Senate
Senate Chamber
Room E3-262 Engineering Building
WEDNESDAY, December 2, 2015
1:30 p.m.

A G E N D A

I MATTERS TO BE CONSIDERED IN CLOSED SESSION

1. Report of the Senate Committee on Honorary Degrees [November 19, 2015]

The report will be distributed to members of Senate at the meeting. Documentation will be available for examination by eligible members of Senate the day preceding the Senate meeting in the Office of the University Secretary.

NB – The report will also be made available to Senators 15 minutes prior to the meeting. Accordingly, the Senate Chamber will not be open to guests until approximately 1:45 p.m.

II MATTERS RECOMMENDED FOR CONCURRENCE WITHOUT DEBATE

1. Report of the Senate Committee on Curriculum and Course Changes on Course and Program Changes – Part A Page 4

2. Report of the Senate Committee on Medical Qualifications RE: Dr. Shaikh Mohammed Iqbal Page 160

Dr. Iqbal's curriculum vitae will be available for inspection by members of Senate in the Office of the University Secretary and in the Dean's Office, College of Medicine, prior to the December Senate meeting.

3. Report of the Executive Committee of the Faculty of Graduate Studies on Course and Curriculum Changes RE: Departments of Classics and Sociology [October 28, 2015] Page 161

III MATTERS FORWARDED FOR INFORMATION

1. Report of the Senate Committee on Awards – Part A [October 19, 2015] Page 163

2. Correspondence from the Provost and Vice-President (Academic) RE: Implementation of Post-Baccalaureate Certificate and Certificate Programs, Extended Education Division Page 168

IV REPORT OF THE PRESIDENT

1. President's Report [December 2, 2015] Page 169

2. Behavioural Policies Review Page 183

V QUESTION PERIOD

Senators are reminded that questions shall normally be submitted in writing to the University Secretary no later than 10:00 a.m. of the day preceding the meeting.

VI CONSIDERATION OF THE MINUTES OF THE MEETING OF NOVEMBER 4, 2015

VII BUSINESS ARISING FROM THE MINUTES - none

VIII REPORTS OF THE SENATE EXECUTIVE COMMITTEE AND THE SENATE PLANNING AND PRIORITIES COMMITTEE

1. Report of the Senate Executive Committee Page 185

2. Report of the Senate Planning and Priorities Committee

The Chair will make an oral report of the Committee's activities.

IX REPORTS OF OTHER COMMITTEES OF SENATE, FACULTY AND SCHOOL COUNCILS

1. Report of the Senate Committee on Awards – Part B [October 19, 2015] Page 186

2. Report of the Senate Committee on Admissions RE: Revised Selection Process for the Doctor of Dental Medicine Program, College of Dentistry Page 195

3. Undergraduate Course Changes Beyond Nine Credit Hours RE: Biomedical Sciences Concentration, Interdisciplinary Health Programs, Faculty of Health Sciences

a) Report of the Senate Committee on Curriculum and Course Changes Page 200

b) Report of the Senate Planning and Priorities Committee Page 202

4. Reports of the Faculty Council of Graduate Studies on Program and Curriculum Changes

a) RE: Proposal for a Financial Analyst Concentration, in the M.B.A., Asper School of Business Page 244

b) RE: Department of Biochemistry and Medical Genetics Page 248

Please call regrets to 204-474-6892 or send to shannon.coyston@umanitoba.ca.

October 30, 2015

Report of the Senate Committee on Curriculum and Course Changes Part A- Submitted to Senate for Concurrence Without Debate

Preamble:

1. The terms of reference for the Senate Committee on Curriculum and Course Changes (SCCCC) are found on the website at: http://www.umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/497.htm. SCCCC is "to recommend to Senate on the introduction, modification or abolition of undergraduate programs, curricula or courses."

2. Since last reporting to Senate, the Senate Committee on Curriculum and Course Changes (SCCCC) met on October 13, 28, and 30, 2015, to consider curriculum and course changes from Faculties, Colleges, and Schools.

3. Proposed course deletions, introductions, and modifications, and program modifications are described in detail in the attachment to the Report.

Observations:

1. **General**

   In keeping with past practice, most changes for departments totalling less than ten credit hours are forwarded to Senate for concurrence without debate. This is in accordance with the Senate's recommendation approved July 3, 1973, that course changes would cease to go to the SPPC when the resource implications are intra-faculty. Deans and Directors are to assess the resource implications to the respective units when course SPPC for assessment of resource implications.

2. **Courses Recommended for the Written English Requirement**

   HIST 2200 Labour History: Canada and Beyond (C) (3)
   LABR 2200 Labour History: Canada and Beyond (C) (3)
   RUSN 1410 Love in Russian Culture in English Translation (3)

3. **Courses Recommended for the Recommended Introductory Course (RIC) List***

   * Including modified courses that would be retained on the RIC list.

   HIST 2200 Labour History: Canada and Beyond (C) (3)
   LABR 2200 Labour History: Canada and Beyond (C) (3)
   RUSN 1410 Love in Russian Culture in English Translation (3)
   UKRN 1230 Language Seminar I Ukraine 1 (3) (*retained)

4. **Courses to be Removed from the Recommended Introductory Course (RIC) List**

   HIST 2080 The Byzantine Empire and the Slavic World (3)

5. **Faculty of Agricultural and Food Sciences**

Agribusiness

The department is proposing the modification of two (2) courses. There would be no change to the overall number of credit hours in course offerings.

6. **School of Art**

The school is proposing program modifications to the following programs. The modification involves the removal of FA 3440 as a program requirement.

- **Bachelor of Fine Arts (Honours) in Art History**
- **Bachelor of Fine Arts (General) in Art History**
- **Bachelor of Fine Arts (Honours) Studio**
- **Bachelor of Fine Arts (General) Studio**
- **Diploma in Art**

7. **Faculty of Arts**

Anthropology

Program proposal: **Bachelor of Arts (Double Honours) in Anthropology**

The department is proposing to introduce a **Double Honours in Anthropology**. The proposal responds to student demand. The general requirements of the proposed curriculum are consistent with those for other Double Honours programs in the Faculty of Arts, as approved by Senate (May 14, 2014).

Canadian Studies

The program is proposing program modifications to the following programs, which involve changes to the List of Approved Courses in Canadian Studies. HIST 2200 Labour History, Canada and Beyond (C) and LABR 2200 Labour History, Canada and Beyond (C) will be added to the list.

- **Bachelor of Arts (General Major) in Canadian Studies**
- **Bachelor of Arts (Single Honours) in Canadian Studies**
- **Bachelor of Arts (Double Honours) in Canadian Studies**
- **Minor (Concentration) in Canadian Studies**

Catholic Studies

The program is proposing the introduction of two (2) courses. The overall number of credit hours offered by the program would increase by 6.0 credit hours.

The program is proposing modifications to the **Minor (Concentration) in Catholic Studies**, which involve modifications to the List of Approved Courses in Catholic Studies. CATH 2500 Reshaping the Catholic Landscape in Canada and CATH 2600 Pilgrimage and the Localization of Catholic Devotion will be added to the list.

Central and East European Studies

The program is proposing program modifications to the following programs, which involve a change to the List of Approved Courses in Central and East European Studies.

- **Bachelor of Arts (General Major) in Central and East European Studies**
- **Bachelor of Arts (Single Advanced Major) in Central and East European Studies**
- **Bachelor of Arts (Double Advanced Major) in Central and East European Studies**
- **Bachelor of Arts (Double Honours) in Central and East European Studies**
- **Minor (Concentration) in Central and East European Studies**

Classics

The department is proposing program modifications to the following programs:

- **Bachelor of Arts (General Major) in Classical Studies**
- **Bachelor of Arts (Single Advanced Major) in Classical Studies**

The department is proposing program modifications to the following programs, which involve changes to the Classical Studies List A:

- **Bachelor of Arts (General Major) in Classical Studies**
- **Bachelor of Arts (Single Advanced Major) in Classical Studies**
- **Bachelor of Arts (Double Advanced Major) in Classical Studies**
- **Minor (Concentration) in Classical Studies**

Program proposal: **Bachelor of Arts (Double Advanced Major) in Classical Studies**

The department is proposing to introduce a **Double Advanced Major in Classical Studies**. The general requirements of the proposed curriculum are consistent with those for other Double Advanced Major programs in the Faculty of Arts, as approved by Senate (December 5, 2012).

French, Spanish and Italian

The department is proposing the introduction of two (2) courses. The overall number of credit hours offered by the department would increase by 6 credit hours.

German and Slavic Studies

The department is proposing the deletion of one (1) course, the introduction of one (1) course, and the modification of fifteen (15) courses. There would be no change to the overall number of credit hours in course offerings.

History

The department is proposing the deletion of one (1) course and the introduction of one (1) course. There would be no change to the overall number of credit hours of course offerings.

Icelandic

The department is proposing program modifications to the following programs:

- **Bachelor of Arts (Single Honours) in Icelandic**
- **Bachelor of Arts (Double Honours) in Icelandic**

Labour Studies

The program is proposing the deletion of one (1) course, the introduction of four (4) courses, and the modification of four (4) courses. The overall number of credit hours offered by the department would increase by 6 credit hours.

The program is proposing program modifications to the following programs, including among other changes, amendments to the List of Electives for these programs:

- **Bachelor of Arts (General Major) in Labour Studies**
- **Bachelor of Arts (Single Advanced Major) in Labour Studies**
- **Minor (Concentration) in Labour Studies**

Medieval and Early Modern Studies

The department is proposing program modifications to the following programs, which involve changes to the Group 1 course list:

- **Bachelor of Arts (General Major) in Medieval and Early Modern Studies**
- **Bachelor of Arts (Single Advanced Major) in Medieval and Early Modern Studies**
- **Minor (Concentration) in Medieval and Early Modern Studies**

Philosophy

The department is proposing program modifications to the following:

- **Bachelor of Arts (Single Advanced Major) in Philosophy**
- **Bachelor of Arts (Double Honours) in Philosophy**
- Program Notes (for Single Honours, Double Honours)

Program proposal: **Bachelor of Arts (Double Advanced Major) in Philosophy**

The department is proposing to introduce a **Double Advanced Major in Philosophy** The general requirements of the proposed curriculum are consistent with those for other Double Advanced Major programs in the Faculty of Arts, as approved by Senate (December 5, 2012).

Psychology

The department is proposing the deletion of two (2) courses, the introduction of one (1) course, and the modification of nine (9) courses. The overall number of credit hours offered by the department would decrease by 3 credit hours.

The department is proposing modifications to the Program Notes for the following programs:

- **Bachelor of Arts (General Major) in Psychology**
- **Bachelor of Arts (Single Advanced Major) in Psychology**
- **Bachelor of Arts (Single Honours) in Psychology**
- **Bachelor of Arts (Double Honours) in Psychology**

Women's and Gender Studies

The program is proposing program modifications to the following programs, which involve a change to List A:

- **Bachelor of Arts (General Major) in Women's and Gender Studies**
- **Bachelor of Arts (Single Advanced Major) in Women's and Gender Studies**
- **Bachelor of Arts (Double Advanced Major) in Women's and Gender Studies**
- **Bachelor of Arts (Single Honours) in Women's and Gender Studies**
- **Bachelor of Arts (Double Honours) in Women's and Gender Studies**
- **Minor (Concentration) in Women's and Gender Studies**

Faculty of Arts – Art History

The faculty is proposing program a modification to the **Bachelor of Arts (General Major) in Art History**.

8. **School of Dental Hygiene**

At a meeting on March 25, 2015, the SCCCC endorsed a modification of HYGN 2370 – Nutrition in Dentistry, involving a change to list of mutually exclusive courses. Those changes were not reflected in the committee's Report to Senate dated May 6, 2015. The modification is included in the current report to redress this oversight.

9. **Faculty of Engineering**

Faculty of Engineering

The faculty is proposing a program modification to the **Preliminary Engineering Program**, to replace the required course ENGL 1400 – Thematic Approaches to the Study of Literature, with a general written English course, to be selected from a list of approved Written English Courses for Engineering Students.

***** NB The curriculum changes would take effect for the 2016/2017 Academic Year but the revised requirements for entrance to Year 2 of the various Engineering programs, which would follow from the revised curriculum, would take effect for the September 2017 admissions cycle.***

Biosystems Engineering

The department is proposing the deletion of three (3) courses and the introduction of five (5) courses. The overall number of credit hours offered by the department would increase by 8 credit hours.

The department is proposing program modifications to the **Bachelor of Science in Engineering (Biosystems)** involving changes to the required design courses.

Program closures: The following specializations in the Bachelor of Science in Engineering (Biosystems) will be closed due to lack of student demand:

- **Agricultural Specialization**
- **Bioprocessing Specialization**
- **Sustainable Building Systems**

Program proposal: **Bioresource Specialization** in Bachelor of Science in Engineering (Biosystems)

Civil Engineering

The department is proposing the deletion of one (1) course, the introduction of one (1) course, and the modification of two (2) courses. There would be no change to the overall number of credit hours in course offerings.

Electrical and Computer Engineering

The department is proposing the deletion of two (2) courses and the modification of three (3) courses. The overall number of credit hours offered by the department would decrease by 8.0 credit hours.

The department is proposing program modifications to the following programs:

- **Bachelor of Science in Engineering (Computer)**
- **Bachelor of Science in Engineering (Electrical)**

Program closure: The **Machine Vision Focus Area (Concentration)** in the Bachelor of Science in Engineering (Computer) will be closed.

Program proposal: A **Software Engineering Focus Area** in the Bachelor of Science in Engineering (Computer) is proposed.

Mechanical Engineering

The department is proposing the deletion of one (1) course and the modification of eight (8) courses. The overall number of credit hours offered by the department would decrease by 3.0 credit hours.

10. **Faculty of Health Sciences**

Interdisciplinary Health Programs

The faculty is proposing program modifications to the **Bachelor of Health Sciences** degree and the **Bachelor of Health Studies** degree involving changes to the list of electives for these programs. Changes include the addition of HEAL 3610 – Mechanisms of Disease 1, PHAC 4030 – Drugs in Human Disease 1, and PHAC 4040 – Drugs in Human Disease 2 to the list. Also, the curricula for these programs will be restructured, in order to organize the course offerings by year of study, which will clarify how students would progress through the programs.

The SCCCC's recommendation concerning a proposal for a new program, **a Biomedical Sciences Concentration** within the Bachelor of Health Sciences program, which includes the introduction of three (3) courses, is addressed in the Report of the Senate Committee on Curriculum and Course Changes, Part B – Submitted to Senate for Ordinary Debate.

11. **Faculty of Kinesiology and Recreation Management**

The faculty is proposing the introduction of one (1) course. The overall number of credit hours offered by the faculty would increase by 3.0 credit hours.

12. **Faculty of Music**

The faculty is proposing the modification of one (1) course, MUSC 4470 – Major Practical Study (6). There would be no change to the overall number of credit hours in course offerings.

13. **College of Nursing**

The college is proposing the deletion of one (1) course and the introduction of nine (9) courses. The overall number of credit hours offered by the college would increase by 35 credit hours. Once the revised Bachelor of Nursing curriculum is fully implemented, however, corresponding courses from the previous curriculum would be deleted and would result in an overall increase of only 2 credit hours.

The college is proposing modifications to Year 4 of the **Bachelor of Nursing program**, to take effect September 2017. The changes are the third phase of a comprehensive curriculum review. Changes to Years 2 and 3 of the curriculum were approved by Senate on May 15, 2014 and May 13, 2015, respectively, and can be found in the agendas for those meetings. Course deletions will be submitted when students in the current program have completed the courses.

A plan for bridging delayed students from the current to the revised curriculum was provided to Senate on May 15, 2014, and can be found in the agenda for that meeting.

14. **Faculty of Science**

Biochemistry

The program is proposing the modification of the following programs, which would involve the replacement of CHEM 2280 - Physical Chemistry: Microscopic Descriptions of Matter by CHEM 2260 – Introduction to Spectroscopy in the course requirements:

- **Bachelor of Science (Honours) in Biochemistry**
- **Bachelor of Science (Honours) in Biochemistry, Cooperative Option**
- **Bachelor of Science (Major) in Biochemistry**
- **Bachelor of Science (Major) in Biochemistry, Cooperative Option**

Biological Sciences

The department is proposing the introduction of one (1) course and the modification of three (3) courses. The overall number of credit hours offered by the department would increase by 3.0 credit hours.

Genetics

The program is proposing program modifications to the **Bachelor of Science (Honours) in Genetics** to include a requirement for a project course in the final year of the program.

The program is proposing program modifications to the following programs, involving changes to the list of optional courses for the programs.

- **Bachelor of Science (Honours) in Genetics**
- **Bachelor of Science (Honours) in Genetics, Cooperative Option**
- **Bachelor of Science (Major) in Genetics**
- **Bachelor of Science (Major) in Genetics, Cooperative Option**

The program is proposing to modify the entrance requirements for the following programs, to require a minimum grade of "C+" in CHEM 1310. Currently, students must achieve a minimum grade of "C" in this course.

- **Bachelor of Science (Major) in Genetics**
- **Bachelor of Science (Major) in Genetics, Cooperative Option**

Chemistry

The department is proposing the deletion of two (2) courses, the introduction of two (2) courses, and the modification of three (3) courses. There would be no change to the overall number of credit hours in course offerings.

The department is proposing program modifications to the following programs:

- **Bachelor of Science (Honours) in Chemistry**
- **Bachelor of Science (Honours) in Chemistry, Cooperative Option**
- **Bachelor of Science (Major) in Chemistry**
- **Bachelor of Science (Major) in Chemistry, Cooperative Option**
- **Bachelor of Science (General) in Chemistry – Option B**
- **Chemistry Program Focus Areas (i.e. Concentrations)**
    - **Bioanalytical**
    - **Inorganic**
    - **Organic**
    - **Physical**
    - **Quantum/Computational**
- **Bachelor of Science (Joint Honours) in Chemistry and Physics and Astronomy**

Computer Science

The department is proposing the modification of one (1) course. There would be no change to the overall number of credit hours in course offerings.

The department is proposing program modifications to the following program:

- **Bachelor of Science (Joint Honours) in Computer Science and Statistics**

The department is proposing to modify the graduation requirements for the same program, to require a minimum grade of "C" in Statistics courses. Currently, students must achieve a minimum grade of "C+" in Statistics courses.

Mathematics

The department is proposing the modification of two (2) courses. There would be no change to the overall number of credit hours in course offerings.

The department is proposing a program modification to the **Bachelor of Science (Honours) in Mathematics** involving a change to the list of normal electives for the program, to replace CHEM 2280 with CHEM 2260.

Microbiology

The department is proposing to modify the entrance requirements for the following programs, to require a minimum grade of "C+" in CHEM 1310. Currently, students must achieve a minimum grade of "C" in this course.

- **Bachelor of Science (Major) in Microbiology**
- **Bachelor of Science (Major) in Microbiology, Cooperative Option**

The department is proposing program modifications to the following programs involving changes to the Option List for these programs:

- **Bachelor of Science (Honours) in Microbiology**
- **Bachelor of Science (Honours) in Microbiology, Cooperative Option**
- **Bachelor of Science (Major) in Microbiology**
- **Bachelor of Science (Major) in Microbiology, Cooperative Option**

Psychology

The department is proposing to modify the graduation requirements for the **Bachelor of Science (Honours) in Psychology**, to require a minimum Degree Grade Point Average of 3.0 to graduate. Currently, students must achieve a minimum Grade Point Average of 3.0 based on the 120 credit hours that contribute to the degree.

The department is proposing program modifications to the following programs involving changes to the Category A options for these programs:

- **Bachelor of Science (Honours) in Psychology**
- **Bachelor of Science (Major) in Psychology**

Statistics

The department is proposing to modify the graduation requirements for the **Bachelor of Science (Joint Honours) in Statistics and Mathematics**, to require a minimum grade of "C" in program specific courses. Currently, students require a minimum grade of "C+" in these courses.

The department is proposing modifications to the following programs:

- **Bachelor of Science (Major) in Statistics**
- **Bachelor of Science (Major) in Statistics, Cooperative Option**
- **Bachelor of Science (Joint Honours) in Statistics and Economics**

15. **Université de Saint-Boniface**

Faculty of Arts

The faculty is proposing the modification of one (1) course.

Faculty of Education

The faculty is proposing the deletion of one (1) course and the modification of one (1) course.

Faculty of Science

The faculty is proposing the modification of five (5) courses.

Recommendation

The Senate Committee on Curriculum and Course Changes recommends that curriculum and course changes from the units listed below, including the program proposals indicated, be approved by Senate:

Agricultural and Food Sciences

School of Art

Faculty of Arts

- **Program proposals:**
  - **Double Honours in Anthropology**
  - **Double Advanced Major in Classical Studies**
  - **Doubled Advanced Major in Philosophy**

School of Dental Hygiene

Faculty of Engineering

- **Program proposals:**
  - **Bioresource Specialization,** Bachelor of Science in Engineering (Biosystems)
  - **Software Engineering Focus Area**, Bachelor of Science in Engineering (Computer)
- **Program closures:**
  - **Agricultural Specialization,** Bachelor of Science in Engineering (Biosystems)
  - **Bioprocessing Specialization,** Bachelor of Science in Engineering (Biosystems)
  - **Sustainable Building Systems Specialization,** Bachelor of Science in Engineering (Biosystems)
  - **Machine Vision Focus Area**, Bachelor of Science in Engineering (Computer)

Faculty of Health Sciences

Faculty of Kinesiology and Recreation Management

Faculty of Music

College of Nursing

Faculty of Science

Université de Saint-Boniface

Respectfully submitted,

Professor G. Smith, Acting Chair
Senate Committee on Curriculum and Course Changes

Faculty of Agricultural and Food Sciences

Agribusiness

Modifications:

ABIZ 3510 Economics of Food Policy Cr.Hrs. 3 0.0
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. May not be held with the former ABIZ 3500. Prerequisite: ECON 2010 or the former ECON 2450.

ABIZ 4260 Price Analysis Cr.Hrs. 3 0.0
Theory and methods of price analysis, commodity markets and the demand and supply factors that underpin seasonal, cyclical and secular changes in commodity prices. Not to be held with the former ABIZ 4250. Prerequisites: [ECON 2010 or the former ECON 2450] and [ABIZ 3080 or ECON 3040 or the former ECON 3180].

NET CHANGE IN CREDIT HOURS: 0.0

School of Art

Deletion:

FA 3440 Field Trip Cr.Hrs. 0 0.0

NET CHANGE IN CREDIT HOURS: 0.0

Program modifications:

Modifications to the following programs are outlined on the next pages:

- **Bachelor of Fine Arts (Honours) in Art History**
- **Bachelor of Fine Arts (General) in Art History**
- **Bachelor of Fine Arts (Honours) Studio**
- **Bachelor of Fine Arts (General) Studio**
- **Diploma in Art**

BFA Art History Honours Degree (revised, 120 credit hours)

Year 1 (30 credit hours)

Course Number		Credit Hours
FAAH 1030	Introduction to Art 1A	3
FAAH 1040	Introduction to Art 2A	3
English Literature Requirement		3
Mathematics Requirement		3
Language Elective (French, German, or Italian recommended)		6
Social Science or Science Electives		6
	Choose 6 credit hours from the following:	6
HIST 1200	History of Western Civilization (6 cr hrs)	
PHIL 1200	Introduction to Philosophy (6 cr hrs)	
ASIA 1420/	Asian Civilizations to 1500 (3 cr hrs) / Asian Civilization	
ASIA 1430	from 1500 (3 cr hrs)	
		30

Year 2 (30 Credit Hours)

Course Number		Credit Hours
Academic or Studio Elective		6
FA 1990	First Year Field Trip	0
Required Studio Courses: 1000 level studio courses		9
Choose 15 credit hours from the following:		15
CLAS 2670	Greek Art and Archaeology (3 cr hrs)	
CLAS 2680	Roman Art and Archaeology (3 cr hrs)	
FAAH 1100	Survey of Asian Art (3 cr hrs)	
FAAH 2060	Medieval to Early Renaissance Art and Architecture (3 cr hrs)	
FAAH 2070	Renaissance to Baroque Art and Architecture (3 cr hrs)	
FAAH 2080	Modern to Contemporary Art (3 cr hrs)	
FAAH 2090	Art of North American Aboriginal Peoples (3 cr hrs)	
FAAH 2110	Women and Art (3 cr hrs)	
		30

BFA Art History Honours Degree (revised, 120 credit hours)

Year 1 (30 credit hours)

Course Number		Credit Hours
FAAH 1030	Introduction to Art 1A	3
FAAH 1040	Introduction to Art 2A	3
English Literature Requirement		3
Mathematics Requirement		3
Language Elective (French, German, or Italian recommended)		6
Social Science or Science Electives		6
	Choose 6 credit hours from the following:	6
HIST 1200	History of Western Civilization (6 cr hrs)	
PHIL 1200	Introduction to Philosophy (6 cr hrs)	
ASIA 1420/	Asian Civilizations to 1500 (3 cr hrs) / Asian Civilization	
ASIA 1430	from 1500 (3 cr hrs)	
		30

Year 2 (30 Credit Hours)

Course Number		Credit Hours
Academic or Studio Elective		6
FA 1990	First Year Field Trip	0
Required Studio Courses: 1000 level studio courses		9
Choose 15 credit hours from the following:		15
CLAS 2670	Greek Art and Archaeology (3 cr hrs)	
CLAS 2680	Roman Art and Archaeology (3 cr hrs)	
FAAH 1100	Survey of Asian Art (3 cr hrs)	
FAAH 2060	Medieval to Early Renaissance Art and Architecture (3 cr hrs)	
FAAH 2070	Renaissance to Baroque Art and Architecture (3 cr hrs)	
FAAH 2080	Modern to Contemporary Art (3 cr hrs)	
FAAH 2090	Art of North American Aboriginal Peoples (3 cr hrs)	
FAAH 2110	Women and Art (3 cr hrs)	
		30

BFA Art History Honours Degree (revised, 120 credit hours)

Year 3 (30 credit hours)

Course Number		Credit Hours
FAAH 3212	Introduction to the Theory of Art	3
FA 3440	**Third Year Field Trip**	**0**
Studio Electives (9 cr hrs at 1000lvl or 6 cr hrs at 2000lvl)		9 or 6
Art History Electives		15 or 18
	Choose one of the Following:	3
FAAH 3260	Canadian Art and Architecture to World War II (3cr hrs)	
FAAH 3270	Canadian Art Since World War II (3 cr hrs)	
		30

Year 4 (30 credit hours)

Course Number	Credit Hours
Art History Electives	18
Other Academic and/or Studio Electives*	12
	30

BFA Art History Honours Degree (revised, 120 credit hours)

Year 3 (30 credit hours)

Course Number		Credit Hours
FAAH 3212	Introduction to the Theory of Art	3
Studio Electives (9 cr hrs at 1000lvl or 6 cr hrs at 2000lvl)		9 or 6
Art History Electives		15 or 18
	Choose one of the Following:	3
FAAH 3260	Canadian Art and Architecture to World War II (3cr hrs)	
FAAH 3270	Canadian Art Since World War II (3 cr hrs)	
		30

Year 4 (30 credit hours)

Course Number	Credit Hours
Art History Electives	18
Other Academic and/or Studio Electives*	12
	30

*Honours students wishing to take more than 18 credit hours of Art History may use their academic electives to do so.

BFA Art History General Degree (90 credit hours)

Year 1 (30 credit hours)

Course Number		Credit Hours
FAAH 1030	Introduction to Art 1A	3
FAAH 1040	Introduction to Art 2A	3
English Literature Requirement		3
Mathematics Requirement		3
Language Elective (French, German, or Italian recommended)		6
Social Science or Science Electives		6
	Choose 6 credit hours from the following:	6
HIST 1200	History of Western Civilization (6 cr hrs)	
PHIL 1200	Introduction to Philosophy (6 cr hrs)	
ASIA 1420/ ASIA 1430	Asian Civilizations to 1500 (3 cr hrs) / Asian Civilization from 1500 (3 cr hrs)	
		30

Year 2 (30 Credit Hours)

Course Number		Credit Hours
Academic or Studio Elective		6
FA 1990	First Year Field Trip	0
Required Studio Courses: 1000 level studio courses		9
	Choose 15 credit hours from the following:	15
CLAS 2670	Greek Art and Archaeology (3 cr hrs)	
CLAS 2680	Roman Art and Archaeology (3 cr hrs)	
FAAH 1100	Survey of Asian Art (3 cr hrs)	
FAAH 2060	Medieval to Early Renaissance Art and Architecture (3 cr hrs)	
FAAH 2070	Renaissance to Baroque Art and Architecture (3 cr hrs)	
FAAH 2080	Modern to Contemporary Art (3 cr hrs)	
FAAH 2090	Art of North American Aboriginal Peoples (3 cr hrs)	
FAAH 2110	Women and Art (3 cr hrs)	
		30

Year 3 (30 credit hours)

Course Number		Credit Hours
FAAH 3212	Introduction to the Theory of Art	3
FA 3440	**Third Year Field Trip**	**0**
Studio Electives (9 cr hrs at 1000lvl or 6 cr hrs at 2000lvl)		9 or 6
Art History Electives		15 or 18
	Choose one of the Following:	3
FAAH 3260	Canadian Art and Architecture to World War II (3cr hrs)	
FAAH 3270	Canadian Art Since World War II (3 cr hrs)	
		30

BFA Art History General Degree (revised, 90 credit hours)

Year 1 (30 credit hours)

Course Number		Credit Hours
FAAH 1030	Introduction to Art 1A	3
FAAH 1040	Introduction to Art 2A	3
English Literature Requirement		3
Mathematics Requirement		3
Language Elective (French, German, or Italian recommended)		6
Social Science or Science Electives		6
	Choose 6 credit hours from the following:	6
HIST 1200	History of Western Civilization (6 cr hrs)	
PHIL 1200	Introduction to Philosophy (6 cr hrs)	
ASIA 1420/ ASIA 1430	Asian Civilizations to 1500 (3 cr hrs) / Asian Civilization from 1500 (3 cr hrs)	
		30

Year 2 (30 Credit Hours)

Course Number		Credit Hours
Academic or Studio Elective		6
FA 1990	First Year Field Trip	0
Required Studio Courses: 1000 level studio courses		9
	Choose 15 credit hours from the following:	15
CLAS 2670	Greek Art and Archaeology (3 cr hrs)	
CLAS 2680	Roman Art and Archaeology (3 cr hrs)	
FAAH 1100	Survey of Asian Art (3 cr hrs)	
FAAH 2060	Medieval to Early Renaissance Art and Architecture (3 cr hrs)	
FAAH 2070	Renaissance to Baroque Art and Architecture (3 cr hrs)	
FAAH 2080	Modern to Contemporary Art (3 cr hrs)	
FAAH 2090	Art of North American Aboriginal Peoples (3 cr hrs)	
FAAH 2110	Women and Art (3 cr hrs)	
		30

Year 3 (30 credit hours)

Course Number		Credit Hours
FAAH 3212	Introduction to the Theory of Art	3
Studio Electives (9 cr hrs at 1000lvl or 6 cr hrs at 2000lvl)		9 or 6
Art History Electives		15 or 18
	Choose one of the Following:	3
FAAH 3260	Canadian Art and Architecture to World War II (3cr hrs)	
FAAH 3270	Canadian Art Since World War II (3 cr hrs)	
		30

BFA Honours Degree (123 credit hours)

Year 1 (33 credit hours)

Course Number		Credit Hours
STDO 1210	Drawing: Studio 1	3
STDO 1240	Figure Study 1	3
STDO 1410	Visual Language	3
STDO 1510	Art Now	3
FA 1990	First Year Field Trip	0
FAAH 1030	Introduction to Art 1A	3
STDO 1250	Drawing: Studio 2	3
STDO 1450	Open Studio 1	3
STDO 1470	Materials Studio	3
FAAH 1040	Introduction to Art 2A	3
Written English Requirement		3
Mathematics Requirement		3
		33

Year 2 (30 credit hours)

Course Number		Credit Hours
N/A	Fine Arts Studio Electives	15
FAAH 2080	Modern to Contemporary Art	3
N/A	Art History Electives	6
N/A	Academic Electives	6
		30

Year 3 (30 credit hours)

Course Number		Credit Hours
FA 3440	**Field Trip**	**0**
N/A	Fine Arts Studio Electives	15
FAAH 3202	Contemporary Art History	3
FAAH 3212	Introduction to the Theory of Art	3
N/A	Art History Electives	3
N/A	Academic Electives	6
		30

BFA Honours Degree (revised, 123 credit hours)

Year 1 (33 credit hours)

Course Number		Credit Hours
STDO 1210	Drawing: Studio 1	3
STDO 1240	Figure Study 1	3
STDO 1410	Visual Language	3
STDO 1510	Art Now	3
FA 1990	First Year Field Trip	0
FAAH 1030	Introduction to Art 1A	3
STDO 1250	Drawing: Studio 2	3
STDO 1450	Open Studio 1	3
STDO 1470	Materials Studio	3
FAAH 1040	Introduction to Art 2A	3
Written English Requirement		3
Mathematics Requirement		3
		33

Year 2 (30 credit hours)

Course Number		Credit Hours
N/A	Fine Arts Studio Electives	15
FAAH 2080	Modern to Contemporary Art	3
N/A	Art History Electives	6
N/A	Academic Electives	6
		30

Year 3 (30 credit hours)

Course Number		Credit Hours
N/A	Fine Arts Studio Electives	15
FAAH 3202	Contemporary Art History	3
FAAH 3212	Introduction to the Theory of Art	3
N/A	Art History Electives	3
N/A	Academic Electives	6
		30

BFA Honours Degree (123 credit hours)

Year 4 (30 credit hours)

Course Number		Credit Hours
STDO 4810	Senior Studio 1	6
STDO 4820	Senior Studio 2	6
STDO 4910	Honours Seminar 1	3
STDO 4920	Honours Seminar 2	3
N/A	Fine Arts Studio Electives	6
N/A	Academic Electives	6
		30

BFA Honours Degree (revised, 123 credit hours)

Year 4 (30 credit hours)

Course Number		Credit Hours
STDO 4810	Senior Studio 1	6
STDO 4820	Senior Studio 2	6
STDO 4910	Honours Seminar 1	3
STDO 4920	Honours Seminar 2	3
N/A	Fine Arts Studio Electives	6
N/A	Academic Electives	6
		30

BFA General Degree (93 credit hours)

Year 1 (33 credit hours)

Course Number		Credit Hours
STDO 1210	Drawing: Studio 1	3
STDO 1240	Figure Study 1	3
STDO 1410	Visual Language	3
STDO 1510	Art Now	3
FA 1990	First Year Field Trip	0
FAAH 1030	Introduction to Art 1A	3
STDO 1250	Drawing: Studio 2	3
STDO 1450	Open Studio 1	3
STDO 1470	Materials Studio	3
FAAH 1040	Introduction to Art 2A	3
Written English Requirement		3
Mathematics Requirement		3
		33

Year 2 (30 credit hours)

Course Number		Credit Hours
N/A	Fine Arts Studio Electives	15
FAAH 2080	Modern to Contemporary Art	3
N/A	Art History Electives	6
N/A	Academic Electives	6
		30

Year 3 (30 credit hours)

Course Number		Credit Hours
FA 3440	**Field Trip**	**0**
N/A	Fine Arts Studio Electives	15
FAAH 3202	Contemporary Art History	3
FAAH 3212	Introduction to the Theory of Art	3
N/A	Art History Electives	3
N/A	Academic Electives	6
		30

BFA General Degree (revised, 93 credit hours)

Year 1 (33 credit hours)

Course Number		Credit Hours
STDO 1210	Drawing: Studio 1	3
STDO 1240	Figure Study 1	3
STDO 1410	Visual Language	3
STDO 1510	Art Now	3
FA 1990	First Year Field Trip	0
FAAH 1030	Introduction to Art 1A	3
STDO 1250	Drawing: Studio 2	3
STDO 1450	Open Studio 1	3
STDO 1470	Materials Studio	3
FAAH 1040	Introduction to Art 2A	3
Written English Requirement		3
Mathematics Requirement		3
		33

Year 2 (30 credit hours)

Course Number		Credit Hours
N/A	Fine Arts Studio Electives	15
FAAH 2080	Modern to Contemporary Art	3
N/A	Art History Electives	6
N/A	Academic Electives	6
		30

Year 3 (30 credit hours)

Course Number		Credit Hours
N/A	Fine Arts Studio Electives	15
FAAH 3202	Contemporary Art History	3
FAAH 3212	Introduction to the Theory of Art	3
N/A	Art History Electives	3
N/A	Academic Electives	6
		30

Diploma in Art (93 credit hours)

Year 1 (27 credit hours)

Course Number		Credit Hours
STDO 1210	Drawing: Studio 1	3
STDO 1240	Figure Study 1	3
STDO 1410	Visual Language	3
STDO 1510	Art Now	3
FA 1990	First Year Field Trip	0
FAAH 1030	Introduction to Art 1A	3
STDO 1250	Drawing: Studio 2	3
STDO 1450	Open Studio 1	3
STDO 1470	Materials Studio	3
FAAH 1040	Introduction to Art 2A	3
		27

Year 2 (27 credit hours)

Course Number		Credit Hours
Fine Arts Electives		3
	Choose 24 credit hours from the following:	24
STDO 2220	Painting 1 (6 cr hrs)	
STDO 2210	Sculpture 1 (6 cr hrs)	
STDO 2230	Ceramics (6 cr hrs)	
STDO 2250	Drawing 1 (6 cr hrs)	
STDO 2400	Photography 1 (6 cr hrs)	
STDO 2500	Intaglio A (3 cr hrs)	
STDO 2502	Intaglio B (3 cr hrs)	
STDO 2510	Silkscreen A (3 cr hrs)	
STDO 2512	Silkscreen B (3 cr hrs)	
STDO 2520	Lithography A (3 cr hrs)	
STDO 2522	Lithography B (3 cr hrs)	
STDO 2610	Video 1 (6 cr hrs) (3 cr hrs)	
STDO 2630	Design Studio 1 (3 cr hrs)	
STDO 2640	Design Studio 2 (3 cr hrs)	
		27

Diploma in Art (revised, 93 credit hours)

Year 1 (27 credit hours)

Course Number		Credit Hours
STDO 1210	Drawing: Studio 1	3
STDO 1240	Figure Study 1	3
STDO 1410	Visual Language	3
STDO 1510	Art Now	3
FA 1990	First Year Field Trip	0
FAAH 1030	Introduction to Art 1A	3
STDO 1250	Drawing: Studio 2	3
STDO 1450	Open Studio 1	3
STDO 1470	Materials Studio	3
FAAH 1040	Introduction to Art 2A	3
		27

Year 2 (27 credit hours)

Course Number		Credit Hours
Fine Arts Electives		3
	Choose 24 credit hours from the following:	24
STDO 2220	Painting 1 (6 cr hrs)	
STDO 2210	Sculpture 1 (6 cr hrs)	
STDO 2230	Ceramics (6 cr hrs)	
STDO 2250	Drawing 1 (6 cr hrs)	
STDO 2400	Photography 1 (6 cr hrs)	
STDO 2500	Intaglio A (3 cr hrs)	
STDO 2502	Intaglio B (3 cr hrs)	
STDO 2510	Silkscreen A (3 cr hrs)	
STDO 2512	Silkscreen B (3 cr hrs)	
STDO 2520	Lithography A (3 cr hrs)	
STDO 2522	Lithography B (3 cr hrs)	
STDO 2610	Video 1 (6 cr hrs) (3 cr hrs)	
STDO 2630	Design Studio 1 (3 cr hrs)	
STDO 2640	Design Studio 2 (3 cr hrs)	
		27

Diploma in Art (93 credit hours)

Year 3 (27 credit hours)

Course Number		Credit Hours
FA 3440	**Third Year Field Trip**	**0**
School of Art Electives		3
	Choose 24 credit hours from the following:	24
STDO 3330	Advanced Drawing 2 (6 cr hrs)	
STDO 3370	Advanced Ceramics (6 cr hrs)	
STDO 3420	Advanced Painting (6 cr hrs)	
STDO 3460	Advanced Sculpture (6 cr hrs)	
STDO 3480	Advanced Photography (6 cr hrs)	
STDO 3830	Advanced Printmaking A (3 cr hrs)	
STDO 3840	Advanced Printmaking B (3 cr hrs)	
		27

Year 4 (24 credit hours)

Course Number		Credit Hours
	Choose 12 credit hours from the following:	12
STDO 4450	Advanced Drawing 3 (6 cr hrs)	
STDO 4520	Advanced Ceramics 2 (6 cr hrs)	
STDO 4530	Advanced Painting 2 (6 cr hrs)	
STDO 4550	Advanced Sculpture 2 (6 cr hrs)	
STDO 4700	Advanced Photography 2 (6 cr hrs)	
		12

Diploma in Art (revised, 93 credit hours)

Year 3 (27 credit hours)

Course Number		Credit Hours
School of Art Electives		3
	Choose 24 credit hours from the following:	24
STDO 3330	Advanced Drawing 2 (6 cr hrs)	
STDO 3370	Advanced Ceramics (6 cr hrs)	
STDO 3420	Advanced Painting (6 cr hrs)	
STDO 3460	Advanced Sculpture (6 cr hrs)	
STDO 3480	Advanced Photography (6 cr hrs)	
STDO 3830	Advanced Printmaking A (3 cr hrs)	
STDO 3840	Advanced Printmaking B (3 cr hrs)	
		27

Year 4 (24 credit hours)

Course Number		Credit Hours
	Choose 12 credit hours from the following:	12
STDO 4450	Advanced Drawing 3 (6 cr hrs)	
STDO 4520	Advanced Ceramics 2 (6 cr hrs)	
STDO 4530	Advanced Painting 2 (6 cr hrs)	
STDO 4550	Advanced Sculpture 2 (6 cr hrs)	
STDO 4700	Advanced Photography 2 (6 cr hrs)	
		12

Faculty of Arts

Anthropology

Program proposal:

The proposed **Bachelor of Arts (Double Honours) in Anthropology** is outlined on the next page.

