design, nested and Latin square experiments, analysis of covariance. Not to be held with 005.313. *Prerequisite:* 005.347.

005.349 Time Series Analysis (3) Trend and seasonal components, exponential smoothing by the multiple regression method, the Box-Jenkins Methodology, analysis of seasonal data. *Prerequisite:* 005.312 or 005.347.

005.414 Introduction to Statistical Inference (3) Introduction to methods of estimation and tests of hypotheses. *Prerequisites:* 005.360 (or the former 005.341, or a "B" average in 005.312, 005.313, and the former 005.331).

005.417 Lifetime Data Analysis (3) An introduction to basic principles and techniques for lifetime data analysis in biostatistics and reliability, with emphasis on theory and applications. Topics to be covered include: censoring, truncation, survival and hazard functions, parametric and nonparametric methods, proportional hazards regression. *Prerequisites:* 005.312 (or 005.347), 005.313 (or 005.348), and 005.360 (or the former 005.331 or 005.341).

005.452 Sampling Techniques 1 (3) A development of sampling theory for use in sample survey problems, in regression estimates, in systematic sampling, sources of errors

in surveys. *Prerequisites:* 005.360, 005.348 (or 005.312 and 005.313), or consent of department.

005.453 Design of Experiments 1 (3) Objectives in designing experiments; designs commonly used in research including analysis and an introduction to the construction of designs. *Prerequisites:* 005.360, 005.348 (or 005.312 and 005.313), or consent of department.

005.458 Sampling Techniques 2 (3) A mathematical treatment of some advanced topics in sampling theory. Multistage sampling plans and other selected topics. *Prerequisite:* 005.452 or consent of department.

005.459 Design of Experiments 2 (3) The theory and analysis of experimental designs treated in 005.453 and more advanced designs; construction of designs. *Prerequisite:* 005.453 or consent of department.

005.460 Statistics Topics 1 (3) Topics of current interest in Statistics that will vary with the needs and interests of students and Faculty. *Prerequisite:* 005.360 or consent of the Department.

005.462 Mathematical Probability (3) Combinatorial and enumerative procedures, occupancy problems, limit theorems, laws of large numbers, characteristic functions. Not to be held with the former 005.456. *Prerequisites:* 005.305 and 005.350 or consent of department.

005.463 Stochastic Processes (3) An introduction to stochastic processes. *Prerequisite:* 005.360 or consent of Department.

005.469 Applied Multivariate Analysis (3) The course will emphasize applications of various techniques in multivariate analysis and gaining familiarity with the relevant programs in statistical packages, i.e., SAS, BMDP. *Prerequisites:* 005.348 (or 005.312 and 005.313) and 136.130 or 136.131 (or the former 013.146).

005.470 Statistical Consulting (3) The role of a Statistics Consultant. Practical consulting experience. This course is normally open to fourth year and graduate students in Statistics. *Prerequisites:* 005.360, 005.348 (or 005.312 and 005.313) or consent of department. *Corequisites:* 005.452 and 005.453.

Service Course

005.222 Contemporary Statistics for Engineers (3) Descriptive statistics, basic probability concepts, special statistical distributions, statistical inference-estimation and hypothesis testing, regression, reliability, statistical process control. Not to be held with 005.100, 005.200, or the former 005.101, 005.120, 005.201, 005.210, 005.211, 005.220, 005.221, 005.231, 005.241 or 005.250. *Prerequisite:* One of 136.168, 136.169, 136.170, 136.171 or 136.173.

4.17 Department of Zoology

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4.17.1 Academic Staff

Distinguished Professor

Eales, J.G., B.A.(Hons.) (Oxford), M.Sc., Ph.D. (UBC), F.R.S.C.

Senior Scholars

Dandy, J.W.T., B.Sc.(Hons.), M.Sc. (Natal), Ph.D. (Toronto); **Pruitt, W.O., Jr.,** B.S. (Maryland), M.A., Ph.D. (Michigan); **Stewart, K.W.,** B.Sc. (Colorado), M.Sc. (Miami), Ph.D. (UBC); **Ward, F.J.,** B.A.(Hons.), M.A. (UBC), Ph.D. (Cornell).

Professors

Abrahams, M.V., B.Sc. (Western), M.Sc. (Queen's), Ph.D. (Simon Fraser); **Dick, T.A.,** B.Sc. (Toronto), M.Sc. (New Brunswick), Ph.D. (Toronto); **Hann, B.J.,** B.Sc.(Hons.), M.Sc. (Waterloo), Ph.D. (Indiana); **Huebner, E.,** B.Sc.(Hons.) (Alberta), Ph.D. (Massachusetts); **MacArthur, R.A.,** B.Sc.(Hons.), M.Sc. (Alberta), Ph.D. (Manitoba); **Riewe, R.R.,** B.S., M.S. (Wayne State), Ph.D. (Manitoba); **Sealy, S.G.,** B.Sc. (Alberta), M.Sc. (UBC), M.Sc., Ph.D. (Michigan); **Wiens, T.J.,** B.A.(Hons.), M.A. (Saskatchewan), Ph.D. (Pennsylvania).

Associate Professors

Graham, L.C., B.Sc.(Hons.), M.Sc. (Alberta), Ph.D. (Tulane); **Hare, J.F.,** B.Sc. M.Sc. (Toronto), Ph.D. (Alberta); **McGowan, R.,** B.Sc.(Hons.) (Brock), Ph.D. (SUNY); **Valdimarsson, G.,** B.Sc., M.Sc. (Manitoba), Ph.D. (Western).

Assistant Professors

Campbell, K.L., B.Sc. (Hons), Ph.D. (Manitoba); **Gillis, D.M.,** B.Sc. (Dalhousie), M.Sc. (McGill), Ph.D. (Simon Fraser); **Lovejoy, N.R.,** B.Sc., M.Sc. (Toronto), Ph.D. (Cornell).

Senior Instructors

Horn, B.M., B.Sc.(Hons.), M.Sc. (Manitoba); **MacArthur, D.L.,** B.Sc. (McGill), M.Sc. (Manitoba); **Narayansingh, T.G.,** B.Sc.(Hons.), M.Sc. (Manitoba).

Instructor

McLeese, J.M., B.Sc., M.Sc. (Guelph), Ph.D. (Ottawa).

4.17.2 Program Information

Zoology is the study of animals, their biodiversity, form and function, evolution, and their interactions with the environment. Five areas of study are offered: animal behaviour and ecology, animal physiology, cell and developmental biology, ecology, and parasitology. The department cooperates with the Department of Botany to offer the joint program in ecology. There are opportunities for projects at the field station at Delta Marsh.

The department must approve a student's Honour or Major program each session. Students must also obtain approval for any and all revisions to their program.

Zoology Prerequisite Information

071.125 with a grade of "C" or better is normally a prerequisite for further study in Zoology. A grade of "C" must be achieved in any Zoology course stipulated as a prerequisite to a further course in Zoology.

Though normally a prerequisite for all Zoology courses, 071.125 may be waived under special circumstances at the discretion of the department head. This waiver applies in all Zoology programs. Students who qualify should contact the department head to arrange for substitutions for 071.125. However, students who intend to seek admission to professional faculties which require 071.125 (such as Dentistry, Pharmacy, Optometry, Veterinary Science) will not be eligible for admission without credit in that course. Also, this waiver of the prerequisite of 071.125 does not apply to 022.253.

Honours

Students planning a professional career in zoology are strongly advised to enter the Honours program at the beginning of Year 2.

To enter Honours Zoology, students must have a "B" in 071.125 or 002.131 and not less than a "C+" in the other course. In addition, a student is required to have no failures, 12.00 grade points on up to their first 30 credit hours with the 12.00 grade points taken on no more than 30 credit hours in order to enter Honours Zoology in Year 2. If 071.125 has been waived (see above), then the entrance requirement will be 002.131 and the replacement for 071.125, with a "B" standing in either course and not less than a "C+" in the other.

To continue in the Honours program, i.e., to proceed from Year 2 to Year 3 and Year 3 to Year 4, a student must have a sessional Grade Point Average of 2.50, with no failures, and in addition, must have a 3.00 Grade Point Average on all Zoology courses during that session and a grade of "C+" or better in each Zoology course.

To graduate with an Honours degree after Year 4, a student must obtain a Grade Point Average of 3.00 or better on the year's work, with no failures, and must have a grade of "C+" or better in all Zoology courses.

Honours Cooperative Option

Students interested in alternating academic terms and terms of paid employment as part of their Honours Zoology program may enter the Cooperative Option after completion of their second year in Honours Zoology. This program provides students with 12 months of paid employment by the time they graduate. It enables them to obtain work experience with participating firms, government agencies and University units.

The course and grade requirements for entry to this option are the same as those required for entry to the regular Honours program. Students should refer to the general faculty regulations for B. Sc. (Honours) Cooperative Options in Section 3.6.

Students should note that the course and grade requirements for the Cooperative Option are the same as those for the regular Honours program, with the addition of the Work Term courses. To continue in the Honours Cooperative program, i.e., to proceed from Year 2 to Year 3 and from one academic term to the next and to complete the Honours Cooperative program successfully, a student must have a sessional Grade Point Average of 2.50, and in addition, must have a 3.00 Grade Point Average on all Zoology courses during that session and a grade of C+ or better in each Zoology course. Students who achieve less than a 2.50 Grade Point Average while taking a course on an employment term will be allowed to continue in the Honours Cooperative program if they maintain a 3.00 cumulative Grade Point Average in all Zoology courses (including that employment term) and at least a 2.00 sessional Grade Point Average in the employment term.

Students may apply for openings in the Cooperative Option after completing at least two years (60 credit hours) in the Honours program. Before the first employment term begins, the prerequisite courses listed below must be completed and it is strongly recommended that 75 credit hours of the Honours program be completed. Acceptance and continuation in the program is dependent upon the student's receiving employment placements. Employment term positions available to the students will be approved by the department and may include positions within Zoology or other University departments; employers will select the students they wish to employ. The first employment term will preferably be taken in January or May of the third year, but may under exceptional circumstances begin in the preceding September or May. Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Option if the demand for places exceeds the number of places available. The department reserves the right to determine and select the best qualified applicants.

Prerequisite courses to be completed before employment terms begin: 071.125, 002.130, 002.131, 005.100, 3 credit hours of specified Mathematics or Physics, and 022.375*, plus at least 6 of 022.215, 022.228, 022.232, 022.237, 022.260, 022.353, 001.246, and 002.277/002.236 [* a PreCoop Workshop may be substituted for 022.375 only to permit an employment term in May of Year 2 or September of Year 3, but 022.375 must still be taken].

The program will include three employment terms, each of 4-months duration, two of which may be consecutive. Students are required to register in and pay fees for each employment term prior to its commencement. Students will be required to submit an employment report upon the completion of each employment term.

Four Year Major

The four year Major provides students with opportunities for intensive study in a particular field of zoology. Interested students should consult the department head for advice. To enter this program, students must have a "C+" in either 071.125 or 002.131 and not less than a "C" in the other course, and have satisfied the faculty requirements for entry to the four year Major program. If 071.125 has been waived (see above) then the entrance requirements will be 002.131 and the replacement for 071.125, with a "C+" standing in either course and not less than a "C" in the other.

To continue in and graduate from the Major program a student must have a minimum sessional Grade Point Average of 2.00 and a "C" or better in each Zoology course. Four year Major students may transfer into the Honours program at the end of their second or third year with permission of the department head and providing faculty regulations regarding entry to Honours at that stage are satisfied.

Four Year Major Cooperative Option

Students interested in alternating academic terms and terms of paid employment as part of their Major Zoology program may enter the Cooperative Option after completion of their second year in Major Zoology. This program provides students with 12 months of paid employment by the time they graduate. It enables them to obtain work experience with participating firms, government agencies and University units.

The course and grade requirements for entry to this option are the same as those required for entry to the regular Major program. Students should refer to the general faculty regulations for B. Sc. (Major) Cooperative Options in Section 3.4.