Anthropology

- **Introduction of Double Honours**

Added material
~~Deleted material~~

8.1.2 Anthropology

YEAR 1	YEAR 2	YEAR 3	YEAR 4
SINGLE HONOURS			
ANTH 1210 and ANTH 1220 (or ANTH 1520)	• ANTH 2000, ANTH 2100, ANTH 2860 • ANTH 2020 or ANTH 2530	• ANTH 3470 • 3 credit hours from one of the following: ANTH 2820, ANTH 2890, ANTH 3720, ANTH 3730, ANTH 3930, ANTH 3950, ANTH 3980, ANTH 3990 • 9 credit hours from courses at the 3000 level	• ANTH 4850 • 9 credit hours from courses at the 4000 level[1]
	• 15 credit hours from courses at the 2000 level and above[2, 3] • 36 credit hours in ancillary options[4]		
DOUBLE HONOURS			
ANTH 1210 and ANTH 1220 (or ANTH 1520)	**• ANTH 2000, ANTH 2100, ANTH 2860** **• ANTH 2020 or ANTH 2530**	**• ANTH 3470** **• 3 credit hours from one of the following: ANTH 2820, ANTH 2890, ANTH 3720, ANTH 3730, ANTH 3930, ANTH 3950, ANTH 3980, ANTH 3990** **• 6 credit hours from courses at the 3000 level and above[1]**	**• ANTH 4850** **• 3 credit hours from courses at the 3000 level and above[1]** **• 6 credit hours from courses at the 4000 level[1]**
	• 36 credit hours in second honours field **• 6 credit hours in ancillary options[4]** **• 12 credit hours in free options[5]**		

NOTES:

[1] No more than 6 credit hours may be taken from ANTH 4830 or ANTH 4840.

[2] ANTH 2370 is recommended.

[3] Courses NATV 2070 and NATV 2080 offered by the Department of Native Studies may be used to satisfy this requirement in the General Major, Single Advanced Major, Double Advanced Major, Single Honours and Minor programs.

[4] Ancillary options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (excluding Anthropology courses). Students considering graduate studies should include a quantitative methods course among their ancillary options (e.g., Sociology SOC 2290, Statistics STAT 1000 and STAT 2000).

[5] Free options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (including Anthropology courses). Students considering graduate studies in Anthropology are encouraged to take additional courses in Anthropology beyond their 42 credit hour minimum, particularly at the 3000 and 4000 level.

Canadian Studies

Program modifications:

Modifications to the List of Approved Courses in Canadian Studies are outlined on the next pages. The changes relate to the following programs:

- **Bachelor of Arts (General Major) in Canadian Studies**
- **Bachelor of Arts (Single Honours) in Canadian Studies**
- **Bachelor of Arts (Double Honours) in Canadian Studies**
- **Minor (Concentration) in Canadian Studies**

Canadian Studies

- Modification of the List of Approved Courses in Canadian Studies [used in the General Major, Minor (Concentration), Single Honours and Double Honours]

Added material
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8.3.2.1 List of Approved Courses in Canadian Studies

In the following list of approved courses the designation (H) indicates an Honours course. Courses designated (USB) are offered in French at Université de Saint-Boniface.

* In the list below indicates courses no longer offered.

Faculty of Arts		
Canadian Studies		
CDN 1130	Introduction to Canadian Studies	6
CDN 3730	Canadian Identity: An Interdisciplinary Approach	3
CDN 4410	Seminar in Canadian Studies (H)	6
Anthropology		
ANTH 2040	Native North America: A Sociocultural Survey (B)	3
ANTH 2041	Les Amérindiens de l'Amérique du nord: une étude socioculturelle (B) (USB)	3
ANTH 2640	Manitoba Prehistory	3
ANTH 3460*	Native North American Ethnology (B)	3
ANTH 3461	Ethnologie des Amérindiens de l'Amérique du Nord (B) (USB)	3
ANTH 3500	Peoples of the Arctic (B)	3
ANTH 3501	Peuples de l'Arctique (B) (USB)	3
ANTH 3550	Canadian Subcultures	3
ANTH 3551	Sous-cultures canadiennes (USB)	3
ANTH 3910	Archaeological Field Training (D,E)	6
Economics		
ECON 1210	Introduction to Canadian Economic Issues and Policies	3
ECON 1211	Introduction aux politiques et aux problèmes économiques canadiens (USB)	3
ECON 2280*	Social Welfare and Human Resources	6
ECON 2310	Canadian Economic Problems	6
ECON 2311	Les problèmes économiques du Canada (USB)	6
ECON 2350	Community Economic Development	3
ECON 2360*	Women in the Canadian Economy	6
ECON 2362	Economics of Gender	3
ECON 3300*	Canadian Economic History	6
ECON 3301	Histoire économique du Canada (USB)	6
ECON 3510*	Industrial Relations (Cross-listed with Labour Studies LABR 3510)	6
ECON 3690	Economic Issues of Health Policy	3
ECON 3720	Urban and Regional Economics and Policies	3
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
English, Film, and Theatre		
ENGL 2270	Canadian Literature	6
ENGL 3270	Studies in Canadian Literature	3
ENGL 3271	Studies in Canadian Literature	3
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	6
FILM 2430	The Canadian Film	3
Français (USB)		
FRAN 2831	L'individu et le pays (USB)	3
FRAN 2881	Civilisation canadienne-française (USB)	3
FRAN 3531	Le théâtre québécois (USB)	3
FRAN 3541	Le théâtre de l'Ouest (USB)	3
FRAN 3831	L'époque de la contestation (USB)	3
FRAN 3841	La révolution tranquille et le roman (USB)	3
FRAN 3851	Le théâtre de l'Ouest: poésie, nouvelles (USB)	3
FRAN 3861	Le théâtre de l'Ouest: romans (USB)	3
FRAN 4831	Littérature de l'Acadie et des Cajuns (USB)	3
French, Spanish and Italian		
FREN 2700	Poésie et théâtre canadiens-français (B)	3
FREN 3140	Roman canadien-français (B)	3
FREN 3850	Civilisation canadienne-française (C)	3
044.247*	French-Canadian Literature in Translation	6
044.348*	Littérature canadienne-française (H)	3
044.353*	Littérature canadienne-française (B)	3
History		
HIST 1390	History of Colonial Canada: 1500-1885 (C)	3
HIST 1400	History of the Canadian Nation Since 1867 (C)	3
HIST 1440	History of Canada (C)	6
HIST 1441	Histoire du Canada (USB)	6
HIST 2191	Histoire économique et sociale canadienne du XIXe siècle (USB)	6
HIST 2200	**Labour History: Canada and Beyond (C)**	**3**
HIST 2280	Aboriginal History of Canada (C)	6
HIST 2282	Inventing Canada (C)	3
HIST 2284*	Democracy and Dissent in Canada: Social Movements in the 20th Century (C)	3
HIST 2286	Modern Canada (C)	3
HIST 2288	History of Social Movements in Canada (C)	3
HIST 2950*	Early Canada: from the Earliest Settlement to 1867 (C)	6
HIST 2951*	Les origines du Canada: depuis la première colonie jusqu'en 1867 (USB)	6
HIST 2960*	The New Dominion: 1867 to 1921 (C)	6
HIST 2961*	Le nouveau Dominion: de 1867 à 1921 (USB)	6
HIST 2970*	Modern Canada: 1921 to the Present (C)	6
HIST 2971	Le Canada moderne: de 1921 à nos jours (USB)	6
HIST 3050	Canada since 1945 (C)	6
HIST 3052	Canada since the 1960s (C)	3
HIST 3054	Canada and the United States (C)	3
HIST 3220*	The History of Canadian-American Relations (A,C)	6
HIST 3250	Canada and the World, 1867 to the Present (C)	6
HIST 3442	Race, Ethnicity, Immigration, and Nation in Canadian History (C)	3
HIST 3572	The History of Women, Gender, and Sexuality in Canada (C)	6
HIST 3690	History of Northern Canada (C)	6
HIST 3721	Histoire du Manitoba (C) (USB)	6
HIST 3730	A History of Western Canada (C)	6
HIST 3780	Studies in Canadian History 1 (C)	3
HIST 3781	Études choisies en histoire du Canada 1 (USB)	3
HIST 3790*	Studies in Canadian History 2 (C)	3
HIST 3791	Études choisies en histoire du Canada 2 (USB)	3
HIST 3910	The Ukrainians in Canada (C)	3
HIST 4060	Gender History in Canada (C) (H)	6
HIST 4280	Topics in the Cultural History of Canada (C) (H)	6
HIST 4340	Introduction to Archival Science (G) (H)	6
HIST 4390*	The History of White Attitudes and Policies towards Native Peoples in North America (C) (H)	6
HIST 4680	Social History of Health and Disease in Modern Canada (C) (H)	6

HIST 4700*	Canada, 1896 to the Present (C) (H)	6
HIST 4720*	History of Manitoba (C) (H)	6
HIST 4890	Canadian Social History (C) (H)	6
HIST 4900*	The Hudson's Bay Company and British North America (C) (H)	6
HIST 4950*	History of Quebec (C) (H)	6
011.133*	History of Canada from 1534 (C)	6
011.133F*	Histoire du Canada (USB)	6
011.254*	North American Indian (A,C,S)	6
011.324*	Protestantism and the Development of the Canadian Community, 1749-1970 (C,S)	6
011.438*	Intellectual History of Canada (C) (H)	3
011.449*	The New Canada, 1867-96 (S) (H)	6
Icelandic		
ICEL 2230	Contemporary Icelandic-Canadian Literature	3
ICEL 2300*	Icelandic-Canadian Literature (H)	6
ICEL 3460*	Laura Goodman Salverson	3
ICEL 4440	The Icelanders in Canada (H)	3
012.445*	Stephan G. Stephansson (H)	3
Labour Studies		
LABR 2200	**Labour History: Canada and Beyond (C)**	**3**
LABR 3510	Industrial Relations (Cross-listed with Economics ECON 3510)	6
Linguistics		
LING 1360	Languages of Canada	3
Native Studies		
NATV 1200	The Native Peoples of Canada	6
NATV 1220	The Native Peoples of Canada, Part 1	3
NATV 1240	The Native Peoples of Canada, Part 2	3
NATV 1250	Introductory Cree 1	3
NATV 1260	Introductory Cree 2	3
NATV 1270	Introductory Ojibway 1	3
NATV 1280	Introductory Ojibway 2	3
NATV 1290	Introductory Inuktitut	3
NATV 2020	The Métis of Canada	3
NATV 2040	Native Peoples of the Northern Plains	3
NATV 2060	The Native Peoples of the Eastern Woodlands	3
NATV 2070	The Native Peoples of the Subarctic	3
NATV 2080	Inuit Society and Culture	3
NATV 2220	Native Societies and the Political Process	3
NATV 2250	Intermediate Cree	6
NATV 2270*	Intermediate Ojibway	6
NATV 2272	Intermediate Ojibway 1	3
NATV 2274	Intermediate Ojibway 2	3
NATV 2300	Cree Literature	3
NATV 2320	Structure of the Cree Language	3
NATV 2410	Canadian Native Literature	3
NATV 2420	Inuit Literature in Translation	3
NATV 2450	Images of Indians in North American Society	3
NATV 3000	Selected Topics	3
NATV 3240	Native Medicine and Health	3
NATV 3270	The Métis Nation	3
NATV 3280	Aboriginal Peoples and the Canadian Justice System	3
NATV 3300	Native Language Planning and Development	3
NATV 3310	Canadian Law and Aboriginal Peoples	3
NATV 3320*	Aboriginal Organizations	3
NATV 3340*	Circumpolar Cultures and Lifestyles	3
NATV 3370	Political Development in the North	3
NATV 3380	Cultural Constructions of Gender in Canadian Aboriginal Societies	3
NATV 4200	First Nations Government	3
NATV 4210	Seminar in Contemporary and Historical Métis Issues	3
NATV 4220	Environment, Economy and Aboriginal People	3
NATV 4230	Traditional Knowledge and Native Studies Research	3
NATV 4240	Arctic Lifestyles	3
NATV 4250	Topics on Aboriginal Identities	3

NATV 4260*	Sacred Lands and Sacred Spaces of Indigenous Peoples	3
NATV 4280	Missionaries, Colonialism and Aboriginal Peoples	3
032.090*	Introductory Cree	6
032.091*	Introductory Ojibway	6
032.121*	Intermediate Ojibway	6
032.130*	Intermediate Cree	6
032.205*	Coastal Indians of Canada	3
032.220*	Native Societies and the Political Process	3
032.321*	The Native Identity	6
032.323*	Native Peoples and the Law 2	3
032.325*	Native Peoples and the Law 1	6
032.373*	Art of the North American Native Peoples	3
Political Studies		
POLS 1070	Law, Politics and Power in Canada	3
POLS 2070	Introduction to Canadian Government	6
POLS 2071	Introduction au système gouvernemental Canadien (USB)	6
POLS 2561	Questions d'actualité en politique Canadienne (USB)	6
POLS 2570*	Introduction to Public Administration	6
POLS 2571	Initiation à l'administration publique (USB)	6
POLS 3100	Gender and Politics in Canada	3
POLS 3170	The Canadian Charter of Rights and Freedoms	3
POLS 3470	Canadian Public Management	3
POLS 3520	Canadian Foreign and Defence Policy	6
POLS 3561	Politique étrangère Canadienne (USB)	6
POLS 3670	Canadian Political Parties	3
POLS 3860	Canadian Federalism	3
POLS 3960	Canadian Politics	6
POLS 4070	Advanced Seminar: Canadian Government (H)	3
POLS 4080	Advanced Seminar: Canadian Democracy (H)	3
POLS 4140	Canadian Political Ideas (H)	3
POLS 4150	Indigenous Governance (H)	3
POLS 4180	Provincial Politics in Canada (H)	3
POLS 4190	Manitoba Politics and Government (H)	3
POLS 4660	The State in the Economy (H)	6
POLS 4860	The Canadian Policy Process (H)	6
019.156*	Introduction to Canadian Government	6
019.156F*	Introduction au système gouvernemental Canadienne (USB)	6
019.206*	Urban and Local Politics	6
019.256*	Issues of Canadian Politics	6
019.266*	Human Rights and Civil Liberties	6
019.286*	Canadian Political Parties	6
019.356*	Canadian Foreign Policy	6
019.366*	Quebec and the Canadian Political System (H)	3
019.368*	Canadian Defense Policy	3
019.476*	Manitoba Politics and Voting Behaviour	6
019.487*	Government and Public Sector Unionism (H)	6
Religion		
RLGN 2410*	Religion in Canada (C)	6
RLGN 2411*	Les religions au Canada (USB)	6
RLGN 2590	Religion and Social Issues	3
RLGN 2591	La religion et les problèmes sociaux (USB)	3
020.272*	Dimensions of Religiosity in Contemporary Canadian Literature	6
Slavic Studies		
UKRN 2410	Ukrainian Canadian Cultural Experience	3
UKRN 2420*	Ukrainian Canadian Literature	3
UKRN 2430*	Ukrainian Canadian Folklore	3
Sociology		
SOC 2320	Canadian Society and Culture	3
SOC 2321	La société Canadienne et sa culture (USB)	3
SOC 2370	Ethnic Relations	3
SOC 2371	Rapports ethniques (USB)	3
SOC 2531	Sociologie du Manitoba (USB)	6

SOC 2610	Sociology of Criminal Justice and Corrections	3
SOC 2620	The Sociology of Aging	3
SOC 3380	Power, Politics and the Welfare State	3
SOC 3470*	Political Sociology	3
SOC 3471	Sociologie politique (USB)	3
SOC 3700	Sociology of Law	3
Ukrainian Canadian Heritage Studies		
UCHS 3100	The Ukrainian Arts in Canada	3
School of Art		
FAAH 3260	Canadian Art and Architecture to World War II	3
FAAH 3270	Canadian Art Since World War II	3
FAAH 3430	Inuit Art	3
054.358*	Inuit Culture and Art	3
054.375*	Canadian Art 1	3
054.376*	Canadian Art 2	3
Clayton H. Riddell Faculty of Environment, Earth, and Resources		
Geography		
GEOG 2450*	The Making of the Prairie Landscape (A)	6
GEOG 2570	Geography of Canada (A)	3
GEOG 2900	Geography of Canadian Prairie Landscapes (A)	3
GEOG 3431	Géographie du Canada (USB)	3
GEOG 3480*	Canadian Problems	3
GEOG 3481	Particularités de la géographie du Canada (USB)	3
GEOG 3700*	Canada: The Making of the Human Landscape (A)	6
GEOG 3701	Canada: évolution de l'écoumène (USB)	6
GEOG 3900*	Geography of Manitoba (A)	3
053.369*	Historical Geography of Indian Peoples in the Canadian Fur Trade	6
053.378*	Historical Geography of Canadian Indians (A)	6
053.470*	Historical Geography of the Ojibway Indians (H)	3

Catholic Studies

Introductions:

CATH 2500 Reshaping the Catholic Landscape in Canada Cr.Hrs. 3 +3.0
A survey of Catholic identity in Canada as it has shifted from the arrival of French missionaries in the 17th century until today. Emphasis will be placed on the roles that early Catholic immigrants from Europe played in the development of both the Church and the national character of Canada as well as how recent immigrants from South America, the Caribbean, Asia, and Africa continue to shape them. Prerequisite: [a grade of "C" or better in CATH 1190] or written consent of instructor.

CATH 2600 Pilgrimage and the Localization of Catholic Devotion Cr.Hrs. 3 +3.0
The historical and contemporary fascination with holy places continues to permeate Catholic tradition. This course focuses on the identification and analysis of regions in which localized piety has either once existed or thrives today. It also places a strong emphasis on how the quest for sacred space remains a fundamental part of wider devotion within the Church. Prerequisite: [a grade of "C" or better in CATH 1190] or written consent of instructor.

NET CHANGE IN CREDIT HOURS: +6.0

Program modification:

Modifications to the List of Approved Courses in Catholic Studies are outlined on the next page. The changes relate to the **Minor (Concentration) in Catholic Studies**.

Catholic Studies

- Modification of the List of Approved Courses in Catholic Studies [used in the Minor (Concentration)]

Added material

~~Deleted material~~

8.7.2 Catholic Studies Studies

List of Approved Courses in Catholic Studies

Faculty of Arts		
Catholic Studies		
CATH 1190	Introduction to Catholic Studies	3
CATH 2000	Special Topics in Catholic Studies	3
CATH 2010	Literature and Catholic Culture 1	3
CATH 2020	Literature and Catholic Culture 2	3
CATH 2100	Field Studies in Catholic Culture	6
CATH 2200	Catholicism and Human Sexuality	3
CATH 2300	The Jesuits: Their Legacy and Influence	3
CATH 2400	Mystics, Saints and Sinners: The Quest for Holiness in the Catholic Church	3
CATH 2500	**Reshaping the Catholic Landscape in Canada**	**3**
CATH 2600	**Pilgrimage and the Localization of Catholic Devotion**	**3**
CATH 3900	Catholic Social Teaching	3
History		
HIST 2180	The History of Catholicism to 1540 (G)	3
HIST 2990	The History of Catholicism since 1540 (G)	3
HIST 2991	Histoire de l'Église catholique depuis 1540 (G)	3
HIST 4820*	The Crusades (D)	6
Philosophy		
PHIL 2320*	Thomas Aquinas and Medieval Philosophy	6
PHIL 2780	Thomas Aquinas	3
Religion		
RLGN 2840	The Second Vatican Council	3
RLGN 2850	Contemporary Issues in Roman Catholicism	3
RLGN 3870	The Thought of Bernard Lonergan	3
School of Art		
Art History		
FAAH 2060	Medieval to Early Renaissance Art and Architecture	3
FAAH 2070	Renaissance to Baroque Art and Architecture	3
FAAH 3130	Topics in Medieval Art and Architecture	3
FAAH 3140	Topics in Renaissance and Baroque Art and Architecture	3
FAAH 3280	Early Byzantine Art and Architecture	3

* Indicates course no longer offered.

Central and East European Studies

Program modifications:

A modification to the List of Approved Courses in Central and East European Studies is indicated on the next pages. The modification relates to the following programs:

- **Bachelor of Arts (General Major) in Central and East European Studies**
- **Bachelor of Arts (Single Advanced Major) in Central and East European Studies**
- **Bachelor of Arts (Double Advanced Major) in Central and East European Studies**
- **Bachelor of Arts (Double Honours) in Central and East European Studies**
- **Minor (Concentration) in Central and East European Studies**

Central and East European Studies

- Modification of the List of Approved Courses in Central and East European Studies [used in the General Major, Single Advanced Major, Double Advanced Major, Minor (Concentration) and Double Honours]

Added material

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8.5.2 Central and East European Studies

List of Approved Courses in Central and East European Studies

Faculty of Arts		
Anthropology		
ANTH 2060	European Archaeology	3
Economics		
ECON 2270*	European Economic History	6
ECON 2510	The Economy of Ukraine	3
ECON 4450*	Comparative Economic Systems	6
German and Slavic Studies		
GRMN 1300	Masterpieces of German Literature in English Translation (C)	3
GRMN 1310	Love in German Culture in English Translation (C)	3
GRMN 2120	Introduction to German Culture from 1918 to the Present (C)	3
GRMN 2130	Introduction to German Culture from the Beginnings to 1918 (C)	3
GRMN 2510	German Fairy Tales from the Brothers Grimm to Hollywood (C)	3
GRMN 3260	Representations of the Holocaust (B)	3
GRMN 3262	Representations of the Holocaust in English Translation (C)	3
GRMN 3270	Studies in Contemporary German Cinema (C)	3
GRMN 3280	Sex, Gender and Cultural Politics in the German-Speaking World (B)	3
GRMN 3282	Sex, Gender and Cultural Politics in the German-Speaking World in English Translation (C)	3
GRMN 3290	History in Literature in German-Speaking Countries (B)	3
GRMN 3390	German Representations of War (C)	3
GRMN 3392	German Representations of War (B)	3
GRMN 3520*	Special Topics in Comparative German and Slavic Studies	6
GRMN 3530	Special Topics in Comparative German and Slavic Studies (C)	3
POL 1900	Love, Heroes and Patriotism in Contemporary Poland	3
POL 2600	Polish Culture until 1918	3
POL 2610	Polish Culture 1918 to the Present	3
RUSN 1400	Masterpieces of Russian Literature in Translation	3
RUSN 2280	Russian Culture until 1900	3
RUSN 2290	Russian Culture from 1900 to the Present	3
RUSN 2310	Exploring Russia through Film	3
RUSN 2410	Russian Literature after Stalin	3
RUSN 2740	Literature and Revolution	3
RUSN 2750*	Contemporary Russian Literature and Film	3
RUSN 2770*	Masterpieces of Russian Literature in Translation	3
RUSN 3770	Tolstoy	3
RUSN 3780	Dostoevsky	3
SLAV 2240*	East European Literature 1	3
SLAV 2250*	East European Literature 2	3
SLAV 2260	Russia, Ukraine and Poland Cultures in Dialogue 1	3
SLAV 2270	Russia, Ukraine and Poland Cultures in Dialogue 2	3
SLAV 3520*	Special Topics in Comparative German and Slavic Studies	6
SLAV 3530	Special Topics in Comparative German and Slavic Studies	3
SLAV 3920	Gogol	3
UKRN 2200	Ukrainian Myth, Rites and Rituals	3
UKRN 2770	Ukrainian Culture until 1900	3
UKRN 2780	Ukrainian Culture from 1900 to the Present	3
UKRN 2800	Literature and Revolution in Ukraine	3
UKRN 2820	Holodomor and Holocaust in Ukrainian Literature and Culture	3
UKRN 3100	Ukrainian Story Writing Through the Ages	3
UKRN 3300	Literature of Independent Ukraine	3

Asterisk in bold print

UKRN 3670*	Contemporary Ukrainian Literature	3
UKRN 3850*	Ukrainian Short Story	3
History		
HIST 2080*	The Byzantine Empire and the Slavic World (D)	3
HIST 2240	History of Antisemitism and the Holocaust (E)	6
HIST 2490	History of Russia	6
HIST 2600	Introduction to Ukraine	3
HIST 2610	Making of Modern Ukraine	3
HIST 2660	History of the Soviet Union (E)	3
HIST 2661	Histoire de l'Union soviétique (E)	3
HIST 2840	A History of Russia to 1917	3
HIST 2841	Histoire de la Russie jusqu'en 1917 (E)	3
HIST 3030*	Issues in Ukrainian History	3
HIST 3060*	German and German Jewish History, 1780-1933 (E)	3
HIST 3062	German and German-Jewish History, 1618 to the Present (E)	6
HIST 3064	German and German-Jewish History, 1618-1900 (E)	3
HIST 3066	German and German-Jewish History, 1900 to the Present (E)	3
HIST 3180*	Modern Russia: The Soviet Era and Beyond	6
HIST 4300	Problems in Modern Russian and Soviet History	6
011.255*	History of Ukraine	6
Judaic Studies		
YDSH 2320	Yiddish Literature and Language	6
Political Studies		
POLS 3720	Politics, Government and Society in Ukraine	3
POLS 3810	Introduction to Marxism	3
POLS 2920*	Government, Politics and Society in Ukraine	6
POLS 4810*	Seminar in Marxist-Leninist and Contemporary Marxist Political Theory	6
Religion		
RLGN 1350	The History of Eastern Christianity	6
RLGN 2530	Eastern Christianity in the Contemporary World	3
RLGN 3280	Hasidism	3
School of Art		
FAAH 3160	Topics in 20th Century Art (only when topic focuses on Central and Eastern Europe)	3
FAAH 3280	Early Byzantine Art and Architecture	3
FAAH 3290	Later Byzantine Art and Architecture	3
FAAH 4070	Seminar in Art History 1 (when its focus is on Central and Eastern Europe	3
FAAH 4080*	Seminar in Art History 2 (when its focus is on Central and Eastern Europe)	3
Clayton H. Riddell Faculty of Environment, Earth, and Resources		
Geography		
GEOG 3600*	Geography of Ukraine	3

* Indicates course no longer offered.

Students are advised to consult the respective departmental *Calendar* entries for specific information on prerequisites and restrictions.

Classics

Program modifications:

Modifications to the following programs are outlined on the next pages.

- **Bachelor of Arts (General Major) in Classical Studies**
- **Bachelor of Arts (Single Advanced Major) in Classical Studies**
- **Bachelor of Arts (Double Advanced Major) in Classical Studies**
- **Minor (Concentration) in Classical Studies**

Program proposal:

A proposal for a **Bachelor of Arts (Double Advanced Major) in Classical Studies** is also described on the next pages.

Classics

- Introduction of the Double Advanced Major in Classical Studies
- Modification of the General Major and Single Advanced Major in Classical Studies
- Modification of List A [used in the General Major, Single Advanced Major, Double Advanced Major and Minor (Concentration)]

Added material

~~Deleted material~~

8.7.2 Classical Studies

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in the first six credit hours in ~~Classics~~ **Classical Studies (CLAS), Greek (GRK) or Latin (LATN)** or the first six credit hours from **List A** ~~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.

8.7.3 Classical Studies

YEAR 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
CLAS 1270 and CLAS 1280	**• 6 credit hours in Classical Studies (CLAS) courses numbered at the 2000 level or above** • ~~24~~ **18** credit hours in Classical Studies **(CLAS), Latin (LATN), Greek (GRK) or List A courses below** (Within the ~~24~~ **18** credit hours, **a** students may include up to ~~12 credit hours in Latin or Greek courses and may substitute up to~~ **a maximum of** 15 credit hours from **List A** ~~the approved list of courses offered by other departments as noted~~ below.)		
SINGLE ADVANCED MAJOR TOTAL: 48 CREDIT HOURS			
CLAS 1270 and CLAS 1280	**• 6 credit hours in Classical Studies (CLAS) courses numbered at the 2000 level or above** • ~~42~~ **36** credit hours in Classical Studies **(CLAS), Latin (LATN), Greek (GRK) or List A courses of which at least 6 credit hours must be numbered at the 3000 level or above** (Within the **36** ~~42~~ credit hours, a student may include up to ~~18 credit hours in Latin or Greek courses and may substitute up to~~ **a maximum of** 21 credit hours from **List A** ~~the approved list of courses offered by other departments as noted~~ below.)		
DOUBLE ADVANCED MAJOR TOTAL: 42 CREDIT HOURS			
CLAS 1270 and CLAS 1280	**• 6 credit hours in Classical Studies (CLAS) courses numbered at the 2000 level or above** **• 30 credit hours in Classical Studies (CLAS), Latin (LATN), Greek (GRK) or List A courses of which at least 6 credit hours must be numbered at the 3000 level or above (Within the 30 credit hours, a student may include up to a maximum of 15 credit hours from List A below.)**		

List A: Approved List of Courses Offered by Other Departments Acceptable for Credit in a Major/Minor (Concentration) in Classical Studies

History		
HIST 2420	The Medieval World (D)	6
~~HIST 3270*~~	~~Roman Law in Medieval Europe (D)~~	~~3~~
~~HIST 4740*~~	~~The Golden Age of Byzantium (D)~~	~~6~~
~~HIST 4840*~~	~~The Early Middle Ages~~	~~6~~
~~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~~
Philosophy		
PHIL 2650	Plato	3
PHIL 2660	Aristotle	3
Religion		
RLGN 2550	History of Early Christian Thought	3
RLGN 2730	**Jews and Judaism in Antiquity**	**3**
RLGN 3640	Religion in the Hellenistic and Roman Mediterranean	3

~~* Indicates course no longer offered.~~

For course descriptions, see the departmental listings in this *Calendar*.

French, Spanish and Italian

Introductions:

FREN 2820 Le cinéma africain (B) Cr.Hrs. 3 +3.0
Ce cours est destiné à initier l'étudiant(e) au cinéma africain. Les films étudiés, choisis parmi les plus connus, serviront à illustrer la diversité des options thématiques, esthétiques et idéologiques des cinéastes africains. Students may not hold credit for both FREN 2820 and FREN 2640 when titled "Cinéma africain." Prerequisite: [a grade of "C" or better in FREN 1190; or [a grade of "C+" or better in FREN 1200] or [a grade of "C" or better in FREN 2620] or written consent of department head.

FREN 3920 Enjeux majeurs en littératures francophones postcoloniales (B) Cr.Hrs. 3 +3.0
L'objectif de ce cours est d'approfondir d'un aspect important en littératures francophones postcoloniales d'Afrique et des Caraïbes ou d'étudier les oeuvres d'un auteur francophone majeur originaire d'Afrique ou des Caraïbes. Students may not hold credit for both FREN 3920 and FREN 3840 when titled "Littérature africaine." Prerequisite: [a grade of "C" or better in any 2000-level French course] or written consent of department head.

NET CHANGE IN CREDIT HOURS: +6.0

German and Slavic Studies

Deletion:

RUSN 3980 Women and Russian Literature Cr.Hrs. 3 -3.0

Introduction:

RUSN 1410 Love in Russian Culture in English Translation Cr.Hrs. 3 +3.0
An introduction to the discourse of love in Russian culture from the Middle Ages to the present. The course explores different meanings of love (spiritual, erotic, romantic, same-sex, familial) in Russian culture by means of examining a variety of portrayals of the interactions of love, sex, religion, and politics in literature and other cultural forms. The course is designed for students who have little or no prior knowledge of Russian culture. Language of instruction: English.

Modifications:

GRMN 3240 German Enlightenment and Classicism (B) Cr.Hrs. 3 0.0
Language of instruction: German. A study of selected texts of the German Enlightenment and Classicism, including works by Lessing, Schiller, Goethe and others; advanced language practise. Prerequisite: [a grade of "C" or better in GRMN 2140 or GRMN 3200 or GRMN 3201] or written consent of department head.

GRMN 3250 German Romanticism (B) Cr.Hrs. 3 0.0
Language of instruction: German. Study of selected fairy tales, novellas, letters, poetry and other texts by authors such as Novalis, Tieck, E.T.A. Hoffmann, and Kleist; topics discussed include the relationship between Enlightenment and Romanticism, the role of women, the discovery of the uncanny, the role of the fantastic, and romantic vampires, advanced language practise. Prerequisite: [a grade of "C" or better in GRMN 2140 or GRMN 3200 or GRMN 3201] or written consent of department head.

GRMN 3260 Representations of the Holocaust (B) Cr.Hrs. 3 0.0
Language of instruction: German. This course will focus on the literary rendering, including film versions and German memorial culture, of the Holocaust experience by authors from the German-speaking countries, such as Anna Seghers, Jurek Becker, Paul Celan, Max Frisch, Peter Weiss, Ruth Klüger, W.G. Sebald, and others. Students may not hold credit for both GRMN 3260 and GRMN 3262. Prerequisite: [a grade of "C" or better in GRMN 2140 or GRMN 3200 or GRMN 3201] or written consent of department head.

GRMN 3262 Representations of the Holocaust in English Translation (C) Cr.Hrs. 3 0.0
Language of instruction: English. This course will focus on the literary rendering, including film versions and German memorial culture, of the Holocaust experience by authors from the German-speaking countries, such as Anna Seghers, Jurek Becker, Paul Celan, Max Frisch, Peter Weiss, Ruth Klüger, W.G. Sebald, and others. Students may not hold credit for both GRMN 3262 and GRMN 3260. Prerequisite: [a grade of "C" or better in a minimum of 24 credit hours of university level coursework] or written consent of department head.

GRMN 3270 Studies in Contemporary German Cinema (C) Cr.Hrs. 3 0.0
Language of instruction: English. Studies the major accomplishments of East and West German cinema of the postwar period, as well as cinematic trends since German unification. We will consider questions of narrative, genre, and authorship, examine film's relationship to other media, and focus on the dynamic interaction between film history and social history. Films to be studied include features by prominent directors such as Wolf, Fassbinder, Wenders, von Trotta, Carow, Dörrie, and Tykwer. Prerequisite: [a grade of "C" or better in a minimum of 24 credit hours of university level coursework] or written consent of department head.

GRMN 3280 Sex, Gender and Cultural Politics in the German-Speaking World (B) Cr.Hrs. 3 0.0
Language of instruction: German. Explores a wide range of literary and cultural texts that deal with sex and gender in the German-speaking world. Discussion will address topics such as representation of women and men in literature and the social and historical climate in which the literature was and is produced. Students may not hold credit for both GRMN 3280 and GRMN 3282. Prerequisite: [a grade of "C" or better in GRMN 2140 or GRMN 3200 or GRMN 3201] or written consent of department head.

GRMN 3282 Sex, Gender and Cultural Politics in the German-Speaking World in In English Translation (C) Cr.Hrs. 3 0.0
Language of instruction: English. Explores a wide range of literary and cultural texts that deal with sex and gender in the German-speaking world. Discussion will address topics such as representation of women and men in literature and the social and historical climate in which the literature was and is produced. Students may not hold credit for both GRMN 3282 and GRMN 3280. Prerequisite: [a grade of "C" or better in a minimum of 24 credit hours of university level coursework] or written consent of department head.

GRMN 3290 History in Literature in German-Speaking Countries (B) Cr.Hrs. 3 0.0
Language of instruction: German. Analyzes how history is represented and remembered in literature and other genres. The course will focus on the representation of one historical period such as the Weimar Republic or the Nazi Third Reich. Please consult the instructor for details on which historical period as it appears in literature will be considered. Prerequisite: [a grade of "C" or better in GRMN 2140 or GRMN 3200 or GRMN 3201] or written consent of department head.

GRMN 3390 German Representations of War (C) Cr.Hrs. 3 0.0
Language of instruction: English. Focuses on representations of war, particularly World War II from a German and European perspective in fiction, historiography, film, photography, and memorial culture. Students may not hold credit for both GRMN 3390 and GRMN 3392. Prerequisite: [a grade of “C” or better in a minimum of 24 credit hours of university level course-work] or written consent of department head.

GRMN 3392 German Representations of War (B) Cr.Hrs. 3 0.0
Language of Instruction: German. Focuses on representations of war, particularly World War II from a German and European perspective in fiction, historiography, film, photography, and memorial culture. Students may not hold credit for GRMN 3392 and GRMN 3390. Prerequisite: [a grade of “C” or better in GRMN 2140 or GRMN 3200 or GRMN 3201] or written consent of department head.

GRMN 3500 Special Topics in German (B) Cr.Hrs. 3 0.0
Language of instruction: German. Topics dealing with German literature and culture. Course content will vary from year to year depending on interests and needs of students and staff. Prerequisite: [a grade of “C” or better in GRMN 2140 or GRMN 3200 or GRMN 3201] or written consent of department head. As the course content will vary from year to year, students may take this course more than once for credit.

GRMN 3510 Special Topics in German in English Translation (C) Cr.Hrs. 3 0.0
Language of instruction: English. Topics dealing with German literature and culture. Course content will vary from year to year depending on interests and needs of students and staff. Prerequisite: [a grade of “C” or better in a minimum of 24 credit hours of university level coursework] or written consent of department head. As the course content will vary from year to year, students may take this course more than once for credit.

GRMN 3530 Special Topics in Comparative German and Slavic Studies (C) Cr.Hrs. 3 0.0
Language of instruction: English. Topics comparing German and Slavic – Ukrainian, Russian, Polish – literatures and cultures. Course is co-taught by a member from the German and one from the Slavic Section. Course content will vary from year to year depending on interests and needs of students and staff. Possible topics include Memory of World War II, Cold War and Post-Cold War, and Modernism. Students may not hold credit for both GRMN 3530 and SLAV 3530 when topic is the same. Prerequisite: [a grade of “C” or better in a minimum of 24 credit hours of university level coursework] or written consent of department head. As the course content will vary from year to year, students may take this course more than once for credit.

SLAV 3530 Special Topics in Comparative German and Slavic Studies Cr.Hrs. 3 0.0
Language of instruction: English. Topics comparing German and Slavic - Ukrainian, Russian, Polish - literatures and cultures. Course is co-taught by a member from the German and one from the Slavic Section. Course content will vary from year to year depending on interests and needs of students and staff. Possible topics include Memory of World War II, Cold War and Post-Cold War, and Modernism. Students may not hold credit for both SLAV 3530 and GRMN 3530 when topic is the same. Prerequisite: [a grade of "C" or better in a minimum of 24 credit hours of university level coursework] or written consent of department head. As the course content will vary from year to year, students may take this course more than once for credit.

UKRN 1230 Language Seminar in Ukraine 1 Cr.Hrs. 3 0.0
The study of Ukrainian language at an intensive language school in Ukraine. The course is designed for students aiming at near-native fluency. Prerequisite written consent of department head.

NET CHANGE IN CREDIT HOURS: 0.0

History

Deletion:

HIST 2080 The Byzantine Empire and the Slavic World (D) Cr.Hrs. 3 -3.0

Introduction:

HIST 2200 Labour History: Canada and Beyond (C) Cr.Hrs. 3 +3.0
This course explores the history of working people's struggles, victories and defeats in Canada, with attention to gender, "race" and ethnicity. Topics include the origins and evolution of labour unions and workplace rights and the role of politics and social movements. Also offered as LABR 2200. May not be held with LABR 2200.

NET CHANGE IN CREDIT HOURS: 0.0

Icelandic

Program modifications:

Modifications to the following programs are outlined on the next page:

- **Bachelor of Arts (Single Honours) in Icelandic**
- **Bachelor of Arts (Double Honours) in Icelandic**

Icelandic

- Modification of Single Honours and Double Honours

Added material

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8.15.2 Icelandic

YEAR 1	YEAR 2	YEAR 3	YEAR 4
SINGLE HONOURS[2]			
ICEL 1200[1] ~~ICEL 2200~~	• **ICEL 2200,** ICEL 2220, ICEL 2420, ICEL 2430	• ICEL 2310, ICEL 3400	• ICEL 4420, ICEL 4440, ICEL 4460 • 3 credit hours in Icelandic courses numbered at the 3000 level
	• **15** ~~21~~ credit hours of courses selected from: Classics, English, French, German, History, Philosophy or Russian, to be approved by the department head		
	• 24 credit hours of ancillary options[3]		
	• 12 credit hours of free options[4]		
DOUBLE HONOURS[2]			
ICEL 1200[1] ~~ICEL 2200~~	• **ICEL 2200,** ICEL 2220, ICEL 2420, ICEL 2430	• ICEL 2310, ICEL 3400	• ICEL 4420, ICEL 4440, ICEL 4460 ~~• 3 credit hours in Icelandic courses numbered at the 3000 level~~
	~~• 3 credit hours of courses selcted from: Classics, English, French, German, History, Philosophy or Russian, to be approved by the department head~~		
	• At least 36 credit hours in second honours field		
	• 6 credit hours of ancillary options[3]		
	• 12 credit hours of free options[4]		

NOTES:

[1] Students with superior language ability will not be required to complete ICEL 1200 upon successful completion of a written test administered by the department.

[2] Honours courses: ICEL 2310, ICEL 2420, ICEL 2430, ICEL 3400 and all 4000 level courses.

[3] Ancillary options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (excluding Icelandic courses).

[4] Free options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (including Icelandic courses).

Labour Studies

Deletion:

LABR 2420 Economics of the Labour Process and Labour Relations Cr.Hrs. 6 -6.0

Introductions:

LABR 2110 Special Topics in Labour Studies Cr.Hrs. 3 +3.0
This course will vary from term to term depending on the needs of students and the interests of the instructor. As the course content will vary from term to term, students may take this course more than once for credit.

LABR 2200 Labour History: Canada and Beyond (C) Cr.Hrs. 3 +3.0
This course explores the history of working people's struggles, victories and defeats in Canada, with attention to gender, "race" and ethnicity. Topics include the origins and evolution of labour unions and workplace rights and the role of politics and social movements. Also offered as HIST 2200. May not be held with HIST 2200.

LABR 3230 Human Rights at Work Cr.Hrs. 3 +3.0
This course is an introduction to the basic human rights protections in Canadian workplaces that have developed as a result of collective bargaining, human rights legislation, The Charter of Rights and Freedoms and decisions of courts and tribunals. The course will also examine the concept of human rights on a broader, international and national level. Students may not hold credit for both LABR 3230 and LABR 3110 when titled "Human Rights at Work." Prerequisite: [a grade of "C" or better in three credit hours of 1000 level Labour Studies] or written consent of the Labour Studies coordinator.

LABR 3240 Becoming an Advocate Cr.Hrs. 3 +3.0
This course introduces students to concepts and structures pertaining to workers' advocacy and administrative law, including areas such as human rights, occupational health and safety, Workers' Compensation, and the duty of fair representation. Students may not hold credit for LABR 3240 and any of LABR 3110 or LABR 3120 when titled "Becoming an Advocate." Prerequisite: [a grade of "C" or better in three credit hours of 1000 level Labour Studies] or written consent of the Labour Studies coordinator.

Modifications:

LABR 2100 The Political Economy of Labour Cr.Hrs. 3 0.0
This course examines the dynamics of work, organization, the production and reproduction of labour power, labour markets and class conflict in capitalist societies, with attention to contemporary Canada. Students may not hold credit for LABR 2100 and any of: the former LABR 2420 or the former ECON 2420. Prerequisite: [a grade of "C" or better in three credit hours of 1000 level Labour Studies] or written consent of the Labour Studies coordinator.

LABR 3030 Labour and the Bargaining Process Cr.Hrs. 3 0.0
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. Prerequisite: [a grade of "C" or better in three credit hours of 1000 level Labour Studies] or written consent of the Labour Studies coordinator.

LABR 3080 Labour and Community Organizing Cr.Hrs. 3 0.0
This course examines the theory and practice of collaborative community and labour organizing, with particular emphasis on Latin America, to identify the strengths and limitations of this approach for reviving unions, protecting workers' rights and advancing social justice. Prerequisite: [a grade of "C" or better in three credit hours of 1000 level Labour Studies] or written consent of the Labour Studies coordinator.

LABR 3140 Pensions and Benefits Cr.Hrs. 3 0.0
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. Prerequisite: [a grade of "C" or better in three credit hours of 1000 level Labour Studies] or [a grade of "C" or better in both HRIR 3450 and six credit hours of other HRIR courses] or written consent of the Labour Studies coordinator.

NET CHANGE IN CREDIT HOURS: +6.0

Program modifications:

Modifications to the following programs, including among other changes, amendments to the List of Electives, are outlined on the next pages:

- **Bachelor of Arts (General Major) in Labour Studies**
- **Bachelor of Arts (Single Advanced Major) in Labour Studies**
- **Minor (Concentration) in Labour Studies**

Labour Studies

- Modification of the General Major, Single Advanced Major and Minor (Concentration)
- Modificationof the List of Electives [used in the General Major, Single Advanced Major and Minor (Concentration)]

Added material
~~Deleted material~~

Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in both LABR 1260 ~~(the former LABR 1270)~~ and LABR 1290 ~~(the former 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 (Concentration) Program

For entry to the Minor, the prerequisite is a grade of "C" or better in both LABR 1260 ~~(the former LABR 1270)~~ and LABR 1290 ~~(the former 153.128)~~.

All Programs

~~While ECON 1210 Introduction to Canadian Economic Issues and Policies and ECON 1220 Introduction to Global and Environmental Economic Issues and Policies, and SOC 1200 Introduction to Sociology are not required, they are highly recommended. Students are encouraged to select additional courses from the List of Core Courses and the List of Electives (see below).~~

Courses used towards a Labour Studies Major or Minor (Concentration) may not be used towards a Major/Minor (Concentration) or Honours in the second field.

8.18.2 Labour Studies

YEAR 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
LABR 1260 and LABR 1290	~~• 6 credit hours of LABR courses at the 2000 level~~ **• LABR 2100, LABR 2300** **• 6 credit hours of LABR courses at the 2000 or 3000 level** • 6 credit hours of LABR courses at the 3000 level • ~~12~~ **6** credit hours from LABR courses and/or the list of electives below		

SINGLE ADVANCED MAJOR TOTAL: ~~54~~ **48** CREDIT HOURS	
LABR 1260 and LABR 1290	~~• 6 credit hours of LABR courses at the 2000 level~~ **• LABR 2100, LABR 2300** **• 12 credit hours of LABR courses at the 2000 or 3000 level** • ~~21~~ **6** credit hours of LABR courses at the 3000 level • 9 credit hours of LABR courses at the 4000 level • ~~12~~ **9** credit hours from LABR courses and/or the list of electives below
MINOR (CONCENTRATION) TOTAL: 18 CREDIT HOURS	
LABR 1260 and LABR 1290	~~• 6 credit hours of LABR courses at the 2000 level~~ **• LABR 2100, LABR 2300** • 6 credit hours of LABR courses at the **2000 or** 3000 level

List of Electives

The following courses may be selected to fulfill the requirements for a degree in Labour 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 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		
ECON 2280*	Social Welfare and Human Resources	6
ECON 2350	Community Economic Development	3
ECON 2360*	Women in the Canadian Economy	6
ECON 2362	Economics of Gender	3
ECON 2500*	Labour and Technology (same as former Labour Studies LABR 2450)	3
ECON 2540	Political Economy 1: Production and Distribution	3
ECON 2550	Political Economy 2: Economic Growth and Fluctuations in a Global Economic Environment	3
ECON 3170*	Introduction to Quantitative Methods in Economics	3
ECON 3300*	Canadian Economic History	6
ECON 3360*	Labour Economics	6
ECON 3362	Labour Economics 1	3
ECON 3364	Labour Economics 2	3
ECON 3510*	Industrial Relations (same as Labour Studies LABR 3510)	6
ECON 3660*	Economic Ideas and Social Institutions	6
History		
HIST 2200	**Labour History: Canada and Beyond (C)**	**3**
HIST 2282	Inventing Canada (C)	3
HIST 2284*	Democracy and Dissent in Canada: Social Movements in the 20th Century (C)	3
HIST 2286	Modern Canada (C)	3
HIST 2288	History of Social Movements in Canada (C)	3
HIST 2400	History of Human Rights and Social Justice in the Modern World (G,M)	3
HIST 2670	History of Capitalism (M)	3
HIST 2671	Histoire du capitalisme (M) (USB)	3

HIST 2680	A History of Socialism from the French Revolution to the Present (M)	3
HIST 2690*	The Common People in Industrial Society (G)	6
HIST 2710*	Women in History (G)	6
HIST 2720	The World Since 1945 (G,M)	6
HIST 2970*	Modern Canada: 1921 to the Present (C)	6
HIST 2971	Le Canada moderne: de 1921 à nos jours (C) (USB)	6
HIST 3050	Canada since 1945 (C)	6
HIST 3210	The History of Popular Radicalism in the Twentieth Century (M)	6
HIST 3212	Global Sweatshops, Global Struggles (M)	3
HIST 3570*	History of Women in Canada (C)	6
HIST 3572	The History of Women, Gender, and Sexuality in Canada (C)	6
HIST 3700	History of Working People and Labour Movements 1700 to the Present (G) (same as Labour Studies LABR 3700)	6
HIST 3730	A History of Western Canada (C)	6
HIST 3800	History of Winnipeg from 1870-2000 (C)	3
HIST 4030*	The History of Communism and Socialism since 1945 (M) (H)	6
Native Studies		
NATV 3320*	Aboriginal Organizations	3
Philosophy		
PHIL 2290	Ethics and Society	6
PHIL 2830	Business Ethics	3
PHIL 3710*	Critiques of Contemporary Society	6
Political Studies		
POLS 3470	Canadian Public Management	3
POLS 3570	Administrative Theory in the Public Sector	3
POLS 3810	Introduction to Marxism	3
POLS 4370	Comparative Public Administration (H)	3
POLS 4570*	Public Organizational Management (H)	6
POLS 4660	The State in the Economy (H)	6
019.487*	Government and Public Sector Unionism (H)	3
Psychology		
PSYC 3510*	Organizational Psychology	3
PSYC 3600*	Environmental Psychology	3
Sociology		
SOC 2290	Introduction to Research Methods	6
SOC 3370	Sociology of Work	3
SOC 3371	Sociologie du travail (USB)	3
SOC 3380	Power, Politics and the Welfare State	3
SOC 3470*	Political Sociology	3
SOC 3471	Sociologie politique (USB)	3
SOC 3820	Qualitative and Historical Methods in Sociology	3
SOC 3870*	Social Inequality	3
SOC 3871	Inégalités sociales (USB)	3
SOC 3890	Power and Inequality in Comparative Perspective	3
Women's and Gender Studies		
WOMN 2500	Race, Class and Sexuality	3
WOMN 3550	Feminist Community Organizing: Theories and Practices	3
I.H. Asper School of Business (Faculty of Management)		
Business Administration		
GMGT 2030*	Administrative Theory	3
GMGT 2060	Management and Organizational Theory	3
GMGT 2070	Introduction to Organizational Behaviour	3
GMGT 2080*	Introduction to Management and Organization Theory	3
GMGT 3030	Contemporary Social Issues in Business	3
GMGT 4210	Seminar in Management and Capitalism	3
HRIR 2440	Human Resource Management	3

HRIR 3430	Selected Topics in Industrial Relations	3
HRIR 3450	Labour and Employment Relations (or the former 027.341)	3
HRIR 4420	Compensation	3
HRIR 4480	Collective Bargaining and Administration	3
HRIR 4520	Comparative Industrial Relations and Human Resource Management	3
Interdepartmental Courses		
IDM 3000*	Aboriginal Business Context: Influences and Impacts	3
IDM 4090*	Aboriginal Business Leadership	3

* Indicates course no longer offered.

For course descriptions, see departmental listings.

Medieval and Early Modern Studies

Program modifications:

Modifications to the following programs, which involve changes to the Group 1 course list, are outlined on the next page:

- **Bachelor of Arts (General Major) in Medieval and Early Modern Studies**
- **Bachelor of Arts (Single Advanced Major) in Medieval and Early Modern Studies**
- **Minor (Concentration) in Medieval and Early Modern Studies**

Medieval and Early Modern Studies

- Modification of Group 1 courses [used in the General Major, Single Advanced Major and Minor (Concentration)]

Added material

~~Deleted material~~

8.21.2 Medieval and Early Modern Studies

Group 1: History, Philosophy and Religions

See the departmental Calendar section for full course descriptions. With written consent of the program coordinator courses not on this list may be used to satisfy the Group 1 requirement.

Faculty of Arts		
Classics		
CLAS 1280	Introduction to Ancient Roman Culture	3
CLAS 2170	Roman History: The Roman Empire, 30 BC-AD 337	3
CLAS 3270	The World of Late Antiquity: History and Archaeology	3
History		
HIST 2080*	The Byzantine Empire and the Slavic World (D)	3
HIST 2180	The History of Catholicism to 1540 (G)	3
HIST 2930	The History of the British Isles, 412-1485 (D)	6
HIST 3136	History of Medieval Italy, 568-1300 (D)	3
HIST 3138	History of Medieval Italy, 1300-1500 (D)	3
HIST 3140	Medieval Italy (D)	6
HIST 3480	The Margins of the Middle Ages (D)	3
HIST 3550	Popular Culture, Crime and Punishment in England, 1550-1850 (E)	3
HIST 3880	Europe in Transition: 1348-1648 (E)	6
HIST 4040	The Later Middle Ages (D)	6
HIST 4050	England in the Long Eighteenth Century (E)	6
Philosophy		
PHIL 2780	Thomas Aquinas	3
Religion		
RLGN 2550	History of Early Christian Thought	3
RLGN 2560	History of Medieval Christian Thought	3
RLGN 2730	Jews and Judaism in Antiquity	3
RLGN 2760	Rabbinic Judaism	3
RLGN 2780	Classical Islam	3
RLGN 3194	Islamic Philosophy	3
RLGN 3230	Gender in Early Christianity	3
RLGN 3824	Kabbalah	3

asterisk in bold print

*** Indicates course no longer offered.**

Philosophy

Program modifications:

Modifications to the following are set out on the next pages:

- **Bachelor of Arts (Single Advanced Major) in Philosophy**
- **Bachelor of Arts (Double Honours) in Philosophy**
- Program Notes (for Single Honours, Double Honours)

Program proposal:

A proposal for a **Bachelor of Arts (Double Advanced Major) in Philosophy** is also described on the next pages.

Philosophy

- Introduction of the Double Advanced Major
- Modification of the Single Advanced Major and Double Honours
- Modification of Program Notes for Single Honours and Double Honours

Added material

~~Deleted material~~

8.23.2 Philosophy

YEAR 1	YEAR 2	YEAR 3	YEAR 4
SINGLE ADVANCED MAJOR[1] TOTAL: 48 CREDIT HOURS			
48 credit hours in Philosophy satisfying the following requirements: • ~~at least~~ 6 credit hours from PHIL 1200 or PHIL 1320 • ~~at least~~ 12 credit hours from History of Philosophy courses **listed below** • ~~at least~~ 6 credit hours from PHIL 2430 or PHIL 2760 • **12 credit hours from Philosophy courses numbered at the 2000 level and above** • ~~at least~~ 12 credit hours from Philosophy courses numbered at the 3000 level and above. (Students must obtain written permission of the department head to take honours courses)			
DOUBLE ADVANCED MAJOR[1] TOTAL: 42 CREDIT HOURS			
42 credit hours in Philosophy satisfying the following requirements: **• 6 credit hours from PHIL 1200 or PHIL 1320** **• 12 credit hours from History of Philosophy courses listed below** **• 6 credit hours from PHIL 2430 or PHIL 2760** **• 6 credit hours from Philosophy courses numbered at the 2000 level and above** **• 12 credit hours from Philosophy courses numbered at the 3000 level and above. (Students must obtain written permission of the department head to take honours courses)**			
SINGLE HONOURS[1, ~~2, 6~~ 5]			
6 credit hours in Philosophy courses numbered at the 1000 level	• PHIL 2430[~~3~~ 2] • PHIL 2760 • 6 credit hours from PHIL 2612, PHIL 2614, PHIL 2630, PHIL 2640, PHIL 2650, PHIL 2660, PHIL 2780, PHIL 2790, PHIL 3580 • 12 credit hours of	• 9 credit hours in Honours Philosophy courses • 3 credit hours from PHIL 2612, PHIL 2614, PHIL 2630, PHIL 2640, PHIL 2650, PHIL 2660, PHIL 2780, PHIL 2790, PHIL 3580 • an additional 3 credit hours from History of	• 12 credit hours in Honours Philosophy courses • 6 credit hours in Philosophy courses numbered at the 2000 level and above • 6 credit hours of ancillary options[~~4~~ 3] • 6 credit hours of free

	ancillary options[4-3]	Philosophy courses • 3 credit hours in Honours Philosophy courses or History of Philosophy courses • 6 credit hours of ancillary options[4-3] • 6 credit hours of free options[5-4]	options[5-4]
DOUBLE HONOURS[1, 2, 6-5]			
6 credit hours in Philosophy courses numbered at the 1000 level	• 6 credit hours from History of Philosophy courses • PHIL 2430 or PHIL 2760 • ~~18~~ **6** credit hours of ancillary options[4-3] **• 12 credit hours in other Honours field**	• 6 credit hours in Honours Philosophy courses • 3 credit hours from PHIL 2612, PHIL 2614, PHIL 2630, PHIL 2640, PHIL 2650, PHIL 2660, PHIL 2780, PHIL 2790, PHIL 3580 • an additional 3 credit hours from History of Philosophy courses • 12 credit hours **in other Honours field**~~of ancillary options~~[4] • 6 credit hours of free options[5-4]	• 6 credit hours in Honours Philosophy courses • 6 credit hours in Philosophy courses numbered at the 2000 level and above • 12 credit hours **in other Honours field**~~of ancillary options~~[4] • 6 credit hours of free options[5-4]

NOTES:

[1] At most 12 credit hours in Philosophy numbered at the 1000 level may count towards any degree program. In addition, no student may hold credit in both PHIL 1200 and the former PHIL 1510.

[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.~~

[3-2] Students who took the former PHIL 1330 in their first year will substitute six other credit hours in Philosophy for PHIL 2430 in Year 2.

[4-3] Ancillary options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (excluding Philosophy courses).

[5-4] Free options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (including Philosophy courses).

[6-5] Honours courses: PHIL 3430, PHIL 3440, PHIL 3580, PHIL 3630, PHIL 3640, PHIL 3650, PHIL 3760, PHIL 3770 and all 4000 level courses.

History of Philosophy

Course		Credit Hours
PHIL 1510*	Historical Introduction to Philosophy	6
PHIL 2300	Political Philosophy	6
PHIL 2610*	The History and Philosophy of Science	6
PHIL 2612	A Philosophical History of Science	3
PHIL 2630	Continental Rationalism	3
PHIL 2640	British Empiricism	3
PHIL 2650	Plato	3
PHIL 2660	Aristotle	3
PHIL 2710	Twentieth-Century European Philosophy: Existentialism	3
PHIL 2720*	Twentieth-Century European Philosophy: Phenomenology	3
PHIL 2780	Thomas Aquinas	3
PHIL 2790	Moral Philosophy	6
PHIL 2820*	Existentialism	6
PHIL 3580	Kant	3
PHIL 3690*	The Rise of Analytic Philosophy	3

* indicates course no longer offered

Psychology

Deletions:

PSYC 2410 Social Psychology 1 Cr.Hrs. 3 -3.0
PSCY 2420 Social Psychology 2 Cr.Hrs. 3 -3.0

Introduction:

PSYC 2540 Social Psychology Cr.Hrs. 3 +3.0
This course provides a basic introduction to the ways in which we affect and are affected by the behaviour of others. Topics typically include: attitudes and attitude change, social beliefs and judgements, conformity, persuasion, social norms and roles, group dynamics, prejudice, aggression, altruism, attraction and close relationships, and intergroup conflict. Students may not hold credit for PSYC 2540 and any of PSYC 2411 or PSYC 2421 or the former PSYC 2410 or the former PSYC 2420. Prerequisite: [a grade of "C" or better in PSYC 1200 or the former PSYC 1201] or [a grade of "C" or better in both PSYC 1211 and PSYC 1221] or written consent of department head.

Modifications:

PSYC 3110 Research in Social Psychology Cr.Hrs. 3 0.0
This course will provide an introduction to conducting research in social psychology. Students will gain experience in all facets of the research process including experimental design and preparation, human ethical review, data collection and analysis, and report writing. Prerequisite: [a grade of "C" or better in PSYC 2260 or PSYC 2261] and [a grade of "C" or better in PSYC 2540 or PSYC 2411 or PSYC 2421 or the former PSYC 2410 or the former PSYC 2420].

PSYC 3130 Introduction to Health Psychology Cr.Hrs. 3 0.0
This course offers a survey of psychological issues in health and illness. Major topics will include the biopsychosocial approach, mental models of illness, pain, stress and coping, health-damaging and health-promoting behaviours, and psychological issues in medical care. Students may not hold credit for PSYC 3130 and any of: PSYC 3131 or PSYC 3530 when titled "Health Psychology." Prerequisite: [a grade of "C" or better in PSYC 2540 or PSYC 2411 or PSYC 2421 or the former PSYC 2410 or the former PSYC 2420] or written consent of department head.

PSYC 3470 Dyadic Relations Cr.Hrs. 3 0.0
This course covers friendship formation and dyadic relations - linking, liking, loving, and leaving - from an empirically oriented psychological perspective. Students may not hold credit for both PSYC 3470 and the former PSYC 2460. Prerequisite: [a grade of "C" or better in PSYC 2540 or PSYC 2411 or PSYC 2421 or the former PSYC 2410 or the former PSYC 2420] or written consent of department head.

PSYC 4400 Theories of Close Relationships Cr.Hrs. 3 0.0
Students will be exposed to theories that apply to the initiation, development, maintenance, and dissolution of relationships. The primary focus will be on evolutionary theory, attachment styles, communal and exchange relationships, equity theory, interdependence theory and the investment model, attributional theories, and theories of love. Students may not hold credit for both PSYC 4400 and PSYC 4540 with the topic "Theories of Close Relationships." Prerequisite: [a grade of "C" or better in PSYC 2540 or PSYC 2411 or PSYC 2421 or the former PSYC 2410 or the former PSYC 2420] and written consent of department head.

PSYC 4410 Cross-cultural Social Psychology Cr.Hrs. 3 0.0
Cross-cultural psychology is the critical and comparative study of the linkages between cultural norms and thoughts, feeling and behaviour. This course focuses on Cross-cultural Social Psychology. Therefore the assigned readings deal with topics that Social Psychology, in general, examines. Students may not hold credit for both PSYC 4410 and PSYC 4540 with the topic "Cross-cultural Social Psychology." Prerequisite: [a grade of "C" or better in PSYC 2540 or PSYC 2411 or PSYC 2421 or the former PSYC 2410 or the former PSYC 2420] and written consent of department head.

PSYC 4562 Social Psychology and Health Cr.Hrs. 3 0.0
This course uses theories and concepts from social/personality psychology to gain a better appreciation of what health is and how to achieve it, at the individual and population levels. Students may not hold credit for both PSYC 4562 and PSYC 4540 with the topic "Social Psychology and Health." Prerequisite: [a grade of "C" or better in one of: PSYC 2530 or PSYC 2531 or PSYC 2540 or PSYC 2411 or PSYC 2421 or PSYC 3130 or PSYC 3131 or the former PSYC 2410 or the former PSYC 2420 or the former PSYC 3450 or the former PSYC 3451] and written consent of department head.

PSYC 4610 Social Cognition Cr.Hrs. 3 0.0
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: [a grade of "C" or better in PSYC 2540 or PSYC 2411 or PSYC 2421 or the former PSYC 2410 or the former PSYC 2420] and written consent of department head.

PSYC 4650 The Self and Social Perception Cr.Hrs. 3 0.0
This course examines: 1) bases of self-knowledge such as social comparison, feedback from others, and introspection, 2) recent perspectives on the nature of the self-concept and self-presentation, and 3) motivational and cognitive mechanisms guiding self-relevant information processing. Activities may include participating in class discussions, giving presentations, writing several short papers and a research proposal. Students may not hold credit for both PSYC 4650 and PSYC 4590 when titled "Self and Social Perception." Prerequisite: [a grade of "C" or better in PSYC 2540 or PSYC 2411 or PSYC 2421 or the former PSYC 2410 or the former PSYC 2420] and written consent of department head.

PSYC 4660 Intergroup Relations Cr.Hrs. 3 0.0
This course examines intergroup relations from a social psychological perspective. Key topics include sources of prejudice and discrimination, the "target's" perspective, and strategies for reducing prejudice and discrimination. Students may not hold credit for both PSYC 4660 and PSYC 4540 when titled "Intergroup Relations." Prerequisite: [a grade of "C" or better in PSYC 2540 or PSYC 2411 or PSYC 2421 or the former PSYC 2410 or the former PSYC 2420] and written consent of department head.

NET CHANGE IN CREDIT HOURS: -3.0

Program modifications:

Modifications to the Program Notes for the following programs are outlined on the next pages:

- **Bachelor of Arts (General Major) in Psychology**
- **Bachelor of Arts (Single Advanced Major) in Psychology**
- **Bachelor of Arts (Single Honours) in Psychology**
- **Bachelor of Arts (Double Honours) in Psychology**

Psychology

- Modification of Program Notes [footnote identifying "letter-menued categories" used in General Major, Single Advanced Major, Single Honours, Double Honours]

Added material
~~Deleted material~~

8.25.2 Psychology

YEAR 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
PSYC 1200 or PSYC 1211 and PSYC 1221	• PSYC 2250 and PSYC 2260 • 6 additional credit hours in Psychology courses numbered at the 2000 level (3 hours from each of two different lettered menu categories)[1]	12 credit hours in Psychology courses numbered at the 2000 or 3000 level (3 hours from each of two different lettered menu courses not taken in Year 2)[1]	
SINGLE ADVANCED MAJOR TOTAL: 48 CREDIT HOURS			
PSYC 1200 or PSYC 1211 and PSYC 1221	• PSYC 2250 and PSYC 2260 • 6 additional credit hours in Psychology courses numbered at the 2000 level (3 hours from each of two different lettered menu categories)[1]	12 credit hours in Psychology courses numbered at the 2000 or 3000 level (3 hours from each of two different lettered menu courses not taken in Year 2)[1]	18 credit hours in Psychology courses numbered at the 2000 or 3000 level (3 hours from any remaining lettered menu category)[1]
SINGLE HONOURS[4]			
PSYC 1200 or PSYC 1211 and PSYC 1221	• PSYC 2250 and PSYC 2260 • 6 credit hours in Psychology courses numbered at the 2000 or 3000 level: (3 hours from each of two different lettered menu categories)[1] • 15 credit hours in ancillary options[2] • 3 credit hours in free options[3]	• PSYC 3200 and PSYC 3340 and PSYC 3630 • 9 credit hours in Psychology courses numbered at the 2000 or 3000 level (3 hours each of at least two different lettered menu courses not taken in Year 2) • 3 credit hours in Psychology courses numbered at the 4000 level or one of: PSYC 3520, PSYC 3560 or PSYC 3590 • 9 credit hours in ancillary options[2]	• PSYC 4520 • 6 credit hours in Psychology courses numbered at the 4000 level • 9 credit hours in Psychology courses numbered at the 2000 or 3000 level, including any remaining menu category • 3 credit hours in free options[3] • 6 credit hours in ancillary options[2]
DOUBLE HONOURS[4]			
PSYC 1200 or PSYC 1211 and PSYC 1221	• PSYC 2250 and PSYC 2260 • 6 credit hours in	• PSYC 3200 and PSYC 3340 and PSYC 3630 • 3 credit hours in	• PSYC 4520 • 6 credit hours in Psychology courses

	Psychology courses numbered at the 2000 level: (3 hours from each of two different lettered menu categories)[1] • 12 credit hours in other Honours field • 6 credit hours in an ancillary option[2]	Psychology courses numbered at the 2000 level: (3 hours from one of the remaining different lettered menu categories)[1] • 12 credit hours in other Honours field • 6 credit hours in free options[3]	numbered at the 4000 level • 12 credit hours in other Honours field • 6 credit hours in free options[3,5]

NOTES:

[1] Lettered menu categories are as follows:

Category A: Personality/Social ~~PSYC 2410, PSYC 2420,~~ **PSYC 2540,** PSYC 2490, PSYC 2530

Category B: Developmental PSYC 2290

Category C: Learning PSYC 2440, PSYC 2470

Category D: Cognitive PSYC 2480

Category E: Biological PSYC 2360

[2] Ancillary options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (excluding Psychology courses).

[3] Free options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (including Psychology courses).

[4] Honours courses: PSYC 3340 and all 4000 level courses.

[5] Students hoping to pursue graduate studies should also consider adding an additional 4000 level course, or PSYC 3520 or PSYC 3560 or PSYC 3590 as a free option in Year 4.

Women's and Gender Studies

Program modifications:

Modifications to the following programs, which involve a change to List A, are set out on the next pages:

- **Bachelor of Arts (General Major) in Women's and Gender Studies**
- **Bachelor of Arts (Single Advanced Major) in Women's and Gender Studies**
- **Bachelor of Arts (Double Advanced Major) in Women's and Gender Studies**
- **Bachelor of Arts (Single Honours) in Women's and Gender Studies**
- **Bachelor of Arts (Double Honours) in Women's and Gender Studies**
- **Minor (Concentration) in Women's and Gender Studies**

Women's and Gender Studies

- Modification of List A [used in the General Major, Single Advanced Major, Double Advanced Major, Minor (Concentration), Single Honours and Double Honours]

Added material

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List A
Faculty of Arts

Anthropology		
ANTH 3320	Women in Cross-Cultural Perspective	3
ANTH 3321	Femmes, société et cultures (USB)	3
ANTH 3330	Sex and Sexualities	3
ANTH 3350*	Anthropology of Sex and Sexualities (B)	3
Classics		
CLAS 2210	Women in Ancient Greece and Rome	3
Economics		
ECON 2360*	Women in the Canadian Economy	6
ECON 2362	Economics of Gender	3
French, Spanish and Italian		
FREN 2680	Littérature féminine française (B)	3
FREN 3860	Études sur Beauvoir (B)	3
German		
GRMN 1310	Love in German Culture in English Translation (C)	3
GRMN 3280	Sex, Gender and Cultural Politics in the German-Speaking World (B)	3
GRMN 3282	Sex, Gender and Cultural Politics in the German-Speaking World in English Translation (C)	3
History		
HIST 2400	History of Human Rights and Social Justice in the Modern World (G,M)	3
HIST 2710*	Women in History (G)	6
HIST 3570*	History of Women in Canada (C)	6
HIST 3572	The History of Women, Gender, and Sexuality in Canada (C)	6
HIST 3760	Problems in American History 1 Acceptable for credit only when the topic is "Gender and Sexuality in 20th Century America."	3
HIST 3810*	The Family, Love and Marriage in Western Society, 1500-1800 (E)	6
HIST 3811	Famille, amour et marriage dans la société occidentale, 1500-1800 (E)	6
HIST 3820*	The Women's Movement, 1850 to the Present (G)	6
HIST 4060	Gender History in Canada (C)	6
Native Studies		
NATV 2430	Indigenous Women's Stories	3
NATV 3360	Aboriginal Women of Canada	3
NATV 3380	Cultural Constructions of Gender in Canadian Aboriginal Societies	3
Philosophy		
PHIL 3220	Feminist Philosophy	3
Political Studies		
POLS 3100	Gender and Politics in Canada	3
POLS 3240	Feminist Political Theory	3
Psychology		
PSYC 2390	Psychology of Women	3
PSYC 2400	The Psychology of Sex Differences	3
Religion		
RLGN 2680	Women and Religion 1	3
RLGN 2690	Women and Religion 2	3

Asterisk in bold print

Slavic Studies		
RUSN 2350*	Russian Women's Writing from the 1950s to the Present Day	3
RUSN 3980*	**Women and Russian Literature**	**3**
UKRN 3970	Women and Ukrainian Literature	3
Sociology		
SOC 2460	The Family	3
SOC 2461	La famille (USB)	3
SOC 2470	Courtship and Marriage	3
SOC 2471*	Les fréquentations et le mariage (USB)	3
SOC 3770	Women, Health and Medicine	3
SOC 3790	Women, Crime and Social Justice	3
SOC 3810	Sociological Perspectives on Gender and Sexuality	3
SOC 3811	Sociologie de la sexualité et des rôles sexuels (USB)	3
School of Art		
FAAH 2110	Women and Art	3
FAAH 4090	Seminar on Contemporary Issues in Art Acceptable for credit only when the topic is "Women Artists."	3
Clayton H. Riddell Faculty of Environment, Earth, and Resources		
GEOG 4280	Gender and the Human Environment	3
Marcel A. Desautels Faculty of Music		
MUSC 4130	History of Women in Music	3
Faculty of Nursing		
NURS 3330	Women and Health	3

* Indicates course no longer offered.

For course descriptions, see departmental listings.

NOTE: List A courses are identified in Aurora Student with the course attribute of "Women's Studies Requirement."

Faculty of Arts – Art History

Program modification:

A modification to the **Bachelor of Arts (General Major) in Art History** is outlined on the next page.

Faculty of Arts – Art History

- Modification of General Major

Added material
~~Deleted material~~

9.1.2 Art History

YEAR 1	YEAR 2	YEAR 3	YEAR 4
GENERAL MAJOR TOTAL: 30 CREDIT HOURS			
FAAH 1030, FAAH 1040	• FA 1990 • 12 credit hours from List A • FAAH 3260 or FAAH 3270 ~~• FA 3440~~ • 9 credit hours from either List A or List B		

School of Dental Hygiene

Modification:

HYGN 2370 Nutrition in Dentistry Cr.Hrs. 2 0.0
An examination of the fundamentals of nutrition and the relationship between nutrition and health within the context of the health professions. The focus is on nutritional strategies used to promote health and in the treatment of common health conditions. The primarily on-line content is followed up with a combination of oral health specific patient/clinical exercises for Dental Hygiene students. May not be held with HNSC 2170 or ORLB 2330 or the former ORLB 2150 or the former PHRM 2420."

Faculty of Engineering

Faculty of Engineering

Program modification:

Modifications to the **Preliminary Engineering Program** are outlined on the next pages.

4.2 Preliminary Engineering Program

Student Advising Office: E1-284 EITC
Telephone: 204 474 9807
E-mail: eng_info@umanitoba.ca
Website: umanitoba.ca/faculties/engineering

The Preliminary Engineering Program is common to all programs in engineering. Students in the direct entry engineering program or University 1 must complete a minimum of 8 courses to be admitted to a degree granting engineering program. A student must complete the following list of 12 courses in order to graduate with a B.Sc. degree from any of the engineering programs.

Prior to the 2016/2017 academic year, students were required to complete ENGL 1400 (or equivalent) to satisfy the written English course requirement within all engineering programs. Beginning with the 2016/2017 academic year these requirements may now be satisfied by completing any course selected from the list of Written English Courses for Engineering Students (which includes ENGL 1400). This change applies to all students entering the Faculty of Engineering, as well as all continuing students who have yet to complete this program requirement.

Course No.	Course Name	Credit
CHEM 1300	Structure and Modelling in Chemistry	3
COMP 1012	Computer Programming for Scientists and Engineers	3
ENG 1430	Design in Engineering	3
ENG 1440	Introduction to Statics	3
ENG 1450	Introduction to Electrical and Computer Engineering	3
ENG 1460	Introduction to Thermal Sciences	3
~~ENGL 1400~~	~~Thematic Approaches to the Study of Literature (or equivalent) (Note 5)~~	~~3~~
MATH 1210	Techniques of Classical and Linear Algebra (Note 4)	3
MATH 1510	Applied Calculus 1 (or equivalent) (Notes 1 and 3)	3
MATH 1710	Applied Calculus 2 (or equivalent) (Notes 2 and 3)	3
PHIL 1290*	Critical Thinking	3
PHYS 1050	Physics 1: Mechanics	3
	Written English Course (Note 5,6)	**3**

* PHIL 1290 Critical Thinking is the recommended complementary studies elective. However, students may select any course from the Faculty of Arts or the Faculty of Management at the 1000 level or above, with the exception of ARTS 1110 Introduction to the University which may not be held for credit within the Faculty of Engineering.