Students should note that the course and grade requirements for the Cooperative Option are the same as those for the regular Major program, with the addition of 022.375 and the Work Term courses. To continue in and graduate from the Major Cooperative program, a student must have a sessional Grade Point Average of 2.00, and a grade of C or better in each Zoology course required in the program. Students who achieve less than a 2.00 Grade Point Average while taking a course on an employment term will be allowed to continue in the Major Cooperative program if they maintain a 2.50 cumulative Grade Point Average in all Zoology courses (including that employment term).

Students may apply for openings in the Cooperative Option after completing at least two years (60 credit hours) in the Major program. Before the first employment term begins, the prerequisite courses listed below must be completed and it is strongly recommended that 75 credit hours of the Major program be completed. Acceptance and continuation in the program is dependent upon the student's receiving employment placements.

Employment term positions available to the students will be approved by the department and may include positions within Zoology or other University departments; employers will select the students they wish to employ. The first employment term will preferably be taken in January or May of the third year, but may under exceptional circumstances begin in the preceding September or May. Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Option if the demand for places exceeds the number of places available. The department reserves the right to determine and select the best qualified applicants.

Prerequisite courses to be completed before employment terms begin: 071.125, 002.130, 002.131, 005.100, 3 credit hours of specified Mathematics or Physics, and 022.375*, plus at least 6 of 022.215, 022.228, 022.232, 022.237, 022.260, 022.353, 001.246, and 002.277/002.236 [* a PreCoop Workshop may be substituted for 022.375 only to permit an employment term in May of Year 2 or September of Year 3, but 022.375 must still be taken].

The program will include three employment terms, each of 4-month duration, two of which may be consecutive. Students are required to register in and pay fees for each employment term prior to its commencement. Students will be required to submit an employment report upon the completion of each employment term.

Three Year General

Courses taken for a General degree provide an introduction to the major fields of study in zoology. As prescribed with all other faculty regulations in Section 3.2, students in this program must select 30 credit hours of 200 and (or) 300 level courses from two Science departments. To satisfy the requirement in the Department of Zoology, students must take a minimum

of 12 credit hours of Zoology courses as prescribed in the chart above. Course 022.375 is not available to students in this program.

NOTE: Botany 001.246 and 001.346 may be used to satisfy six credit hours of upper level Zoology.

Students anticipating a transfer to either the four year Major or Honours program at the end of their second or third year should examine requirements for these programs and consult with the department head before registering in their second or third year.

Botany-Zoology Joint Programs in Ecology

The Department of Zoology, in conjunction with the Department of Botany, offers a joint Honours program and a joint four year Major program in Ecology. See Section 4.8 Ecology Program for full details.

Minor

A Minor provides an appreciation of the diversity and evolution of animals as a supplement to a Major or Honours program, or a program of study in another faculty. The normal requirement for entry into a Zoology Minor is a "C" in 071.125.

4.17.3 Zoology, Department Code: 022			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
HONOURS SINGLE⁵ 120 CREDIT HOURS			
071.125, 002.130, 002.131	022.215, 022.228, 022.232, 022.237 (001.237 or 065.237) ² , 022.260, 002.277 and 002.278 (060.277 and 060.278) or 002.221 and 002.236 (060.236) and 002.237 (060.237) ³	022.353 ⁴ , 022.354 ⁴ , 022.375, 001.246	022.400, 022.411
In University 1 or Year 2: 3 credit hours of Mathematics or Physics from 136.120, 136.130 ¹ , 136.150 ¹ , 016.102 or 016.105 005.100, 005.200 6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" requirement.		Plus an additional 21 credit hours from the remaining 300 and 400 level Zoology courses and 6 hours from Botany, Microbiology or electives from a related field. With Departmental approval, a student may substitute up to 6 credit hours of the 21 credit hours of unspecified Zoology credits from a related area.	
30 Hours	30 Hours	30 Hours	30 Hours
HONOURS DOUBLE MINIMUM 120 CREDIT HOURS			
071.125, 002.130, 002.131	Arranged in consultation with departments concerned		
In University 1 or Year 2: 6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" requirement.			
HONOURS COOPERATIVE OPTION⁵ 120 CREDIT HOURS			
071.125, 002.130, 002.131	022.215, 022.228, 022.232, 022.237 (001.237 or 065.237) ² , 022.260, 002.277 and 002.278 (060.277 and 060.278) or 002.221 and 002.236 (060.236) and 002.237 (060.237) ³	022.353 ⁴ , 022.354 ⁴ , 022.375, 001.246	022.400, 022.411
In University 1 or Year 2: 3 credit hours of Mathematics or Physics from 136.120, 136.130 ¹ , 136.150 ¹ , 016.102 or 016.105 005.100, 005.200 6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" requirement.		022.398, 022.399, 022.498 Plus an additional 21 credit hours from the remaining 300 and 400 level Zoology courses and 6 hours from Botany, Microbiology or electives from a related field. With Departmental approval, a student may substitute up to 6 credit hours of the 21 credit hours of unspecified Zoology credits from a related area.	
30 Hours	30 Hours	30 Hours	30 Hours
FOUR YEAR MAJOR^{5,6} 120 CREDIT HOURS			
071.125, 002.130, 002.131, 005.100	022.232, 022.260, 002.277 and 002.278 (060.277 and 060.278) or 002.221 and 002.236 (060.236) and 002.237 (060.237) ³	022.353 ⁴ , 022.354 ⁴	022.400

program requirements continued next page

In University 1 or Year 2:

3 credit hours of Mathematics or Physics from 136.120, 136.130¹, 136.150¹, 016.102 or 016.105

005.200

6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" requirement.

022.215, 022.228, 022.237 (001.237 or 065.237)², 001.246 which must be taken in Year 2 or 3

Plus an additional 21 credit hours from the remaining 300 or 400 level Zoology courses. With Departmental approval, a student may substitute up to 6 credit hours of the 21 credit hours of unspecified Zoology credits from a related area.

MAJOR COOPERATIVE OPTION^{5,6} 120 CREDIT HOURS

071.125, 002.130, 002.131, 005.100

022.232, 022.260, 002.277 and 002.278 (060.277 and 060.278) or 002.221 and 002.236 (060.236) and 002.237 (060.237)³

022.353⁴, 022.354⁴, 022.375 022.400

In University 1 or Year 2:

3 credit hours of Mathematics or Physics from 136.120, 136.130¹, 136.150¹, 016.102 or 016.105

005.200

6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: 001.101 may also be selected to fulfil the "W" requirement.

022.215, 022.228, 022.237 (001.237 or 065.237)², 001.246 which must be taken in Year 2 or 3

022.398, 022.399, 022.498

Plus an additional 21 credit hours from the remaining 300 or 400 level Zoology courses. With Departmental approval, a student may substitute up to 6 credit hours of the 21 credit hours of unspecified Zoology credits from a related area.

THREE YEAR GENERAL

A minimum of 12 credit hours from 200 and (or) 300 level Zoology courses or Botany 001.246 and 001.346

MINOR

071.125

12 credit hours from 200 and 300 level Zoology courses

JOINT BOTANY-ZOOLOGY HONOURS AND FOUR YEAR MAJOR ECOLOGY PROGRAM See Section 4.8 Ecology Program

NOTES:

¹ 136.151, 136.152, 136.153, 136.168 or 136.169 may be taken in place of 136.150; 136.131 may be taken in place 136.130.

² 022.237 (001.237 or 065.237) has 005.100 as a corequisite.

³ If 002.221, 002.236 (060.236) and 002.237 (060.237) are elected, 002.236 (060.236) and 002.237 (060.237) may be taken in either Year 2 or Year 3.

⁴ For students who have completed 022.253 and 022.254 before entering the Honours or four year Major program, the 022.353 and 022.354 requirement will be waived if they received a minimum grade of "B" in 022.254 and completed and pass the laboratory component of 022.353 and 022.354, however, if possible, completion of 022.354 is advised.

⁵ The courses in this program will satisfy the University mathematics requirement.

⁶ IMPORTANT: The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program.

4.17.4 Zoology Course Descriptions

NOTES:

071.125 with a grade of "C" or better is normally a prerequisite for further study in Zoology. Details of each course are given in a supplement available in the department office.

A grade of "C" must be achieved in any Zoology course stipulated as a prerequisite to a further course in Zoology.

All courses are not offered every year. The course schedule for the current academic session is published in the *Registration Guide*.

NOTE: Students registering in certain courses may be required to pay a portion of the costs associated with field trips. For details, contact the department general office.

General Courses

022.132 Anatomy of the Human Body (3)L Microanatomy and gross anatomy discussed including changes occurring from conception to old age. Although this course may be used as an elective in an Arts or Science program, it may not be used to meet a program requirement of an Honours or Major program in the Biological Sciences. Not to be held with the former 022.123. No prerequisite. High school biology strongly recommended.

022.133 Physiology of the Human Body (3)L Function of all systems discussed with homeostatic regulatory mechanisms as foundation themes. Although this course may be used as an elective in an Arts or Science program, it may not be used to meet a program requirement of an Honours or Major program in the Biological Sciences. Not to be held with the former 022.123. *Prerequisite:* 022.132 or 071.125. This prerequisite is waived for students in the Baccalaureate Program for Registered Nurses.

022.215 Developmental Biology (3)L Principles and concepts of developmental biology including gametogenesis, fertilization, early and late development. Cellular, tissue and molecular aspects will be presented utilizing both invertebrate and vertebrate examples.

022.218 Introductory Toxicology (3) A survey of general principles underlying the effects of toxic substances on biological systems, including consideration of the history, scope and applications of toxicology, the mechanisms of toxic action, and some major types of toxicants. This course is also taught in the Department of Botany as 001.218, in Environmental Science as 128.218, and in Agriculture as 065.218. Not to be held with 022.219, 001.219, 065.218, 065.219, 128.219 and the former 001.337. *Prerequisites:* 071.125 (C), and 002.131 (or the former 002.128) or 002.132.

022.219 Toxicological Principles (1.5) A survey of general principles underlying the effects of toxic substances on biological systems, including consideration of the history, scope and applications of toxicology, and the mechanisms of toxic action. This course is also taught in the Department of Botany as 001.219, in Environmental Science as 128.219, and in Agriculture as 065.219. Not to be held with 022.218,

001.218, 065.218, 128.218, and the former 001.337. *Prerequisites*: 071.125 (C), and 002.131 (or the former 002.128) or 002.132.

022.228 Cell Biology (3)L The microscopic and submicroscopic aspects of cellular structure and function are considered with emphasis on the living cell as a dynamic system.

022.228F Biologie cellulaire (3)L La fonction des organites cellulaires sera étudiée conjointement avec leur structure microscopique ou leur ultrastructure en insistant sur l'ensemble de la vie cellulaire en tant que système dynamique. Donné seulement au Collège universitaire de Saint-Boniface.

022.229 Introductory Ecology (3) The course involves a study of the interrelationships of living organisms (including human) with each other and with their environment. This course is also given in Botany as 001.228. It is not normally acceptable as a prerequisite to other courses in ecology. Not to be held with 001.228 or 022.237 (001.237 or 065.237).

022.232 Introduction to Chordate Zoology (3)L A study of the origin, evolutionary history and structure of the major groups of Chordates. Provides the foundation for more specialized courses such as Biology of Fishes, Ornithology, and Systematics and Biogeography of Fishes. Not to be held with 022.250.

022.237 Principles of Ecology (3)L Principles of ecology at the individual, population, community and ecosystems levels. This course is also given in Botany as 001.237 and in the Faculty of Agricultural and Food Sciences as 065.237. It is the normal prerequisite to other courses in ecology. Not to be held with 001.237 or 022.229 (001.228). *Pre- or corequisite*: 005.100.

022.237F Principes d'écologie (3)L Principes d'écologie au niveau de l'individu, la population, la communauté et l'écosystème. Ce cours est également offert dans le Département de botanique sous le numéro 001.237 et dans la Faculté de Sciences de l'agriculture et de nutrition sous le numéro 065.237. On ne peut se faire créditer à la fois le 022.237, 001.237 et le 065.237 ou 022.229 (001.228). *Préalable*: 071.125. *Pré-ou Concomitants*: 005.100. Donné seulement au Collège universitaire de Saint-Boniface.