Note:

(1) MATH 1500 and MATH 1510 are regarded as equivalent to each other.
(2) MATH 1700 and MATH 1710 are regarded as equivalent to each other.
(3) MATH 1690 may be regarded as being equivalent to one course from (1) and one course from (2).
(4) MATH 1300 is not an acceptable equivalent to MATH 1210.
~~(5) ENGL 1200, ENGL 1300, the former ENGL 1310, or ENGL 1340 may held in lieu of ENGL 1400.~~
(5) Course selected from the list of approved Written English Courses for Engineering Students.
(6) Three credit hours are required to satisfy the written English course requirement. Should a student complete a six credit hour course, the additional three credit hours may be used to satisfy general complementary studies requirements within a student's 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 MATH 1510 or MATH 1710 (or an equivalent); the written English requirement is satisfied by ~~ENGL 1400 (or an equivalent)~~ **completing a course selected from the list of approved Written English Courses for Engineering Students.**

Written English Courses for Engineering Students

ASIA 1420	Asian Civilization to 1500 (3)
ASIA 1430	Asian Civilization from 1500 (3)
CATH 1190	Introduction to Catholic Studies (3)
ENGL 1200	Representative Literary Works (6)
ENGL 1400	Thematic Approaches to the Study of Literature (3)
GPE 2700	Perspectives on Global Political Economy (3)
GRMN 1300	Masterpieces of German Literature in English Translation (3)
GRMN 1310	Love in German Culture in English Translation (3)
HIST 1XXX	Any 1000 level HIST course, (3 or 6 credit hours)
HIST 2XXX	Any 2000 level HIST course, (3 or 6 credit hours)
NATV 2020	The Métis of Canada (3)
POL 1900	Love, Heroes and Patriotism in Contemporary Poland (3)
POL 2600	Polish Culture until 1918 (3)
POL 2610	Polish Culture 1918 to the present (3)
POLS 1500**	Introduction to Politics (6)
POLS 2000	Introduction to Comparative Politics (6)
POLS 2040	Introduction to International Relations (6)
POLS 2070	Introduction to Canadian Government (6)
RLGN 1320	Introduction to World Religions (6)
RLGN 1424	Religion and Sexuality (3)
RLGN 1440	Evil in World Religions (3)
RLGN 2036	Introduction to Christianity (3)
RLGN 2140	Introduction to Judaism (3)
RLGN 2160	Introduction to Hebrew Scriptures (3)
RLGN 2170	Introduction to the New Testament (3)
RLGN 2222	The Supernatural in Popular Culture (3)
RLGN 2590	Religion and Social Issues (3)
RUSN 1400	Masterpieces of Russian Literature in English Translation (3)
RUSN 2280	Russian Culture until 1900 (3)
RUSN 2290	Russian Culture from 1900 to the present (3)
RUSN 2310	Exploring Russia Through Film (3)
UKRN 2200	Ukrainian Myths, Rites and Rituals (3)
UKRN 2410	Ukrainian Canadian Cultural Experience (3)
UKRN 2590	Ukrainian Literature and Film (3)
UKRN 2770	Ukrainian Culture until 1900 (3)
UKRN 2780	Ukrainian Culture from 1900 to the present (3)
UKRN 2820	Holodomor and Holocaust in Ukrainian Literature and Culture (3)
WOMN 1500	Introduction to Women's and Gender Studies in the Humanities (3)
WOMN 1600	Introduction to Women's and Gender Studies in the Social Sciences (3)
WOMN 2560	Women, Science and Technology (3)

** This course requires a laboratory.

Biosystems Engineering

Deletions:

BIOE 2580 Biosystems Engineering Design Trilogy 1 Cr.Hrs. 4 -4.0
BIOE 3580 Biosystems Engineering Design Trilogy 2 Cr.Hrs. 4 -4.0
BIOE 4580 Biosystems Engineering Design Trilogy 3 Cr.Hrs. 4 -4.0

Introductions:

BIOE 2900 Biosystems Engineering Design 1 Cr.Hrs. 4 +4.0
An introduction to the professional discipline of Biosystems Engineering and the philosophy of systems thinking that is used by the Biosystems engineer. Students will be introduced to several principles (i.e., safety engineering, human factors engineering, and biomimicry) that should be considered during the design process, and will be given opportunity to apply these principles to design problems. The course will provide opportunity for students to develop technical communication, project management and teamwork skills. May not be held with BIOE 2580.Prerequisite: ENG 1430.

BIOE 3900 Biosystems Engineering Design 2 Cr.Hrs. 4 +4.0
An introduction to the use of reverse engineering to deduce design features from previously-designed products or systems. Considerations such as design for sustainability and design for disassembly will be discussed. Students will have opportunity to use reverse engineering principles i) to understand how components fit together to form functional systems, ii) to identify design flaws and iii) to propose design improvements. Students will learn appropriate techniques for documenting the reverse engineering process. Theory of project management will also be taught and discussed. Prerequisites: [BIOE 2900 or the former BIOE 2580] and [ENG 2022 or the former ENG 2020].

BIOE 4900 Biosystems Engineering Design 3 Cr.Hrs. 4 +4.0
An opportunity for the Biosystems Engineering student to practice fundamental engineering competencies (project management, technical communication) in the preparation of a preliminary design for a client. Students will be expected to demonstrate professionalism as a part of a design team. May not be held with BIOE 3580. Prerequisite: BIOE 3900.

BIOE 4650 Textiles in Healthcare and Medical Applications Cr.Hrs. 4 +4.0
This course provides students with an introduction to medical textiles and healthcare products used in current practices, as well as fundamentals for designing textile products and devices that improve the health and quality of life of human beings. The course includes both basic topics related to healthcare and medical textiles (i.e., materials and structures, nanofibers for medical uses, comfort and health problems with textiles, biocompatibility and biostability issues) and applications of textile products for healthcare and medical end uses (i.e., protective and hygiene textiles, external devices, tissue engineering and intelligent/smart textiles). May not be held with TXSC 3500 or TXSC 4500. Prerequisite: BIOE 2590. Pre- or Corequisite: BIOE 3320.

BIOE 4950 Biosystems Engineering Design 4 Cr.Hrs. 4 +4.0
An opportunity for the Biosystems Engineering student to validate a conceptual solution to an engineering problem through fabrication and testing of a prototype. Students will be expected to employ project management skills to ensure completion of both a prototype and an engineering report for a client by the end of the semester. May not be held with BIOE 4580. Prerequisite: BIOE 4900.

NET CHANGE IN CREDIT HOURS: +8.0

Program modification:

Modifications to the **Bachelor of Science in Engineering (Biosystems Engineering)** are outlined on the next page.

Proposed Calendar Content

Course No.	Course Name	Credit Hours
BIOE 2110	Transport Phenomenon	3
BIOE 2480	Impact of Engineering on the Environment	3
~~BIOE 2580~~	~~Biosystems Engineering Design Trilogy 1~~	4
BIOE 2590	Biology for Engineers	3
BIOE 2900	**Biosystems Engineering Design 1**	**4**
BIOE 3270	Instrumentation and Measurement for Biosystems	4
BIOE 3320	Engineering Properties of Biological Materials	4
BIOE 3400	Design of Structural Components in Machines	4
~~BIOE 3580~~	~~Biosystems Engineering Design Trilogy 2~~	4
BIOE 3590	Mechanics of Materials in Biosystems	4
BIOE 3900	**Biosystems Engineering Design 2**	**4**
BIOE 4240	Graduation Project	3
~~BIOE 4580~~	~~Biosystems Engineering Design Trilogy 3~~	4
BIOE 4900	**Biosystems Engineering Design 3**	**4**
BIOE 4950	**Biosystems Engineering Design 4**	**4**
CHEM 1310	University Chemistry 1	3
CIVL 2790 or MECH 2262	Fluid Mechanics Fundamentals of Fluid Mechanics	4 4
CIVL 2800 or MECH 2222	Solid Mechanics 1 Mechanics of Materials	4 4
CIVL 4050	Engineering Economics	3
ENG 2022	Engineering CAD Technologies for Biosystems	3
MATH 2120	Introduction to Numerical Methods for Engineers	4
MATH 2130	Engineering Mathematical Analysis 1	3
MATH 2132	Engineering Mathematical Analysis 2	3
MBIO 1220 or MBIO 1010	Essentials of Microbiology Microbiology 1	3 3
MECH 3482	Kinematics and Dynamics	4
STAT 2220	Contemporary Statistics for Engineers	3
BIOL 1410 or SOIL 4060	Anatomy of the Human Body Physical Properties of Soil	3 3
BIOL 1412 or BIOE 2600	Physiology of the Human Body Plant and Animal Physiology for Engineers	3 4
One course in Technology and Society (CIVL 4600, ANTH 2430 or ANTH 2500)		3
Two Complementary Studies Electives		6
~~Four~~ **Three** Biosystems Engineering Design Electives (see list below)		~~16~~ **12**
Two Free Electives		6-8
Total credit hours for graduation		149 to 152

Program closures:

The following specializations in the Bachelor of Science in Engineering (Biosystems Engineering) will be closed:

- **Agricultural Specialization**
- **Bioprocessing Specialization**
- **Sustainable Building Systems**

Program proposal:

A new concentration, a **Bioresource Specialization**, in the Bachelor of Science in Engineering (Biosystems Engineering), is outlined on the next pages. Revised content for the Academic Calendar is also provided, to reflect the deletion of the Specializations noted above and the introduction of the new Bioresource Specialization.

Revisions to Specializations – Academic Calendar Content

Proposed Calendar Entry

"Students wishing to pursue more focused studies in a Biosystems Engineering subject area have the choice of completing one of three specializations: 1) Biomedical, 2) Bioresource, or 3) Environmental. To complete a specialization, you will be required to complete two science electives (identified as Group A), three Biosystems Engineering design electives (identified as Group B), two complementary studies electives (identified as Group C), and two free electives (selected from Groups B, C or D). The similarly-themed courses that have been identified for each specialization take the place of two science electives, three Biosystems Engineering design electives, two complementary studies electives, and two free electives in the general Biosystems Engineering program (i.e., completing a specialization does not require any additional coursework).

Detailed Listing of Courses

A detailed listing of the courses required for each specialization is provided on the following pages.

Biomedical Specialization

Students who obtain a grade of "C" or better in the courses listed below will receive a notation of "biomedical specialization" on their transcript at the time of graduation.

Group A: Science Electives (choose both courses)
BIOL 1410 Human Anatomy
BIOL 1412 Physiology of the Human Body

Group B: Biosystems Engineering Design Electives (choose 3 from the list)
BIOE 4414 Imaging and Spectroscopy for Biosystems
BIOE 4610 Design of Assistive Technology Devices
BIOE 4640 Bioengineering Applications in Medicine

Group C: Complementary Studies (choose 2 from the list)
ENG 1900 Occupational Health and Safety Awareness
ENVR 3400 Introduction to Environment and Health
HIST 4660 History of Health and Disease (6) (counts as 2)
HIST 4680 Social History of Health and Disease in Modern Canada (6) (counts as 2)
HNSC 1210 Nutrition for Health and Changing Lifestyles
NATV 3240 Native Medicine and Health
PERS 1200 Physical Activity, Health and Wellness
PHIL 2740 Ethics and Biomedicine (or PHIL 2741 Éthique et biomédicine)

Group D: Free Electives (choose 2 from the list)
(Note: additional courses from Group B or C can be used to fulfill Group D electives.)

BIOE 4650 Textiles in Healthcare and Medical Applications (*Note: new course being proposed*)
BIOL 2410 Human Physiology 1
BIOL 2420 Human Physiology 2
BIOL 4470 Sensory-Motor Physiology
CHEM 2210 Introductory Organic Chemistry 1
CHEM 2360 Biochemistry 1
CHEM 2370 Biochemistry 2
ECE 4610 Biomedical Instrumentation and Signal Processing
KIN 2330 Biomechanics
KIN 4330 Advanced Biomechanics
MECH 4322 Design of Biomechanical Devices
MECH 4360 Biomaterials for Medical Applications
PHYS 3220 Medical Physics and Physiological Measurement
PHYS 4400 Medical Imaging

Note: Special permission may be granted by the Head of Department for courses not appearing on the list for Group C or Group D.

Bioresource Specialization

Students who obtain a grade of "C" or better in the courses listed below will receive a notation of "bioresource specialization" on their transcript at the time of graduation.

Group A: Science Electives (choose both courses)
BIOE 2600 Plant and Animal Physiology for Engineers
SOIL 4060 Physical Properties of Soil

Group B: Biosystems Engineering Design Electives (choose 3 from the list)
BIOE 4412 Design of Light-Frame Building Systems
BIOE 4420 Crop Preservation
BIOE 4440 Bioprocessing for Biorefining
BIOE 4530 Analysis & Design of Biomachinery
BIOE 4590 Management of By-Products from Animal Production
BIOE 4600 Design of Water Management Systems

Group C: Complementary Studies (choose 2 from the list)
ABIZ 1000 Introduction to Agribusiness Management
ABIZ 1010 Economics of World Food Issues and Policies
ABIZ 3530 Farm Management
FOOD 1000 Food Safety Today and Tomorrow
GEOG 2520 Geography of Natural Resources

Group D: Free Electives (choose 2 from the list)
(Note: additional courses from Group B or C can be used to fulfill Group D electives.)

AGRI 1500 Natural Resources and Primary Agricultural Production
AGRI 1510 Production, Distribution and Utilization of Agricultural Products
BIOE 2090 Machinery for Agricultural Production
BIOE 2222 Precision Agriculture Concepts and Applications
ENTM 3170 Crop Protection Entomology
FOOD 3010 Food Process 1
FOOD 4260 Water Management in Food Processing
PLNT 2500 Crop Production
PLNT 2510 Fundamentals of Horticulture
PLNT 3560 Organic Crop Production on the Prairies
SOIL 3520 Pesticides: Environment, Economics and Ethics

Note: Special permission may be granted by the Head of Department for courses not appearing on the list for Group C or Group D.

Environmental Specialization

Students who obtain a grade of "C" or better in the courses listed below will receive a notation of "environmental specialization" on their transcript at the time of graduation.

Group A: Science Electives (choose both courses)
BIOE 2600 Principles of Plant and Animal Physiology for Engineers
SOIL 4060 Physical Properties of Soil

Group B: Biosystems Engineering Design Electives (choose 3 from the list)
BIOE 4460 Air Pollution Assessment and Management
BIOE 4590 Management of By-Products from Animal Production
BIOE 4600 Design of Water Management Systems
BIOE 4620 Remediation Engineering
BIOE 4700 Alternative Building Design

Group C: Complementary Studies (choose 2 from the list)
ABIZ 2390 Introduction to Environmental Economics (or equivalent)
ENVR 1000 Environmental Science 1 – Concepts
ENVR 2000 Environmental Science 2 - Issues
ENVR 2270 Environmental Problem Solving and Scientific Thinking
ENVR 3160 Environmental Responsibilities and the Law
ENVR 3400 Introduction to Environment and Health
ENVR 3750 Green Building and Planning
ENVR 3850 Sustainable Manitoba
ENVR 4050 Ecosystem Management
ENVR 4400 Advanced Issues in Environment and Health
GEOG 2520 Geography of Natural Resources
PHIL 2750 Environmental Ethics

Group D: Free Electives (choose 2 from the list)
(Note: additional courses from Group B or C can be used to fulfill Group D electives.)

AGEC 2370 Principles of Ecology (or equivalent)
CIVL 3690 Environmental Engineering Analysis
CIVL 3700 Environmental Engineering Design
CIVL 4350 Hazardous Waste Treatment
ENVR 2550 Environmental Chemistry
ENVR 3110 Environmental Conservation and Restoration
GEOG 3730 Geographic Information Systems

Note: Special permission may be granted by the Head of Department for courses not appearing on the list for Group C or Group D.

Civil Engineering

Deletion:

CIVL 4330 Graduation Project Cr.Hrs. 4 -4.0

Introduction:

CIVL 4332 Civil Engineering Thesis Project Cr.Hrs. 4 +4.0
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. May not be held with the former CIVL 4330. Prerequisites: Completion of 120 credit hours and [ENG 2030 or ENG 2040 (or the former ENG 2010)].

Modifications:

CIVL 4022 Properties and Design of Concrete Mixtures Cr.Hrs. 4 0.0
Constituent materials (cement, admixtures, etc.) of concrete; performance-based design and control of concrete mixtures; fresh, hardened and durability properties of concrete. Prerequisite: CIVL 2770.

CIVL 4590 Design Project Cr.Hrs. 6 0.0
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. Prerequisites: [ENG 2030 or ENG 2040 (or the former ENG 2010)], CIVL 2840 (or the former CIVL 2820), CIVL 3700, CIVL 3740, CIVL 3750, CIVL 3770, and CIVL 3790.

NET CHANGE IN CREDIT HOURS: 0.0

Electrical and Computer Engineering

Deletions:

ECE 3710 Design of Engineering Software Cr.Hrs. 4 -4.0
ECE 4770 Topics in Electrical Engineering 3 Cr.Hrs. 4 -4.0

Modifications:

ECE 3790 Engineering Algorithms Cr.Hrs. 4 0.0
Numerical algorithms, optimization, statistical description of data random number generation, string processing, geometric algorithms, algorithm machines, dynamic programming and NP complete problems. Pre- or corequisite: COMP 2140 and MA TH 3132 (or the former MATH 3100).

ECE 4250 Digital Communications Cr.Hrs. 4 0.0
Transmission of digital data; error rates, interference. Information measures, information rate and channel capacity. Coding. Prerequisite: ECE 4260 and ECE 3780.

ECE 4600 Group Design Project Cr.Hrs. 6 0.0
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 gives students an exposure to the concepts of team work and project management. Prerequisites: [ENG 2030 or ENG 2040 or the former ENG 2010] and ECE 3780 and [(ECE 3580 (or the former ECE 2130), ECE 3720, ECE 3670 and ECE 3610) or (ECE 3700, ECE 3760 and ECE 3740)].

NET CHANGE IN CREDIT HOURS: -8.0

Program modifications:

Modifications to the **Bachelor of Science in Engineering (Computer Engineering)** are outlined on the next pages.

Computer Engineering Courses Requirements

ANTH 2430	Ecology, Technology and Society	3
CHEM 1300	Structure and Modelling of Chemistry	3
CIVL 4050	Engineering Economics	3
COMP 1012	Computer Programming for Scientists and Engineers	3
COMP 1020	Computer Science 2	3
COMP 2140	Data Structures and Algorithms	3
COMP 3430	Operating Systems	3
ENG 1430	Design in Engineering	3
ENG 1440	Introduction to Statics	3
ENG 1450	Introduction to Electrical and Computer Engineering	3
ENG 1460	Introduction to Thermal Sciences	3
ENG 2030	Engineering Communication: Strategies for the Profession	3
or		
ENG 2040	Engineering Communication: Strategies, Practice, and Design	3
~~ENGL 1400~~	~~Thematic Approaches to the Study of Literature (or equivalent)~~	~~3~~
MATH 1210	Techniques of Classical and Linear Algegra	3
MATH 1510	Applied Calculus 1 (or equivalent)	3
MATH 1710	Applied Calculus 2 (or equivalent)	3
MATH 2130	Engineering Mathematical Analysis	3
MATH 2132	Engineering Mathematical Analysis 2	3
MATH 3120	Applied Discrete Mathematics	3
MATH 3132	Engineering Mathematical Analysis 3	3
PHIL 1290	Critical Thinking**	3
PHYS 1050	Physics 1: Mechanics	3
PHYS 2152	Modern Physics for Engineers	3
STAT 2220	Introduction to Probability and Statistics	3
	Written English Course*	**3**

ECE 2160	Electronics 2E	5
ECE 2220	Digital Logic Systems	5
ECE 2262	Electric Circuits	4
ECE 3610	Microprocessor Systems	4
~~ECE 3670~~	~~Electronics 3E~~	4
ECE 3700	Telecommunication Network Engineering	4
ECE 3740	Systems Engineering Principles 1	4
ECE 3760	Digital Systems Design 1	4
ECE 3780	Signal Processing 1	4
ECE 3790	Engineering Algorithms	4
ECE 4150	Control Systems	4
or		
ECE 4260	Communication Systems	4
ECE 4240	Microprocessor Interfacing	4
ECE 4830	Signal Processing 2	4
ECE 4600	Group Design Project	6

Plus 1 Complementary Studies Electives.
Plus 2 Natural Science Electives from the approved list.
~~Plus 4 Technical Electives from the approved list.~~
Plus 5 Technical Electives from the approved list.

*** Course selected from the list of approved Written English Courses for Engineering Students given in Section 4.2 Preliminary Engineering Program.**

** PHIL 1290 Critical Thinking is the recommended complementary studies elective. However, students may select any course from the Faculty of Arts or the Faculty of Management at the 1000 level or above, with the exception of ARTS 1110 Introduction to the University which may not be held for credit within the Faculty of Engineering.

13 November 2015

Computer Engineering Technical Electives

Students may select their five technical electives from the following approved list of courses from Computer Engineering, Electrical Engineering, or Computer Science, with the only limitations that *no more than two* may come for the list of Approved Electrical Engineering Electives.

Computer Engineering Electives

ECE 3750	Systems Engineering Principles 2
ECE 3770	Digital Systems Design 2
ECE 4180	Introduction to Robotics
ECE 4250	Digital Communications
ECE 4440	Computer Vision
ECE 4520	Simulation and Modelling
ECE 4530	Parallel Processing
ECE 4540	Wireless Networks
ECE 4740	Digital Systems Implementation
ECE 4850	Contemporary Topics in Electrical and Computer Engineering 1
ECE 4860	Contemporary Topics in Electrical and Computer Engineering 2
ECE 4870	Contemporary Topics in Electrical and Computer Engineering 3
ECE 4880	Contemporary Topics in Electrical and Computer Engineering 4

Approved Electrical Engineering Electives ~~(max 1)~~ (max 2)

ECE 3540	Advanced Circuit Analysis and Design
ECE 3580	Foundations of Electromagnetics
ECE 3600	Physical Electronics
ECE 3720	Electric Power and Machines
ECE 4150	Control Systems
ECE 4160	Control Engineering
ECE 4260	Communication Systems
ECE 4390	Engineering Computations 4E
ECE 4610	Biomedical Instrumentation and Signal Processing
ECE 3670	**Electronics 3E**
ECE 4100	**Microelectronic Fabrication**

Approved Computer Science Electives

COMP 2150	Object Orientation
COMP 2160	Programming Practices
COMP 3010	Distributed Computing
COMP 3020	Human-Computer Interaction 1
COMP 3190	Introduction to Artificial Intelligence
COMP 3290	Introduction to Compiler Construction
COMP 3380	Database Concepts and Usage
COMP 3490	Computer Graphics 1
COMP 4020	Human-Computer Interaction 2
COMP 4140	Introduction to Cryptography and Cryptosystems
COMP 4360	Machine Learning
COMP 4490	Computer Graphics 2
COMP 4580	Computer Security
COMP 3350	**Software Engineering 1**
COMP 4190	**Artificial Intelligence**
COMP 4200	**Expert Systems**
COMP 4350	**Software Engineering 2**
COMP 4380	**Database Implementation**
COMP 4430	**Operating Systems 2**
COMP 4710	**Introduction to Data Mining**

Program closure:

Machine Vision Focus Area (Concentration) in the Bachelor of Science in Engineering (Computer Engineering)

Program modifications and Program Proposal:

Modifications to the following focus areas in the **Bachelor of Science in Engineering (Electrical Engineering)**

- **Embedded Systems Focus Area**
- **Communication Networks Focus Area;**

and

A program proposal for a **Software Engineering Focus Area** in the Bachelor of Science in Engineering (Computer Engineering) are described on the next pages.

Computer Engineering Focus Areas (Current)

COMMUNICATION NETWORKS FOCUS AREA (6 COURSES)

ECE 3700 Telecommunications Network Engineering*
ECE 3790 Engineering Algorithms*
ECE 4240 Microprocessor Interfacing*
ECE 4260 Communications Systems*
2 Electives (as specified in this Focus Area)

EMBEDDED SYSTEMS FOCUS AREA (6 COURSES)

COMP 3430 Operating Systems*
ECE 3740 Systems Engineering Principles 1*
ECE 3760 Digital System Design 1*
ECE 4240 Microprocessor Interfacing*
ECE 4740 Digital System Implementation
1 Elective (as specified in this Focus Area)

MACHINE VISION FOCUS AREA (6 COURSES)

COMP 3490 Computer Graphics 1
ECE 3790 Engineering Algorithms*
ECE 4440 Computer Vision
ECE 4830 Signal Processing 2*
2 Electives (as specified in this Focus Area)

*This course is already required as part of the regular program requirements for Computer Engineering.

Computer Engineering Focus Areas (Proposed)

Computer Networks and Communications Focus Area

ECE 4260 Communication Systems
CNC Elective
CNC Elective
CNC Elective

Computer Networks and Communications (CNC) Electives (choose 3)

ECE 4250 Digital Communication
ECE 4520 Simulation and Modelling
ECE 4540 Wireless Networks
ECE 4870 Computer Communication Networks
COMP 3010 Distributed Computing
COMP 4140 Introduction to Cryptography and Cryptosystems
COMP 4580 Computer Security

Embedded Systems Focus Area

ECE 4150 Control Systems
ES Elective
ES Elective
ES Elective

Embedded Systems (ES) Electives List (choose 3)

ECE 3770 Digital Systems Design 2
ECE 4180 Introduction to Robotics
ECE 4440 Computer Vision
ECE 4610 Biomedical Instrumentation and Signal Processing
ECE 4740 Digital System Implementation
ECE 4850 Modern Computing Systems
COMP 3020 Human-Computer Interaction 1
COMP 4140 Introduction to Cryptography and Cryptosystems
COMP 4580 Computer Security

Software Engineering Focus Area

COMP 3350 Software Engineering 1
SE Elective
SE Elective
SE Elective

Software Engineering (SE) Electives (choose 3)

ECE 3750 Systems Engineering Principles 2
ECE 4530 Parallel Processing
COMP 3010 Distributed Computing
COMP 3020 Human-Computer Interaction 1
COMP 3380 Databases: Concepts and Usage
COMP 4350 Software Engineering 2
COMP 4580 Computer Security
COMP 4710 Introduction to Data Mining

Program modifications:

Modifications to the **Bachelor of Science in Engineering (Electrical Engineering)** and to the following focus areas within the program are outlined on the next pages:

- **Power and Energy Systems Area**
- **Wireless Communication Devices Area** (to be renamed, Communication Devices Focus Area)
- **Engineering Physics Area**

Electrical Engineering Technical Electives (Current)

(7 required) (see Note 3, 4)

GROUP A (minimum 4 required)

ECE 3650 Electric Machines	5
ECE 4100 Microelectronic Fabrication	4
ECE 4140 Power Transmission Lines	4
ECE 4160 Control Engineering	4
ECE 4200 Electric Filter Design	4
ECE 4250 Digital Communications	4
ECE 4270 Antennas	4
ECE 4280 Engineering Electromagnetics	4
ECE 4290 Microwave Engineering	4
ECE 4300 Electrical Energy Systems 1	4
ECE 4310 Electrical Energy Systems 2	4
ECE 4360 High Voltage Engineering	4
ECE 4370 Power Electronics	4
ECE 4390 Engineering Computations 4E	4
ECE 4420 Digital Control	4
ECE 4580 Optoelectronics	4
ECE 4610 Biomedical Engineering and Instrumentation	4
ECE 4830 Signal Processing 2	4
ECE 4850 Contemporary Topics in Electrical and Computer Engineering 1	4
ECE 4860 Contemporary Topics in Electrical and Computer Engineering 2	4
ECE 4870 Contemporary Topics in Electrical and Computer Engineering 3	3
ECE 4880 Contemporary Topics in Electrical and Computer Engineering 4	3

GROUP B TECHNICAL ELECTIVE COURSES:

COMP 2140 Data Structures and Algorithms	3
COMP 3190 Intro. Artificial Intelligence	3
COMP 4180 Intelligent Mobile Robotics	3
COMP 4360 Machine Learning	3
ECE 3700 Telecommunication Networks Engineering	4
ECE 3760 Digital System Design 1	4
ECE 3770 Digital System Design 2	4
ECE 4240 Microprocessor Interfacing	4
ECE 4440 Computer Vision	4
ECE 4520 Simulation & Modelling	4
ECE 4530 Parallel Processing	4
ECE 4540 Wireless Networks	4
ECE 4740 Digital System Implementation	4
MATH 3120 Applied Discrete Mathematics	3
MATH 3340 Complex Analysis 1	3
MATH 3460 Partial Differential Equations	3
PHYS 2260 Optics	3
PHYS 3220 Medical Physics and Physiological Measurement	3
PHYS 3640 Electro- and Magnetodynamics and Special Relativity	3
PHYS 4590 Advanced Optics	3

Notes:

3. A minimum of 4 electives are required from Group A; the other 3 electives may be taken from either Group A or B unless the student completes a Focus Area.
4. 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 online timetables on the Department website. 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.

Electrical Engineering Technical Electives (Proposed)

(7 required) (see Notes 3 and 4)

GROUP A QUALIFIED ENGINEERING DESIGN ELECTIVE COURSES: (3 required)

ECE 4160 Control Engineering	4
ECE 4250 Digital Communications	4
ECE 4290 Microwave Engineering	4
ECE 4830 Signal Processing 2	4
ECE 4370 Power Electronics	4

GROUP B TECHNICAL ELECTIVE COURSES:

ECE 3700 Telecommunication Networks Engineering	4
ECE 3650 Electric Machines	5
ECE 3770 Digital System Design 2	4
ECE 4100 Microelectronic Fabrication	4
ECE 4140 Power Transmission Lines	4
ECE 4180 Introduction to Robotics	4
ECE 4200 Electric Filter Design	4
ECE 4240 Microprocessor Interfacing	4
ECE 4270 Antennas	4
ECE 4280 Engineering Electromagnetics	4
ECE 4300 Electrical Energy Systems 1	4
ECE 4310 Electrical Energy Systems 2	4
ECE 4360 High Voltage Engineering	4
ECE 4390 Engineering Computations 4E	4
ECE 4420 Digital Control	4
ECE 4440 Computer Vision	4
ECE 4520 Simulation & Modelling	4
ECE 4530 Parallel Processing	4
ECE 4540 Wireless Networks	4
ECE 4580 Optoelectronics	4
ECE 4610 Biomedical Engineering and Instrumentation	4
ECE 4740 Digital System Implementation	4
ECE 4850 Contemporary Topics in Electrical and Computer Engineering 1	4
ECE 4860 Contemporary Topics in Electrical and Computer Engineering 2	4
ECE 4870 Contemporary Topics in Electrical and Computer Engineering 3	3
ECE 4880 Contemporary Topics in Electrical and Computer Engineering 4	3
COMP 1020 Computer Science 2	3
COMP 2140 Data Structures and Algorithms	3
COMP 3190 Intro. Artificial Intelligence	3
COMP 4360 Machine Learning	3
MATH 3120 Applied Discrete Mathematics	3
MATH 3340 Complex Analysis 1	3
MATH 3460 Partial Differential Equations	3
PHYS 2260 Optics	3
PHYS 3220 Medical Physics and Physiological Measurement	3
PHYS 3640 Electro- and Magnetodynamics and Special Relativity	3
PHYS 4590 Advanced Optics	3

Notes:

3. A minimum of 3 electives are required from Group A; the other 4 electives may be taken from either Group A or B unless the student completes a Focus Area.
4. 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 online timetables on the Department website. 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.

4.8.4 Electrical Engineering Focus Areas (Current)

Students wishing to pursue more focused studies in an Electrical Engineering subject/research area have the choice of doing so through a recognized Focus Area. Courses taken towards a Focus Area take the place of some or all of the Technical Electives required in the Electrical Engineering program. See http://umanitoba.ca/ece/curr_students/undergrad/ee-focus-areas.html for a detailed description of each area and the courses required.

Power and Energy Systems (PES) (5 courses)

ECE 3650 Electric Machines
4 PES Technical Electives (3 from Group 1; 1 from Group 1 or 2)

Wireless Communication Devices (WCD) (5 courses)

5 WCD Technical Electives (3 from Group 1; 2 from Group 1 or 2)

Engineering Physics** (7 courses; 1 counts as a Science Elective)

ECE 4580 Optoelectronics
PHYS 2380 Quantum Physics 1
PHYS 2650 Classical Mechanics 1
PHYS 3670 Classical Thermodynamics
PHYS 3680 Statistical Mechanics
2 Eng Physics Technical Electives (1 from Group 1; 1 from Group 1 or 2)

Biomedical** (6 courses; 1 counts as Science Elective)

ECE 4610 Biomedical Instrumentation and Signal Processing
BIOL 1410 Anatomy of the Human Body
BIOL 1412 Physiology of the Human Body OR MBIO 1220 Essentials of Microbiology
BIOE 2590 Biology for Engineers OR BIOL 1030 Biology 2: Biological Diversity, Function and Interactions
Electives (1 from Group 1; 1 from Group 1 or 2)

**The Physics and Biomedical Focus Areas require students to complete 1 extra course in addition to the 45 courses needed to fulfill regular program requirements. Talk to the Department for more details.

Admission to Medicine

The Biomedical Focus Area provides the background to meet eligibility requirements for admission into the Faculty of Medicine when specific Biomedical Technical Electives are completed. Please see the website for details:

http://umanitoba.ca/ece/curr_students/undergrad/biomed-focus-area.html

4.8.4 Electrical Engineering Focus Areas (Proposed)

Students wishing to pursue more focused studies in an Electrical Engineering subject/research area have the choice of doing so through a recognized Focus Area. Courses taken towards a Focus Area take the place of some or all of the Technical Electives required in the Electrical Engineering program.

POWER AND ENERGY SYSTEMS FOCUS AREA

Requirements:

To complete the Power and Energy Systems Focus the four prescribed courses must be taken. One of the three Power and Energy Systems Technical Elective courses must also be taken. To complete the program requirements two additional courses must be selected from the elective courses listed in the Electrical Engineering Standard Program.

PRESCRIBED POWER AND ENERGY SYSTEMS COURSES:

ECE 3650 Electric Machines
ECE 4300 Electrical Energy Systems 1
ECE 4370 Power Electronics
One additional course from the list of Group A Qualified Design Elective Courses found in the Electrical Engineering Standard Program.

POWER AND ENERGY SYSTEMS TECHNICAL ELECTIVE COURSES: (1 required)

ECE 4140 Power Transmission Lines
ECE 4310 Electrical Energy Systems 2
ECE 4360 High Voltage Engineering

COMMUNICATION DEVICES FOCUS AREA

Requirements:

To complete the Communication Devices Focus the three prescribed courses must be taken. Two of the five Communication Devices Technical elective courses must also be taken. To complete the program requirements two additional courses must be selected from the elective courses listed in the Electrical Engineering Standard Program

PRESCRIBED COMMUNICATION DEVICES COURSES:

ECE 4270 Antennas
ECE 4290 Microwave Engineering
ECE 4250 Digital Communications or ECE 4830 Signal Processing 2

COMMUNICATION DEVICES ELECTIVE COURSES: (2 required)

ECE 4250 Digital Communications
ECE 4280 Engineering Electromagnetics
ECE 4580 Optoelectronics
ECE 4830 Signal Processing 2
ECE 4860 Design of RF Devices and Wireless Systems

ENGINEERING PHYSICS FOCUS AREA

Requirements:

In the standard Electrical Engineering program, seven Technical Elective Courses and one Natural Sciences Elective are required. To complete Engineering Physics focus area, students are required to take a total of 7 courses as indicated below including the 4 prescribed Engineering Physics courses. Three further courses must be taken from the list of Engineering Physics Elective courses. To complete the program requirements a course must be selected from the technical electives listed in the Electrical Engineering Standard Program.

PRESCRIBED ENGINEERING PHYSICS COURSES:

ECE 4270 Antennas
ECE 4580 Optoelectronics
PHYS 2380 Quantum Physics 1
PHYS 2650 Classical Mechanics 1

ENGINEERING PHYSICS TECHNICAL ELECTIVE COURSES: (3 required)

ECE 4860 Materials Characterization
PHYS 2260 Optics
PHYS 3220 Medical Physics and Physiological Measurement
PHYS 3380 Quantum Physics 2
PHYS 3430 Honours Physics Laboratory
PHYS 3570 Physics of Materials 1
PHYS 3640 Electro- and Magnetodynamics and Special Relativity
PHYS 3650 Classical Mechanics 2
PHYS 3670 Classical Thermodynamics
PHYS 3680 Statistical Mechanics
PHYS 4520 Introduction to Solid State Physics
PHYS 4590 Advanced Optics

BIOMEDICAL FOCUS AREA

Requirements:

To complete the focus area, students are required to take a total of 6 courses as indicated below. Of these, 4 replace general technical electives and one is in place of the Natural Science Elective in the Electrical Engineering program (the 6th course is over and above the basic course requirements for the EE program). To complete the program requirements 3 additional courses must be selected from the technical electives listed in the Electrical Engineering Standard Program.

PRESCRIBED BIOMEDICAL COURSES:

ECE 4610 Biomedical Instrumentation and Signal Processing
BIOL 1410 Anatomy of the Human Body
BIOL 1412 Physiology of the Human Body
  or MBIO 1220 Essentials of Microbiology
BIOE 2590 Biology for Engineers
  or BIOL 1030 Biology 2: Biological Diversity, Function and Interactions

BIOMEDICAL GROUP A ELECTIVE COURSES: (1 Required)

ECE 4860 Biomedical Optics
PHYS 3220 Medical Physics and Physiological Measurement
PHYS 4300 Microfluidics for Biology
CHEM 2370 Biochemistry 2: Catabolism, Synthesis, Information Pathways

BIOMEDICAL GROUP B ELECTIVE COURSES: (Choose at most 1)

BIOL 1412 Physiology of the Human Body
MBIO 1220 Essentials of Microbiology
BIOE 3320 Engineering Properties of Biological Materials
BIOE 4610 Design of Assistive Technology Devices
CHEM 1310 Introduction to Physical Chemistry
CHEM 2210 Introduction to Organic Chemistry 1: Structure and Function
CHEM 2360 Biochemistry 1: Biomolecules and Introduction to Metabolic Energy

Admission to Medicine

The Biomedical Focus Area provides the background to meet eligibility requirements for admission into the College of Medicine within the Faculty of Health Sciences when specific Biomedical Technical Electives are completed. Please see the website for details:

http://umanitoba.ca/ece/curr_students/undergrad/biomed-focus-area.html

Mechanical Engineering

Deletion:

MECH 4160 Graduation Thesis Cr.Hrs. 3 -3.0

Modifications:

MECH 2262 Fundamentals of Fluid Mechanics Cr.Hrs. 4 0.0
Fundamental concepts used in the analysis of fluid behaviour, pressure in stationary fluids, forces on submerged surfaces, buoyancy, integral methods, Bernoulli equation, pipeline analysis. May not be held with the former MECH 2260. Prerequisites: PHYS 1050 and ENG 1440 and ENG 1460 and MATH 2130 (or the former MATH 2110). Pre- or co-requisite: MATH 2132 (or the former MATH 2100).