022.250F L'évolution et la structure morphologique des cordés (6)L Une étude de l'histoire évolutive de la structure et des adaptations des cordés bassées sur les animaux fossilisés et sur les animaux vivants. Ce cours établit les bases pour l'étude des groupes majeurs de cordés. On ne peut se faire créditer à la fois le 022.250 et le 022.232 et l'ancien 022.227. *Préalable*: 071.125. Donné seulement au Collège universitaire de Saint-Boniface.

022.253 Human Physiology 1 (3) The mechanisms of action of the body's major control systems (nervous and endocrine) and of the muscular and reproductive systems are examined. Not to be held with 022.353 or the former 022.245. *Prerequisite*: 071.125 with a minimum grade of "C" or 071.100 and 071.101 with a minimum average grade of "C+" (or the former 071.123 with a minimum grade of "C+").

022.253F Physiologie du corps humain 1 (3) Dans ce cours, les principaux mécanismes de contrôle du corps (systèmes nerveux et endocrinien) ainsi les systèmes musculaire et reproducteur seront étudiés. On ne peut se faire créditer à la fois le 022.253 et le 022.353 ou l'anciens 022.245. *Préalable*: note de "C" dans le 071.125 ou une moyenne minimale de "C+" dans les deux cours 071.100 et 071.101 (ou une note de "C+" dans l'ancien 071.123). Donné seulement au Collège universitaire de Saint-Boniface.

022.254 Human Physiology 2 (3) An examination of homeostatic regulation by the body's major effector organ systems (cardiovascular, respiratory, digestive, renal, and immune). Not to be held the former 022.245. *Prerequisite*: Completion of 022.253 or 022.353 or consent of instructor.

022.254F Physiologie du corps humain 2 (3) Une étude de la régulation homéostatique par les systèmes effecteurs du corps (cardiovasculaire, respiratoire, digestif, rénal et immunitaire). On ne peut se faire créditer à la fois l'anciens 022.245). *Préalable*: avoir complété le 022.253 ou le 022.353 ou consentement du professeur. Donné seulement au Collège universitaire de Saint-Boniface.

022.260 Introductory Invertebrate Zoology (3)L Biology and phylogeny of invertebrates. Emphasis on common taxa and on those groups of particular phylogenetic significance.

022.260F Introduction à la zoologie des invertébrés (3)L Une étude phylogénétique et biologique des invertébrés appuyant sur les taxa et sur les groupes qui ont une importance phylogénétique particulière. Donné seulement au Collège universitaire de Saint-Boniface.

022.306 Comparative Animal Histology (3)L This course focuses on the cell and tissue organization of animals. Cell morphology and specialization, tissue types and a survey of the cellular and tissue organization of all organ systems are covered. The primary focus is on mammals but comparative aspects of other animal groups are also included. Not to be held with the former 022.347. *Recommended prerequisite*: 022.232, 022.250 or 022.228.

022.306F Histologie animale comparée (3)L Ce cours a pour objet l'étude de l'organisation cellulaire et tissulaire des animaux. La morphologie cellulaire ainsi que la spécialisation, les types de tissus, l'organisation cellulaire et tissulaire de tous les systèmes seront abordés. On mettra l'accent sur les mammifères, mais des études comparatives avec d'autres groupes animaux seront aussi incluses. On ne peut se faire créditer à la fois le 022.306 et l'ancien 022.347. *Préalable conseillé*: 022.232 ou 022.250 ou 022.228. Donné seulement au Collège universitaire de Saint-Boniface.

022.310 Animal Behaviour (3)L An introduction to the study of animal behaviour including key concepts from the parent disciplines of ethology and comparative psychology, the genetic and physiological bases of behaviours, and evolutionary aspects introducing optimality and game theoretical models characteristic of modern behavioural ecology. Laboratory work involves the design and execution of a behavioural project at the Assiniboine Park Zoo. Not to be held with the former 022.343. *Prerequisites*: 022.237 (001.237 or 065.237) and 022.232 or consent of instructor.

022.338 Boreal Ecology (3) A survey of ecological factors in the formation, evolution, and survival of northern biota including northern peoples. There will be optional weekend field trips. Not to be held with the former 022.479. *Prerequisite*: 022.237 (001.237 or 065.237) or 022.229 (001.228) or consent of instructor.

022.345 Field Ecology (3)L Problems, techniques, and assumptions involved in measuring parameters of biological populations and environmental variables. A field trip will be held prior to start of classes. Students must register in the departmental office by August 5. This course is also given in Botany as 001.342. *Prerequisites*: 022.237 (001.237 or 065.237), 005.200.

022.346 Introductory Parasitology (3)L General course covering major parasitic phyla: namely, Protozoa, Platyhelminthes, Aschelminthes, Acanthocephala, and Arthropoda. Emphasis will be on principles of parasitology. *Pre- or corequisite*: 022.260 or consent of instructor.

022.348 Population Ecology (3)L Characteristics of populations, effects of resources, other individuals of same species, competitors, predators on distribution and abundance, and regulation of numbers of organisms in a population. *Prerequisites*: 022.237 (001.237 or 065.237), 005.200 or consent of instructor.

022.350 Limnology (3)L Lectures and laboratories providing an introduction to the physics, chemistry and biology of lakes. *Prerequisite*: 022.237 (or 001.237 or 065.237).

022.353 Control System Physiology (3)L The mechanisms of action of the human body's major control systems (nervous and endocrine) and of the muscular and reproductive systems are presented in lectures. Laboratories explore related subjects in various animals. Not to be held with 022.253 or the former 022.245 or 022.352. *Prerequisite*: 071.125 with a minimum grade of "C," or 071.100 and 071.101 with a minimum average grade of "C+" (or the former 071.123 with a minimum grade of "C+").

022.354 Comparative Environmental Physiology (3)L An examination of the environmental challenges confronting animals in aquatic and terrestrial habitats, and the various ways these problems are solved at the cellular and organ system levels. Not to be held with the former 022.352. *Prerequisite*: 022.232 and 022.260, or 022.133 (or the former 022.123) or 022.253 (or the former 022.245) or 022.353 or consent of instructor.

022.358 Wetland Ecology (3)L Lectures and field exercises examine the biotic (algae, macrophytes, invertebrates, and vertebrates) and abiotic (hydrology, nutrient cycling) properties in Delta Marsh, a prairie lakeshore wetland. Other wetland types, including peatlands, will also be considered in lectures and field trips. The course is offered in Summer Session at the University Field Station (Delta Marsh). This course is also given in the Botany department as 001.358. *Prerequisite*: 022.237 (001.237 or 065.237) or consent of instructor.

Honours and Four Year Major Courses

Registration will be restricted to Honours and four year Major students unless written permission is given by the department.

022.307 Advanced Developmental and Cellular Biology (3)L The course focuses on contemporary concepts and approaches in developmental biology, including theoretical and practical aspects. The emphasis is on the laboratory component. *Prerequisite*: 022.215 or consent of instructor.

022.361 Advanced Experimental Invertebrate Zoology (3)L Topics of current interest to be presented in lecture series given by staff. Students may undertake approved projects and may present reports and seminars. Next offered in the 2004-2005 Regular Session. *Prerequisite*: 022.260.

022.375 Methods and Perspectives in Zoology (3)L Lectures and exercises on the preparation and analysis of zoological publications, library research methods, and historical perspectives in zoology. Introduction into current topics and career orientation in graduate research.

022.398 Work Term 1 (0) Work assignment in business, industry, or government for students registered in the Zoology or Ecology Cooperative Option. Requires submission of a written report covering the work completed during the four-month professional assignment. This course is also offered by Botany as 001.398 for students in the Ecology Cooperative Option. (Pass/Fail grade only)

022.399 Work Term 2 (0) Work assignment in business, industry, or government for students registered in the Zoology or Ecology Cooperative Option. Requires submission of a written report covering the work completed during the four-month professional assignment. This course is also offered by Botany as 001.399 for students in the Ecology Cooperative Option. (Pass/Fail grade only)

022.400 Principles and Processes of Evolution (3)L The theoretical principles and dynamics of evolution will be presented. Current controversial aspects of this unifying theory of biology will be examined and critically assessed. Required for Zoology fourth year Honours and Major students. Available on consent of the department to Year 4 and graduate students outside Zoology. *Prerequisites*: 022.260, and 022.232 or 022.250.

022.411 Honours Thesis (6) The student will conduct a research project, chosen in consultation with a Zoology faculty member acting as an advisor, and produce a thesis in which the project, the results and conclusions are presented. The student will defend the thesis at an oral examination held on completion of the thesis. This course is restricted to final year Honours Zoology or Ecology students. Not to be taken concurrently with 022.488 (001.488).

022.414 Microtechnique (3)L This course deals with a spectrum of animal tissue preparation techniques and microscopy. These span a survey of all types of microscopes, live cell and tissue methods, fixation and tissue processing for paraffin and plastic tissue embedding, histo- and immunocytochemistry, electron microscopy, video and image processing microscopy. This is a practical course with a major emphasis on the laboratory portion. Not to be held with the former 022.440.

022.415 Developmental Molecular Biology (3)L An examination of early development with emphasis on the molecular events. Sex determination, gametogenesis and early embryogenesis will be discussed. Next offered in the 2004-2005 Regular Session. *Prerequisite:* 022.215 or consent of instructor.

022.416 Sensory-Motor Physiology (3)L Information flow in the nervous system and the control of behaviour. The diverse roles that ion channels and synaptic circuitry play in sensory reception, neuronal integration and motor control are emphasized. Not to be held with the former 022.458. *Prerequisite:* 022.253 or 022.353 (or the former 022.245 or 022.352) or consent of instructor.

022.417 Biology of Fishes (3) Lectures survey organ systems, life history, and the population biology of fishes. The ecological analysis of fish communities is addressed through a field trip and a series of workshops on the analysis of field data. Evaluation is based upon work related to the field trip and examinations based upon the lecture material. Not to be held with the former 022.467. *Prerequisite:* 022.232 or 022.250.

022.420 Ecological Methods (3)L Methods of collection and analysis of biological and environmental data for estimation of abundance, life history parameters and spatial pattern in single species populations; population dynamics and life history strategies. Not to be held with the former 022.477. *Prerequisites:* 022.348 and 005.200 or consent of instructor.

022.421 Models for Behavioural Ecology (3) Applications of optimization theory and game theory to the understanding of inter- and intraspecific interactions of animals. Models involving foraging, territoriality, animal spatial distributions, and mixed behavioural strategies will be considered. Not to be held with the former 022.487. *Prerequisites:* 022.310 (or the former 022.343), 022.348 and 005.200 or consent of instructor.

022.422 Biodiversity of Vertebrates: Systematics and Biogeography of Fishes (3)L A study of the evolutionary history, interrelationships and distribution patterns of the fish-like vertebrates. Laboratories will cover the identification of the major groups of fish-like vertebrates. Offered in 2003-2004 and in alternate years thereafter. Not to be held with the former 022.418 or 022.467. *Prerequisite:* 022.232 or 022.250 or consent of instructor.

022.423 Biodiversity of Vertebrates: Biology of Amphibians and Reptiles (3)L Lectures consider the evolution, biology and adaptations of amphibians and reptiles. Laboratories and student presentations will deal with classification, structure, identification, and methods of field and laboratory study of these animals. Next offered in 2004-2005 and in alternate years thereafter. Not to be held with the former 022.476. *Prerequisite:* 022.232 or 022.250 or consent of instructor.

022.424 Biodiversity of Vertebrates: Biology of Birds (3)L Biology of birds including: morphology, systematics, evolution, life histories and breeding biology, ecology, migration, and distribution of birds. Next offered in the 2004-2005 Regular Session. Not to be held with the former 022.468. *Prerequisite:* 022.232 or 022.250. *Corequisite:* 022.310 (or the former 022.343) or consent of instructor.