MECH 3460 Heat Transfer Cr.Hrs. 4 0.0
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. May not be held with the former MECH 3470. Prerequisites: MATH 3132 (or the former MATH 3100) and ENG 1460. Pre- or co-requisite: MECH 3492 (or the former MECH 3490).

MECH 3492 Fluid Mechanics and Applications Cr.Hrs. 4 0.0
The angular momentum principle, introduction to differential analysis of fluid motion, internal and external incompressible viscous flow, introduction to CFD, fluid machinery, fluid coupling and torque couplings and torque converters. May not be held with the former MECH 3490. Prerequisites: MECH 2262 (or the former MECH 2260). Pre- or co-requisite: MATH 2120.

MECH 3980 Mechanical Laboratory Cr.Hrs. 4 0.0
Laboratory course on topics that compliment and reinforce concepts developed in second and third year mechanical engineering courses. Comprehensive experiments followed by submission of laboratory reports will be required. May not be held with MECH 4980 and MECH 4990. Prerequisites: [ENG 2030 or ENG 2040 (or the former ENG 2010)] and MECH 2202 (or the former MECH 2200) and MECH 2222 (or the former MECH 2220) and MECH 2262 (or the former MECH 2260). Pre- or co-requisites: MECH 3420 and MECH 3460 (or the former MECH 3470) and MECH 3502 (or the former MECH 3500).

MECH 4162 Thesis Cr.Hrs. 6 0.0
The course will give students the opportunity to gain a research or design experience in their area of interest. Thesis topics must be approved by the head of the department or designate. RESTRICTION: Only students with a year class distinction of 4 or higher in Mechanical Engineering may register for this course. May not be held with the former MECH 4160. Prerequisites: ENG 2030 or ENG 2040 (or the former ENG 2010) and eligible to graduate.

MECH 4292 IC Engines Cr.Hrs. 4 0.0
Thermodynamics of internal combustion engines and engine cycles; fuels and fuel systems; combustion; emission control systems; electronic engine controls and strategies; intake and exhaust systems; camshafts and valvetrain dynamics; balancing; performance and testing. May not be held with MECH 4290. Prerequisite: MECH 2202 (or the former MECH 2200).

MECH 4812 Automotive Engineering Cr.Hrs. 4 0.0
Introduction to vehicle dynamics; power trains; braking systems; road loads, aerodynamics and fuel efficiency; ride and suspension systems; steering systems; tire properties and dynamics; structural analysis and crash safety; performance vehicle design. May not be held with the former MECH 4810. Prerequisite: MECH 3502 (or the former MECH 3500). Pre- or co-requisite: MECH 3420.

MECH 4860 Engineering Design Cr.Hrs. 5 0.0
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. Prerequisite: ENG 2030 or ENG 2040 (or the former ENG 2010).

NET CHANGE IN CREDIT HOURS: -3.0

Faculty of Health Sciences

Interdisciplinary Health Programs

Program modifications

Modifications to the following programs are outlined on the next pages:

- **Bachelor of Health Sciences**
- **Bachelor of Health Studies**

4.5 Interdisciplinary Health Program

Program Chairperson: Shahin Shooshtari

Students registered in the Bachelor of Health Sciences can choose to complete a Biomedical Sciences Concentration. A written statement must be submitted to the Student Advisor declaring an interest in obtaining the concentration, normally by May 15, following completion of HEAL 3610. Students will be informed whether they have been accepted into the concentration, normally by mid-June.

Eligibility for the concentration:
In order to be eligible for the concentration students require a minimum grade of B in HEAL 3610. Normally, enrolment will be limited to eligible students who have achieved the highest Degree Grade Point Averages after completion of HEAL 3610.

This curriculum consists of two degree programs: the Bachelor in Health Sciences and the Bachelor in Health Studies. These degree programs offer new approaches to planning, administration and delivery of health services by fully integrating biological science and social science in understanding the health of people. Students will gain experience of dealing with health issues at the individual, community and institutional levels, as well as across the lifespan. The two degrees can serve as the foundation for careers in health care teams and community health management. They offer a general course of study, not a professional status. Students can use both degree programs to build the knowledge and prerequisites for entry into professional programs in the health and social science fields, such as medicine, dentistry and others. The Bachelor of Health Sciences degree provides students with an interdisciplinary background and skill set that will contribute to their preparation for a future in biomedical and health-related careers. This interdisciplinary skill set is seen as advantageous for future physicians and students applying for professional education.

4.5.1 Health Sciences Degree (Current Program Chart)

Course Number	Course Name	Credit Hours
First year/foundation courses:		
BIOL 1020	Biology 1: Principles and Themes	3
BIOL 1030	Biology 2: Biological Diversity, Function and Interaction	3
BIOL 1410	Anatomy of the Human Body	3
BIOL 1412	Physiology of the Human Body	3
CHEM 1300	University 1: Structure and Modeling in Chemistry	3
CHEM 1310	University 1: Introduction to Physical Chemistry	3
PSYC 1200	Introduction to Psychology	6
STAT 1000	Basic Statistical Analysis 1	3
ECON 1210	Introduction to Canadian Economic Issues & Policies	3
FMLY 3780 *or* FMLY 3790	Introduction to the Development of *or* Evaluation of Programs for Children and Families	3
GMGT 1010 *or* GMGT 2070	Business and Society *or* Organizational Behaviour	3
HNSC 1210	Nutrition for Health and Changing Lifestyles	3

HMEC 3000	Introduction to Social Epidemiology	3
HMEC 2000 *or* PSYC 2250	Research Methods and Presentation *or* Introduction to Psychological Research	3
NATV 1220 *or* NATV 1240	Native Peoples of Canada 1 *or* 2	3
PHIL 1290	Critical Thinking	3
	Take 6 credit hours from the following 9 credit hours:	6
GEOG 4290	Geographies of Health and Health Care	3
PHIL 2740	Ethics in Biomedicine	3
SOC 2490	Sociology of Health and Illness	3
HEAL 2600	Integration of Health Determinants of Individuals	3
HEAL 3600	Integration of Health Determinants for Communities	3
HEAL 4600	Integration of Health Determinants for Canada and the World	3
HEAL 4620	Health Sciences Capstone	3
	Elective Courses: To be taken from an approved list of Science courses. At least 24 credit hours must be from the 3000 or 4000 level. A minimum of 21 of the 36 credit hours must be from the Sciences. Approved list on Faculty website.	36
	Free Electives	15

4.5.2 Health Studies Degree (Current Program Chart)

Students Admitted in September 2012 or Later

Course Number	Course Name	Credit Hours
ANTH 1210	Human Origins and Antiquity	3
ANTH 1220	Cultural Anthropology	3
BIOL 1020	Biology 1: Principles and Themes	3
BIOL 1030	Biology 2: Biological Diversity, Function and Interaction	3
PSYC 1200	Introduction to Psychology	6
SOC 1200	Introduction to Sociology	6
STAT 1000	Basic Statistical Analysis 1	3
ECON 1210	Introduction to Canadian Economic Issues & Policies	3
FMLY 3780 *or* FMLY 3790	Introduction to the Development of *or* Evaluation of Programs for Children and Families	3
GMGT 1010 *or* GMGT 2070	Business and Society *or* Organizational Behaviour	3
HNSC 1210	Nutrition for Health and Changing Lifestyles	3
HMEC 3000	Introduction to Social Epidemiology	3

HMEC 2000 *or* PSYC 2250	Research Methods and Presentation *or* Introduction to Psychological Research	3
NATV 1220 *or* NATV 1240	Native Peoples of Canada 1 *or* 2	3
PHIL 1290	Critical Thinking	3
	Take 6 credit hours from the following 9 credit hours:	6
GEOG 4290	Geographies of Health and Health Care	3
PHIL 2740	Ethics in Biomedicine	3
SOC 2490	Sociology of Health and Illness	3
HEAL 2600	Integration of Health Determinants of Individuals	3
HEAL 3600	Integration of Health Determinants for Communities	3
HEAL 4600	Integration of Health Determinants for Canada and the World	3
HEAL 4610	Health Studies Capstone	3
	Elective Courses: To be taken from an approved list of Social Science courses. At least 24 credit hours must be from the 3000 or 4000 level. A minimum of 21 of the 36 credit hours must be from the Social Sciences. Approved list on Faculty website.	36
	Free Electives	15

Revised Program Chart

4.5.1 Health Sciences Degree (Total credit hours: 120)

Year 1	Year 2	Years 3 and 4	
CHEM 1300 CHEM 1310 BIOL 1020 BIOL 1030 BIOL 1410 BIOL 1412 STAT 1000 PSYC 1200 **3 Credit hours of Free electives**	PHIL 1290 ECON 1210 GMGT 1010 or 2070 HNSC 1210 FMLY 3780 or 3790 PSYC 2250 or HMEC 2000 NATV 1220 or 1240 HMEC 3000 **6 credit hours chosen from** PHIL 2740 GEOG 4290 SOC 2490	HEAL 4620 **36 credit hours from the approved list of electives, of which at least 24 credit hours must be at the 3000 and 4000 level, and including:** At least 21 credit hours of Science electives[24] At least 12 credit hours of Social Sciences electives **12 credit hours of Free electives**	
	HEAL 2600[1] HEAL 3600[1] HEAL 4600[1]		
30 Credit Hours	**90 Credit Hours**		
Biomedical Sciences Concentration[2,3,4]		**Year 3**	**Year 4**
		BIOL 2520 **CHEM 2360** **HEAL 3610**	**HEAL 4630[5]** **HEAL 4640[5]**

NOTES:

1. HEAL 2600, HEAL 3600, and HEAL 4600 are offered in a case-study format in years 2, 3 and 4.

2. It is recommended that students accepted into the Biomedical Sciences Concentration complete PHAC 4030 and PHAC 4040 as 6 credit hours of the Science electives.

3. Only students registered in the B.H.Sc. degree program may complete a Biomedical Sciences Concentration.

4. Courses required for the Biomedical Medical Sciences Concentration would count toward 18 of the 36 credit hours of approved elective course work to be completed in Years 3 and 4 of the B.H.Sc. degree.

5. Registration in HEAL 4630 and HEAL 4640 is restricted to students accepted into the Biomedical Sciences Concentration and requires permission of the Instructor. Registration in these courses must be confirmed by the Student Advisor.

Revised Program Chart

4.5.2 Health Studies Degree (Total credit hours: 120)

Year 1	Year 2	Years 3 and 4
SOC 1200 PSYC 1200 ANTH 1210 ANTH 1220 STAT 1000 BIOL 1020 BIOL 1030 **3 credit hours of Free electives**	PHIL 1290 ECON 1210 GMGT 1010 or 2070 HNSC 1210 FMLY 3780 or 3790 PSYC 2250 or HMEC 2000 NATV 1220 or 1240 HMEC 3000 **6 credit hours chosen from** PHIL 2740 GEOG 4290 SOC 2490	HEAL 4610 **36 credit hours of electives from the approved list of electives of which at least 24 credit hours must be at the 3000 and 4000 level, and including** At least 21 credit hours of Social Sciences electives At least 12 credit hours of Science electives **12 additional credit hours of Free electives**
	HEAL 2600 HEAL 3600 HEAL 4600	
30 credit hours	**90 credit hours**	

~~Notes:~~

Academic Advising

1. Before entering continuing years in the Interdisciplinary Health Program, the overall program must be planned with academic advice. Program advising begins in early April.
2. Students are strongly encouraged to seek the advice of Academic Advisors in the Interdisciplinary Health Program in order to plan their programs to develop pathways of knowledge that will assist them in moving toward careers in chosen fields.
3. Students in both programs are required to structure their course selections as follows: In Health Sciences, students are required to take 21 credit hours of science and 12 credit hours of social science courses from 36 credit hours of Approved Electives. In Health Studies, students are required to take 21 credit hours of social science and 12 credit hours of science courses from 36 credit hours of Approved Electives.
4. Students in both programs are required to take at least 24 credit hours at the 3000 and 4000 levels from 36 credit hours of Approved Electives. Students should consult the University Calendar to ensure that they have the appropriate pre- or corequisites before they attempt to register in a course. A number of courses are cross-listed between departments/faculties. The Academic Advisor will give additional guidance.

~~*Courses from the approved program electives list for the Interdisciplinary Health Degree Program are listed online at: http://umanitoba.ca/faculties/human_ecology/programs/idh/bhsciences/429.html.~~

Approved Electives

List of approved Science and Social Sciences electives for the B.H.Sc. and the B.H.St. programs: (See the pages that follow.)

Sciences Orientation Electives

Senate Approved May 2014

Revisions to the Senate Approved May 2014 List have been approved by the IHP Council and the Faculty of Health Sciences Council

Faculty of Agricultural and Food Sciences

FOOD 4150 Food Microbiology 1
FOOD 4540 Functional Foods and Nutraceuticals
HMEC 4090 Practicum in Human Ecology
HNSC 2130 Nutrition through the Life Cycle
HNSC 2140 Basic Principles of Human Nutrition
HNSC 3300 Vitamins and Minerals in Human Health
HNSC 3310 Macronutrients and Human Health
HNSC 3320 Nutrition Education and Dietary Change
HNSC 3342 Management for Food and Nutrition Professionals
HNSC 3870 Food Geographies (cross-listed with GEOG 3870)
HNSC 4290 Food, Nutrition and Health Policies
HNSC 4300 Community Nutrition Intervention
HNSC 4310 Nutrition and the Elderly
HNSC 4340 Maternal and Child Nutrition
HNSC 4350 Nutrition in Exercise and Sport
HNSC 4540 Functional Foods and Nutraceuticals

TXSC 3500 Textiles for the Healthcare Sector
TXSC 4500 Advanced Textiles for the Healthcare Sector

Faculty of Arts

~~PSYC 3460 Abnormal Psychology~~
PSYC 2290 Child Development
PSYC 2360 Brain and Behaviour
PSYC 2490 Abnormal Psychology
PSYC 3430 Sensory Process

I H Asper School of Business

MIS 2000 Information Systems for Management
MIS 3500 Database Management Systems
MIS 3510 Systems Analysis and Design
MIS 3520 Data Communications and Knowledge

Clayton H Riddell Faculty of Environment, Earth and Resources
EER 1000 Earth: A User's Guide
ENVR 1000 Environmental Science 1: Concepts
ENVR 3400 Introduction to Environment and Health
ENVR 4400 Advanced Issues in Environment and Health
GEOG 1280 Introduction to Human Geography
GEOG 1290 Introduction to Physical Geography
GEOG 3870 Food Geographies (cross-listed with HNSC 3870)

Faculty of Kinesiology and Recreation Management
KIN 2610 Health and Physical Aspects of Aging
KIN 2320 Human Anatomy

~~Faculty~~ College of Medicine
BGEN 3020 Introduction to Human Genetics
PHAC 4030 Drugs in Human Disease I
PHAC 4040 Drugs in Human Disease II
HEAL 3610 Mechanisms of Disease I

~~Faculty~~ College of Nursing
NURS 2610 Health and Physical Aspects of Aging

Faculty of Science
BIOL 2300 Principles of Ecology
BIOL 2410 Human Physiology 1
BIOL 2420 Human Physiology 2
BIOL 2500 Genetics 1
BIOL 2520 Cell Biology
BIOL 2380 Introductory Toxicology
BIOL 2390 Introduction Ecology
BIOL 2540 Developmental Biology
BIOL 3290 Medicinal and Hallucinogenic Plants
BIOL 3560 Comparative Animal Histology
BIOL 3270 Introduction to Parasitology
BIOL 3470 Environmental Physiology of Animals 1
BIOL 3500 Genetics 2
BIOL 3540 Advanced Developmental and Cellular Biology
BIOL 4542 Genes and Development

CHEM 1320 University 1 Chemistry: An Introduction to Organic Chemistry (NOTE: may not be held with 2210/2220)
CHEM 2210 Introductory Organic Chemistry 1: Structure and Function

CHEM 2220 Introductory Organic Chemistry 2: Reactivity and Synthesis
CHEM 2360 Biochemistry 1: Biomolecules and an Introduction to Metabolic Energy
CHEM 2370 Biochemistry 2: Catabolism, Synthesis, and Information Pathways
CHEM 2770 Elements of Biochemistry 1
CHEM 2780 Elements of Biochemistry 2
CHEM 3570 Biophysical Chemistry
CHEM 4360 Signaling and Regulation of Gene Expression
CHEM 4370 Glycobiology and Protein Activation
CHEM 4620 Biochemistry of Nucleic Acids
CHEM 4630 Biochemistry of Proteins

COMP 1260 Introductory Computer Usage 1
COMP 1270 Introductory Computer Usage 2

MATH 1220 Linear Algebra 1
MATH 1230 Differential Calculus
MATH 1300 Vector Geometry and Linear Algebra
MATH 1500 Introduction to Calculus
~~MATH 3820 Introduction to Mathematical Modelling~~
MATH 2140 Modelling
~~MATH 2350 Linear Algebra with Applications~~
MATH 3330 Computational Algebra
~~MATH 3800 Ordinary Differential Equations with Applications 2~~
MATH 3440 Ordinary Differential Equations
~~MATH 3810 Partial Differential Equations 1~~
MATH 3460 Partial Differential Equations

MBIO 1010 Microbiology 1
MBIO 1220 Essentials of Microbiology (May not be held with MBIO 1010)
MBIO 2020 Microbiology 2
MBIO 2360 Biochemistry 1: Biomolecules and Introduction to Metabolic Energy
MBIO 2370 Biochemistry 2: Catabolism, Synthesis, and Information Pathways
MBIO 2410 Essentials of Molecular Biology
MBIO 3000 Biosafety
MBIO 3010 Mechanisms of Microbial Disease
MBIO 3030 Microbiology 3
MBIO 3430 Molecular Evolution
MBIO 3450 Regulation of Biochemical Processes
MBIO 3460 Membrane and Cellular Biochemistry
MBIO 3470 Microbial Systematics
MBIO 3480 Microbial Diversity
MBIO 4020 Immunology

MBIO 4410 Virology
MBIO 4440 Systems Microbiology
MBIO 4480 Microbes in our Environment

PHYS 1020 General Physics 1 or PHYS 1050 Physics 1: Mechanics
PHYS 1030 General Physics 2 or PHYS 1070 Physics 2: Waves and Modern Physics
PHYS 4360 Medical Radiation Physics
PHYS 4400 Medical Imaging
PHYS 4560 Applied Nuclear Science

STAT 2000 Basic Statistical Analysis 2
STAT 3000 Applied Linear Statistical Models
STAT 3170 Statistical Quality Control
STAT 3380 An Introduction to Nonparametric Statistic

Social Science Orientation Electives

Senate Approved May 2014

Revisions to the Senate Approved May 2014 List have been approved by the IHP Council and the Faculty of Health Sciences Council

Faculty of Agricultural and Food Sciences

ABIZ 1010 Economics of World Food Issues and Policies
ABIZ 3550 Environmental Policy
HNSC 1200 Food, Facts and Fallacies
HNSC 2130 Nutrition through the Life Cycle
HNSC 3350 Cultural and Food Patterns
HNSC 4290 Food Nutrition Health Policies
SOIL 3520 Pesticides: Environment, Economics and Ethics

Faculty of Arts

ANTH 2020 Relatedness in a Globalizing World
ANTH 2040 Native North America: A Sociocultural Survey
ANTH 2240 Plagues and People
ANTH 2300 Anthropology of Childhood
ANTH 2500 Culture, Environment and Technology
ANTH 2510 Anthropology of Economic Systems
ANTH 2550 Culture and the Individual
ANTH 2560 Anthropology of Illness
ANTH 2820 Human Osteology
ANTH 2860 Evolution and Human Diversity
ANTH 2880 Human Evolution
ANTH 2890 Human Population Biology
ANTH 3200 Anthropology of Food
ANTH 3320 Women in Cross-Cultural Perspective
ANTH 3330 Sex and Sexualities
ANTH 3500 Peoples of the Arctic
ANTH 3550 Canadian Subcultures
ANTH 3740 Human Growth and Variation
ANTH 3750 Anthropological Perspectives on Globalization and the World-System
ANTH 4860 Special Topics in Biological Anthropology

ECON 2310 Canadian Economic Problems
ECON 2350 Community Economic Development
ECON 2362 Economics of Gender
ECON 2410 The Manitoba Economy
ECON 3690 Economic Issues of Health Policy

ENGL 2000 Intermediate Writing and Research

HIST 2280 Aboriginal History of Canada
HIST 3690 History of Northern Canada
HIST 3730 A History Western Canada

LABR 1260 Working for a Living
LABR 3060 Workplace Health and Safety
LABR 3070 Labour Relations and Occupational Health and Safety Law

NATV 1220 The Native Peoples of Canada, Part 1
NATV 1240 The Native Peoples of Canada, Part 2
NATV 1250 Introductory Cree
NATV 1270 Introductory Ojibway
NATV 2020 The Metis of Canada
NATV 2040 The Native People of the Northern Plains
NATV 2060 The Native People of the Eastern Woodlands
NATV 2070 The Native People of the Subarctic
NATV 2080 Inuit Society and Culture
NATV 2100 Aboriginal Spirituality
NATV 3100 Aboriginal Healing Ways
NATV 3150 Residential School Literature
NATV 3240 Native Medicine and Health
NATV 3330 Aboriginal People, Science and the Environment

PHIL 1200 Introduction to Philosophy
PHIL 2150 Mind and Body
PHIL 2290 Ethics and Society
PHIL 2750 Ethics and the Environment

POLS 2070 Introduction to Canadian Government
POLS 3860 Canadian Federalism
POLS 3960 Canadian Politics
POLS 4190 Manitoba Politics and Government
POLS 4860 The Canadian Policy Process

PSYC 2250 Introduction to Psychological Research
PSYC 2260 Introduction to Research Methods in Psychology
PSYC 2290 Child Development
~~PSYC 2310 Adolescent Development~~
~~PSYC 2370 Developmental Psychology from Adolescence to Old Age~~

PSYC 2390 Psychology of Women
PSYC 2400 Psychology of Sex Differences
PSYC 2410 Social Psychology 1
PSYC 2420 Social Psychology 2
PSYC 2440 Behaviour Modification Principles
~~PSYC 2450 Behaviour Modifications Applications~~
PSYC 2470 Learning Foundations of Psychology
PSYC 2480 Cognitive Processes
PSYC 2490 Abnormal Psychology
PSYC 2530 Psychology of Personality
PSYC 3070 Adult Development
PSYC 3130 Introduction to Health Psychology
PSYC 3150 Behaviour Modifications Applications
PSYC 3310 Adolescent Development
PSYC 3390 Thinking
PSYC 3160 Perception and Attention
~~PSYC 3460 Abnormal Psychology~~
~~PSYC 3450 Psychology of Personality~~
PSYC 3490 Individual Differences
PSYC 3580 Language and Thought
PSYC 3630 Psychological Measurement and Assess

RLGN 1320 Introduction to World Religions
RLGN 1410 Death and Concepts of the Future
RLGN 1420 Ethics in World Religions
RLGN 1430 Food: Religious Concepts and Practices
RLGN 2590 Religion and Social Issues

SOC 2320 Canadian Society and Culture
SOC 2330 Social Psychology in Sociological Perspectives
SOC 2360 Small Group Interaction
SOC 2370 Ethnic Relations
SOC 2390 Social Organization
SOC 2460 The Family
SOC 2470 Courtship and Marriage
SOC 2490 Sociology of Health and Illness
SOC 2510 Criminology
SOC 2610 Sociology of Criminal Justice and Corrections
SOC 2620 The Sociology of Aging
SOC 2630 Social Change
SOC 3370 Sociology of Work
SOC 3540 The Sociology of Health Care Systems

SOC 3660 Sociology of Mental Disorder
SOC 3730 Society and Education
SOC 3770 Women, Health and Medicine
SOC 3810 Sociological Perspectives on Gender and Sexuality
SOC 3820 Qualitative and Historical Methods in Sociology
SOC 3830 Youth, Crime and Society
SOC 3840 Community and Social Reconstruction

WOMN 1600 Introduction to Women's & Gender Studies in the Social Sciences
WOMN 2000 Feminist Thought
WOMN 2500 Race, Class and Sexuality
WOMN 2560 Women, Science and Technology
WOMN 3000 Interdisciplinary Research in Women's and Gender Studies
WOMN 3560 Feminist Perspectives on Violence Against Women

I H Asper School of Business
ACC 1100 Introduction to Financial Accounting
ACC 1110 Introduction to Managerial Accounting

GMGT 2060 Management and Organization Theory

HRIR 2440 Human Resource Management
HRIR 3450 Labour and Employment Relations
HRIR 4410 Staffing and Management Development
HRIR 4420 Compensation

Faculty of Education
EDUA 1500 Aboriginal Education
EDUA 1540 Cross-Cultural Education

Clayton H Riddell Faculty of the Environment, Earth and Resources
GEOG 1280 Introduction to Human Geography
GEOG 2330 Place, Populations and Mobility: Geographic Perspectives
GEOG 2640 Geography of Culture and inequality

~~**Family Social Sciences**~~ **College of Medicine**
FMLY 1000 Families in Contemporary Canadian Society
FMLY 1010 Human Development in the Family
FMLY 1012 Introduction to Social Development
FMLY 1020 Family Issues Across the Lifespan
FMLY 1420 Family Management Principles
FMLY 2012 Development, Conflict and Displacement

FMLY 2350 Multicultural Family Issues
FMLY 2400 Family Financial Health
FMLY 2500 Diversity and Families
FMLY 2600 Foundations of Childhood Developmental Health
FMLY 2800 Family Violence
FMLY 3012 Theories of Social Development
FMLY 3220 Death and the Family
FMLY 3240 Families in the Later Years
FMLY 3330 Parenting and Developmental Health
FMLY 3400 Families as Consumers
FMLY 3470 Selected Studies in the Family I
FMLY 3600 Adolescents in Families and Society
FMLY 3750 Fundamentals of Health Promotion
FMLY 3780 Introduction to the Development of Programs for Children and Families
FMLY 3790 Introduction to the Evaluation of Programs for Children and Families
FMLY 3800 Conflict Resolution in the Family
FMLY 3802 Intimate Partner Violence
FMLY 3806 Children, Violence and Rights
FMLY 4012 Social Development Policies
FMLY 4220 Aging and Risk in a Global Context
FMLY 4330 Management of Family Stress
FMLY 4400 Family Economics: Poverty and Wealth
FMLY 4470 Selected Studies in the Family II
FMLY 4480 Work and Family Issues
FMLY 4500 Senior Thesis
FMLY 4602 Family Relationships, Health and Well-Being
FMLY 4604 Children in Adversity
FMLY 4606 A Social Justice Perspective on Indigenous Maternal and Child Health
FMLY 4802 Family Violence Prevention

Interdisciplinary Health
HMEC 2650 The Social Aspects of Aging
HMEC 4090 Practicum in Human Ecology

Faculty of Kinesiology and Recreation Management
KIN 2610 Health and Physical Aspects of Aging
PERS 1200 Physical Activity, Health and Wellness
REC 2650 The Social Aspects of Aging

College ~~Faculty~~ of Nursing
NURS 1260 Human Growth and Development
NURS 3330 Women and Health

NURS 3400 Men's Health: Concerns, Issues and Myths

Faculty of Social Work
SWRK 1310 Introduction to Social Welfare Policy Analysis
SWRK 2080 Interpersonal Communication Skills
SWRK 2650 The Social Aspects of Aging
SWRK 2130 Comparative Social Welfare Systems
SWRK 3130 Contemporary Canadian Social Welfare
NOTE: Non-Social Work students are limited to completion of nine credit hours of SWRK courses in addition to SWRK 1310 and SWRK 2080.

Faculty of Kinesiology and Recreation Management

Introduction:

PERS 4110 The Olympics and the Global Sporting Event Cr.Hrs. 3 +3.0
Critical examination of the sporting and cultural significance of the modern Olympic Games and other global events, with emphasis given to the Olympic and Paralympic Games that occur in the year that the course is offered. Prerequisite: PERS 3460 (C) or permission of instructor.

NET CHANGE IN CREDIT HOURS: +3.0

Faculty of Music

Modification:

MUSC 4470 Major Practical Study Cr.Hrs. 6 0.0
Individual instruction, normally in the area chosen in MUSC 3470. An important constituent of the grading procedure for this course is performance in and attendance at the recitals/concerts of the Faculty of Music. Prerequisites: MUSC 2120, 2394 and MUSC 3470. For Music students only.

College of Nursing

Deletion:

NURS 3532 Nursing Skills 4 Cr.Hrs. 1 -1.0

Introductions:

NURS 4500 Health and Illness 6: Gender and Reproductive Health Cr.Hrs. 3 +3.0
This course provides students with the knowledge and critical thinking skills to provide nursing care in response to the social construction of gender; gender-related health care needs; and the reproductive health needs of individuals and families. May not be held with NURS 2240. Prerequisite: NURS 3542. Registration is normally restricted to students in Year4 of the program.

NURS 4510 Client and Context 4: Family Health Cr.Hrs. 3 +3.0
This course provides students with the knowledge and critical thinking skills to support the health promotion of families across the lifespan. May not be held with NURS 2240. Prerequisite: NURS 3542. Registration is normally restricted to students in Year 4 of the program.

NURS 4520 Professional Foundations 5: Interprofessional and Collaborative Practice Cr.Hrs. 3 +3.0
This course provides students with the knowledge, attitudes and skills necessary to collaborate with other care providers, including those from other health care disciplines, to problem solve and make decisions to enhance client care and client outcomes. For Bachelor of Nursing students: Prerequisite: NURS 3542. Registration is normally restricted to students in Year 4 of the program. For Baccalaureate Program for Registered Nurses students: permission of the College of Nursing Registrar. For students in the Faculties of Health Sciences; Social Work; Education; Kinesiology and Recreation Management; Arts, Department of Psychology; and Faculty of Agricultural and Food Sciences, Department of Human Nutritional Sciences: completion of at least Year 3 of their program and permission of the Nursing Registrar. Students from other faculties and programs interested in taking this course will be considered on a case-by-case basis.

NURS 4530 Nursing Practice 5 Cr.Hrs. 4 +4.0
This course enables students to demonstrate clinical competence by applying the knowledge and skills covered in Years 2 and 3 and in Term 1, Year 4 courses, in the clinical setting. May not be held with NURS 2180. Pre-or corequisites: NURS 4500, NURS 4510, NURS 4520. Registration is normally restricted to students in Year 4 of the program. This course is graded on a pass/fail basis.

NURS 4540 Health and Illness 7: Community and Population Health Cr.Hrs. 5 +5.0
This course provides students with the knowledge and critical thinking skills to work with groups and communities to support population based health promotion and disease prevention. May not be held with NURS 4420 and NURS 4440. Prerequisite: NURS 4530. Registration is normally restricted to students in Year 4 of the program.

NURS 4550 Professional Foundations 6: Leadership and Change Management Cr.Hrs. 4 +4.0
This course provides the student with knowledge regarding contemporary issues in nursing and health care, and the forces that shape contemporary and future nursing practice. Emphasis is placed on leadership development, change theory and critical inquiry. May not be held with

NURS 4310. Prerequisite: NURS 3542. Registration is normally restricted to students in Year 4 of the program.

NURS 4560 Professional Foundations 7: Preparation for Nursing Practice 7 Cr.Hrs. 1 +1.0
This course will enable students, in collaboration with the course leader, to assess their readiness for NURS 4580 Nursing Practice 7 and to remediate any knowledge or skill deficits identified during the assessment process. Students will also complete all the requirements necessary for the selection and confirmation of the clinical setting in which they will complete NURS 4580 Nursing Practice 7. Corequisite: NURS 4570. Registration is normally restricted to students in Year 4 of the program. This course is graded on a pass/fail basis.

NURS 4570 Nursing Practice 6 Cr.Hrs. 4 +4.0
This course enables students to demonstrate clinical competence by applying the knowledge and skills covered in Years 2, 3 and 4 courses in the clinical setting. May not be held with NURS 4430. Prerequisite: NURS 4530. Pre-or corequisites: NURS 4540, NURS 4550. Corequisite: NURS 4560. Registration is normally restricted to students in Year 4 of the program. This course is graded on a pass/fail basis.

NURS 4580 Nursing Practice 7 Cr.Hrs. 9 +9.0
This course enables students to consolidate the knowledge, skills, and attitudes included in the Bachelor of Nursing program and achieve the CRNM entry-level competencies. May not be held with NURS 4290. Registration in this course is dependent on the completion of all other courses in the program. This course is graded on a pass/fail basis.

NET CHANGE IN CREDIT HOURS: +35.0

Program modification:

Proposed modifications to Year 4 of the **Bachelor of Nursing** program are detailed on the next pages.

Academic Calendar *Current* Program Charts & Descriptions

Four-Year Baccalaureate Nursing Program

PROGRAM GRADUATION REQUIREMENTS

The program can be done by part-time and full-time study.
All courses from any given year are to be completed before proceeding to the next year.

Course No.	Course Name	Credit Hours
University 1	30 credit hours	
BIOL 1410	Anatomy of the Human Body (see Note 1)	3
BIOL 1412	Physiology of the Human Body (see note 1)	3
NURS 1260	Human Growth and Development (see note 2)	3
NURS 1280	Introduction to Nursing (see note 2)	3
MBIO 1220	Essentials of Microbiology (see Note 1)	3
	Social Science (6 credits – see Note 1)	6
PSYC 1200	Introduction to Psychology	6
Or		
SOC 1200	Introduction to Sociology	6
Or		
ANTH 1210	Human Origins and Antiquity	(3)
And		
ANTH 1220	Cultural Anthropology	(3)
	Science (6 credits from the Faculty of Science, See Notes 1, 4, 5 & 6)	6
	Humanities Elective (see Notes 1, 3 & 7)	3

Note 1: All courses can be competed in University 1, or equivalent program, if students do not wish to extend their program of study.

Note 2: NURS 1260 and NURS 1280 will be no longer offered after Winter 2015.

Note 3: Humanities. English, Philosophy, History, Religion, Languages, Classics, Native Studies, etc. Humanities Information is found in the chapter for Faculty of Arts, Additional Faculty Regulations and Policies section 5.1.1. WOMN 1600 Women in the Social Sciences does not meet the Humanities requirement.

Note 4: 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 5: With the exception of Geological Sciences (GEOL 1XX0), courses under the Clayton H. Riddell Faculty of Environment, Earth, and Resources do not meet the Science elective requirement if taken 2003-2004 and later. 1000 level introductory Geological Sciences courses (GEOL 1XXX now offered under Clayton H. Riddell Faculty of Environment, will be accepted as Sciences courses taken prior to September 1, 2006.

Note 6: The course BIOL 1110 Health and Health Professions may not be used as a Science elective. It may, however, be used as an elective from year 4, provided that the level requirements of all electives are met.

Note 7: Six credits of the twelve credits of electives including the Native Studies and the Humanities electives must be at the 2000 level or above. Students should check for prerequisites for 2000 and 3000 level Native Studies courses.

Course No.	Course Name	Credit Hours
Year 2	31 credit hours	
STAT 1000	Basic Statistical Analysis	3
NURS 2120	Nursing Health Assessment	4
NURS 2130	Nursing Skills Laboratory	2
NURS 2180	Clinical Nursing Practice 1	3

NURS 2190	Clinical Practice 2	3
NURS 2220	Pharmacology in Nursing Practice	3
NURS 2230	Health Promotion of Older Adults and Their Families	4
NURS 2240	Health Promotion of Child Bearing and Child Rearing Families	6
HNSC 1210	Nutrition for Health and Changing Lifestyles	3

Course No.	Course Name	Credit Hours
Year 3	29 credit hours	
NURS 3210	Nursing Research Methods	3
NURS 3280	Nursing Skills Laboratory	2
NURS 3290	Health Restoration in Nursing	6
NURS 3300	Clinical Nursing Practice 3	3
NURS 3310	Health Maintenance in Nursing	6
NURS 3320	Clinical Nursing Practice 4	3
NURS 3450	Introduction to Legal and Ethical Foundations of Nursing Practice	3
	Elective – Department of Native Studies – selected Options available (see Note 6):	3
NATV 1220	Native Peoples of Canada, Part I	(3)
Or		
NATV 1240	Native Peoples of Canada, Part II	(3)
Or		
NATV 2020	Native Peoples of Canada, Part III	(3)
Or		
NATV 2220	Native Societies and the Political	
Or	Process	(3)
NATV 2450	Images of Indian People in	
Or	North American Society	(3)
NATV 3240	Native Medicine and Health	(3)

Course No.	Course Name	Credit Hours
Year 4	29 + 10 credit hours	
	TERM A (16 credit hours)	
NURS 4250	Palliative Nursing Care	3
NURS 4260	Nursing Care in Mental Health And Illness	3
NURS 4270	Clinical Nursing Practice 5	4
	Electives (see Note 6)	6
	TERM B (13 credit hours)	
NURS 4310	Nursing Leadership: Issues & Practices	4
NURS 4420	Health Promotion in the Community	3
NURS 4430	Clinical Nursing Practice 6	3
NURS 4440	Prevention of Illness	3
	TERM C (10 credit hours)	
NURS 4290	Clinical Practicum (12 weeks)	10

CURRENT COURSE DESCRIPTIONS

Nursing Course Descriptions – 1000 Level

NURS 1260 Human Growth and Development Cr. Hrs. 3
(Formerly 049.126) Study of the normal growth and development across the lifespan, with consideration of current physiological and psychological knowledge.

NURS 1280 Introduction to Nursing Cr. Hrs. 3
(Formerly 049.128) The profession of nursing and basic concepts relevant to nursing practice, education, and research are described. Past, present and future roles and functions of the nurse will be explored.

Nursing Course Description – 2000 Level

NURS 2120 Nursing Health Assessment Cr. Hrs. 4
(Formerly 049.212) This course focuses on the theory and skills necessary to collect a comprehensive health history and perform a complete physical examination. Nursing Health assessment is presented as the systematic collection of data that can be used to make decisions about ways to promote, maintain or restore assessment.

NURS 2130 Nursing Skills Laboratory Cr. Hrs. 2
(Formerly 049.213) This is a scenario based course with an emphasis on provision of safe, competent, ethical care in the context of provision of introductory psychomotor nursing skills. Content is current and evidence based and deals with individuals across the lifespan and across cultures. Development of Independent learning strategies and evaluation of learning needs are integral to the course.

NURS 2180 Clinical Nursing Practice I Cr. Hrs. 3
(Formerly 049.218) Concepts of health and promotion are applied to the care of infants, children, adolescents and young adults. The focus is on health related nursing phenomena and the development of assessment, communication, teaching/facilitative skills, and basic psychomotor skills. Pre or corequisite: NURS 1280 (or 049.128) and NURS 2120 (or 049.212); and NURS 2130 (or 049.213) and NURS 2240. Course is evaluated on pass/fail basis.

NURS 2190 Clinical Nursing Practice II Cr. Hrs. 3
(Formerly 049.219) Concepts of health promotion and illness prevention are applied to the care of healthy and at risk elderly adults. The focus is on health risk phenomena and the development of assessment, communication, teaching/facilitative, and basic psychomotor skills. Pre or corequisite: NURS 1280 (or 049.128) and NURS 2120 (or 049.212); and NURS 2130 (or 049.213) and NURS 2230. Course is evaluated on a pass/fail basis.

NURS 2220 Pharmacology in Nursing Practice Cr. Hrs. 3
(Formerly 049.222) Course introduces students to basic concepts and principles related to pharmacology (pharmacokinetics, pharmacodynamics, pharmacotherapeutics) and the nurses' role in the drug therapy. The major classifications of drugs will be examined along with the issues arising from the use of drug therapy in contemporary society. Prerequisites: ZOOL 1320 (or 022.132) and ZOOL 1330 (or 022.133).

NURS 2230 Health Promotion of Older Adults and their families Cr. Hrs. 4
Focuses on the aging changes that occur in older adults and the interaction between aging changes and illness and the resultant presentation of symptoms and functional consequences. Health promotion strategies, including health teaching are highlighted to encourage, maintain and enhance independence, based on the older adult's abilities. Selected teaching/learning models, barriers and motivators, and their application to older adults are discussed.

NURS 2240 Health Promotion in Child Bearing & Child Rearing Families Cr. Hrs. 6
This course provides an overview of health promotion in infants, children, adolescents, parents within the family context. The focus is on theories, concepts, nursing research, evidence-based nursing practice and nursing care related to children and families. Prerequisite: ZOOL 1320 (or 022.132), ZOOL 1330 (or 022.133), NURS 1260 (or 049.126) and NURS 1280 (or 049.128). Pre or corequisite: NURS 2120 (or 049.212).

Nursing Course Description - 3000 level

NURS 3210 Nursing Research Methods Cr. Hrs. 3
(Formerly 049.321) This course provides an overview of research strategies in nursing with a focus on developing critical appraisal skills to support evidence-informed nursing practice. Strongly recommended that students complete STAT 1000 prior to NURS 3210.

NURS 3280 Nursing Skills Laboratory Cr. Hrs 3
(Formerly 049.328) This is a scenario based course with an emphasis on provision of safe, competent, ethical care in the context of provision of intermediate level psychomotor nursing skills. Content is current and evidence based and deals with individuals across the lifespan and across cultures. Development of independent learning strategies of learning needs are integral to the course.

NURS 3290 Health Restoration in Nursing Cr. Hrs. 6
(Formerly 049.329) This course focuses on concepts, issues and research related to nursing care of clients across the lifespan in the acute phase of disease/disorder and during the perioperative experience. The impact on the family and community will be explored.

NURS 3300 Clinical Nursing Practice III Cr. Hrs. 3
(Formerly 049.330) 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/perioperative experience. 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: NURS 3280 (or

049.328); NURS 3290 (or 049.329). Course is evaluated on a pass/fail basis.

NURS 3310 Health Maintenance in Nursing Cr. Hrs. 6
(Formerly 049.331) 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.

NURS 3320 Clinical Nursing Practice IV Cr. Hrs. 3
(Formerly 049.332) Students will apply concepts of health maintenance to clients of all ages with long term illness. The course focuses chronic illness and related phenomena, analytical thinking, development of nursing roles, application of research findings and memberships on an interdisciplinary team. Pre- or corequisite: NURS 3280 (or 049.328); NURS 3310 (or 049.331). Course is evaluated on a pass/fail basis.

NURS 3450 Introduction to Legal and Ethical Foundations of Nursing Practice Cr. Hrs. 3
The legal and ethical foundations that guide nursing practice are examined. The process of critical analysis and reasoning will be applied to common legal and ethical issues. Not to be held with the former 049.216.

Nursing Course Descriptions – 4000 level

NURS 4250 Palliative Nursing Care Cr. Hrs. 3
(Formerly 049.425) 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.

NURS 4260 Nursing Care in Mental Health and Illness Cr. Hrs. 3
(Formerly 049.426) This course focuses on the effects of alterations in mental health on the individual, the family and the community. It explores how nurses can facilitate healing and promote mental health. The student will gain a greater awareness of the therapeutic use of self in the provision of nursing care. Societal and historical issues influencing mental health in populations will be highlighted.

NURS 4270 Clinical Nursing Practice V Cr. Hrs. 4
(Formerly 049.427) This course focuses on the application of concepts, issues, research and skills related to the nursing care of individuals and families who are experiencing emotional/psychological distress. The focus is on critical thinking and relational practice skills; and the development of the professional, advocate and collaborator roles. Pre or Co-requisites: NURS 4250 (or 049.425); NURS 4260 (or 049.426). Course is evaluated on a pass/fail basis.

NURS 4310 Nursing Leadership: Practice and Issues Cr. Hrs. 4
(Formerly 049.431) 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. MNHW NURS 4170 (or 049.417) or NURS 4190 (or 049.419).

NURS 4420 Health Promotion in the Community Cr. Hrs. 3
This course will provide the opportunity to examine concepts, theories, research and nursing roles as they apply to the promotion of health in communities. The focus will be on promoting the health of aggregates and communities. Prerequisite: As a general principle, all courses from any given year are to be completed before proceeding to the next year.

NURS 4430 Clinical Nursing Practice 6 Cr. Hrs. 3
Students will apply relevant concepts, theories, and research in population health promotion, primary health care, and prevention of illness. The focus is on the development of nursing skills to work effectively with aggregates and communities. Prerequisites: NURS 2180 (or 049.218), NURS 2190 (or 049.219), NURS 3300 (or 049.330); and NURS 3320 (or 049.332). Corequisites: NURS 4440 and NURS 4420. Course is evaluated on a pass/fail basis.

NURS 4440 Prevention and Illness Cr. Hrs. 3
This course focuses on the concepts of risk reduction and the prevention of illness and injury as they are applied to individuals, groups, and populations. The

nurse's role in prevention and the early detection of health risks is highlighted. Issues and research relevant to illness and injury prevention are incorporated. Not to be held with the former NURS 2170 (or 049.217). Prerequisites: As a general principle, all courses from any given year are to be completed before proceeding to the next year.

NURS 4290 Clinical Practicum Cr. Hrs. 10
(Formerly 049.429) 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. Prerequisites: all courses in the program. Course is evaluated on a pass/fail basis.

Academic Calendar *Revised* Program Charts & Descriptions

Proposed Bachelor of Nursing Program

BACHELOR of NURSING

Non-nursing courses must be completed within 10 years; and nursing courses must be completed within 5 years of admission to the program in order to be eligible for admission and advanced standing (transfer credit).

All courses from any given term are to be completed before proceeding to the next term.

Course No.	Course Name	Credit Hours
University 1 (pre-nursing)	30 credit hours	
BIOL 1410	Anatomy of the Human Body	3
BIOL 1412	Physiology of the Human Body	3
MBIO 1220	Essentials of Microbiology (see Note 3)	3
	Science Electives (see Notes 1, 2, 3, 5)	9
	Electives (see Note 5) (Any combination of the following courses/subjects for a total of 12 credits)	12
	• Social Sciences (see Note 4)	(6-12)
	• Humanities (see Note 4)	(6-12)
	• NURS 1280 Introduction to Nursing	(3)
	• NURS 1500 Preparing for Professional Nursing Education	(3)
	NURS/KIN 2610 Social Aspects of Aging	(3)
	SWRK/REC/HMEC 2650 Physical Aspects of Aging	(3)

Note 1: Science electives are courses taught by the Faculty of Science. With the exception of Geological Sciences (GEOL 1XXX), courses under the Clayton H. Riddell Faculty of Environment, Earth, and Resources do not meet the Science elective requirement if taken 2003-2004 and later. 1000 level introductory Geological Sciences courses (GEOL 1XXX now offered under Clayton H. Riddell Faculty of Environment, will be accepted as Sciences courses taken prior to September 1, 2006.

Note 2: HEAL 1600 Health and Health Professions may not be used as Science elective.

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.

Note 4: Information regarding Social Sciences and Humanities subjects is found in the chapter for Faculty of Arts, Additional Faculty Regulations and Policies section 5.1.1.

Note 5: All of the elective courses must be at the 1000 level or higher.

Course No.	Course Name	Credit Hours
Year 2	30 credit hours	
Term 1		
NURS 2500	Health & Illness 1: Pathophysiology/Pharmacology/ Assessment	6
NURS 2510	Client & Context 1: Human Growth and Development	2
NURS 2512	Health & Illness 2: The Older Client	2
NURS 2520	Professional Foundations 1: Development of Professional Identity	2
NURS 2530	Nursing Skills 1	1
NURS 2540	Nursing Practice 1	2
Term 2		
NURS 2514	Health & Illness 3: Pathophysiology/Pharmacology/ Assessment	6
NURS 2516	Client & Context 2: Human Diversity	2
NURS 2532	Nursing Skills 2	2
NURS 2542	Nursing Practice 2	3
HNSC 2170	Nutrition for Health Professionals	2

Course No.	Course Name	Credit Hours
Year 3	**29** credit hours	
Term 1		
NURS 3510	Client and Context 3: Supportive and Palliative Care	3
NURS 3512	Health and Illness 4: Acute and Chronic Illness	5
NURS 3520	Professional Foundations 2: Health Education	2
NURS 3530	Nursing Skills 3	1
NURS 3540	Nursing Practice 3	4
Term 2		
NURS 3514	Health & Illness 5: Mental Health And Illness	3
NURS 3542	Nursing Practice 4	4
NUR 3550	Professional Foundations 3: Evidence Informed Practice in the Health Sciences	4
NURS 3560	Professional Foundations 4: Law and Ethics in Nursing	3
Year 4	39 credit hours	
Term 1		
NURS 4500	Health & Illness 6: Gender and Reproductive Health	3
NURS 4510	Client & Context 4: Family Health	3
NURS 4520	Professional Foundations 5: Interprofessional and Collaborative Practice	3
NURS 4530	Nursing Practice 5	4
	Elective (see note 6)	3

Note 6: Three credit hour elective course may be from any discipline at 1000, 2000, 3000, or 4000 level.

Term 2		
NURS 4540	Health & Illness 7: Community and Population Health	5
NURS 4550	Professional Foundations 6: Leadership and Change Management	4
NURS 4560	Professional Foundations 7: Preparation for Nursing Practice 7	1
NURS 4570	Nursing Practice 6	4
Term 3		
NURS 4580	Nursing Practice 7	9

COURSE DESCRIPTIONS

Nursing Course Descriptions – 2000 Level

NURS 2500 Health and Illness 1 Cr. Hrs. 6
This course provides students with a comprehensive survey of selected pathophysiological processes that produce alterations in human health, and the related pharmacological interventions and health assessment

techniques. May not be held with NURS 2120, NURS 2220, NURS 3290, and NURS 3310.

NURS 2510 Client and Context 1 Cr. Hrs. 2
This course provides students with knowledge of normal human growth and development across the lifespan. May not be held with NURS 1260. Registration is normally restricted to students in Year 2 of the program.

NURS 2512 Health and Illness 2 Cr. Hrs. 2
This course provides students with knowledge of the age-related changes that occur in older adults; the interaction between age-related changes and illness; the functional consequences of these interactions; and the presentation of symptoms commonly observed in this age group. Nursing strategies to encourage, maintain and enhance independence in the older adult are discussed. May not be held with NURS 2230. Pre-or co-requisites: NURS 2500 and NURS 2510. Registration is normally restricted to students in Year 2 of the program.

NURS 2514 Health and Illness 3 Cr. Hrs. 6
This course provides students with a comprehensive survey of selected pathophysiological processes that produce alterations in human health, and the related pharmacological interventions and health assessment techniques. May not be held with NURS 2120, NURS 2220, NURS 3290, and NURS 3310. Prerequisite: NURS 2500. Registration is normally restricted to students in Year 2 of the program.

NURS 2516 Client and Context 2 Cr. Hrs. 2
This course provides students with knowledge of the social factors that enhance or diminish the health of individuals, families and communities. Students will also analyze the concept of client-centred care and its relevance in professional nursing practice. Pre-or co-requisites: NURS 2500 and NURS 2520. Registration is normally restricted to students in Year 2 of the program.

NURS 2520 Professional Foundations 1 Cr. Hrs. 2
This course provides the student with an introduction to the conduct, knowledge and values that characterize a professional registered nurse. Registration is normally restricted to students in Year 2 of the program.

NURS 2530 Nursing Skills 1 Cr. Hrs. 1
This course introduces students to the basic health assessment and psychomotor skills necessary to provide novice-level nursing care in the practice setting. May not be held with NURS 2120 and NURS 2130. Pre-or co-requisite: NURS 2500. Registration is normally restricted to students in Year 2 of the program. This course is graded on a Pass/Fail Basis.

NURS 2532 Nursing Skills 2 Cr. Hrs. 1
This course introduces students to the basic health assessment and psychomotor skills necessary to provide novice-level nursing care in the practice setting. May not be held with NURS 2120 and NURS 2130. Prerequisites: NURS 2530 and NURS 2540. Pre-or co-requisite: NURS 2514. Registration is normally restricted to students in Year 2 of the program. This course is graded on a Pass/Fail Basis.

NURS 2540 Nursing Practice 1 Cr. Hrs. 2
This course enables students to demonstrate clinical competence by applying the theoretical knowledge, psychomotor skills and health assessment skills covered in Year 1 Term 1 courses in the practice setting. Pre-or co-requisites: NURS 2500, NURS 2510, NURS 2512, NURS 2520 and NURS 2530. Registration is normally restricted to students in Year 2 of the program. This course is graded on a pass/fail basis.

NURS 2452 Nursing Practice 2 Cr. Hrs. 3
This course enables students to demonstrate clinical competence by applying the theoretical knowledge, psychomotor skills and health assessment skills covered in Year 1 Term 2 courses in the practice setting. May not be held with NURS 2190. Pre-or co-requisites: NURS 2514, NURS 2516, NURS 2522 and NURS 2532. This course is graded on a pass/fail basis.

Nursing Course Descriptions – 3000 Level

NURS 3510 Client and Context 3: Supportive and Palliative Care Cr. Hrs. 3
This course provides students with the knowledge and critical thinking skills to provide supportive and palliative nursing care to individuals and families experiencing variety of life-threatening illnesses including end of life. May not be held with NURS 4250. Prerequisites: HNSC 2170 and NURS 2542. Registration is normally restricted to students in Year 3 of the program.

NURS 3512 Health and Illness 4: Acute and Chronic Illness, Cr. Hrs. 5
This course provides students with the knowledge and critical thinking skills necessary to provide nursing care to individuals and families experiencing acute and chronic illness. May not be held with NURS 3290 and NURS 3310. Pre-requisites: HNSC 2170 and NURS 2542. Registration is normally restricted to students in Year 3 of the program.

NURS 3514 Health and Illness 5: Mental Health and Illness Cr. Hrs. 3
This course provides students with the knowledge and critical thinking skills necessary to provide nursing care to individuals and families experiencing acute and chronic mental illness and/or mental health problems. Pre-Requisites: NURS 3512, NURS 3510 and NURS 3540. May not be held with NURS 4260. Registration is normally restricted to students in Year 3 of the program.

NURS 3520 Professional Foundations 2: Health Education Cr. Hrs. 2
This course provides students with the knowledge and skills necessary to provide health information to clients across the lifespan in a variety of settings in both planned and spontaneous situations. Emphasis will be placed on client assessment and the appropriate use of existing health information resources.
Prerequisites: NURS 2542. Registration is normally restricted to students in Year 3 of the program.

NURS 3530 Nursing Skills 3 Cr. Hrs. 1
This course introduces students to the basic health assessment and psychomotor skills necessary to provide intermediate-level nursing care in the practice setting. May not be held with NURS 3280. Prerequisites: NURS 2542. Registration is normally restricted to students in Year 3 of the program. This course is graded on a Pass/Fail Basis.

NURS 3540 Nursing Practice 3, Cr. Hrs. 4
This course enables students to demonstrate clinical competence by applying the theoretical knowledge, psychomotor skills and health assessment skills covered in Year 3 Term 1 courses in the practice setting. May not be held with NURS 3300, NURS 3310, and NURS 4270. Pre-or Co-Requisites: NURS 3512, NURS 3510, NURS 3520, and NURS 3530. Registration is normally restricted to students in Year 3 of the program. This course is graded on a pass/fail basis.

NURS 3542 Nursing Practice 4, Cr. Hrs. 4
This course enables students to demonstrate clinical competence by applying the theoretical knowledge and simulation skills covered in Year 3 Term 2 courses in the practice setting. May not be held with NURS 3300, NURS 3310, and NURS 4270. Pre-or Co-Requisites: NURS 3514, NURS 3550, NURS 3560 and NURS 3532. Registration is normally restricted to students in Year 3 of the program. This course is graded on a pass/fail basis.

NURS 3550 Professional Foundations 3: Evidence Informed Practice in the Health Sciences Cr. Hrs. 4
This course provides students with the knowledge and skills to locate and critically appraise nursing and health care literature, and to make decisions about how research knowledge can be transferred into nursing and health care practice. May not be held with NURS 3210. Pre-Requisites: NURS 2542. Registration is normally restricted to students in Year 3 of the program.

NURS 3560 Professional Foundations 4: Law and Ethics in Nursing Practice Cr. Hrs. 3
This course provides the student with knowledge regarding the legal and ethical foundations that guide nursing practice. May not be held with NURS 3450. Prerequisite: NURS 2542. Registration is normally restricted to students in Year 3 of the program.

Nursing Course Descriptions-4000 level

NURS 4500 Health and Illness 6: Gender and Reproductive Health Cr. Hrs. 3
This course provides students with the knowledge and critical thinking skills to provide nursing care in response to the social construction of gender; gender-related health care needs; and the reproductive health needs of individuals and families. May not be held with NURS 2240. Pre-Requisite: NURS 3542. Registration is normally restricted to students in Year 4 of the program.

NURS 4510 Client and Context 4: Family Health Cr. Hrs. 3
This course provides students with the knowledge and critical thinking skills to support the health promotion of families across the lifespan. May not be held with NURS 2240. Pre-Requisite: NURS 3542.
Registration is normally restricted to students in Year 4 of the program.

NURS 4520 Professional Foundations 5: Interprofessional and Collaborative Practice Cr. Hrs. 3
This course provides students with the knowledge, attitudes and skills necessary to collaborate with other care providers, including those from other health care disciplines, to problem solve and make decisions to enhance client care and client outcomes. For Bachelor of Nursing students: Pre-Requisite: NURS 3542. Registration is normally restricted to students in Year 4 of the program. For Baccalaureate Program for Registered Nurses students: permission of the College of Nursing Registrar. For students in the Faculty of Health Sciences; Faculty of Social Work; Faculty of Education; Faculty of Kinesiology and Recreation Management; Faculty of Arts, Department of Psychology; or Faculty of Agricultural and Food Sciences, Department of Human Nutritional Sciences: completion of at least Year 3 of their program and permission of the Nursing Registrar. Students from other faculties and programs interested in taking this course will be considered on a case-by-case basis.

NURS 4530 Nursing Practice 5, Cr. Hrs. 4
This course enables students to demonstrate clinical competence by applying the knowledge and skills covered in Year 4, Term 1 courses and courses from Years 2 and 3, in the clinical setting. May not be held with NURS 2180. Pre-or Co-Requisites: NURS 4500, NURS 4510, NURS 4520. Registration is normally restricted to students in Year 4 of the program. This course is graded on a pass/fail basis.

NURS 4540 Health and Illness 7: Community and Population Health Cr. Hrs. 5
This course provides students with the knowledge and critical thinking skills to work with groups and communities to support population based health promotion and disease prevention. May not be held with: NURS 4420 and NURS 4440. Pre-Requisite: NURS 4530. Registration is normally restricted to students in Year 4 of the program.

NURS 4550 Professional Foundations 6: Leadership and Change Management Cr. Hrs. 4
This course provides the student with knowledge regarding contemporary issues in nursing and health care, and the forces that shape contemporary and future nursing practice. Emphasis is placed on leadership development, change theory and critical inquiry. May not be held with NURS 4310. Pre-Requisite: NURS 3542. Registration is normally restricted to students in Year 4 of the program.

NURS 4560 Professional Foundations 7: Preparation for Nursing Practice 7, Cr. Hr. 1
This course will enable students, in collaboration with the course leader, to assess their readiness for NURS 4560: Nursing Practice 7 and to remediate any knowledge or skill deficits identified during the assessment process. Students will also complete all the requirements necessary for the selection and confirmation of the clinical setting in which they will complete NURS 4580: Nursing Practice 7. Co-Requisite: NURS 4570. Registration is normally restricted to students in Year 4 of the program. This course is graded on a pass/fail basis.

NURS 4570 Nursing Practice 6, Cr. Hrs. 4
This course enables students to demonstrate clinical competence by applying the knowledge and skills

covered in Years 2, 3, and 4 courses in the clinical setting.
May not be held with NURS 4430. Pre-Requisite: NURS 4530. Pre-or Co-Requisites: NURS 4540, NURS 4550. Co-Requisite: NURS 4560. Registration is normally restricted to students in Year 4 of the program. This course is graded on a pass/fail basis.

NURS 4580 Nursing Practice 7, Cr. Hrs. 9
This course enables students to consolidate the knowledge, skills, and attitudes included in the Bachelor of Nursing program and achieve the CRNM entry-level competencies.
May not be held with NURS 4290. Registration in this course is dependent on the completion of all other courses in the program. This course is graded on a pass/fail basis.

Faculty of Science

Biochemistry

Program modifications:

Modifications to the following programs are outlined on the next pages.

- **Bachelor of Science (Honours) in Biochemistry**
- **Bachelor of Science (Honours) in Biochemistry, Cooperative Option**
- **Bachelor of Science (Major) in Biochemistry**
- **Bachelor of Science (Major) in Biochemistry, Cooperative Option**

Proposed B.Sc. Biochemistry Honours & Major including Co-op Program Charts

4.2.2 Biochemistry Programs (offered Jointly by the Departments of Chemistry and Microbiology)			
YEAR 1	YEAR 2	YEAR 3	YEAR 4
JOINT HONOURS 120 CREDIT HOURS			
CHEM 1300, CHEM 1310 BIOL 1020, BIOL 1030 PHYS 1050 (or PHYS 1020), PHYS 1070 (or PHYS 1030) MATH 1500[1], MATH 1700[1]	CHEM 2210, CHEM 2220, ~~CHEM 2280~~, **CHEM 2260 (CHEM 2280),** CHEM 2360, CHEM 2370, CHEM 2400, CHEM 2470 MBIO 1010, MBIO 2020	CHEM 3570 MBIO 3410, MBIO 3450, MBIO 3460	CHEM 4360, CHEM 4620, CHEM 4630, CHEM 4700 MBIO 4540
In Year 1 or Year 2 the following must be completed: 6 credit hours from the Faculty of Arts including the University Written English "W" requirement[2] 3 credit hours chosen from COMP, MATH, or STAT[5]		21 credit hours selected from the list of Microbiology and Chemistry optional courses (listed above). 12 credit hours selected from the Faculty of Science[5]	
30 Hours	30 Hours	30 Hours	30 Hours
JOINT HONOURS COOPERATIVE OPTION[3] 120 CREDIT HOURS			
CHEM 1300, CHEM 1310 BIOL 1020, BIOL 1030 PHYS 1050 (or PHYS 1020), PHYS 1070 (or PHYS 1030) MATH 1500[1], MATH 1700[1]	CHEM 2210, CHEM 2220, ~~CHEM 2280~~, **CHEM 2260 (CHEM 2280)** CHEM 2360, CHEM 2370, CHEM 2400, CHEM 2470 MBIO 1010, MBIO 2020	CHEM 3570 MBIO 3410, MBIO 3450, MBIO 3460	CHEM 4360, CHEM 4620,CHEM 4630 MBIO 4540
In Year 1 or Year 2 the following must be completed: 6 credit hours from the Faculty of Arts including the University Written English "W" requirement[2] 3 credit hours chosen from COMP, MATH, or STAT[5]		24 credit hours selected from the list of Microbiology and Chemistry Optional courses listed above. 12 credit hours selected from the Faculty of Science[5] Work Terms: MBIO 3980, MBIO 3990, MBIO 4980 and/or MBIO 4990	
30 Hours	30 Hours	30 Hours	30 Hours
JOINT FOUR YEAR MAJOR (Including Cooperative Option)[3,4] 120 CREDIT HOURS			
CHEM 1300, CHEM 1310 BIOL 1020, BIOL 1030	CHEM 2210, CHEM 2220, ~~CHEM 2280~~, **CHEM 2260 (CHEM**	CHEM 3570 MBIO 3410 One of: MBIO 3450,	CHEM 4630 One of: CHEM 4620, CHEM 4360, CHEM 4370

PHYS 1050 (or 1020), PHYS 1070 (or PHYS 1030) MATH 1500[1], MATH 1700[1]	**2280),** CHEM 2360, CHEM 2370, CHEM 2400, CHEM 2470 MBIO 1010, MBIO 2020	MBIO 3460,MBIO 4540	
In Year 1 or Year 2 the following must be completed: 6 credit hours from the Faculty of Arts including the University Written English "W" requirement[2] 3 credit hours chosen from COMP, MATH, or STAT[5]		24 credit hours of Microbiology and Chemistry (minimum 6 credit hours from each dept.). Of these 24 credit hours, at least 12 hours must be 4000 level courses. 21 credit hours of approved electives[5]	
		Work Terms (if Co-op Selected): MBIO 3980, MBIO 3990, MBIO 4980 and / or MBIO 4990	

NOTES:

1 MATH 1230 or 1510 or MATH 1520 may be taken in place of MATH 1500; MATH 1232 or 1710 may be taken in place of MATH 1700; MATH 1690 may be taken in place of MATH 1500 and MATH 1700.

2 As there are no open electives in Year 2 of the program, students should complete the university written English requirement in Year 1. If not completed in Year 1, a "W" course must be completed prior to Year 3 in addition to the required Year 2 courses.

3 IMPORTANT: Students in the cooperative programs must ensure that they are able to satisfy the prerequisites for all 3000 and 4000 level courses they plan to take.

4 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.

5 MATH 1010, MATH 1020, **the former** MATH 1190, COMP 1260, COMP 1270 may not be chosen to satisfy this requirement

(Letters in brackets indicate minimum prerequisite standing for further study.)

Biological Sciences

Introduction:

BIOL 4400 Revegetation of Disturbed Lands Cr.Hrs. 3 +3.0
A physiological and ecological study of disturbed plant communities with emphasis on stresses associated with both mining activities and agricultural practices and processes of assisted recovery. Prerequisites: BIOL 3400 or PLNT 3400 (or the former BOTN 2020, BIOL 3450 or PLNT 3500) (C); and one of BIOL 2300, BIOL 2301 or AGEC 2370 (or the former BOTN 2370 or BOTN 2371 or ZOOL 2370 or ZOOL 2371) (C); or consent of instructor.

Modifications:

BIOL 3242 Vascular Flora of Manitoba Cr.Hrs. 3 0.0
(Lab required) 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 Department of Biological Sciences office in the Spring/Summer prior to commencing the course. Not to be held with the former BOTN 3070. Prerequisite: BIOL 2240 (or the former BOTN 2110) or BIOL 2242 (or the former BOTN 2010) or permission of the department.

BIOL 3452 Environmental Plant Physiology Cr.Hrs. 3 0.0
(Lab Required) 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, temperature, light and nutrients will be emphasized. Not to be held with the former BOTN 3010. Prerequisite: one of BIOL 3400, the former BIOL 3450, PLNT 3400, or the former PLNT 3500 (C); and one of CHEM 1310 or CHEM 1311 (C).

BIOL 4100 Honours Thesis Cr.Hrs. 6
The student will conduct a research project, chosen in consultation with a Biological Sciences 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 3rd and 4th year Honours Biological Science students. Not to be held with the former BOTN 4600 or the former ZOOL 4110. Prerequisite: BIOL 3100 or the former BOTN 3570 or the former ZOOL 3750, or consent of department.

NET CHANGE IN CREDIT HOURS: +3.0

Genetics

Program modification:

Modifications to the curricula of the following programs are outlined on the next pages:

- **Bachelor of Science (Honours) in Genetics**
- **Bachelor of Science (Honours) in Genetics, Cooperative Option**
- **Bachelor of Science (Major) in Genetics**
- **Bachelor of Science (Major) in Genetics, Cooperative Option**

Proposed changes to the B.Sc. Honours and Major Degrees in Genetics including Co-op

4.8.2 Genetics			
YEAR 1	YEAR 2	YEAR 3	YEAR 4
HONOURS[5] ~~(Including Cooperative Option[3,4,5] if selected)~~ 120 CREDIT HOURS			
CHEM 1300, CHEM 1310 BIOL 1020, BIOL 1030 STAT 1000 MATH 1500[1] One of: MATH 1200[1], MATH 1300[1], or MATH 1700[1]	BIOL 2500, BIOL 2520 CHEM 2210, CHEM 2220, CHEM 2360 (MBIO 2360), CHEM 2370 (MBIO 2370) MBIO 1010, MBIO 2020 STAT 2000	BIOL 3500 MBIO 3410 PLNT 3140 BGEN 3020 (6) **BGEN 4010[5] (6) or MBIO 4530[5] (6)** One of: ANTH 2240, ANTH 2560, ANTH 2860, or ANTH 2890 ~~42~~ **36** credit hours from list of optional courses (a minimum of ~~18~~ **12** of these credit hours must be 4000 level)	
In Year 1 or Year 2: 3 credit hours from the Faculty of Arts 3 credit hour "W" course[2] 6 credit hours of electives		~~**Work Terms (if Co-op Selected)[3,4,5]:**~~ ~~MBIO 3980, MBIO 3990, MBIO 4980 and/or MBIO 4990~~	
30 Hours	30 Hours	30 Hours	30 Hours

YEAR 1	YEAR 2	YEAR 3	YEAR 4
HONOURS (~~Including~~ Cooperative Option[3,4,5] ~~if selected~~) 120 CREDIT HOURS			
CHEM 1300, CHEM 1310 BIOL 1020, BIOL 1030 STAT 1000 MATH 1500[1] One of: MATH 1200[1], MATH 1300[1], or MATH 1700[1]	BIOL 2500, BIOL 2520 CHEM 2210, CHEM 2220,CHEM 2360 (MBIO 2360),CHEM 2370 (MBIO 2370) MBIO 1010, MBIO 2020 STAT 2000	BIOL 3500 MBIO 3410 PLNT 3140 BGEN 3020 (6) One of: ANTH 2240, ANTH 2560, ANTH 2860, or ANTH 2890 42 credit hours from list of optional courses (a minimum of 18 of these credit hours must be 4000 level)	
In Year 1 or Year 2: 3 credit hours from the Faculty of Arts		**Work Terms ~~(if Co-op Selected)~~[3,4,5]:** MBIO 3980, MBIO 3990, MBIO 4980 and/or MBIO 4990	

3 credit hour "W" course[2] 6 credit hours of electives			
30 Hours	30 Hours	30 Hours	30 Hours

MAJOR (Including Cooperative Option if selected)[3,4,5] 120 CREDIT HOURS		
CHEM 1300, CHEM 1310 BIOL 1020, BIOL 1030 STAT 1000 MATH 1500[1] One of: MATH 1200[1], MATH 1300[1], or MATH 1700[1]	BIOL 2500, BIOL 2520 CHEM 2210, CHEM 2220, CHEM 2360 (MBIO 2360), CHEM 2370 (MBIO 2370) MBIO 1010, MBIO 2020 STAT 2000	BIOL 3500 MBIO 3410 PLNT 3140 BGEN 3020 (6) One of: ANTH 2240, ANTH 2560, ANTH 2860, or ANTH 2890 33 credit hours from list of optional courses (a minimum of 15 of these credit hours must be 4000 level) 9 credit hours of approved elective courses

In Year 1 or Year 2:	**Work Terms (if Co-op Selected)**[3,4,5]**:**
3 credit hours from the Faculty of Arts 3 credit hour "W" course[2] 6 credit hours of electives	MBIO 3980, MBIO 3990, MBIO 4980 and/or MBIO 4990

NOTES:

1 MATH 1220 or MATH 1310 may be taken in place of MATH 1300; MATH 1230, MATH 1510, or MATH 1520 may be taken in place of MATH 1500; MATH 1232 or MATH 1710 may be taken in place of MATH 1700; MATH 1690 may be taken in place of MATH 1500 and MATH 1700; MATH 1240 may be taken in place of MATH 1200.

2 As there are no electives in Year 2 of the program, students should complete the University written English requirement in Year 1. If not completed in Year 1, a "W" course must be completed prior to Year 3 in addition to the required Year 2 courses.

3 Students that begin their first work term in May must take BGEN 3020 in Year 3, while students that begin their first work term in January must take BGEN 3020 in Year 4.

4 IMPORTANT: Students in the cooperative program are advised to ensure that they are able to satisfy the prerequisites for all 3000 and 4000 level courses they plan to take.

[5] MBIO 4530 and BGEN 4010 **are required courses for students in Genetics Honours, but** are not available to students in the Cooperative Option**, and require department consent for students in the Genetics Major.**

(The number 6 in brackets indicates a 6 credit hour course.)

The optional courses are:

Biological Sciences: BIOL 2410, BIOL 2420, BIOL 3290, BIOL 3300, BIOL 3542, BIOL 3560, BIOL 4500, BIOL 4540, BIOL 4542, BIOL 4560

Chemistry: CHEM ~~2280~~ **2260 (or the former CHEM 2280)**, CHEM 2290, CHEM 4360, CHEM 4370, CHEM 4620, CHEM 4630

Microbiology: MBIO 3000, MBIO 3010, MBIO 3030, MBIO 3430, MBIO 3440, MBIO 3450, MBIO 3460, MBIO 4010, MBIO 4020[2], MBIO 4410, MBIO 4530[1] (6), MBIO 4540, MBIO 4670 (or the former MBIO 4570), MBIO 4672[2], MBIO 4600, MBIO 4610.

Forensic Science: FORS 2000 (satisfies the University "W" requirement)

Computer Science: COMP 1010, COMP 1020, COMP 1260, COMP 1270

Physics: PHYS 1020, PHYS 1030, PHYS 1050, PHYS 1070

Animal Science: ANSC 3500, ANSC 4280

Pharmacology: PHAC 4030, PHAC 4040

Plant Science: PLNT 2530, PLNT 3500, PLNT 3520, PLNT 4330, PLNT 4610

Human Genetics: BGEN 4010[1]

By an appropriate selection of courses from this list, students can obtain particular program emphasis in either plant, human or molecular genetics.

NOTES:

[1] MBIO 4530 (6) and BGEN 4010 **(6)** are project courses. A research project is chosen in consultation with the Microbiology department (MBIO 4530) or Biochemistry and Medical Genetics (BGEN 4010) and the Genetics program committee, and is supervised by a staff member. Only one of MBIO 4530 or BGEN 4010 may be elected in this program. **These are required courses for students registered in the Genetics Honours program and may be available to students registered in the Genetics Major program by departmental consent.**

[2] MBIO 4020 and MBIO 4672 are not available options for students in the Genetics Honours **or Honours Co-op** Degree programs.

Program modification:

A modification to the entrance requirements for the following programs is set out below:

- **Bachelor of Science (Major) in Genetics**
- **Bachelor of Science (Major) in Genetics, Cooperative Option**

Proposed entry requirements for the B.Sc. Major in Genetics including Co-op: Major

To enter the Major Degree program in Genetics, a student must have completed at least 24 credit hours with a minimum GPA of 2.00, and also obtained a minimum grade of "C+" in BIOL 1030~~,~~ and ~~a minimum grade of "C" in~~ CHEM 1310. STAT 1000, MATH 1500 and the additional 3 credit hours of specified Mathematics courses are program requirements and students are strongly encouraged to complete these courses in first year.

Chemistry

Deletions:

CHEM 2280 Physical Chemistry: Microscopic Descriptions of Matter Cr.Hrs. 3 -3.0
CHEM 4660 Computational Chemistry Cr.Hrs. 3 -3.0

Introductions:

CHEM 2260 Introduction to Spectroscopy Cr.Hrs. 3 +3.0
(Lab required) An exploration of the underlying principles of atomic and molecular spectroscopy and the application of such tools to probe chemical and physical properties of matter on a microscopic scale. Aspects of ultraviolet, visible, vibrational, rotational and nuclear magnetic resonance spectroscopies are explored. Not to be held with the former CHEM 2280 or CHEM 2281. Prerequisites: CHEM 1310 or CHEM 1311 (C); PHYS 1030 or PHYS 1031 (C) or PHYS 1070 or PHYS 1071 (C); plus six credit hours of 1000 level mathematics (preferably calculus) with the exception of the former 136.100, MATH 1010, the former MATH 1190, MATH 1191, FA 1020, or MATH 1020.

CHEM 3260 Introduction to Computational Chemistry Cr.Hrs. 3 +3.0
(Lab Required) This course provides an introduction to modern Computational Chemistry and its application to chemical problems, with a strong focus on practical applications. May not be held with the former CHEM 4660. Prerequisite: CHEM 2260 or CHEM 2281 (or the former CHEM 2280); plus six credit hours from CHEM 2290 (recommended) (or CHEM 2291), CHEM 2220 (or CHEM 2221), CHEM 2370 (or CHEM 2371 or MBIO 2370, or MBIO 2371), CHEM 2400 (or CHEM 2401 or the former CHEM 2380 or CHEM 2381), CHEM 3400 (or the former CHEM 3380).

Modifications:

CHEM 3360 Elementary Quantum Chemistry and Molecular Bonding Cr.Hrs. 3 0.0
(Lab Required) Elementary quantum chemistry and its applications to structure and bonding in molecules and solids. Prerequisite: CHEM 2260 or the former CHEM 2280 or CHEM 2281 (C).

CHEM 3370 Symmetry, Spectroscopy and Structure Cr.Hrs. 3 0.0
(Lab Required) Applications of symmetry in chemistry; molecular spectroscopy; structure of solids. Prerequisite: CHEM 2260 or the former CHEM 2280 or CHEM 2281 (C).

CHEM 3570 Biophysical Chemistry Cr.Hrs. 3 0.0
The application of physical chemistry to biological problems, with an emphasis on quantitative interpretation. Topics include enzyme kinetics, bioenergetics, transport processes and spectroscopy. Prerequisites: CHEM 2360 or CHEM 2361 or MBIO 2360 or MBIO 2361 and MATH 1230 or MATH 1500 or MATH 1501 or MATH 1510 or MATH 1520. CHEM 2260 or the former CHEM 2280 or CHEM 2281 is recommended.