022.425 Biodiversity of Vertebrates: Biology of Mammals (3)L Structure, classification, evolution, life histories and distribution of mammals and their relation to human cultures. Techniques of studying mammals. Identification of the mammals of Manitoba. Offered in 2003-2004 and in alternate years thereafter. Not to be held with the former 022.457. *Prerequisites:* 022.232 or 022.250, and 022.237 (001.237 or 065.237) or consent of instructor.

022.427 Genes and Development (3) An indepth examination of selected topics in embryonic development, emphasizing the genetic control of the cell and molecular mechanisms that direct embryogenesis. The course will focus primarily on vertebrate development, but insights provided by studies on invertebrates will also be covered. *Prerequisites:* 022.228 and 022.215 or consent of instructor.

022.428 Behavioural Ecology and Cognitive Ethology (3)L Examines proximate and ultimate questions relating to mating and parental behaviour, communication, social parasitism and animal intellect to provide insight into the intimate relationship between behavioural evolution and the environment. Laboratory and field exercises complement major topics considered in lectures. Not to be held with the former 022.448. *Prerequisite:* 022.310 (or the former 022.343) or consent of instructor.

022.460 Comparative Endocrinology (3)L The structure, control, and function of vertebrate endocrine systems. Courses 022.228, and one of 022.253 or 022.353 (or the former 022.245 or 022.352) and a course in biochemistry are strongly recommended as prerequisites.

022.471 Principles of Wildlife Management (3)L Introduction to the biological and socioeconomic goals of wildlife management and to the basic techniques of wildlife management in terms of these goals. There will be four or five field trips. Some weekend field trips may be required. *Prerequisite:* 022.348 or consent of instructor.

022.472 Wildlife and Fisheries Parasitology (3)L Parasites of major vertebrate groups of economic importance in temperate regions. Emphasis on identification, means of control, and how to evaluate the impact of parasites on animal populations. A major project is required. *Prerequisite:* 022.346.

022.473 Experimental Parasitology (3)L Principles of parasitology including immunology, ecology, biochemistry, and physiology. Students must carry out an experimental study. Offered in 2003-2004 and in alternate years thereafter. *Prerequisite:* 022.346.

022.480 Special Topics in Field Biology (3) Lectures, field studies, and research projects on a selected topic. Course content to vary from year to year depending on instructor. Usually offered during the summer months. *Prerequisite:* at discretion of instructor.

022.481 Fishery Biology and Management (3)L Lectures and laboratories dealing with the principles and practices of fishery science. *Pre- or corequisite:* 022.348 or consent of instructor.

022.482 Aquaculture (3)L Biology and methods of commercial culture of fish and other aquatic animals. Emphasis on physiological, nutritional, genetic, pathological and economic aspects and on current and new technologies. Next offered in the 2004-2005 Regular Session. *Prerequisite:* 005.200 (or the former 005.201, 005.211, 005.221) or consent of instructor.

022.483 Comparative Animal Energetics (3)L Energetic strategies of animals living in ecologically diverse environments. Integration of physiological, morphological and behavioural adaptations with an emphasis on vertebrate species. Next offered in the 2004-2005 Regular Session. *Prerequisites:* 022.232 or 022.250, and one of 022.253, 022.353 or 022.354 (or the former 022.245, or 022.352) or consent of instructor.

022.484 Environmental Toxicology (3)L A survey of the principles governing the dynamics of chemicals in the environment, with emphasis on the biological systems, using case histories of known pollution problems. *Prerequisites:* 002.237 (060.237) (or the former 002.235 (060.235)) or 002.278 (or the former 002.240) or 060.278 (or the former 060.240); 022.237 (001.237 or 065.237); 022.253 or 022.353, and 022.354 (or the former 022.245, or 022.352) or consent of instructor.

022.488 Analysis of Ecological Problems (3)L Teams of students will analyze emerging regional ecological problems and present results or solutions in a written report and oral presentation. This course is also offered by Botany as 001.488. Not to be taken concurrently with 022.411 or 001.460. *Prerequisites:* 022.345 or 001.342, 022.348, 022.375, 001.354 and eligibility for graduation in the current academic year.

022.489 Special Topics in Biology (3) Biology encompasses a broad array of ideas and special topic areas. In this course, students can pursue a specific topic in detail through lectures, seminars and research projects. Normally restricted to third and fourth year Honours and Major students. This course is also offered by Botany as 001.489. *Prerequisite:* Consent of department.

022.498 Work Term 3 (0) Work assignment in business, industry, or government for students registered in the Zoology or Ecology Cooperative Option. Requires submission of a written report covering the work completed during the four-month professional assignment. This course is also offered by Botany as 001.498 for students in the Ecology Cooperative Option. (Pass/Fail grade only)

022.499 Work Term 4 (0) Work assignment in business, industry, or government for students registered in the Zoology or Ecology Cooperative Option. Requires submission of a written report covering the work completed during the four-month professional assignment. This course is also offered by Botany as 001.499 for students in the Ecology Cooperative Option. (Pass/Fail grade only.)

Service Course:

022.214 Human Reproductive Physiology (3) This course provides an in-depth understanding of human reproduction with particular emphasis on intrinsic control mechanisms and extrinsic methods of regulation of reproduction. This course also provides the basis for the understanding of alterations from normal mechanisms of reproductive processes. This course is offered only for students in the Faculty of Nursing Midwifery program. Not currently offered. *Prerequisites:* 022.132 and 022.133 or consent of instructor.

4.18 Courses Offered in Other Faculties and Schools Acceptable for Credit in the Faculty of Science

Students who are registered in the Faculty of Science may take courses offered by other faculties and schools for credit towards a Science degree, subject to overall degree requirements.

NOTE: A student may request that a course, which is currently not creditable in a Science degree program, be added to this list of creditable courses. However, approval of such a course is at the discretion of the Faculty of Science Committee on Courses and the faculty or school offering the course. Students should initiate the request through the Faculty of Science general office at least a year in advance of their anticipated registration in such a course.

Students should consult the timetables of the faculties and schools for further information regarding the courses below.

All four and five credit hour courses will be counted as three credit hours in the Faculty of Science.

Honours Only

Students registered in an Honours program in the Faculty of Science may take any course offered by other faculties and schools for credit towards their degree, providing they have the approval of their Honours department(s) and the approval of the faculty or school offering the course. Students who revert to a Major or General program may lose credit for other faculty courses which are not acceptable in those degrees.

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in 6 credit hours from 054.103, 054.104, 054.105, 054.106.

4.18.1 University 1

All courses acceptable for credit in University 1 are acceptable for credit in the Faculty of Science. The courses available to University 1 students are

listed in that chapter of this *Calendar*. These courses have also been included in each faculty chapter listed below.

4.18.2 Faculty of Agricultural and Food Sciences

Biosystems Engineering

- 034.412 Drainage System Design (4)L
- 034.418 Irrigation System Design (4)L
- 034.445 Radiation Processing of Food and Other Agricultural Commodities (4)
- 034.450 Water Management (3)

This course is available to Environmental Science students only.

Animal Science

- 035.311 Principles of Nutritional Toxicology (3)
- 035.350 Principles of Animal Genetics (3)
- 035.428 Applied Animal Genetics (3)
- 035.441 Grassland Agriculture: Plant, Animal and Environment (3)L

Entomology

- 038.205 Introductory Entomology (3)L
- 038.316 Veterinary and Wildlife Entomology (3)
- 038.413 Principles of Insect Control (3)
- 038.425 Pesticide Toxicology (3)
- 038.428 Aquatic Entomology (3)L
- 038.431 Insect Pests of Crops (3)L
- 038.432 Pollination Biology (3)
- 038.436 Principles of Pest Management (3)
- 038.450 Insect Taxonomy and Morphology (3)L
- 038.452 Physiological Ecology of Insects (3)L
- 038.454 Pesticides and Toxicology (3)

Plant Science

- 039.250 Crop Production (3)
- 039.252 Genetics (3)L
- 039.314 Introductory Cytogenetics (3)L
- 039.350 Plant Physiology (3)L
- 039.351 Cropping Systems (3)
- 039.352 Principles of Plant Improvement (3)L
- 039.354 Weed Science (3)L
- 039.427 Plant Disease Control (3)L
- 039.433 Intermediate Plant Genetics (3)
- 039.436 Principles of Pest Management (3)
- 039.441 Grassland Agriculture: Plant, Animal and Environment (3)L
- 039.450 Plant Genetic Engineering (3)L

- 039.451 Plant Metabolism (3)

Soil Science

- 040.306 Introduction to Agrometeorology (3)
- 040.350 Landscapes and Biophysical Processes (3)L
- 040.351 Fundamentals of Soils and Landscapes (3)L
- 040.406 Physical Properties of Soils (3)L
- 040.409 Chemical Analysis of Soils (3)L
- 040.411 Agricultural Pesticides (3)
- 040.412 Soil Microbiology (3)L
- 040.413 Soil Chemistry and Mineralogy (3)
- 040.450 Remediation of Contaminated Land (3)
- 040.451 Soil and Water Management (3)
- 040.452 Soil Fertility (3)L
- 040.453 Land Use and Environment
- 040.454 Pesticides and Toxicology (3)

Agribusiness and Agricultural Economics

- 061.100 Introduction to Agribusiness Management (3)
- 061.210 Economics of World Agriculture (3)
- 061.239 Introduction to Environmental Economics (3)
- 061.308 Introduction to Econometrics (3)
- 061.355 Environmental Policy (3)
- 061.412 Intermediate Econometrics (3)

General Agriculture

- 065.150 Natural Resources and Primary Agriculture Production (3)
- 065.151 Production, Distribution and Utilization of Agricultural Products (3)
- 065.218 Introductory Toxicology (3)
- 065.219 Toxicological Principles (1.5)
- 065.237 Principles of Ecology (3)L
- 065.250 Population Genetics (3)

Food Science

- 078.250 Food Chemistry (3)L
- 078.320 Baking Science and Technology (3)L
- 078.415 Food Microbiology 1 (3)L
- 078.424 Analysis of Water and Wastes (3)
- 078.428 Food Microbiology 2 (3)L
- 078.430 Food Toxicants (3)

4.18.3 Faculty of Architecture

Interior Design

051.265 The Social Aspects of Aging (3)

Environmental Design

079.160 Introduction to Environmental Design (3)

079.166 History of Culture, Ideas and Environment 1 (3)

079.167 History of Culture, Ideas and Environment 2 (3)

4.18.4 Faculty of Arts

All courses offered by and acceptable for credit in the Faculty of Arts are acceptable for credit in the Faculty of Science General, Major, or Honours programs except for service courses provided to other faculties, such as 004.124.

4.18.5 Asper School of Business

All courses offered by the Asper School of Business are acceptable for credit in the Faculty of Science. Business courses may be taken by Faculty of Science students subject to availability of space and satisfaction of prerequisites. Students who have not been admitted to the Asper School of Business will be limited to an aggregate total of 36 credit hours offered by the Asper School while registered in another faculty, school, or division. This total will include failures, repeats of previously passed courses, and transfer credit received for Business courses from external institutions.

Management (Minor) (119)

For entry to the Minor, the prerequisite is a grade of "C" or better in the first 6 hours of Business courses. The Management Minor will consist of any 18 hours of credit in courses offered by the Asper School of Business. Enrollment in this program will be limited to 20 students annually. Students planning to enrol in this minor must consult a Faculty of Science student advisor.

4.18.6 Faculty of Education

Educational Administration and Foundations

129.154 Cross-cultural Education (3)

4.18.7 Faculty of Engineering

General Faculty

130.112 Thermal Sciences (4)

130.118 Electric Circuits (4)

130.135 Engineering Statics (4)

130.140 Engineering Design (4) (with written permission)

Civil Engineering

These courses are available to Environmental Science students only

023.369 Environmental Engineering Analysis(4)

023.370 Environmental Engineering Design (4)

023.375 Hydrology (4)

023.425 Groundwater Hydrology (4)

023.420 Groundwater Contamination (4)

Electrical & Computer Engineering

These courses are available to Physics students only

024.216 Electronics 2E (5)

024.222 Digital Logic Systems (5)

4.18.8 Faculty of Environment

All courses offered by the Faculty of Environment are acceptable for credit in the Faculty of Science General, Major, or Honours programs.