NET CHANGE IN CREDIT HOURS: 0.0

Program modifications:

Modifications to the following programs are outlined on the next pages:

- **Bachelor of Science (Honours) in Chemistry**
- **Bachelor of Science (Honours) in Chemistry, Cooperative Option**
- **Bachelor of Science (Major) in Chemistry**
- **Bachelor of Science (Major) in Chemistry, Cooperative Option**
- **Bachelor of Science (General) in Chemistry – Option B**
- **Chemistry Program Focus Areas (i.e. Concentrations)**
    - **Bioanalytical**
    - **Inorganic**
    - **Organic**
    - **Physical**
    - **Quantum/Computational**
- **Bachelor of Science (Joint Honours) in Chemistry and Physics and Astronomy**

Proposed B.Sc. Honours in Chemistry Program Chart:

YEAR 1	YEAR 2	YEAR 3	YEAR 4
HONOURS[3] (incl. Co-operative Option if selected) 120 CREDIT HOURS			
CHEM 1300, CHEM 1310 (B) PHYS 1050(or PHYS 1020), PHYS 1070 MATH 1500[1] , MATH 1700[1]	CHEM 2210, CHEM 2220, ~~CHEM 2280~~ **CHEM 2260 (CHEM 2280)**, CHEM 2290, CHEM 2400, CHEM 2470, CHEM 2860 (CHEM 2360)	CHEM 3400, CHEM 3590	CHEM 4610 (6), CHEM 4710 (6)
In Year 1 or Year 2 the following must be completed: 6 credit hours from the Faculty of Arts, which should include the required "W" course 3 credit hours from Mathematics, Statistics or Computer Science courses[2] 12 credit hours of approved electives in years one and two		Sufficient credit hours (18) from the 2000, 3000 and 4000 level Chemistry[3] courses not yet taken to total a minimum of 63 credit hours of Chemistry courses at the 1000-4000 Level. These credit hours may make up part of a focus area. 9 credit hours of non-Chemistry[5] courses which are part of a designated focus area[3]. If no Focus Area is selected, students must choose 9 credit hours of Chemistry courses. 15 credit hours of approved electives in years three and four[4]	
		Work Terms (if Co-op selected): CHEM 3980, CHEM 3990	**Work Terms (if Co-op selected):** CHEM 4980 and/or CHEM 4990
30 Hours	30 Hours	30 Hours	30 Hours

NOTES:

1. MATH 1230 or MATH 1510 or MATH 1520 may be taken in place of MATH 1500; MATH 1232 or MATH 1710 may be taken in place of MATH 1700; MATH 1690 may be taken in place of MATH 1500 and MATH 1700.

2. MATH 1010, MATH 1020, **the former** MATH 1190, MATH 1191, COMP 1260 and COMP 1270 may not be used to satisfy this requirement.

3. Students may elect to complete the requirements set out in one of the Chemistry focus areas. If a student opts for one of the focus areas, they should consult with the Department of Chemistry and a Science Academic Advisor for information regarding specific course requirements for each focus area.

4. Elective courses should be selected in consultation with the Department of Chemistry and/or a Faculty of Science Academic Advisor.

5. Not all Focus Areas include non-Chemistry courses. Some Focus Areas are all Chemistry courses. Refer to the description of each Focus Area for more information.

Honours Cooperative Option

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 are required to complete 24 credit hours of Chemistry (in-

cluding CHEM 2470 and either ~~CHEM 2280~~ **CHEM 2260 (or the former CHEM 2280)** or CHEM 2290) before they begin their first employment term. Students should refer to the general faculty regulations for B.Sc. (Honours) Cooperative Options in Section 3.6.

Proposed B.Sc. Major in Chemistry Program Chart

<table>
<tr><td colspan="4">4-YEAR MAJOR[3,4] (incl. Co-operative Option if selected) 120 CREDIT HOURS (comprising courses listed in chart below, and electives[5])</td></tr>
<tr><td>CHEM 1300,
CHEM 1310 (C+)

PHYS 1050[2] (or PHYS 1020 (C+)),
PHYS 1070

MATH 1500[1],
MATH 1700[1]</td><td>CHEM 2210, CHEM 2220, ~~CHEM 2280~~CHEM 2260 (CHEM 2280), CHEM 2290, CHEM 2400, CHEM 2470, CHEM 2860 (CHEM 2360)</td><td>CHEM 3400, CHEM 3590</td><td>CHEM 4610 (6)</td></tr>
<tr><td colspan="2">In Year 1 or Year 2 the following must be completed:

6 credit hours from the Faculty of Arts, which should include the required "W" course.

3 credit hours from Mathematics, Statistics or Computer Science courses[2]</td><td colspan="2">Sufficient credit hours (18) from the 2000, 3000 and 4000 level Chemistry[3] courses not yet taken to total a minimum of 57 credit hours of Chemistry courses at the 1000-4000 Level. These credit hours may make up part of a focus area.

9 credit hours of non-Chemistry courses[6] which are part of a designated focus area[3]. (Note: If no Focus Area is selected, students must choose 9 credit hours of Chemistry courses.)</td></tr>
<tr><td colspan="2"></td><td>Work Terms (if Co-op selected):

CHEM 3980, CHEM 3990</td><td>Work Terms (if Co-op selected):

CHEM 4980 and/or CHEM 4990</td></tr>
<tr><td>30 Hours</td><td>30 Hours</td><td>30 Hours</td><td>30 Hours</td></tr>
</table>

1. MATH 1230 or MATH 1510 or MATH 1520 may be taken in place of MATH 1500; MATH 1232 or MATH 1710 may be taken in place of MATH 1700; MATH 1690 may be taken in place of MATH 1500 and MATH 1700.

2. MATH 1010, MATH 1020, **the former** MATH 1190, MATH 1191, COMP 1260 and COMP 1270 may not be used to satisfy this requirement.

3. Students may elect to complete the requirements set out in one of the Chemistry focus areas. If a student opts for one of the focus areas, they should consult with the Department of Chemistry and a Science Academic Advisor for information regarding specific course requirements for each focus area.

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.

5. Elective courses should be selected in consultation with the Department of Chemistry and/or a Faculty of Science Academic Advisor.

6. Not all Focus Areas include non-Chemistry courses. Some Focus Areas are all Chemistry courses. Refer to the description of each Focus Area for more information.

(Letters in brackets indicate minimum prerequisite standing for further study. The number 6 in brackets indicates a 6 credit hour course.)

Major Cooperative Option

The course and grade requirements **for entry** to this option are the same as those required for entry to the Chemistry Major program. Students are required to complete 24 credit hours of Chemistry (including CHEM 2470 and either ~~CHEM 2280~~ **CHEM 2260 (or the former CHEM 2280)** or CHEM 2290) before they begin their first work term. To continue in the Major program, a student must have a DGPA of 2.00 at each point of assessment. **To graduate** with the Bachelor of Science (Major Cooperative Option) in Chemistry, a student must obtain a minimum GPA of 2.00 on the 120 credit hours that contribute to the degree and a minimum grade of "C" or better in all required Chemistry and Focus Area courses.

Proposed Chemistry Program Focus Areas Proposed Calendar Entry:

Bioanalytical: 18 credit hours chosen from: CHEM 2550, CHEM 2370, **CHEM 3260**, CHEM 3570, CHEM 4550, CHEM 4590, CHEM 4630, ~~CHEM 4660~~; plus a minimum of 9 credit hours from: BGEN 3020 (6), MBIO 2020, MBIO 3410, PHYS 2600, PHYS 2610, PHYS 2260, STAT 2000.

Inorganic: 18 credit hours chosen from: CHEM 3390, CHEM 4680, CHEM 4570 (Topics in Inorganic Chemistry: Catalysis and Small Molecule Activation), CHEM 4570 (Topics in Inorganic Chemistry: Bioinorganic Chemistry), CHEM 4570 (Topics in Inorganic Chemistry: Inorganic Materials), CHEM 4802 (Topics in Analytical Chemistry: Materials Characterization), CHEM 3360; plus 9 credit hours from **CHEM 3260**, CHEM 3580, ~~CHEM 4660~~, CHEM 4690, CHEM 3370, CHEM 3490, PHYS 2210 or PHYS 2260. (Note: The Inorganic Chemistry Focus Area does not include 9 hours of non-Chemistry courses.)

Organic: 27 credit hours from: **CHEM 3260**, CHEM 3390, CHEM 3580, CHEM 4580, CHEM 4590, CHEM 4620, CHEM 4630, ~~CHEM 4660~~, CHEM 4670, CHEM 4680, CHEM 4690. (Note: There are no non-Chemistry courses in the Organic Chemistry Focus Area)

Physical: 18 credit hours from: **CHEM 3260**, CHEM 3360, CHEM 3370, CHEM 3490, CHEM 3570, CHEM 3580, CHEM 4100, ~~CHEM 4660~~, CHEM 4800 (Topics in Physical/Theoretical Chemistry); plus 9 credit hours from: MATH 2090, PHYS 2260, PHYS 2390, PHYS 2490, PHYS 2600, PHYS 2610, PHYS 3680. (MATH 1220 or MATH 1300 are highly recommended but will not count toward the 9 credit hours of non-Chemistry requirements).

Quantum/Computational: Each of: **CHEM 3260,** CHEM 3360, CHEM 3370, CHEM 3580, CHEM 4640, ~~CHEM 4660~~, CHEM 4670; plus 9 credit hours from: COMP 2160, COMP 2190, MATH 2300, MATH 2600, PHYS 2380, PHYS 4250, PHYS 4520.

Proposed Chemistry General Degree and Minor Requirements:

Three Year Requirements

Courses taken as part of a three-year degree program provide an introduction to the major fields of study in Chemistry. ~~Commencing in Fall Term 2010,~~ **S**tudents ~~will~~ have two options for a three year Degree under the Department of Chemistry.

Option A – Three Year General: As prescribed with all other faculty regulations in Section 3.2, students in this program must select 18 credit hours of 2000, 3000, and (or) 4000 level courses from each of **two** Science areas. To satisfy the requirement in the area of Chemistry, students must select a minimum of 18 credit hours from the following list of advanced level courses: CHEM 2210, CHEM 2220, ~~CHEM 2280~~ **CHEM 2260 (CHEM 2280)**, CHEM 2290, CHEM 2360, CHEM 2370, CHEM 2400 (CHEM 2380), CHEM 2470, **CHEM 3260 (CHEM 4660),** CHEM 3360, CHEM 3370, CHEM 3390, CHEM 3400 (CHEM 3380), CHEM 3570, CHEM 3580, CHEM 3590, CHEM

4100, CHEM 4360, CHEM 4370, CHEM 4570, CHEM 4580, CHEM 4590, CHEM 4620, CHEM 4630, CHEM 4640, ~~CHEM 4660~~, CHEM 4670, CHEM 4680, CHEM 4690 (subject to the Faculty requirement that of the 36 credit hours in the two advanced level Science areas, at least 6 credit hours must be at the 3000/4000 level).

Courses **not allowed** for use as advanced level courses in the 3-Year General Degree are: CHEM 2240, CHEM 2550, CHEM 2560, CHEM 2770, CHEM 2780, CHEM 2860, CHEM 4550, (the former CHEM 4600), CHEM 4610(6), CHEM 4650, CHEM 4700, and CHEM 4710.

Option B - Three Year B.Sc. – Chemistry Focus: Students that choose this path for their three-year degree program will follow the program chart below. The 24 credit hours of introductory courses and 36 credit hours of advanced level requirements have been prescribed in such a way so that students that follow the chart can seamlessly transfer to a 4-year Chemistry Honours or Major degree program should they choose to do so after the completion of the 90 credit hours listed in the chart.

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 Departmental Program Advisor before registering.

THREE YEAR B.Sc. General – Chemistry Focus 90 CREDIT HOURS	
CHEM 1300, CHEM 1310 ~~(C)~~ **(C+)**	21 hours of required 2000 level Chemistry courses: CHEM 2210, CHEM 2220, ~~CHEM 2280~~ **CHEM 2260 (CHEM 2280)**,CHEM 2290, CHEM 2400 (CHEM 2380), CHEM 2470, CHEM 2360
BIOL 1020, BIOL 1030 MATH 1500[1], MATH 1700[1]	15 credit hours of 2000 level or higher CHEM: Excluding the Chemistry service courses (2240, 2560, 2770, 2780), Co-op courses (3980, 3990, 4980, 4990) and specialized courses (4610, 4700, 4710). A minimum of 6 credit hours must be chosen from the 3000 / 4000 level.
	6 credit hours of electives to be chosen from outside the Faculty of Science
PHYS 1050[2], PHYS 1070[2] 6 credit hours from the Faculty of Arts. (Should include the student's "W" requirement.)	18 credit hours of open electives
THREE YEAR GENERAL 90 CREDIT HOURS	
CHEM 1300, CHEM 1310 (C)	a minimum of 18 credit hours from the following list of advanced level courses: CHEM 2210,CHEM 2220, ~~CHEM 2280~~ **CHEM 2260 (CHEM 2280)**, CHEM 2290, CHEM 2360, CHEM 2370, CHEM 2400 (CHEM 2380),CHEM 2470, **CHEM 3260 (CHEM 4660),** CHEM 3360, CHEM 3370, CHEM 3400 (CHEM 3380), CHEM 3390, CHEM 3570,CHEM 3580, CHEM 3590, CHEM 4100, CHEM 4360, CHEM 4370, CHEM 4570, CHEM 4580, CHEM 4590,CHEM 4620, CHEM 4630, CHEM 4640, ~~CHEM 4660,~~ CHEM 4670, CHEM 4680, CHEM 4690(subject to the Faculty requirement that of the 36 credit hours in the two advanced level Science areas, at least 6 credit hours must be at the 3000/4000 level).
MINOR	
CHEM 1300, CHEM 1310 (C)	Normally CHEM 2210 and CHEM 2220, plus an additional 6 credit hours of Chemistry

NOTES:

1. MATH 1230 or MATH 1510 or MATH 1520 may be taken in place of MATH 1500; MATH 1232 or MATH 1710 may be taken in place of MATH 1700; MATH 1690 may be taken in place of MATH 1500 and MATH 1700.

2. PHYS 1020 may be used in place of PHYS 1050; and, in the 3-year degree only - PHYS 1030 may be used in place of PHYS 1070. Students planning on completing a 4-year degree in Chemistry are required to complete PHYS 1070.

(Letters in brackets indicate minimum prerequisite standing for further study. The number 6 in brackets indicates a 6 credit hour course.)

Proposed B.Sc. Joint Honours in Chemistry and Physics & Astronomy Program Chart:

4.5.5 Chemistry - Physics Joint Honours Program			
YEAR 1	YEAR 2	YEAR 3	YEAR 4
JOINT HONOURS[2] 120 CREDIT HOURS			
CHEM 1300 (B), CHEM 1310(B) PHYS 1050 (B) (or PHYS 1020(B+)[2]), PHYS 1070[2] (B) MATH 1500[1] (B), MATH 1700[1](B) 6 credit hours from the Faculty of Arts, which should include the required "W" course 6 credit hours of electives	CHEM 2210, CHEM 2220,~~CHEM 2280~~ **CHEM 2260 (CHEM 2280)**, CHEM 2290,CHEM 2400 or CHEM 2470 PHYS 2390, PHYS 2380, PHYS 2490, PHYS 2600, PHYS 2650	12 credit hours from whichever of CHEM 2400 or 2470 not taken and any of CHEM 2860(CHEM 2360 /MBIO 2360),CHEM 2370 (MBIO 2370) or 3000 / 4000 level Chemistry courses PHYS 2260, PHYS 2610, PHYS 3380, PHYS 3630, PHYS 3670, PHYS 3680	CHEM 4610 (6) CHEM 4710 (6) or both PHYS 4672 and PHYS 4674 PHYS 4390 6 credit hours of 3000 / 4000 level Physics courses 3 credit hours of 3000 / 4000 level Chemistry courses 6 credit hours of approved electives
30 Hours	30 Hours	30 Hours	30 Hours

NOTES:

1. MATH 1230 or MATH 1510 or MATH 1520 may be taken in place of MATH 1500; MATH 1232 or MATH 1710 may be taken in place of MATH 1700; MATH 1690 may be taken in place of MATH 1500 and MATH 1700.

2. PHYS 1020 may be used in place of PHYS 1050; PHYS 1070 is required in the Chemistry and Physics Joint Honours.

3. Elective courses should be selected in consultation with the Department of Chemistry and/or a Faculty of Science Academic Advisor.

(Letters in brackets indicate minimum prerequisite standing for further study. The number 6 in brackets indicates a 6 credit hour course.)

Computer Science

Modifications:

COMP 4580 Computer Security Cr.Hrs. 3 0.0
(Lab Required) Computer security and information management. This course will examine state-of-the-art knowledge about the issues relevant to data and computer security. Prerequisite: COMP 3430 (C) and COMP 3010 (C).

Program modifications:

Modifications to the **Bachelor of Science (Joint Honours) in Computer Science and Statistics** are outlined on the next pages.

COMPUTER SCIENCE – STATISTICS JOINT HONOURS
PROGRAM MODIFICATIONS
EFFECTIVE 2016 FALL TERM

Proposed Changes to the B.Sc. Honours Degree in Computer Science – Statistics

The Departments of Computer Science and Statistics offer a joint Honours program for in-depth study in both Computer Science and Statistics.

Students will normally take STAT 2400 in Year 2 and enter Honours in Year 3.

To enter the Joint Honours Computer Science-Statistics Program, the student must have a "B" or better in COMP 1020 and in STAT 2400 **and a DGPA of 3.00.** ~~and a "C+" or better in MATH 1220[1], MATH 1230[1] and MATH 1232[1]. Note that MATH 1240 is not required to enter the program, however, it is recommended that it be completed in Year 1 as it is prerequisite to a Year 2 course.~~ **Note that MATH 1220[1], MATH 1230[1] and MATH 1232[1] and MATH 1240 are not required to enter the program, however, it is recommended that they be completed in Year 1 as they are prerequisites to Year 2 courses.**

To continue in the Joint Honours Computer Science - Statistics students must maintain a DGPA of 3.00.

To graduate with the Honours degree a student must present a minimum grade of "C" in each course that contributes to the degree. In addition, the student must achieve a minimum DGPA of 3.00. ~~and a minimum grade of "C+" in each of the program specific courses in Statistics.~~

Both departments must approve a student's Honours program each session. Students must also obtain approval from both departments for any and all revisions to the program.

Computer Science - Statistics Joint Honours Program			
YEAR 1	YEAR 2	YEAR 3	YEAR 4
JOINT HONOURS 120 credit hours (comprising courses listed in chart below, and electives)			
COMP 1010, COMP 1020 (B) STAT 1000, STAT 2000 ~~(B)~~ MATH 1220[1] ~~(C+)~~, MATH 1230[1] ~~(C+)~~ MATH 1232[1] ~~(C+)~~, MATH 1240 ~~(C+)~~ Plus 6 credit hours from the Faculty of Arts, which could include the required 3 credit hour "W" course.	COMP 2080[2], COMP 2140, COMP 2150, COMP 2160, COMP 2190 STAT 2400 **(B),** MATH 2080, MATH 2150 6 credit hours of electives.	COMP 3170, COMP 3380 STAT 3050, STAT 3400, STAT 3470, STAT 3480, STAT 3800 9 credit hours of electives[4] including 3 credit hours from 3rd year COMP.	STAT 4100, STAT 4520, STAT 4530 21 credit hours of electives including 6 credit hours from 4th year COMP[3], 3 credit hours from 3rd year COMP and 6 credit hours from 4th year STAT courses.
30 Hours	30 Hours	30 Hours	30 Hours
JOINT HONOURS COOPERATIVE OPTION 120 CREDIT HOURS (comprising courses listed in chart below, and electives)			
COMP 1010, COMP 1020(B) STAT 1000, STAT 2000 ~~(B)~~ MATH 1220[1] ~~(C+)~~, MATH 1230[1] ~~(C+)~~, MATH 1232[1] ~~(C+)~~, MATH 1240 ~~(C+)~~ Plus 6 credit hours from the Faculty of Arts, which could include the required 3	COMP 2080[2], COMP 2140, COMP 2150, COMP 2160, COMP 2190, STAT 2400 **(B),** MATH 2080, MATH 2150 6 credit hours of electives.	COMP 3170, COMP 3380 STAT 3050, STAT 3400, STAT 3470, STAT 3480, STAT 3800 9 credit hours of electives[4] including 3 credit hours from 3rd year COMP.	STAT 4100, STAT 4520, STAT 4530 21 credit hours of electives including 6 credit hours from 4th year COMP[3], 3 credit hours from 3rd year COMP and 6 credit hours from 4th year STAT

credit hour "W" course.			courses.
	COMP 2980[5]	COMP 3980[5]	COMP 4980[5]
30 Hours	30 Hours	30 Hours	30 Hours

NOTES:

1 MATH 1510 (B) or MATH 1500 (B) may be taken in place of MATH 1230; MATH 1300 (B) may be taken in place of MATH 1220; MATH 1710 (B) or MATH 1700 (B) may be taken in place of MATH 1232.

2 COMP 2130 is waived as a prerequisite for students in this program.

3 COMP 4710 and COMP 4380 are suggested if offered.

4 The following courses are suggested: COMP 3350, COMP 3020, COMP 3490, STAT 3490, STAT 4630, STAT 4690.

5 The work terms COMP 2980, COMP 3980 and COMP 4980 will be completed in the summers following Year 2, Year 3 and Year 4, respectively and must be completed by the last academic term.

Mathematics

Modifications:

MATH 1010 Applied Finite Mathematics Cr.Hrs. 3 0.0
(Lab Required) 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. This is a terminal course and may not be used as a prerequisite for other Mathematics courses. This course cannot be used as part of an Honours, Major, General or Minor program in the mathematical sciences. Not available to any student already holding a grade of "C" or better in any Mathematics course with the exception of MATH 1020, FA 1020, the former MATH 1190, or MATH 1191. Not to be taken concurrently with any other Mathematics course with the exception of MATH 1020, FA 1020, or MATH 1191. No prerequisite.

MATH 1020 Mathematics in Art Cr.Hrs. 3 0.0
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 FA 1020. This is a terminal course and may not be used as a prerequisite for other Mathematics courses. This course cannot be used as part of an Honours, Major, General or Minor program in the mathematical sciences. Not to be held with FA 1020. Not available to any student already holding a grade of “C” or better in any Mathematics course with the exception of MATH 1010, the former MATH 1190, or MATH 1191. Not to be taken concurrently with any other Mathematics course with the exception of MATH 1010 or MATH 1191. No prerequisite.

NET CHANGE IN CREDIT HOURS: 0.0

Program modification:

A modification to the **Bachelor of Science (Honours) in Mathematics** is outlined on the next page.

Mathematics Honours program modification

Note: there are no changes in program chart, only list of electives is modified

Proposed Program Modification:

To enter the Honours program in Mathematics, a student must have completed at least 24 credit hours with a minimum GPA of 3.00, and also obtained a minimum grade of "B" in either MATH 1232 or MATH 1690, or a minimum grade of "A" in MATH 1700.

To continue in the Mathematics Honours program, students must maintain a minimum GPA of 3.00, and complete a minimum of 9 credit hours during each Fall and Winter Term.

To graduate with the B. Sc. Honours degree, a student must maintain a minimum 3.00 GPA and achieve a minimum grade of "C" in all courses that make up the 120 credit hours of the degree.

List of Year 2 Mathematics electives (of which two are required for the core requirements): MATH 2030, MATH 2040, MATH 2070, MATH 2140, MATH 2160, MATH 2170.

Other electives normally allowed are:

Statistics: STAT 2000, STAT 2400, STAT 3470, STAT 3480, STAT 3400 (STAT 3500), STAT 3800 (STAT 3600), STAT 4100 (STAT 4140), STAT 4520, STAT 4530, STAT 4580, STAT 4590, STAT 4600, STAT 4620, STAT 4630,STAT 4690.

Physics: PHYS 2380, PHYS 2600, PHYS 2610, PHYS 2650, PHYS 3670, PHYS 3680, PHYS 3650, PHYS 3660, PHYS 3630, PHYS 3640, PHYS 3380, PHYS 4390, PHYS 4620, PHYS 4640, PHYS 4650.

Chemistry: **CHEM 2260 (**CHEM 2280**)**, CHEM 2290, CHEM 3360, CHEM 3370, CHEM 4640, CHEM 4650.

Economics: ECON 2010, ECON 2030, ECON 3010, ECON 3030, ECON 4040, ECON 4042.

Mechanical Engineering: MECH 3490.

Other courses may be chosen with permission of the department. Students are required to obtain the approval of the department concerning their choice of electives.

<table>
<tr><td colspan="4">4.9.2 Mathematics</td></tr>
<tr><td>YEAR 1</td><td>YEAR 2</td><td>YEAR 3</td><td>YEAR 4</td></tr>
<tr><td colspan="4">MATHEMATICS HONOURS 120 CREDIT HOURS</td></tr>
<tr><td>MATH 1220[1],
MATH 1230[1],
MATH 1232[1],
MATH 1240</td><td>MATH 2020, MATH 2080, MATH 2090, MATH 2150, MATH 2180

6 credit hours from the following list:
MATH 2030, MATH 2040, MATH 2070, MATH 2140, MATH 2160[2], MATH 2170</td><td colspan="2" rowspan="2">36 credit hours of Mathematics courses, which must include the following:

MATH 3320, MATH 3340, MATH 3390, MATH 3440, MATH 3470, MATH 3472;

and one of the two concentrations listed below:

Applied and Computational Mathematics Concentration:

MATH 3420, MATH 3460, MATH 4370;
and additional 9 credit hours to be chosen from:
MATH 3322, MATH 3330, MATH 4280, MATH 4320[3], MATH 4330[3], MATH 4380[3], MATH 4390[3], MATH 4440, MATH 4460[3]

Pure Mathematics Concentration:
MATH 3322, one of (MATH 3410[3] or MATH 3480[3]), MATH 4260, and one of (MATH 4300[3] or MATH 4340[3] or MATH 4360[3]);</td></tr>
<tr><td colspan="2">STAT 1000, COMP 1010</td></tr>
</table>

		and additional 6 credit hours to be chosen from: MATH 3360, MATH 4240[3], MATH 4270, MATH 4280, MATH 4290, MATH 4450, MATH 4470[3].	
The following must be completed in Year 1 or Year 2: 6 credit hours from the Faculty of Arts, which should include the required "W" course		12 credit hours of electives from: MATH 2030, MATH 2070, MATH 2160 (if not taken as a required 2nd year elective), MATH 2170 and all Year 3 and 4 mathematics courses	
15 credit hours of electives (review above list for acceptable electives)		12 credit hours of approved (not necessarily mathematics) electives (review above list for acceptable electives)	
30 credit hours	30 credit hours	30 credit hours	30 credit hours

NOTES:

1 Students are strongly advised to take MATH 1220, MATH 1230, and MATH 1232. The following substitutions are allowed (but not advised), provided the grades indicated in brackets are achieved: MATH 1300 (A) in place of MATH 1220, MATH 1500 (A) or MATH 1510 (A) in place of MATH 1230, MATH 1700 (A) or MATH 1710 (A) in place of MATH 1232, MATH 1690 (B) in place of MATH 1230 and MATH 1232.

2 Department strongly recommends choosing MATH 2160 as one of the electives in Year 2.

3 These courses may not be offered every year, but are usually offered once every second year. Please refer to Aurora Student for courses offered in the current year and to the website of the Department of Mathematics for the planned schedule of future course offerings.

Microbiology

Program modifications:

A modification to the entrance requirements for the following programs is set out below:

- **Bachelor of Science (Major) in Microbiology**
- **Bachelor of Science (Major) in Microbiology, Cooperative Option**

Proposed entry requirements for the B.Sc. Major including Co-op:

Four Year Major

To enter the Major Degree program in Microbiology, a student must have completed at least 24 credit hours with a minimum GPA of 2.00, and also obtained a minimum grade of "C+" in MBIO 1010 and ~~a minimum grade of "C" in~~ CHEM 1310. BIOL 1020, BIOL 1030, STAT 1000 and the 3 credit hours of specified Mathematics or Physics are program requirements and students are strongly urged to complete these courses in first year.

Modifications to the following programs are set out on the next page.

- **Bachelor of Science (Honours) in Microbiology**
- **Bachelor of Science (Honours) in Microbiology, Cooperative Option**
- **Bachelor of Science (Major) in Microbiology**
- **Bachelor of Science (Major) in Microbiology, Cooperative Option**

Proposed Option List For Microbiology Honours, Honours Cooperative Option, Major and Major Cooperative Option:

Option List for All Microbiology Programs:

Agroecology: AGEC 2370

Biological Sciences:
BIOL 2242 (BOTN 2010), BIOL 2260 (BOTN 2210), BIOL 2261, BIOL 2300 (BOTN 2370, ZOOL 2370), BIOL 2301 (BOTN 2371, ZOOL 2371), BIOL 2380 (BOTN 2180, ZOOL 2180), BIOL 2381, BIOL 2410 (ZOOL 2530), BIOL 2411 (ZOOL 2531), BIOL 2420 (ZOOL 2540), BIOL 2421 (ZOOL 2541), BIOL 3260 (BOTN 2290), BIOL 3290 (BOTN 3280), BIOL 3291, BIOL 3330 (BOTN 3250), BIOL 3370 (ZOOL 3500), BIOL 3400 (BIOL 3450), BIOL 3452 (BOTN 3010), BIOL 3460 (ZOOL 3530), BIOL 3462 (ZOOL 3540), BIOL 3470, BIOL 3472, BIOL 3500 (BOTN 3460), BIOL 3501, BIOL 3542 (BIOL 2540), BIOL 3560 (ZOOL 3060), BIOL 3561, BIOL 4242 (BOTN 4130), BIOL 4244 (BOTN 4160), BIOL 4246 (BOTN 4050), BIOL 4250 (BOTN 4210), BIOL 4430 (BOTN 4120), BIOL 4480 (ZOOL 4600), BIOL 4540 (ZOOL 4150), BIOL 4542 (ZOOL 4270), **BIOL 4544 (BIOL 3540),** BIOL 4554, BIOL 4556, BIOL 4560 (ZOOL 4140)

Chemistry:
~~CHEM 2280,~~ **CHEM 2260 (CHEM 2280),** CHEM 2290, ~~CHEM 2380,~~ CHEM 2400 **(CHEM 2380)**, CHEM 2470, CHEM 3390, CHEM 3590, CHEM 3570**,** CHEM 4590, CHEM 4360, CHEM 4370, CHEM 4620, CHEM 4630, CHEM 4670

Environmental Science: ENVR 2180

Food Sciences: FOOD 4150, FOOD 4280

General Agriculture: AGRI 2180

Pharmacology: PHAC 4030, PHAC 4040

Plant Science: PLNT 3400

Statistics: STAT 2000

NOTE: Other suitable options may be selected with permission of the department.

Psychology

Program modifications:

A modification to the graduation requirements for the **Bachelor of Science (Honours) in Psychology** is set out below.

> To graduate, a student must obtain 120 credit hours of courses with grades of "C" or better in each course and with a minimum **degree** grade point average of 3.00 ~~on the 120 credit hours that contribute to the degree~~. In addition, students must complete the program of study in the chart below.*
>
> [**Secretary's note: The chart is not included here. Please refer to the 2015/2016 Academic Calendar*.]

Modifications to the following programs are set out on the next page.

- **Bachelor of Science (Honours) in Psychology**
- **Bachelor of Science (Major) in Psychology**

PSYCHOLOGY
PROGRAM MODIFICATIONS
EFFECTIVE 2016 FALL TERM

Proposed change to the B.Sc. Honours and Major in Psychology:

Categories of Psychology Courses

Category A:	Personality/Social	~~PSYC 2410, PSYC 2420~~, **PSYC 2540,** PSYC 2490, PSYC 2530
Category B:	Developmental	PSYC 2290
Category C:	Learning	PSYC 2440, PSYC 2470
Category D:	Cognitive	PSYC 2480
Category E:	Biological	PSYC 2360

SUMMARY:

The Psychology undergraduate program has a list of categories from which students must choose a specified number of courses to complete their degrees. Proposed changes to drop PSYC 2410 and PSYC 2420 and replace them with PSYC 2540 have resulted in changes to the "Category A list".

RATIONALE:

The Faculty of Arts had an external committee review the Psychology undergraduate program in March 2012. Many of these changes were approved by COCAP since that time and the current proposal represents a remaining change in response to this review. The reviewers suggested that the Department of Psychology adopt the same program structure of other Canadian psychology undergraduate programs by requiring one 3-credit Introductory Social Psychology course instead of two sequenced 3-credit course credit Introductory Social Psychology courses (Social Psychology I and Psychology II). The proposed changes are in response to this recommendation.

Statistics

Program modifications:

A modification to the graduation requirements for the **Bachelor of Science (Joint Honours) in Statistics and Mathematics** is set out below.

STATISTICS – MATHEMATICS JOINT HONOURS
PROGRAM MODIFICATION
EFFECTIVE 2016 FALL TERM

Proposed Mathematics-Statistics Joint Honours Program:

4.9.2.11 Mathematics - Statistics Joint Honours Program

The departments of Statistics and Mathematics offer a joint Honours program for students wishing in depth study in Statistics and Mathematics.

To enter the Honours program students must have satisfied the Faculty of Science requirements for entry to the program, and have obtained a minimum grade of "B" in STAT 1000, **and** either MATH 1232 or MATH 1690 (or a minimum grade of "A" in MATH 1700).

To continue in the Honours program students must maintain a minimum DGPA of 3.00.

To graduate with the B. Sc. Honours degree, a student must achieve a minimum DGPA of 3.00, **and** a minimum grade of ~~"C+" in each of the Honours Program Specific courses, and a minimum grade of~~ "C" on all ~~remaining~~ courses that contribute to the 120 credit hours of the degree. ~~See the Calendar entry for each of the Department of Statistics and the Department of Mathematics for the Honours Program Specific courses.~~

YEAR 1	YEAR 2	YEAR 3	YEAR 4
JOINT HONOURS 120 CREDIT HOURS (comprising courses listed in chart below, and electives)			
MATH 1220[1], MATH 1230[1], MATH 1232[1] (B), MATH 1240	2 STAT 2000 , STAT 2400 MATH 2020, MATH 2080, MATH 2090, MATH 2150, MATH 2160, MATH 2180	STAT 3050, STAT 3470, STAT 3480, STAT 3400, STAT 3800	STAT 4100, STAT 4520, STAT 4530
The following courses must be taken in Year 1 or Year 2: STAT 1000 (B), COMP 1010 6 credit hours from the Faculty of Arts, which should include the required "W" course 12 credit hours of approved electives		MATH 2030, MATH 3320, MATH 3322, MATH 3340, MATH 3470, MATH 3472, MATH 3440, MATH 3460 3 credit hours from MATH 2070, MATH 2170 and any 3000 / 4000 level Mathematics courses 3 credit hours from any 4000 level Mathematics courses 6 credit hours of approved electives	
30 Hours	30 Hours	30 Hours	30 Hours

NOTES:

1 Students are strongly advised to take MATH 1220, MATH 1230, and MATH 1232. The following substitutions are allowed (but not advised), provided the grades indicated in brackets are achieved: MATH 1300 (A) in place of MATH 1220, MATH 1500 (A) or MATH 1510 (A) in place of MATH 1230, MATH 1700 (A) or MATH 1710 (A) in place of MATH 1232, MATH 1690 (B) in place of

MATH 1230 and MATH 1232.

2 STAT 2000 may be taken in Year 1.

Letters in brackets indicate minimum grade required for further study.

Program modifications:

Modifications to the following programs are set out on the next pages:

- **Bachelor of Science (Major) in Statistics**
- **Bachelor of Science (Major) in Statistics, Cooperative Option**

STATISTICS
PROGRAM MODIFICATIONS
EFFECTIVE 2015 FALL TERM

Proposed Calendar Entry for the Statistics Major Program Specific courses:

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: ECON 1010, ECON 1020, ~~ECON 2450, ECON 2460, ECON 2470, ECON 2480, ECON 3170, ECON 3180, ECON 3730, ECON 4120, ECON 4130~~. **ECON 2010, ECON 2020, ECON 2030, ECON 3010, ECON 3020, ECON 3030, ECON 3040, ECON 4040, ECON 4042**. (This list of courses is effective as of Fall 2015.)

Program modifications:

Modifications to the following programs are set out on the next pages:

- **Bachelor of Science (Joint Honours) in Statistics and Economics**

STATISTICS – ECONOMICS JOINT HONOURS
PROGRAM MODIFICATIONS
EFFECTIVE 2016 FALL TERM

Proposed B.Sc. Statistics-Economics Joint Honours Program:

The Department of Statistics along with the Department of Economics (Faculty of Arts) offer a Joint Honours program for students wishing in depth study in Statistics and Economics. For Economics course listings, refer to the Faculty of Arts chapter in the Calendar.

Students will normally take STAT 2000 and STAT 2400 in second year and enter Honours in Year 3.

To enter the Joint Honours Statistics Economics program **in the Faculty of Science**, the student must have a minimum grade of "B" in both of ECON 1010 and ECON 1020 (or ECON 1210 and ECON 1220) and STAT 2400; and ~~an average grade of "B" or better with a minimum grade of "C+" in each of MATH 1220, MATH 1230 and MATH 1232 or any equivalents~~ and have satisfied the Faculty of Science requirements for entry to the honours program. **Students are strongly encouraged to take MATH 1220, MATH 1230, MATH 1232 and MATH 1240 in Year 1.**

To continue in the Joint Honours Statistics Economics program in the Faculty of Science, a minimum DGPA of 3.00 is required.

To graduate with the B. Sc. Joint Honours Statistics Economics degree from the Faculty of Science, a student must achieve a minimum DGPA of 3.00, and a minimum grade of "C" in each of the courses that contribute to the 120 credit hours of the degree.

YEAR 1	YEAR 2	YEAR 3	YEAR 4
JOINT HONOURS TOTAL: 120 CREDIT HOURS			
Both ECON 1010 and ECON 1020, or both ECON 1210 and ECON 1220. STAT 1000 MATH 1220[1] MATH 1230[1] MATH 1232[1] MATH 1240 COMP 1010	ECON 2010 ECON 2020 STAT 2000 STAT 2400 MATH 2030 MATH 2080 MATH 2140 MATH 2150	ECON 3010 ECON 3020 STAT 3400 STAT 3470 STAT 3480 STAT 3490 STAT 3800 MATH 2160 MATH 3360	ECON 4040 ECON 4042 STAT 4100 STAT 4200 STAT 4520 STAT 4530
6 credit hours of electives including the required "W" course	6 credit hours of approved Economics electives[2]	3 credit hours of approved Economics electives[2]	12 credit hours of approved Economics electives[2]
30 Hours	30 Hours	30 Hours	30 Hours

NOTES:

1 The following substitutes are allowed: MATH 1300 in place of MATH 1220, MATH 1500 in place of MATH 1230, MATH 1700 in place of MATH 1232. Students must attain specific grade requirements in order to meet the upper level course prerequisites. Consult course descriptions for further information.

2 Of the 21 credit hours of electives in Economics in Years 2, 3, and 4, no more than 6 credit hours may be at the 2000 level or below; ECON 2030 and ECON 3040 are recommended in Year 2 or 3. The normal prerequisite for ECON 3040 is ECON 2040, which will be waived for students in this program who have completed Year 1.

Université de Saint-Boniface

Faculty of Arts

Modification:

SOC 3371 Sociologie du travail Cr.Hrs. 3 0.0
Analyse du travail comme dimension centrale de la vie contemporaine. La transformation qu'a connu le travail dans le temps et par rapport aux changements politiques, technologiques et sociaux. L'organisation du travail du point de vue des travailleurs et des employeurs. L'impact du travail sur les individus, les institutions sociales et la société en général. On ne peut se faire créditer SOC 3371 et SOC 3370. Préalable: [une note minimale de C dans SOC 1201 ou SOC 1200] ou [une note minimale de C dans SOC 1211 et SOC 1221].

Faculty of Education

Deletion:

EDUB 4203 Didactiques: L'approche transdisciplinaire Cr.Hrs. 6 -6.0

Modification:

EDUB 4205 Didactiques: L'approche par projet Cr.Hrs. 6 0.0
Exploration d'une approche par projet où l'élève est acteur, s'implique et devient responsable. On ne peut se faire créditer l'ancien EDUB 4203 et EDUB 4205.