4.18.9 Faculty of Human Ecology

General Faculty

028.265 The Social Aspects of Aging (3)

Foods and Nutrition

030.120 Food: Facts and Fallacies (3)

030.121 Nutrition for Health and Changing Lifestyles (3)

Family Studies

062.101 Human Development in the Family (3)

062.114 Family Studies: Relationships (3)

062.142 Family Management Principles (3)

062.190 Families, Housing & Community:
An Introductory Perspective (3)

Clothing and Textiles

064.122 Dynamics for the Fashion Industry (3)

064.329 Evolution of Western Dress (3)

064.332 History of Textiles (3)

064.436 History of Canadian Dress (3)

4.18.10 Faculty of Law

045.329 Natural Resource Administration and Law (3) (This course is available to Environmental Science students only.)

4.18.11 Faculty of Nursing

049.126 Human Growth and Development (3)	049.261 Health and Physical Aspects of Aging (3)
049.128 Introduction to Nursing (3)	049.333 Women and Health (3)
	049.340 Men's Health: Concerns, Issues and Myths (3)

4.18.12 Faculty of Physical Education and Recreation Studies

<i>Physical Education</i>	057.307 Rise of Modern Sport and Physical Education (3)
057.120 Physical Activity, Health and Wellness (3)	057.346 Sociology of Sport (3)
057.150 Foundations of Physical Education and Exercise Science (3)	<i>Recreation Studies</i>
057.231 Kinesiology (3)L (Not for credit in a Major or Honours program in Zoology or Ecology.)	123.120 introduction to Leisure Travel (3)
057.232 Human Anatomy (3)L	123.140 Concepts of Recreation and Leisure (3)
057.261 Health and Physical Aspects of Aging (3)	123.265 The Social Aspects of Aging (3)
	123.330 Nature-based Outdoor Recreation/Education (3)

4.18.13 Faculty of Social Work (012)

047.131 Introduction to Social Welfare Policy (3)
 047.208 Interpersonal Communication Skills (3)
 047.265 The Social Aspects of Aging (3)

4.18.14 School of Art

Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in 6 credit hours from 054.103, 054.104, 054.105, 054.106.

ART HISTORY MINOR (054A) 18 CREDIT HOURS			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
6 credit hours from 054.103, 054.104, 054.105 or 054.106	054.199		
	12 credit hours from either List A or List B		

NOTE: Unless otherwise noted, these courses are available to all students in the Faculty of Science who have completed the required prerequisites.

LIST A

<i>Classics</i>	003.267 Greek Art and Archaeology (3)	054.319 History of Ceramics (3)
	003.268 Roman Art and Archaeology (3)	054.320 Art in New Media (3)
<i>Art History</i>	054.206 Medieval to Early Renaissance Art and Architecture (3)	054.321 Introduction to the Theory and Criticism of Art (3)
	054.207 Renaissance to Baroque Art and Architecture (3)	054.322 Topics in Aboriginal Art (3)
	054.208 Modern to Contemporary Art (3)	054.323 Chinese Art and Architecture (3)
	054.209 Art of the North American Aboriginal Peoples (3)	054.324 Japanese Art and Architecture (3)
	054.210 Survey of Asian Art (3)	054.325 Topics in Art History (3)
	054.211 Women and Art (3)	054.326 Canadian Art and Architecture to World War II (3)
LIST B	054.262 Writing About Art (3)	054.327 Canadian Art Since World War II (3)
	054.291 Field Studies in Art History 1 (3)	054.328 Early Byzantine Art and Architecture (3)
	054.292 Field Studies in Art History 2 (3)	054.329 Later Byzantine Art and Architecture (3)
	054.313 Topics in Medieval Art and Architecture (3)	054.343 Inuit Art (3)
	054.314 Topics in Renaissance and Baroque Art and Architecture (3)	054.344 Field Trip (0)
	054.315 Topics in 18 th and 19 th Century Art (3)	054.359 Islamic Art and Architecture (3)
	054.316 Topics in 20 th Century Art (3)	054.378 Twentieth Century American Art Until 1950 (3)
	054.317 Contemporary Art (3)	054.391 Field Studies in Art History 3 (3)
	054.318 History of Photography (3)	054.392 Field Studies in Art History 4 (3)
		054.406 Seminar on the Theory and Criticism of Art (3)
		054.407 Seminar in Art History 1 (3)
		054.408 Seminar in Art History 2 (3)
		054.409 Seminar on Contemporary Issues in Art (3)
		054.471 Directed Study 1 (3)
		054.472 Directed Study 2 (3)

4.18.15 School of Music

Students claiming advance standing, for any reason, will be asked to undergo placement tests to substantiate their claims.

MUSIC MINOR (033) Minor 18 Credit Hours

Minor Option 1

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
033.128 and 033.129			
(At most, 12 credit hours numbered at the 100 level may be used toward the minor)	12 credit hours of Music courses from List A (Students who elect ensemble courses from List A are required to complete all three courses)		

Minor Option 2

033.111 and 033.112	12 credit hours of Music courses from List A (Students who elect ensemble courses from List A are required to complete all three courses)		
(At most, 12 credit hours numbered at the 100 level may be used toward the minor)			

NOTE: Unless otherwise noted, these courses are available to all students in the Faculty of Science who have completed the required prerequisites. Courses in list B are not available to students completing the minor. Ensemble courses (033.218, 033.318, 033.418) are acceptable for credit towards a degree in Science only when applied to the minor. They are not acceptable for credit as options.

Minor Program

For entry to the minor, the prerequisite is a grade of "C" or better in each of 033.128 and 033.129 or a grade of "C" or better in each of 033.111 and 033.112.

A maximum of 12 credit hours numbered at the 100 level may be used towards 18 credit hours for a minor.

List A

Students are responsible for ensuring that all prerequisites have been met.

033.105	The Well-Tempered Concert-Goer (3)
033.107	Introduction to the History of Music (3)
033.108	History of Music 2 (3)
033.111	Music Theory 1 (3)
033.112	Music Theory 2 (3)
033.128	Musical Style and Structure 1 (3)
033.129	Musical Style and Structure 2 (3)
033.207	History of Music 3 (3)
033.208	History of Music 4 (3)
033.211	Music Theory 2 (3)
033.212	Music Theory 4 (3)
033.218**	Ensemble (2)
033.246	Conducting (3)

033.302	History and Performance of Jazz (3)
033.303	History of Music in Worship (3)
033.305	Research Methods (3)
033.309	Introduction to Ethnomusicology (3)
033.310	Opera Repertoire (3)
033.311	Chamber Music Repertoire (3)
033.318**	Ensemble (2)
033.323M	Acoustics of Music (3)
033.360	Conducting (3)
033.363	Music Theory 5 (3)
033.382	Topics in Music (3)
033.383	Topics in Music (3)
033.384	Topics in Music (3)
033.385	Topics in Music (3)
033.386	Topics in Music (3)
033.387	Topics in Music (3)
033.396	Music of the 20th Century 1 (3)
033.397	Music of the 20th Century 2 (3)
033.406	History of Music 6 (3)
033.407	History of Music 7 (3)
033.413	History of Women in Music (3)
033.415	Choral Repertoire (3)
033.418**	Ensemble (2)

** Acceptable for credit in Science only to those graduating students with a declared Minor in Music.

List B

033.193	Rudiments of Music (3)
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Faculty of Social Work

General Office

521 Tier Building

Telephone: (204) 474-9550 (Voice mail menu)

E-mail: Social_Work@UManitoba.CA

Website: www.umanitoba.ca/faculties/social_work

Dean: Don Fuchs

Student Advisor: Tracey Lavoie

Admissions/Advising Office Assistant: Anita Nowak

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SECTION 6: Course Descriptions

SECTION 1: Academic Staff

Professor Emeritus

Jehu, D., B.A. (Reading), Dip.Soc..Sc., Dip.App.Soc.Studies (Liverpool), F.B.Ps.S. (London).

Senior Scholars:

Grosser, S.J., B.A., M.S.W. (Manitoba); **Hudson, P.**, B.A. (London), M.S.W. (Toronto); **Hutton, M.**, B.Sc., B.S.W., M.S.W., Ed.D. (Toronto); **Penner, A.G.**, B.A., B.S.W. (Manitoba); **Ryant, J.C.**, B.Comm., M.A., M.S.W., Ph.D. (McGill);

Professors

Fuchs, D.M., B.A. (Regina), M.S.W. (Calgary), Ph.D. (Toronto); **McKenzie, B.**, B.A. (Saskatchewan), M.S.W. (Manitoba), Ph.D. (Arizona State); **Roy,**

R., F.R.S.C., B.A. (Delhi), A.A.P.S.W. (London), Adv.Dip. S.W. (Toronto); **Trute, B.**, B.A. (Saskatchewan), M.S.W. (McGill), Ph.D. (Berkeley).

Associate Professors

Bracken, D.C., B.A. (Holy Cross College), M.A. (Toronto), Ph.D. (London); **Clare, K.A.**, B.S.W. (Manitoba), M.S.W. (Carleton); **Ferguson, E.B.**, B.A., M.S.W. (Manitoba), Ph.D. (Toronto); **Frankel, H.**, B.S.W. (Manitoba), M.S.W. (McGill), Ph.D. (Berkeley); **Frankel, S.I.**, B.S.W., M.S.W. (Manitoba); **Hiebert-Murphy, D.**, B.S.W., M.A., Ph.D. (Manitoba); **Heinonen, T.**, B.A. (Alberta), B.S.W. (Calgary), M.S.W. (McGill), D.Phil. (Sussex); **Kaminski, L.E.**, B.A., M.S.W. (Manitoba); **Newman, P.R.**, B.A., M.S.W. (Manitoba); **Reid, J.G.W.**, B.A. (Regina), M.S.W. (Toronto), Ph.D. (Manitoba); **Selinger, G.F.**, B.S.W. (Manitoba), M.P.A. (Queen's), Ph.D. (London); **Spearman, L.B.**, B.A., M.S.W. (Nebraska), D.S.W. (Washington);

Assistant Professors

Bacon, B.L., B.S.W. (Regina), M.S.W. (Toronto), Ph.D. (Texas); **Bonnycastle, C.R.** Dip. Ren Res. (Saskatchewan), B.H.J., M.S.W. (Regina); **Blum, E.R.**, B.A. (McGill), M.S.W. (Toronto); **Cheung, M.**, B.Soc.Sc., M.Soc.Sc. (Hong Kong) Ph.D. (Wilfrid Laurier); **Deane, L.J.**, B.S.W., M.S.W. (Manitoba); **Fidler, G.**, B.S.W. (Manitoba), M.A. (Victoria); **Milliken, E.J.**, B.S.W. (Manitoba), M.S.W. (Calgary); **Pompana, Y.**, B.A. Adv., M.S.W. (Manitoba); **Rodgers, J.**, B.A., B.S.W., M.S.W. (Manitoba); **Taylor-Henley, S.**, B.A. (St.Thomas), M.S.W. (Dalhousie); **Wright, A.** B.A. (College Universitaire de St. Boniface), BSW, MSW (Manitoba).

Instructors

Brady, J. I., B.A. (Concordia, B.S.W. (Regina), M.S.W. (Carleton); **Casey, J.**, B.A. (Western), M.A. (Manitoba); **Charabin, D.F.**, B.A. Honors (Saskatchewan), M.S.W. (Manitoba); **Charter, G.A.**, B.A., B.S.W. (Regina), M.Ed. (St. Francis Xavier); **Cummings, S.**, B.S.W. (Manitoba); **Gosek, G.**, B.A., B.S.W., M.S.W. (Manitoba); **Hart, M.** M.S.W. (Manitoba); **Lands, R. M.**, B.S.W. (Manitoba); **Lesperance, D.K.** B.S.W., M.S.W. (Manitoba); **Paziuk, L.J.**, B.Ed. (Brandon); **Rudy, D.**, B.S.W., M.S.W. (Manitoba) **Strega, S.** B.S.W., M.S.W. (Manitoba) M.S.W., (Victoria).

SECTION 2: Social Work Education

The great complexity of life in our time has made it difficult for many people, families, and population groups to achieve self-realization without professional assistance. It has also created the need for services that help social institutions respond to these personal needs. The focus of social work is on the well being of people and the forces and conditions that undermine their dignity. In its professional practice, social work is involved in psychosocial treatment and social change.

The undergraduate program leads to a B.S.W. degree and provides basic professional preparation for practice. The degree is accepted as such by the Canadian Association of Social Workers and is accredited by the Canadian Association of Schools of Social Work. The Bachelor of Social Work program combines a liberal and professional education. The faculty offers the undergraduate program at three locations: Fort Garry Campus, Winnipeg Education Centre, and Northern program based in Thompson. Students from the three campuses graduate with a Bachelor of Social Work (B.S.W.) degree from the University of Manitoba. The Bachelor of Social Work Program by Distance is available for people living and working outside Winnipeg.

The faculty is a charter member of the Canadian Association of Schools of Social Work. Both the B.S.W. and the graduate degree, Master of Social Work, are accredited by the association, which is also recognized by the Council on Post Secondary Education in the U.S.

The mission of the Faculty of Social Work is to contribute knowledge, and educational programs for the social development of the Province of Mani-

toba, Canada and the world. The Social Work Code of Ethics is available in the B.S.W. Student Handbook.

SECTION 3: Admission to Social Work

3.1 Degree Offered

Bachelor of Social Work

Minimum time to graduation: Normally four years (University 1 plus three years in Social Work, or two years if the concentrated study program is chosen following 51 credit hours of prior university study).

The following is a summary of the admission requirements. Equivalent academic courses completed at recognized universities elsewhere will be considered. All admission requirements, as well as application deadline dates and forms, are included in an applicant information bulletin that is available from the Admissions Office, Enrolment Services, 424 University Centre; this information is also posted on the university's website.

3.2 Course Requirements for Admission to the Program on the Fort Garry Campus

Any 30 credit hours of university level courses.

Other Requirements

The written English and mathematics requirements are recommended to be completed as part of University 1. If these requirements are not met in University 1 (i.e. the first 30 credit hours) they must be satisfied within the first 30 credit hours of Social Work.

Minimum GPA for consideration: 2.5.

A criminal record statement must be completed following selection.

Selection criteria: Three applicant pools are created, with spaces allocated equally to applicants with highest grades, applicants in the Education Equity Initiative, and a random selection from among qualified applicants.

Concentrated Program

All applicants wishing to complete the program in two years of full-time study must have completed a minimum of 51 credit hours of university study prior to admission to the B.S.W. degree program. Of the 51 credit hours of university study, 21 credit hours must not be older than ten years to qualify for the two year concentrated program. Applicants wishing to complete the degree through the two year concentrated program must have an Adjusted Grade Point Average of 2.75 from all previous university study. In the event that three credit hours in each of written English and mathematics have not been completed as part of the 51 credit hours of previous university study, they must be completed within the first year of the two-year program.

The Selection Process

The selection process is designed to accomplish three objectives — to treat applicants fairly and equitably, to provide the diversity of practitioners required by the profession, and to provide for an efficient admissions process. The faculty selects applicants to the Fort Garry Campus B.S.W. degree program through three categories as described below.

Academic Achievement Category: One third of all available positions (25 positions) will be awarded on the basis of highest Adjusted Grade Point Average.

General Admissions Category: One-third of all available positions (25 positions) will be allocated to those chosen through a process of random selection from the pool of all qualified applicants.

Educational Equity Category: One-third of all available positions (25 positions) will be allocated to those eligible for inclusion in one or more of the six Educational Equity Priority Groups listed in the next paragraph. Each priority group will be allocated a specific portion of the 25 total positions in this category.

The purpose of the Educational Equity initiative is to achieve equality in professional education so that no person shall be denied educational opportunities or benefits for reasons unrelated to ability. In the fulfilment of this goal, the aim is to correct the conditions of disadvantage in professional education experienced by Aboriginal peoples, persons with disabilities, immigrants and refugees to Canada, and persons who are, because of their race or colour, a visible minority in Canada. Giving effect to the principle

of educational equity means more than treating persons in the same way; it also requires special measures and the accommodation of difference. Details of the Educational Equity Initiative are provided in the application information bulletin.

3.3 Admission to the Program at the Winnipeg Education Centre

The Bachelor of Social Work (B.S.W.) program at the Winnipeg Education Centre is an inner-city extension of the Faculty of Social Work. The program is funded by Manitoba Education and Training. Students admitted to the centre are accepted directly into a four-year B.S.W. program, and do not require prior university study. All students complete a total of 123 credit hours of university study.

The objective of this program is to enhance the accessibility of the B.S.W. program by preparing as social workers those mature students who have had inner-city or similar social service experience, but who lack the normal university entrance requirements. Special academic and social support is provided to students admitted to the program. Staff assists candidates in arranging funding resources.

Admission to the centre is limited. Applicants to the full-time program must be 21 years old, low income and residents of Winnipeg at the time of application. The deadline date for submitting applications is early March.

A part-time B.S.W. Access program is offered to individuals who meet the above criteria, work for a Winnipeg or Aboriginal agency and/or have two years employment in human service fields. Deadline for applications for part-time studies is the end of January.

Students at the centre must meet the same graduation requirements as students in the B.S.W. program on the Fort Garry campus. For further information, contact: Inner City Social Work Program, Winnipeg Education Centre, 15 Chester Street, Winnipeg, Manitoba, R2L 1W6; telephone: (204) 668 8160 ext. 50 or the Selection Coordinator, 668-8160 ext. 30.

3.4 Admission to the Program at Thompson

The Northern Bachelor of Social Work (B.S.W.) program, based in Thompson, Manitoba, is an extension of the Fort Garry Faculty of Social Work. Students are admitted directly into a four-year B.S.W. program and do not require prior university study. All students complete a total of 123 credit hours of university study.

The objective of this program is to enhance the accessibility of the B.S.W. program by preparing as social workers mature students who, without the support of the program, would be unable to successfully complete a university degree due to lack of financial resources, lack of academic qualifications, remote location, and cultural barriers. Special academic and personal support is provided to students admitted to the program, as well as some assistance in arranging funding resources.

Admission to the Thompson program is limited. Applicants must meet specified northern residency requirements. The deadline date for submitting applications is March 1 (classes begin in September).

Students in the Thompson program must meet the same graduation requirements as students in the B.S.W. program on the Fort Garry campus. For further information, contact the Director, Faculty of Social Work at Thompson, 3 Station Road, Thompson, Manitoba, R8N 0N3; telephone: (204) 677 1450.

3.5 Distance Delivery of the Bachelor of Social Work Program

The Faculty of Social Work remains committed to the accessibility of social work education. The faculty has extended the concept of accessibility to include geographical accessibility through the delivery of the B.S.W. based on two approaches: (1) to individuals by means of an independent study program, and (2) to community-based groups using the cohort method.

The distance education B.S.W. initiative is intended to target individuals who are employed in the social services and living outside of Winnipeg, but who may not have had the opportunity to pursue professional social work education.

Delivery methods for the independent study component of the program include a combination of teleconference sessions and print-based independent study manuals.

All course examinations are scheduled and arranged to take place in the student's community by the university's Student Records Office.

Delivery of the program to the community-based cohorts utilizes the face-to-face delivery with the option of a combination of face-to-face and independent study.

Applicants to the B.S.W. distance education initiative must meet all three of the following requirements to be admitted into the program:

- A minimum of two years of work experience, within the last five years, in the social services;
- Residency outside of Winnipeg; and,
- The university admission requirements for either a regular student or a mature student. The deadline for the submission of applications is March 1 (for September start date). For applications and further information, contact: The Faculty of Social Work, telephone (204) 474 6070.

Complete and detailed admissions information is available in December from the General Office of the Faculty of Social Work, 521 Tier Building.

3.6 Special Student Admission

A Special Student in Social Work is one who wishes to take Undergraduate Social Work courses with no intentions of proceeding to a B.S.W. degree at the present time. In addition, the student is not currently registered at any other University. Students seeking admission as Special Students may request information from the Faculty of Social Work, 521 Tier Building; telephone (204) 474 7050. Criteria for admission are:

- Successful completion of a minimum of 30 credit hours of university level courses and an Adjusted Grade Point Average of 2.5 (C+)

or

- Applicants who are eligible to apply in one of the five priority groups described under the section entitled Educational Equity Initiative may apply for admission with a minimum Adjusted Grade Point Average of 2.0 (C).

For complete information on the criteria and definitions of the Educational Equity groups, contact the Faculty of Social Work, 521 Tier Building.

Students are reminded they must present an official transcript (one bearing the university seal) to the social work student advisor on their appointment day. (University of Manitoba students need only provide a student history). There is a \$50 application fee. Once admitted as a Special Student, students will:

- Be limited to registration in nine credit hours of social work courses plus 047.131 and 047.208.
- Be prohibited from adding courses in the Faculty of Social Work until August (refer to the *Registration Guide* for specific dates.)
- Have all courses classified as "SS," which means that courses will not generate a Grade Point Average.

Students Enrolled in other Faculties/Schools

Students currently enrolled in other faculties or schools, at the University of Manitoba may register for Social Work courses provided they have completed a minimum of 30 credit hours of university study and achieved a minimum Adjusted Grade Point Average of 2.50. These students will also be limited to registration in nine credit hours of Social Work courses plus 047.131 and 047.208.

Courses available to special students and students enrolled in other faculties and schools at the University of Manitoba:

047.131	Introduction to Social Welfare Policy Analysis
047.211	Emergence of the Canadian Welfare State
047.212	Britain: Poor Laws to the Welfare State
047.213	Comparative Social Welfare Systems
047.313	Contemporary Canadian Social Welfare
047.209	Human Behaviour and Social Work Practice
047.208	Interpersonal Communication Skills
047.310	Systematic Inquiry in Social Work

NOTE: Special and non Social Work students are required to abide by the same pre/co-requisite policy that applies to B.S.W. students.

SECTION 4: Academic Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Faculty of Social Work has regulations and requirements, published below, that apply specifically to its students.

4.1 Prerequisite – Co-requisite Policy

The faculty has established a set of prerequisite and co-requisite requirements to assist students in planning their program of study. The regulations are on file in the General Office of the faculty, in the *Registration Guide* and in the *B.S.W. Student Handbook*.

4.2 Residence Requirement

The general university residence requirement applies to the Faculty of Social Work. See Section 2, in the chapter, General Academic Regulations and Requirements.

4.3 Scholastic Progress

Except in circumstances covered in the official regulations referred to below, clear standing in the faculty requires a Cumulative Grade Point Average of 2.5 (C+) at the end of each academic session. A minimum grade of 2.0 (C) is required for all Social Work courses. The passing grades for electives taken in other faculties or schools are those required by the faculties or schools concerned. Complete statements of the regulations governing scholastic progress in the Faculty of Social Work are published in the *B.S.W. Student Handbook* and are also on file in the General Office. Students wishing to do so may consult this policy with the chair of the Committee on Standings or the Dean. In the event of any question or dispute, this set of regulations shall be considered the official version. Directors of off-campus programs and the Admissions/Advising Officer of Fort Garry Campus will advise students on issues concerning scholastic progress.

4.4 Professional Unsuitability Bylaw

The Senate has approved a bylaw granting authority to the faculty to require a student to withdraw for reasons of professional unsuitability (see the chapter, General Academic Regulations and Requirements, Section 6.2.3.). Copies of this bylaw may be obtained from the general office. The bylaw is also published in the *B.S.W. Student Handbook*. Students are reminded of their obligation to be familiar with all regulations governing their continued progress in the program.

4.5 Dean's Honour List

Students who achieve a sessional GPA of 3.5 on the basis of 24 credit hours in a regular session will be included on the Dean's Honour List.

4.6 Appeal of Grades

The general university policy for appeal of assigned grades applies to the Faculty of Social Work. As well, the Faculty Council has approved a Social Work policy on the appeal of assigned grades and term work. The policy is listed in the *B.S.W. Student Handbook*. The Faculty Council has established the Academic Standing Appeals Committee to deal with these matters.

SECTION 5: Program Requirements

5.1 Curriculum Outline

A) Three-Year Plan

This plan allows a Fort Garry Campus student who has completed 30-48 credit hours of general university study prior to admission, to combine Social Work professional courses with other university courses. It requires three years of full-time study, after admission to the faculty, to complete the requirements for the B.S.W. degree. A student who has already completed the 51 credit hours of general university study may also register for this program however, ignoring the elective requirements.

Three- Year Plan- Example

Course No.	Course Name	Credit Hours	Pre/Co-requisite	Year
47.131	Introduction to Social Welfare Policy Analysis	3		1
47.208	Interpersonal Communication Skills	3		1
47.209	Human Behaviour and Social Work Practice	6		1
47.314	Introduction to Social Work Practice	3	Pre- or Co- 131, 208, 209	1
47.315	Field Instruction 1	12	Pre- 131, 208, 209, 314 and Co- 420	2
47.420	Field Focus of Social Work Practice	6	Pre- 131, 208, 209, 314 and Co- 315	2
47.412	Field Instruction 2	12	Pre- 315 and Co- 420	3
47.420	Field Focus of Social Work Practice	6	Pre- 131, 208, 209, 314 and Co- 412	3
47.211	Emergence of the Canadian Welfare State			
47.212	or Britain: Poor Laws to the Welfare State	3	Pre- 131	1
47.213	or Comparative Social Welfare Systems			
47.310	Systematic Inquiry in Social Work	3		1
47.313	Contemporary Canadian Social Welfare	3	Pre- 131	2
47.421	Feminist Perspectives on Social Work Practice	6	Pre- 131, 208, 209, 2 or 3 314	3
47.422	Aboriginal People and Social Work Practice	6	Pre- 131, 208, 209, 2 or 3 314	3

NOTES:

- 1) 47.131 and 47.208 are open to University 1 students,
- 2) See *Registration Guide* for a list and description of 47.420 courses (Students are encouraged to register for a Field Focus of Social Work Practice (47.420) that corresponds with their field placement area of practice)
- 3) All students must take the foundation courses very early in the program. Failure to do so may restrict progression through the program.
- 4) Students must take 047.131 before proceeding to 047.211, 047.212, 047.213, 047.313. In addition, 047.131, 047.208 and 047.209 are pre- or co-requisite to 047.314.
- 5) All foundation courses are prerequisite to 047.420, 047.421, 047.422, 047.315 and 047.412. In addition, 047.315 (Field 1) is prerequisite to 047.412 (Field 2).
- 6) Students must take two sections of 047.420. Each section is anchored in a different field or focus of social work practice. These practice courses must be taken concurrently with field instruction. It is recommended that students take a 047.420 course that corresponds with their field practicum placement.
- 7) Students must take 47.420 concurrently with 47.315 and 47.412. If a student withdraws from 47.420, he/she must also withdraw from 47.315 and/ or 47.412. As well, if a student withdraws from 47.315 and/or 47.412, he/she must withdraw from 47.420. Students who fail to withdraw from the co-requisite course, will be withdrawn.
- 8) Student admitted after '97-'98 *must* complete 3 credit hours of written English and Math as part of first 30 credit hours (unless completed prior to admission).
- 9) This plan assumes that students do not take courses in the summer.

Year 1 = 21 Credit hours social work courses	6 Credit hours electives
Year 2 = 27 Credit hours social work courses	6 Credit hours electives
Year 3 = 24 Credit hours social work courses	9 Credit hours electives

Planning Chart for Three Year Program

Required Electives Admitted on basis of	Credit Hours	Year
Unallocated transfer	30	1
Electives to be completed		
Written English (W)		1
Mathematics (M)		1

B) Two-Year Plan (Concentrated Program)

Fort Garry Campus students who have completed 51 credit hours of general university study (equivalent to 8 1/2 full courses) prior to admission to the B.S.W. program, and have maintained a minimum Adjusted Grade Point Average of 2.75, are eligible for the two year plan (concentrated program). If a student has completed the 51 credit hours of general university study, but does not have the required 2.75 A.G.P.A. or prefers a more extended time period, that student can register for either the three-year plan or the part-time plan. In both instances the "elective" requirements would be ignored except where applicants have not completed three credit hours in each of written English and mathematics prior to admission. In this instance students enrolled in the concentrated program, must complete the coursework in the first year. Students eligible to register for the concentrated program may choose to do so at point of initial registration following admission only. Students planning on completing their program in two years must follow the structure outlined below (which includes completing 12 credit hours, i.e. two full courses during the summer)Year 1

Year 1

Course No.	Course Name	Credit Hours	Pre/Co-requisite
47.131	Introduction to Social Welfare Policy Analysis	3	
47.208	Interpersonal Communication Skills	3	
47.209	Human Behaviour and Social Work Practice	6	
47.211	Emergence of the Canadian Welfare State	3	
	or		Pre- 131
47.212	Britain: Poor Laws to the Welfare State		
	or		
47.213	Comparative Social Welfare Systems		
47.310	Systematic Inquiry in Social Work	3	
47.313	Contemporary Canadian Social Welfare	3	Pre- 131
47.314	Introduction to Social Work Practice	3	Pre- or Co- 131, 208, 209

Summer Session

47.421	Feminist Perspectives on Social Work Practice	6	Pre- 131, 208, 209, 314
47.422	Aboriginal People and Social Work Practice	6	Pre- 131, 208, 209, 314

Year 2

47.315	Field Instruction 1	12	Pre- 131, 208, 209, 314 and Co- 420
47.420	Field Focus of Social Work Practice	6	Pre- 131, 208, 209, 314 and Co- 315
47.412	Field Instruction 2	12	Pre- 315 and Co- 420
47.420	Field Focus of Social Work Practice	6	Pre- 131, 208, 209, 314 and Co- 412
Total credit hours		72	

C) The Part-Time Plan

Please note that it is possible to pursue the Bachelor of Social Work degree through a program of part-time study. Part-time students must complete all the professional and elective courses within nine years of their admission to the faculty.

5.2 Specialization in Child and Family Services

The BSW specialization in child and family services is a new development offered by the Faculty of Social Work. This specialization seeks to provide graduates with the necessary knowledge and skills within the generalist degree. The specialization retains the number of required social work courses (72 credit hours) and the number of required electives (51 credit hours), although limits the student's choice of electives in pre-determined groups. As a result students are required to complete 47.208, 47.209, 47.314, 47.315, 47.420, 47.412, 47.420, 47.211 Or 47.212 or 47.213, 47.310, 47.313, 47.421 and 47.422. The completion of these requirements would be noted on the student's transcript as with a specialization in child and family services. Further information on the BSW specialization in child and family services is available from the general office of the Faculty of Social Work.

5.3 Interfaculty Option in Aging

The Interfaculty Option in Aging is offered by the following faculties: Architecture (Interior Design), Arts, Human Ecology, Nursing, Physical Education and Recreation Studies, and Social Work. To complete the option, students will complete each of the following requirements: a) 28.265*, The Social Aspects of Aging; b) 057.261 *, Health and Physical Aspects of Aging; c) one field placement 047.315 or 047.412 in aging d) course 047.420 (6 credit hours) must be in aging (see the aging option information sheet in the General Office). Students are encouraged to take courses from the participating units other than Social Work. **NOTE:** *These courses are offered on a rotational basis by participating units.

Upon completion of these requirements, a "comment" will be added to the student's transcript. Further information on the Interfaculty Option in Aging is available from the General Office of the Faculty of Social Work.

5.4 Field Instruction

Students are expected to register for two courses in field, 047.315 and 047.412. Courses are taken when students have completed the prerequisites and are in the appropriate year of their degree plan. Field courses each have a co-requisite, which is Field Focus of Social Work Practice 047.420. The Field Focus course selected should correspond with the field placement area of practice. Students wishing to divert from their degree plan should consult the Admissions/Advising Officer before March 1. Forms requesting confirmation of student plans to take field instruction in the following year will be distributed in the winter term. They must be returned on the date designated in the form. Placements for field instruction may not be available for students who do not submit their forms by the deadline date.

Field instruction in both 047.315 and 047.412 consists of participation in the field placement two days per week, both terms (16 hours per week). Field instruction in the concentrated program constitutes four days per week (32 hours) in both terms. Students contemplating switching to a concentrated field placement are required to make themselves aware of eligibility requirements for this program and contact the Admissions/Advising Officer for confirmation of their eligibility no later than March 1. Only when this is resolved are they eligible to select this field option.

The field instruction program will provide the student with opportunities to learn first hand how to provide professional practice in a variety of social service agencies. The program provides an educationally focused experience in delivering progressively more demanding and complex professional social work interventions.

Field instruction will be provided by university-appointed field instructors who may be agency-based or university-based, and who have knowledge, skills, and expertise in generic principles that can be applied to a wide range of fields of practice. The method of instruction will include individual and may include group seminars designed to assist the student to integrate theory with practice. This instruction is provided on a weekly basis. Field liaisons are available for student support, if necessary.

Active participation by the student is expected in all phases of field instruction including orientation conducted in their individual agency placements at the beginning of the academic year. Students absent due to illness or other reasons must contact the Field Instructor or Field Coordinator.

Students may be placed in a variety of agencies or departments. These include: school, probation, child and family services, health and mental health settings, occupational social work, those with a disability focus, and ethnically specific services. These settings provide experience in using a

variety of interventive skills with individuals, families, groups, communities and policy initiatives. Every effort will be made to place students registering in 047.412 (the final year of their field program) in a setting related to their field of interest. Final authority for field placement location, however, rests with the field coordinator. Decisions may be based on availability of agency openings, as well as on the educational needs of students. Students are expected to assume responsibility for any transportation expenses required for travel to and from the agency sites in which they are taking their field instruction course.

5.5 Distance Courses Open to Fort Garry Campus and Winnipeg Education Centre Students

BSW students who are enrolled in the Fort Garry Campus and Winnipeg Education Centre programs may take up to six credit hours of selected social work courses through Distance Education. The following courses are excluded: 47.310, 47.208, 47.314, 47.420. If any Fort Garry Campus or Winnipeg Education Centre students are enrolled in the above mentioned practice courses they will be withdrawn.

5.6 Courses Open to Challenge for Credit

The Faculty of Social Work accommodates those students who are qualified and who can demonstrate acceptable knowledge and skill, by allowing them to challenge certain Social Work courses. They are:

047.208	Interpersonal Communication Skills
047.310	Systematic Inquiry in Social Work
047.313	Contemporary Canadian Social Welfare

Information on the procedures for challenge is available in the B.S.W. Student Handbook. The dates at which courses may be challenged are given in the academic schedule of the *Undergraduate Calendar*.

5.7 Credit for Social Work Courses Taken at Other Universities (Equivalency)

The Faculty of Social Work supports the principle of granting equivalency credit for social work courses taken within the last nine years at other educational institutions, or selected courses taken as part of a diploma or certificate offered at the University of Manitoba.

Information on the procedures for equivalency is available in the *B.S.W. Student Handbook*.

SECTION 6: Course Descriptions

The following courses are Social Work electives and may not be offered regularly at all program sites: 047.205, 047.207, 047.210, 047.311, 047.407, 047.408, 047.413. Two of 047.211, 047.212 and 047.213 are offered in most years.

047.131 Introduction to Social Welfare Policy Analysis (3-0:0-0) 3 #U1# Examination of social welfare policy as the end product of ideologies. Introduction of elements of ideology and the comparison of competing ideological systems. The relationship of economic, political and ethical views of society and their manifestations in societal responses to human need and social services. Students may not hold credit for both 047.131 and the former 047.130.

047.205 Community and Organizational Theory (3-0:0-0) or (0-0:3-0) 3 Deals with concepts such as conflict and power which relate social work practice to the nature of secondary human relationships. These are applied to the dynamics within and between communities and organizations. *Prerequisite:* first half of 047.209.

047.207 Small Group Dynamics (3-0:0-0) or (0-0:3-0) 3 Group norms, values, and goal as they relate to decision-making and communication patterns in groups. Membership roles and leadership styles are related to group development and group functioning. *Prerequisite:* first half of 047.209.

047.208 Interpersonal Communication Skills (3-0:0-0) or (0-0:3-0) 3 A basic core of interpersonal skills for communicating effectively and for establishing and maintaining relationships in one-to-one and group situations. Emphasis is on experiential learning using a variety of techniques.

047.209 Human Behaviour and Social Work Practice (3-0:3-0) 6 General systems theory is applied to the study of person-in-family-in environment, with a corresponding examination of implications for social work practice. Various models of human development are critiqued. Information sessions on areas of human behaviour critical to social work practice are provided.

047.210 Perspectives on the Individual and Life Transitions (3-0:0-0) or (0-0:3-0) 3 This course examines the impact of life course transitions on the psycho-social well-being of individuals. Focuses on crises and problematic issues that arise at turning points and their implications for social work intervention. *Prerequisite:* first half of 047.209. Students may not hold credit for both 047.210 and the former 047.206.

047.211 Emergence of the Canadian Social Welfare State (3-0:0-0) or (0-0: 3-0) 3 An

examination of the emergence of the Canadian welfare state from its various colonial inheritances to the Canada Assistance Plan. Social, political, economic, religious, geographical, demographic and cataclysmic factors influencing the development of the welfare state are examined and analyzed. *Prerequisite:* 047.131. Students may not hold credit for both 047.211 and the former 047.130.

047.212 Britain: Poor Laws to the Welfare State (3-0:0-0) or (0-0:3-0) 3 An examination of the emergence of the British welfare state from its origins in the 14th century. Social, political, economic, religious, demographic and cataclysmic factors influencing the development of parochial and state provision for human needs are examined and analyzed. *Prerequisite:* 047.131. Students may not hold credit for both 047.212 and the former 047.130.

047.213 Comparative Social Welfare Systems (3-0:0-0) or (0-0:3-0) 3 The welfare systems of three modern societies are examined and compared. Economic, political, social, religious, geographical, demographic and cataclysmic factors influencing the development of the various models of social provision are analyzed for their significance to the Canadian welfare system. *Prerequisite:* 047.131. Students may not hold credit for both 047.213 and the former 047.130.

047.265 The Social Aspects of Aging (3) An examination of the social aspects of aging. Emphasis on understanding the aging process as a life transition involving adaptation through interaction with social and physical environments. Students may not hold credit for 123.265 and 051.265 or 028.265 or 047.265. (A required Option in Aging course)

047.310 Systematic Inquiry in Social Work (3-0:0-0) or (0-0:3-0) 3 Relates systematic methods of scientific inquiry to social work practice; theory building for practice; information collection; descriptive data for decision-making, understanding technical research material, introduction to issues of research design.

047.311 Perspectives on Deviancy (3-0:0-0) or (0-0:3-0) 3 Examines human problems using several analytical models commonly applied in social work practice. *Prerequisite:* first half of 047.209.

047.313 Contemporary Canadian Social Welfare (3-0:0-0) or (0-0:3-0) 3 An examination of social welfare in Canadian society, leading to an evaluation of present approaches in the light of changing economic and social conditions and changing needs. *Prerequisite:* 047.131. Students may not hold credit for both 047.313 and the former 047.301.

047.314 Introduction to Social Work Practice (3-0:0-0) 3 Introduces students to ecological and other generalist based practice frameworks and the role of professional social workers. Course emphasizes values and knowledge in context of a rational approach to problem solving which includes problem definition, assessment, contracting, intervention and evaluation. *Pre- or corequisite* 047.131, 047.208 and 047.209.

047.315 Field Instruction I (12) A first educationally directed field experience in which the student will have the opportunity to assume responsibility for social work engagement, assessment, planning, intervention and evaluation, integrating theory from class. The required hours are calculated as 28 weeks x 2 days per week x 8 hours or 450 hours. This time commitment includes involvement with the agency in planning for, and engaging in, practice activity, and evaluation of performance. It also includes educational contact time with the field instructor in individual and/or group sessions. *Prerequisites:* 047.131, 047.208, 047.209, and 047.314. *Corequisite:* 6

credit hours of 047.420.

047.405 Selected Topics in Social Work (3) Directed readings or concentrated study in some aspect of social service which is of interest to the student. Students must contract with an instructor prior to registration. *Prerequisite:* written consent of instructor.

047.407 Social Problem and Social Work Practice Seminar (3) In-depth study of the problem area, exploration of the ways other disciplines relate to the problem, and strengthening of interventive abilities of the student. *Prerequisite:* 047.304 / 047.312, 047.420 / 047.315 or written consent of instructor.

047.408 Current Issues in Social Welfare (3-0:0-0) or (0-0:3-0) 3 Study of a particular area of social welfare to improve policies and practices. Students may select one seminar from several which are offered. These may vary from year to year.

047.412 Field Instruction 2 (12) A second educationally directed practice experience building on 047.315 in which the student will have the opportunity to carry a sustained professional role in situations which require the integration of values, knowledge, and skill at the level of a beginning professional practitioner. The required hours are calculated as 28 weeks x 2 days per week x 8 hours or 450 hours. This time commitment includes involvement with the agency in planning for, and engaging in, practice activity, and evaluation of performance. It also includes educational contact time with the field instructor in individual and/or group sessions. *Prerequisites:* 6 credit hours of 047.420, and 047.315. *Corequisite:* 6 credit hours of 047.420.

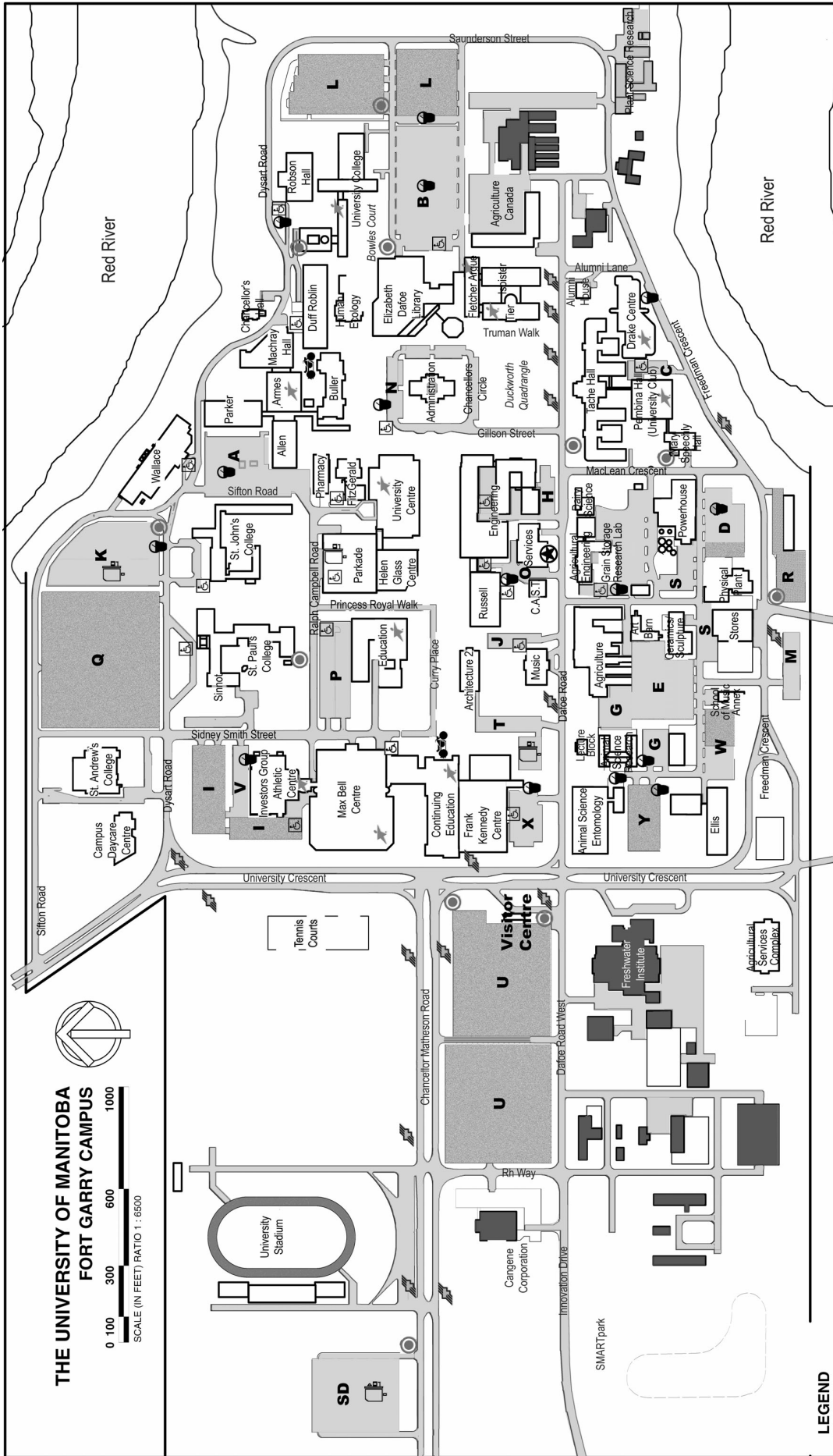
047.413 Advanced Interpersonal Communication Skills (0-0:3-0) 3 An experiential course for self-understanding and self-awareness to produce a disciplined and conscious use of self in professional communication and relationships. *Prerequisites:* 047.208 and written consent of instructor.

047.420 Field Focus of Social Work Practice (6) A seminar that teaches social work practice skills in the context of a field or focus of practice. The course emphasizes practice as planned change (client systems) and policy and linkage (service system).

Students must select two seminars from several which are offered. These may vary from year to year and are organized to cover various fields or focus of practice. For students admitted after 1993-1994. *Prerequisites:* 047.131, 047.208, 047.209, and 047.314; 6 credit hours corequisite with 047.315 and an additional 6 credit hours corequisite with 047.412. Students cannot hold credit for both 047.415 and 047.420.

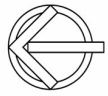
047.421 Feminist Perspectives on Social Work Practice (6) An analysis of social work practice and welfare policy from a feminist perspective. Course emphasizes the integration of social work intervention with policy in the social welfare context and overlays concepts such as empowerment, ecological practice, oppression, and practice in context of cultural diversity. *Prerequisites:* 047.131, 047.208, 047.209, and 047.314. Students may not hold credit for both 047.421 and 047.417 or 047.421 and 047.419.

047.422 Aboriginal People and Social Work Practice (6) An analysis of social work practice and welfare policy from an aboriginal perspective. Course emphasizes the linkage between practice and policy and overlays concepts such as empowerment, ecological practice, and practice in context of cultural diversity. *Prerequisites:* 047.131, 047.208, 047.209, and 047.314. Students may not hold credit for both 047.422 and 047.416 or 047.422 and 047.418.



**THE UNIVERSITY OF MANITOBA
FORT GARRY CAMPUS**

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SCALE (IN FEET) RATIO 1 : 8500



LEGEND

- Meter Parking
- Ticket Dispenser Parking
- A-Z Reserved Parking Areas*
- Student Parking Areas*
- Handicapped Parking*
- Bus Stops
- Motorcycle Parking*
- Emergency Code Blue Telephone
- Campus Security
- Food Services
(some locations open during regular session only)