Program modification:

A modification to the Bachelor of Education is outlined on the next page.

Section D : Academic Calendar Content

Revised B.Ed. at Université de Saint-Boniface

Year 1 (30 credits)	Year 2 (30 credits)
EDUA 1801 EDUA 2801 EDUA 2901 EDUA 3201 EDUA 3313 EDUA 3993 EDUB 1011 EDUB 3101 EDUB 3291 EDUB 4051	EDUB 3013 EDUA 3303 EDUA 3323 EDUB 4011 ~~EDUB 4203~~ **EDUB 4205** 6 crédits (didactiques)

Faculty of Science

Modifications:

COMP 2191 Introduction au calcul scientifique Cr.Hrs. 3 0.0
lnformatique appliquée présentant des concepts tels que l'approximation par polynômes, la résolution d'équations non linéaires, les systèmes linéaires, la simulation et la géométrie analytique. On ne peut se faire créditer COMP 2191 et COMP 2190. Préalables: [une note minimale de C dans un de COMP 1021, COMP 1020, COMP 1013 ou COMP 1012] et [une note minimale de C dans un de MATH 1230, MATH 1501, MATH 1500, MATH 1510, MATH 1520 ou MATH 1690]. Préalable ou concomitant: un de MATH 1220, MATH 1301, MATH 1300 ou MATH 1310.

PHYS 1021 Physique générale 1 Cr.Hrs. 3 0.0
(Laboratoire requis) Initiation à la physique ne requérant pas de calcul et traitant de certains thèmes tirés de la mécanique et de la thermodynamique avec des examples tirés des sciences biologiques et physiques. Ce cours, de même que le PHYS 1031, est particulièrement conseillé aux étudiants désireux d'avoir une vue d'ensemble de la physique ou qui ont l'ntention d'entreprendre des études dans les sciences de la santé. II 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 PHYS 1021 et PHYS 1020, PHYS 1051, PHYS 1050, PHYS 1410 ou PHYS 1420. Préalables: Physique 40S, PHYS 0900 ou l'équivalent, et Mathématiques pré-calcul 40S, Mathématiques appliquées 40S (70 %), ou l'équivalent. II est fortement recommandé aux étudiants d'obtenir une note de 70% dans le cours de pré-calcul 40S et de PHYS 40S.

PHYS 1031 Physique générale 2 Cr.Hrs. 3 0.0
(Laboratoire requis) Découvrez comment la physique est à la base de toute la haute technologie du monde dans lequel on vit et comment on y vit. Apprenez à utiliser des concepts physiques simples et intuitifs, qu'on peut décrier avec peu de mathématiques et sans calcul différentiel et intégral, pour comprendre divers sujets tels que la production d'électricité, les causes de l'effet de serre, ce qui fait briller un diamant, les lasers, la chirurgie LASIK pour les yeux et le fonctionnement de l'oeil humain. Comme PHYS 1021, ce cours est particulièrement conseillé pour avoir une vue d'ensemble de la physique ou avant d'entreprendre des études en sciences de la santé. Ce cours ne peut être reconnu aux fins des programmes de spécialisation ou de majeure en physique. On ne peut se faire créditer PHYS 1031 et PHYS 1030, PHYS 1410 ou PHYS 1420. Préalable: une note minimale de C dans un de PHYS 1021, PHYS 1020, PHYS 1051 ou PHYS 1050.

PHYS 1051 Physique 1: La mécanique Cr.Hrs. 3 0.0
(Laboratoire requis) La mécanique est la science des fusées! Elle permet de décrire la trajectoire des objets en mouvement (cinématique) et de les expliquer (dynamique). Les concepts de base du calcul ainsi que les lois de la conservation du moment et de l'énergie sont utilisés pour développer les outils nécessaires à la description, à l'analyse et à la prédiction des mouvements linéaires ou en rotation dans les systèmes mécaniques simples. Une brève introduction à la théorie de la relativité restreinte d'Einstein offre un avant-goût des approches modernes. 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 PHYS 1051 et PHYS 1050, PHYS 1021, PHYS 1020, PHYS 1410 ou PHYS 1420. Préalables: Mathématiques pré-calcul 40S (ou l'équivalent) et Physique 40S (ou l'équivalent) ou PHYS 0900 (réussite). II est fortement recommandé que l'étudiant obtienne une moyenne de 80%

dans les préalables de Mathématiques pré-calcul 40S et de Physique 40S. Préalables ou concomitants: un de MATH 1230, MATH 1501, MATH 1500, MATH 1510, MATH 1520 ou MATH 1690.

PHYS 1071 Physique 2: La physique des ondes et la physique modern Cr.Hrs. 3 0.0
(Laboratoire requis) Au coeur des communications modernes, les ondes et les oscillations sont la clé de la compréhension du monde qui nous entoure, des échelles subatomiques jusqu'au cosmos lui-même en passant par la biologie, le débit de la circulation, la bourse et les changements climatiques. Découvre le mystérieux monde quantique, les bases de la dernière nanotechnologie et dans quelles circonstances les particules sont des ondes et les ondes, des particules. Explore le modèle de l'atome de Bohr et découvre le principe d'incertitude de Heisenberg. Ce cours fait appel au calcul différential et intégral pour traiter les concepts sous-jacents de l'ingénierie et de la physique modernes. Destiné, comme PHYS 1051, à ceux et celles qui veulent suivre un programme d'études en sciences physiques. On ne peut se faire créditer PHYS 1071 et PHYS 1070, PHYS 1410 ou PHYS 1420. Préalables: [une note minimale de C dans PHYS 1051 ou PHYS 1050] ou [une note minimale de B dans PHYS 1021 ou PHYS 1020] et une note minimale de C dans un de MATH 1230, MATH 1501, MATH 1500, MATH 1510 ou MATH 1520. Préalable ou concomitant: un de MATH 1232, MATH 1690, MATH 1701, MATH 1700 ou MATH 1710.

UNIVERSITY OF MANITOBA | Faculty of Health Sciences

OFFICE OF ACADEMIC AFFAIRS
S201/203 Medical Services Building
750 Bannatyne Avenue
Winnipeg, Manitoba R3E 0W2
Phone: (204) 977-5647

October 21, 2015

Ms. Shannon Coyston, Academic Specialist
Office of the University Secretary
314C Administration Building

Re: Application for Approval under Section 64 of the Manitoba Medical Act
- Dr. Shaikh Mohammed Iqbal

Dear Colleagues:

The Senate Committee on Medical Qualifications met on October 20, 2015 to consider the application from the Department of Pediatrics and Child Health, College of Medicine, Faculty of Health Sciences, University of Manitoba, to grant Dr. Iqbal a certificate under the academic seal of the university. Dr. Iqbal's Curriculum Vitae and letters of support are enclosed.

Dr. Iqbal received his Medical Degree from the Government Medical College, Bellary, India in 1991 followed by his MBBS (India) in 1994, his CCST certification in 1999 and his FRCPCH in 2011 (UK). He received his certification in Pediatrics and Pediatric Respiratory Medicine (2009) from the British Pediatric Respiratory Society. Dr. Iqbal is currently an Assistant Professor and Consultant in Pediatric Respiratory and Sleep Medicine, King Khalid University Hospital, King Saud University Riyadh KSA.

The Senate Committee on Medical Qualifications unanimously supports this application for use of Section 64. The Head, Department of Pediatrics and Child Health, Dr. Terry Klassen considers, and the Senate Committee on Medical Qualifications agrees, that Dr. Iqbal's expertise in respirology and sleep medicine will be highly beneficial in respiratory care of children in the Section of Pediatric Respirology, Department of Pediatrics and Child Health, College of Medicine, Faculty of Health Sciences and the University of Manitoba.

The Senate Committee on Medical Qualifications would appreciate your support for this application to grant Dr. Iqbal a certificate under the academic seal of the University to the College of Physicians and Surgeons of Manitoba.

Sincerely,

Sara J. Israels, MD FRCPC
Vice Dean
Chair, Senate Committee on Medical Qualifications

Comments of the Senate Executive Committee:
The Senate Executive Committee endorses the report to Senate.

Cc: Dr. Terry Klassen, Head, Department of Pediatrics and Child Health
Dr. Brian Postl, Dean, College of Medicine, Vice Provost, Faculty of Health Sciences
Dr. Anna Ziomek, Registrar, College of Physicians & Surgeons of Manitoba
/md

October 28, 2015

Report of the Executive Committee of the Faculty of Graduate Studies on Course and Curriculum Changes

Preamble

1. The Faculty of Graduate Studies has responsibility for all matters relating to the submission of graduate course, curriculum and program changes. Recommendations for new programs or changes are submitted by the Faculty Council of Graduate Studies for the approval of Senate.

2. In October 2007, the Faculty of Graduate Studies approved a process of *Streamlining Course Introductions, Modifications, & Deletions* which allows the Executive Committee to approve these changes in lieu of Faculty Council when the courses are not associated with a new program or program changes.

3. The Faculty of Graduate Studies Executive Committee met on the above date to consider proposals from the Dept. of Classics and Dept. of Sociology.

Observations

1. The **Dept. of Classics** proposes two course Modifications: CLAS 7300 and CLAS 7302. They are being reclassified as "topics" courses so that students can take the courses more than once and a subtitle can be printed on their transcript. The title and short title of the courses will remain the same. The calendar description has been altered to add the wording "As the course content will vary from year to year, students may take this course more than once for credit."

   Course Modifications

   CLAS 7300 Topics in Greek Art and Archaelology **3**

   This course will investigate aspects of Greek art, archaeology, and material culture,emphasizing different topics, methods, genres, or theoretical approaches. Possible topics include artistic media, the archaeology of particular regions, and archaeological approaches to the economy and other issues in social history. As the course content will vary from year to year, students may take this course more than once for credit.

   CLAS 7302 Topics in Roman Art and Archaelology **3**

   This course will investigate aspects of Roman art, archaeology, and material culture, emphasizing different topics, methods, genres, or theoretical approaches. Possible topics include artistic media, the archaeology of particular regions, and archaeological approaches to the economy and other issues in social history. As the course content will vary from year to year, students may take this course more than once for credit.

   NET CREDIT HOUR CHANGE **0**

2. The **Dept. of Sociology** proposes the modification of one course: SOC 7420. Revisions have been made to the course description and title to better reflect the current conception and study of qualitative methods, including attention to epistemological and ontological concerns, and to better distinguish this course from others being offered in its sociological focus.

Course Modification

SOC 7420 Qualitative Research Methods for Sociological Inquiry 3

The course provides an overview of methodologies of qualitative research for sociological inquiry. Discussion focuses on the ontological and epistemological foundations of qualitative methods and the variety of approaches and techniques available within interpretive and critical paradigms. Issues such as sampling, reflexivity, analysis, interpretation, theoretical development, rigour and representation will be discussed.

NET CREDIT HOUR CHANGE 0

Recommendations

The Executive Committee recommends THAT: the course changes from the units listed below be approved by Senate:

Dept. of Classics

Dept. of Sociology

Respectfully submitted,

Dr. John (Jay) Doering, Chair
Faculty of Graduate Studies Executive Committee

/py

Comments of the Senate Executive Committee:
The Senate Executive Committee endorses the report to Senate.

REPORT OF THE SENATE COMMITTEE ON AWARDS – PART A

Preamble

Terms of reference for the Senate Committee on Awards include the following responsibility:

> On behalf of Senate, to approve and inform Senate of all new offers and amended offers of awards that meet the published guidelines presented to Senate on November 3, 1999, and as thereafter amended by Senate. Where, in the opinion of the Committee, acceptance is recommended for new offers and amended offers which do not meet the published guidelines or which otherwise appear to be discriminatory under the policy on the *Non-Acceptance of Discriminatory Awards*, such offers shall be submitted to Senate for approval. (Senate, October 7, 2009)

Observations

At its meeting of October 19, 2015 the Senate Committee on Awards approved 2 new offers, 3 amended offers, and the withdrawal of two awards as set out in Appendix A of the *Report of the Senate Committee on Awards – Part A* (dated October 19, 2015).

Recommendations

On behalf of Senate, the Senate Committee on Awards recommends that the Board of Governors approve 2 new offers, 3 amended offers, and the withdrawal of two awards as set out in Appendix A (dated October 19, 2015). These award decisions comply with the published guidelines of November 3, 1999, and are reported to Senate for information.

Respectfully submitted,

Dr. Phil Hultin
Chair, Senate Committee on Awards

SENATE COMMITTEE ON AWARDS
Appendix A
October 19, 2015

1. NEW OFFERS

Samuel and Beatrice Faiman Pharmacy Graduate Fellowship and Morris D. Faiman Lecture in the Grand Rounds Seminar Series in the College of Pharmacy

Dr. Morris Faiman [B.Sc.(Pharm.)/55], has established an endowment fund at the University of Manitoba which will support a Pharmacy Graduate Fellowship and a lecture in the Grand Rounds Seminar series in the College of Pharmacy.

The Graduate Fellowship is in honour of his parents, Samuel and Beatrice Faiman, whom he credits for instilling within him a work ethic and commitment towards higher education.

The Grand Rounds Seminar Series lecture is in appreciation to the University of Manitoba in providing an opportunity for Dr. Faiman's education.

The Manitoba Scholarship and Bursary Initiative has made a contribution to the fund.

The established fund has two purposes:

i. to reward the academic achievements of students pursuing a Ph.D. through a program delivered by the College of Pharmacy; and

ii. to support a Morris D. Faiman lectureship in the Grand Rounds Seminar Series in the College of Pharmacy.

In odd years, beginning in the 2015-2016 academic year, the available annual income, not to exceed $2,000 will be used to offer one fellowship to a Graduate Student who:

(1) is a Canadian citizen or Permanent Resident;
(2) is enrolled full-time in the Faculty of Graduate Studies, in a doctoral program delivered by the College of Pharmacy at the University of Manitoba;
(3) has achieved a minimum degree grade point average of 3.5 based on the last 60 credit hours (or equivalent) of study;
(4) is pursuing a career in research and/or academia.

Applicants will be required to submit the following application material:

(i) a College of Pharmacy Graduate Awards Application form;
(ii) official academic transcript(s);
(iii) a *curriculum vitae*;
(iv) a statement (maximum 500 words) describing the following: proposed academic research and objectives (both short term and long term), and the expected area of study.

Candidates will be selected based on the following order of preference:

(a) graduates from the University of Manitoba;
(b) graduates from other Canadian universities;
(c) graduates from other North American universities.

Recipients may hold this fellowship concurrently with any other awards consistent with policies in the Faculty of Graduate Studies.

The Vice Provost (Graduate Education) and Dean of the Faculty of Graduate Studies (or designate) will ask the Dean of the College of Pharmacy (or designate) to name the selection committee for the Graduate Fellowship.

The lecture in the Grand Rounds Seminar Series is established to financially support a lectureship in the College of Pharmacy. In even years, beginning in the 2016-2017 academic year, the available annual income plus any unspent revenue may be used to provide support to a visiting scientist. The lectureship is to be named the *Morris D. Faiman Lecture* in the Grand Rounds Seminar Series in the College of Pharmacy. The Dean of the College of Pharmacy (or designate) shall name a selection committee to select the visiting scientist.

The Board of Governors of the University of Manitoba has the right to modify the terms of this award if, because of changed conditions, it becomes necessary to do so. Such modification shall conform as closely as possible to the expressed intention of the donor in establishing the award.

Swine Health Professionals Ltd. Scholarship

Swine Health Professionals Limited, a swine-only veterinary practice founded in 1988 and located in South Eastern Manitoba, has established an annually funded scholarship at the University of Manitoba. The purpose of the scholarship is to recognize and advance students interested in a career in food animal production in Western Canada. Each year, beginning in 2015-2016, one scholarship of $1,000 will be offered to an undergraduate student who:

(1) is enrolled full-time in at least the third year of study in the B.Sc. (Agriculture) program in the Faculty of Agricultural and Food Sciences;

(2) has declared a major in Animal Systems;

(3) has achieved a minimum degree grade point average of 3.0;

(4) has demonstrated an interest in swine production.

Nominations for this award will be received from instructors/academic staff in the Animal Science Department. Criterion (4) will be evaluated based on the courses that the student has completed as well as the particular interest the student has shown, in the opinion of the instructor/nominator, in swine production.

In any given year, if there are no candidates who meet criterion (4), the award may be offered to a student who otherwise meets criteria (1) through (3) and has demonstrated an interest in food animals.

The selection committee will be the Faculty of Agricultural and Food Sciences Awards Committee.

The donor will notify the Financial Aid and Awards Office by March 31 in any year this award is not to be offered.

The Board of Governors of the University of Manitoba has the right to modify the terms of this award if, because of changed conditions, it becomes necessary to do so. Such modification shall conform as closely as possible to the expressed intention of the donor in establishing the award.

2. AMENDMENTS

Elizabeth Josephine Ball Bursary

The following amendments have been made to the terms of reference for the Elizabeth Josephine Ball Bursary:

- The opening paragraph was revised to:

  In 2000, Mrs. Betty Jo Johnston (nee Ball), a former dietitian, established an endowment fund at the University of Manitoba, in support of students pursuing studies in the field of Human

Nutritional Sciences. On July 1, 2014, the department of Human Nutritional Sciences joined the Faculty of Agricultural and Food Sciences, which resulted in an amendment to the terms of reference.

- The biographical information was removed from the preamble and included in a separate section to appear after the terms under the heading "Biographical Information." This section will appear on the final draft of the terms shared with the department and donor and is not a part of the terms to be considered for approval.
- The numbered criteria were revised to:

  (1) are enrolled full-time (minimum 60% course load) in the third year of study in the Bachelor of Science (Human Nutritional Sciences) degree program at the University of Manitoba;

  (2) have achieved a minimum degree grade point average of 2.5;

  (3) have demonstrated financial need on the standard University of Manitoba bursary application form.

- The following statements were added:
  - The selection committee will have the discretion to determine the number and value of the bursaries, based on the available funds.
  - The standard Board of Governors statement.
- The selection committee statement was revised to:

  Originally, the selection committee was named by the Dean of the Faculty of Human Ecology. Effective as of the 2015-2016 academic year, due to the movement of the award to the Faculty of Agricultural and Food Sciences, the selection committee will be the Faculty of Agricultural and Food Sciences Awards Committee.

G. Frederick Hulme Entrance Scholarship

The following amendments have been made to the terms of reference for the G. Fredrick Hulme Entrance Scholarship:

- The following statement was removed:

  The G. Frederick Hulme Entrance Scholarship may not be held with any other University of Manitoba entrance scholarship excepting the Chown Centennial Scholarship and the Advanced Placement and International Baccalaureate Scholarship Enhancement. A recipient who is also named to receive a University of Manitoba renewable entrance award may hold that award, in name only, in the first year of study. He/she will be entitled to hold the renewable entrance award in the second, third, and fourth years of study, provided that he/she meets the renewal criteria for that award.

- The standard Board of Governors statement was added.

Geza and Trudi Racz Scholarship in Soil Science

The following amendments were made to the terms of reference for the Geza and Trudi Racz Scholarship in Soil Science:

- The opening paragraph was revised to:

  With a gift in 2015, Geza and Trudi Racz established an endowment fund at the University of Manitoba to recognize academic achievement and encourage further study in the field of soil science. The Manitoba Scholarship and Bursary Initiative has made a contribution to the fund. In honour of the United Nations' recognition of 2015 as the International Year of Soils, the donors

have provided an additional gift of $2,000 to offer the scholarship in 2015-2016. In 2016-2017, one scholarship of $2,000 will be offered using the available annual income from the fund and an additional contribution from the donors. Beginning in 2017-2018, and each year thereafter, the available annual income from the fund will be used to offer one scholarship to an undergraduate student who:

3. WITHDRAWALS

Alumni Association of the University of Manitoba Bursary

This award is being withdrawn from the University of Manitoba's awards program at the request of the donor.

Youth Mentorship Bursary

This award is being withdrawn from the University of Manitoba's awards program at the request of the donor.

208 Administration Building
Winnipeg, Manitoba
Canada R3T 2N2
Telephone (204) 480-1408
Fax (204) 275-1160

UNIVERSITY OF MANITOBA | Office of the Vice-President (Academic) & Provost

Date: November 4, 2015

To: Gary Hepburn, Dean, Extended Education

From: Joanne C. Keselman, Provost and Vice-President (Academic)

Subject: **Program Approval**

At its meeting of October 7, 2015, the University of Manitoba Senate approved the proposals by the Division of Extended Education to offer the following programs:

Certificate of General Competency in English
Certificate in Management and Administration
Certificate in Applied Management, Customer Service Specialization
Certificate in Applied Management, Leadership Development Specialization
Post-Baccalaureate Certificate in E-Learning.

I hereby approve the implementation of these programs effective the Winter 2016 term. No additional financial support will be allocated in support of this implementation.

On behalf of the University of Manitoba, I extend my congratulations to all those who have worked so hard to design the respective programs. I look forward to their implementation.

Cc. Jeff Adams, Executive Director, Enrolment Services
Cassandra Davidson, Undergraduate Program Analyst
Jeff Leclerc, University Secretary
Thelma Lussier, Executive Director, Institutional Analysis
Neil Marnoch, Registrar

PRESIDENT'S REPORT: December 2, 2015

GENERAL

The National Centre for Truth and Reconciliation (NCTR) at the University of Manitoba formally opened at the beginning of November with a two day series of events that honoured the process of reconciliation, recognized Survivors and honorary witnesses, engaged almost two thousand school children in dialogue about Residential Schools, truth and reconciliation and officially launched access to the archive of records, testimony and artifacts gathered by the Truth and Reconciliation Commission during its mandate.

The Board of Governors' Executive Committee has approved a change in title for the position of Vice-President (Academic) and Provost to Provost and Vice-President (Academic), effective immediately. As the search process for this position has gotten underway, the evolution of the role, both at the University of Manitoba and at other like universities, has been considered and the change was recommended as a result of this work.

It increasingly has been the case that universities in Canada are implementing a "provostial model", which though not uniform in definition, generally assigns an extensive leadership role within the University to the Provost and Vice-President (Academic). Though this has been the case in practice at the University of Manitoba, the current policy framework does not fully reflect the centrality of the role of Provost and of Vice-President (Academic) to the University, including its responsibilities as senior Vice-President of the University. Work to update the bylaws that define the roles of all of the Vice-Presidents is underway, and this process will ensure that the role of the Provost is fully articulated. The title change has been implemented at this time to facilitate and bring clarity to the Provost search, while signaling to potential candidates the expectations and competencies required for the role.

A call for nominations has been issued to select a Knight Distinguished Visiting Lecturer for 2016. The R.G. and E.M. Knight Fund was established to "enhance the quality of life of higher education at the University of Manitoba by enriching its academic life through the support of a Distinguished Visitors Program". Faculty and staff are encouraged to consider submitting nominations and are reminded that the Fund will support all eligible costs associated with the visit. Further information and forms may be found at http://umanitoba.ca/admin/president/knight_program.html

On October 28, upon the conclusion of my term in this role, Dr. Elizabeth Cannon, President and Vice-Chancellor of the University of Calgary began a two -year term as chair of Universities Canada's board of directors.

ACADEMIC MATTERS

- On October 1, 2015 two University of Manitoba alumni were awarded the 2015 Ernest C. Manning Principal Award. Dr. Mark Torchia [PhD/01] and Richard Tyc [MSc/94] received the award for their joint development of the NeuroBlate® System while they were investigators at the St-Boniface Hospital Albrechtsen Research Centre. Torchia (Surgery, Director, Centre for the Advancement of Teaching and Learning) and Tyc (Vice-President, Technology and Advanced Technology at Monteris Medical), launched a spinoff company established in 1999 to create groundbreaking neurosurgical technologies.

The inventors received their $100,000 award at a gala in Saskatoon. University of Manitoba professors last won a Manning Principal Award in 2010: Professor Werner Ens and Ken Standing were recognized for their work in the field of mass spectrometry that has profoundly shaped drug development, disease studies and agriculture.

- Neal Davies, dean, college of pharmacy, received the 2015 Canadian Society of Pharmaceutical Sciences Award of Leadership in Canadian Pharmaceutical Sciences. This award is bestowed upon a scientist who has demonstrated leadership in advancing the cause of pharmaceutical research and development in Canada.

- Peter Blunden, physics and astronomy, has been elected a *Fellow of the American Physical Society* (APS). Election to this Fellowship is limited to no more than one-half of one percent of the membership in a given year and is recognition by their peers of outstanding contributions to physics.

- Corrie Peters, art student, was awarded the inaugural Salt Spring National Art Prize for 2015. This national competition had artists from across Canada competing for a $10,000.00 prize award, and a further $5,000.00 towards a 2016 residency. Corrie was one of 52 finalists and selected for her work titled *Building (All the rooming houses on my street have had their front door removed).*

- The Canada Council for the Arts announced Reinhard Pekrun from the Ludwig-Maximilians Universität in Munich, as the 2015 winner of the prestigious John G. Diefenbaker Award. Under terms of this award, he will collaborate with Dr. Ray Perry in the Department of Psychology and other Canadian scholars to advance research on the role emotions play in learning, memory processes and cognitive performance. The department is honoured to host the first Diefenbaker award recipient in the University of Manitoba's history.

- The Faculty of Health Sciences' Continuing Professional Development (CPD) program won two national awards of excellence. First, the 2015 Royal College of Physicians and Surgeons of Canada's Accredited Continuing Professional Development Provider Innovation Award for their *Oral Systemic Health Inter-professional Education Day*. These Awards recognize CPD providers for their innovative development and implementation of educational policies or processes; administrative policies; and educational processes, resources or tools. Secondly, Ryan Zarychanski, internal medicine, with colleagues at Uniting Primary Care and Oncology (UPCON) at CancerCare Manitoba and the CPD team, won the College of Family Physicians of Canada Continuing Professional Development Award for *Blood Day for Primary Care.*

- College of Medicine Immunology graduate student Rebecca (Delong) Dielschneider, medicine graduate student, took second place in the National 3MT competition for her work on "*Lysosomes as Targets in Leukemia*". Also, she was recognized by BIOTECanada with the prestigious Gold Leaf Award as a Young Leader in Biotechnology Research.

- College of Medicine graduates performed extremely well on the 2014 Medical College of Canada Qualifying Examination (MCCQE) ranking the University of Manitoba in the top third of the country's 17 medical schools and in some cases first or second.

- Career Services, in partnership with the Engineering and Agricultural student organizations, hosted the 17th annual Agriculture, Science, and Engineering Career Fair. Seventy employers participated and more than 1,100 students participated.

- The College of Dentistry's Dental Outreach program collaborated with the Winnipeg School Division to screen children at 16 schools to identify and treat those in need of care. Over the last school year, close to 3,500 kids were screened, with over 1,300 identified as needing treatment and 400 of which warranted treatment at the College's Clinic.

- The Nursing Students' Association organized an awareness walk, "Orange Shirt Day", on September 30th to honor the survivors of Residential Schools and recognize the multi-generational impact of Residential Schools on the current and future health status and health services of Indigenous peoples. Almost 150 nursing students and staff participated in the walk from the Helen Glass Centre for Nursing to the National Research Centre for Truth and Reconciliation (NRCTC). At the end of their walk the students delivered a pledge to the NRCTC committing to practicing culturally safe nursing care and serving as allies to "Indigenous children, youth, and their families to create an environment that supports, affirms, and celebrates all peoples".

- Let's Talk Science at the University of Manitoba received the *2015 Outstanding Science Organization Award* from the Science Teachers' Association of Manitoba.

- Robson Hall and the Canadian Museum for Human Rights (CMHR) came together to celebrate the 800th anniversary of Magna Carta; one of the world's most important historical documents. The event was well attended with a medieval feast, followed by presentations from Professors John Irvine and DeLloyd Guth and a self-guided tour of the museum.

- Robson Hall is honoured to welcome alumnus, Justice Murray Sinclair, as its Distinguished Jurist-in-Residence for the 2016 winter term. He will help shape Robson Hall's established commitment to enacting the Truth and Reconciliation Commission's recommendations pertaining to law schools.

- Alumna and renowned soprano, Andriana Chuchman, made her Los Angeles Opera debut as Lauretta in *Gianni Schicchi*, with Placido Domingo as Gianni Schicchi.

RESEARCH MATTERS

- The Canadian Academy of Health Sciences (CAHS) inducted Dr. James Davie (Biochemistry and Medical Genetics, Cell Biology, Children's Hospital Research Institute of Manitoba (CHRIM), Research Institute of Oncology and Hematology (RIOH)) as a new Fellow on September 18, 2015. Davie is a world-renowned investigator in the field of chromatin and epigenetics. For decades his studies have profoundly impacted our understanding of the genetics of human disease, human development, and the emerging field of stem cell biology.

  Fellows are elected by their peers based on their demonstrated leadership, creativity, distinctive competencies and commitment to advancing academic health sciences. Membership is considered one of the highest honours for the Canadian health sciences community. The objective of the CAHS is to provide advice on key issues relevant to the health of Canadians.

With the induction of Dr. Davie, the University of Manitoba now has 25 Fellows of the Canadian Academy of Health Sciences.

- Three professors were elected in September to the Royal Society of Canada (RSC), the country's most esteemed association of scholars and scientists. The three scholars are: Fikret Berkes (Natural Resources Institute, Clayton H. Riddell Faculty of Environment, Earth, and Resources), an internationally recognized scholar on the interrelationships between societies and their resources; James Davie (Biochemistry and Medical Genetics, Cell Biology, CHRIM, RIOH), a pioneer in the field of epigenetics; and Estelle Simons (Pediatrics and Child Health, CHRIM), a world authority on anaphylaxis and allergic diseases.

  Election to the RSC is considered the highest honour an academic can achieve in the arts, humanities and sciences. The three professors are among 87 new Fellows elected for 2015.

  Berkes is an influential scholar and international leader in the areas of commons theory and the interrelations between societies and their resources. Davie is a pioneer in the field of epigenetics (formerly known as the field of chromatin research). His findings have resulted in knowledge translation towards improving human health. Simons has developed novel approaches for investigation of the clinical pharmacology, efficacy and safety of medications used in treatment of asthma, anaphylaxis, and other allergic diseases.

  Fellows and award winners from across the country will be officially inducted and honoured on Nov. 27 in Victoria, BC. This will bring the total number of current RSC Fellows from the University of Manitoba to 44.

- The University of Manitoba has moved up 3 spots, 16th place to 13th, among Canada's Top 50 Research Universities, according to Re$earch Infosource Inc.'s latest report. The University of Manitoba received $154.3 million in research funding in 2014, up 12.4 per cent. Overall, research income rose at 27 institutions and fell at 23. According to Re$earch Infosource Inc. this is the first time in 14 years national combined university research income failed to grow. Research income at Canada's Top 50 Research Universities shrank by -1.6% in Fiscal 2014.

- For the fourth year in a row, St-Boniface Hospital has made the list of top research hospitals in Canada, according to Re$earch Infosource, which ranks Canadian hospitals on their success in attracting support for health research. St-Boniface Hospital is ranked 1st in western Canada (10th overall) for researcher intensity – defined as dollars attracted per researcher – 6th in Canada in the category of small hospital-affiliated research facilities, and 3rd in the country for research activity growth, at 20.9% over last year.

- Game Changer, a new student competition, was launched by the Office of the Vice-President (Research and International), being co-organized by the Technology Transfer Office and the Stu Clark Centre for Entrepreneurship. This exciting, new contest that will give university students and post-doctoral fellows from all disciplines an opportunity to identify global problems and work in teams to devise innovative solutions, with a chance of winning up to $10,000 in cash prizes, aims to foster entrepreneurial thinking. The five problems that students will form cross-faculty teams to develop solutions for will be announced at an event during Global Entrepreneurship Week on Nov. 17, 4-5:30 pm in EITC atrium.

- Distinguished Professor Digvir Jayas (Biosystems Engineering, Vice-President (Research and International), was recognized by Engineers Geoscientists Manitoba (formerly APEGM) with an Honorary Life Membership for service to the association. He has served the association on several committees including Public Interest Review Committee, Academic Review Committee, Experience Review Committee, Nominating Committee, Publications Committee as member, vice-chair or chair for many years. He served as President in 2005-2006. Currently, he is the President of Engineers Canada.

  Jayas was also recently honoured by the India Canada Culture and Heritage Association with its Distinguished Service Award.

- Ninety-one researchers, leading 121 projects were awarded funding from various sponsors totaling $14,461,203. Those projects awarded more than $25,000 are:

PI	Sponsor	Title	Awarded
Albensi, Benedict (Pharmacology and Therapeutics)	Alzheimer Society of Manitoba	Basic and patient-orientated dementia research: Linking novel methods for early stage detection with understanding pathological mechanisms in dementia	$250,000
Azad, Meghan (Pediatrics and Child Health)	Children's Hospital Foundation of Manitoba Inc.	Prenatal exposure to non-nutritive sweeteners and the development of childhood obesity	$40,000
Ball, Terry (Blake) (Medical Microbiology)	Research Manitoba	Characterizing non-conventional T-cell function in latent and active tuberculosis infection	$73,500
Barber, David (Centre for Earth Observation Science)	Laval University	Oceanic and atmospheric forcing of sea ice dynamic and thermodynamic processes - Equipment	$43,665
Barber, David (Centre for Earth Observation Science)	Research Manitoba	ArcticNet projects	$105,399
Becker, Allan (Pediatrics and Child Health)	Andison Family Foundation Inc.	Diagnosing wheezing symptoms in children using mHealth technology	$25,000
Becker, Allan (Pediatrics and Child Health)	Research Manitoba	The Canadian Health Infant Longitudinal Development (CHILD) Study	$110,000
Blanchard, James (Community Health Sciences)	CIHR	HIV risk and self-identified healthcare priorities of "high risk" young women in Ukraine and Kenya	$105,000

Bonnycastle, Marleny (Social Work)	University of Saskatchewan	Youth homelessness: Including the voices who are homeless or at risk of becoming homeless in Northern Manitoba	$30,000
Buduhan, Gordon (Surgery)	Health Sciences Centre	Neoadjuvant chemotherapy vs. neoadjuvant chemoradiation in patients with resectable esophageal carcinoma - a pilot randomized study	$50,000
Burgener, Adam (Medical Microbiology)	University of California, Davis	How did a vaccine enhance HIV acquisition?	$92,405
Byrne, Alyson (Business Administration)	SSHRC	Women's ambiguous leadership trajectories - identity, motivation, and effectiveness	$26,789
Cenkowski, Stefan (Biosystems Engineering)	Mitacs Inc.	Prototype of a CHP system based on an upgraded gravity feed wood-pellet furnace integrated with a steam-powered micro-turbine for a small to mid-scale applications using CFD simulation and experimental investigation	$57,500
Cowley, Kristine (Physiology & Pathophysiology)	Research Manitoba	Neural strategies for functional recovery and therapeutic benefit after spinal cord injury	$212,450
Crockett, Maryanne (Pediatrics and Child Health)	Children's Hospital Foundation of Manitoba Inc.	Engaging with private health providers to improve the quality of community management of childhood pneumonia and diarrhea in Uttar Pradesh, India: Exploring factors related to policy development and implementation	$35,000
Crockett, Maryanne (Pediatrics and Child Health)	Research Manitoba	Engaging with private health providers to improve the quality of community management of childhood pneumonia and diarrhea in Uttar Pradesh, India: Exploring factors related to policy development and implementation	$35,000
Dart, Allison (Pediatrics and Child Health)	CIHR	An assessment of psychological factors, inflammatory biomarkers and kidney complications: The improving renal complications in adolescents with type 2 diabetes through Research (iCARE) cohort study	$881,609

Davidson-Hunt, Iain (Natural Resources Institute)	SSHRC	Ethnobiology design and food system innovation for Indigenous and local communities in Canada and Bolivia	$389,744
Dhingra, Sanjiv (Physiology & Pathophysiology)	CIHR	Preserving the immunoprivilege of transplanted allogeneic mesenchymal cell in the ischemic heart	$521,185
Ding, Hao (Biochemistry and Medical Genetics)	Cancer Research Society, Inc.	Function of RTEL1 DNA helicase in protecting cerebellar neural stem cells from medulloblastoma formation	$119,990
Doucette, Christine (Physiology & Pathophysiology)	Research Manitoba	Determining the role of the HNF1aG319S polymorphism in beta cell dysfunction associated with youth-onset type 2 diabetes in Manitoba	$224,818
Ellison, Cynthia (Pathology)	Research Manitoba	Preventing the progression of acute graft-versus-host disease by modulating microRNAs 155 and146a in vivo	$149,174
Fernyhough, Paul (Pharmacology and Therapeutics)	CIHR	Modulation of the DNA damage repair (DDR) response in the treatment of brain tumours	$300,000
Forget, Evelyn (Community Health Sciences)	SSHRC	Social outcomes and QOL associated with guaranteed annual income	$185,620
Garland, Allan (Internal Medicine)	Research Manitoba	Sex factors in admission to intensive care units: The role of social support factors	$26,589
Ghia, Jean-Eric (Immunology)	Children's Hospital Foundation of Manitoba Inc.	Prenatal antibiotic treatment modulates offspring susceptibility to experimental colitis: A role of the gut microbiota	$40,000
Gole, Aniruddha (Electrical and Computer Engineering)	Manitoba HVDC Research Centre	Design of long-term power system planning methods that improve the decision making using simulation tools	$30,906
Gole, Aniruddha (Electrical and Computer Engineering)	Mitacs Inc.	Reliability modeling assessment of power systems containing HVDC links	$30,000

Hu, Pingzhao (Biochemistry and Medical Genetics)	Canadian Breast Cancer Foundation - Prairies/NWT Region	Improving breast cancer survival and drug response prediction based on mutated gene network	$217,150
Jackson, Michael F. (Pharmacology and Therapeutics)	Research Manitoba	Contribution of TRPM2 channels to the disruption of CA2+ homeostasis and synaptic plasticity by amyloid B oligomers: Implications for Alzheimer's disease	$73,500
Kardami, Elissavet (Human Anatomy and Cell Science)	CIHR	The role of FGF2 isoforms in cardiac remodeling	$646,363
Karimi-Abdolrezaee, Soheila (Physiology & Pathophysiology)	Rick Hansen Institute	Development of clinically relevant therapeutic strategies to enhance remyelination and functional recovery after spinal cord injury	$36,750
Karimi-Abdolrezaee, Soheila (Physiology & Pathophysiology)	Research Manitoba	Development of clinically relevant therapeutic strategies to enhance remyelination and functional recovery after spinal cord injury	$36,750
Katyal, Sachin (Pharmacology and Therapeutics)	CIHR	ATM and TDP1 coordinate neurodevelopment and modulate Top1-mediated anti-cancer therapeutic outcome	$817,320
Katz, Alan (Community Health Sciences)	CIHR	The Manitoba SPOR Primary and Integrated Health Care Innovation Network (MSN): Management and operations grant	$500,000
Kazem Moussavi, Zahra (Electrical and Computer Engineering)	Mitacs Inc.	Vestibular response pattern recognition in relation to co-treatment and recovery monitoring of Post Traumatic Brain Injury (TBI) symptoms	$240,000
Keynan, Yoav (Internal Medicine)	Manitoba Medical Service Foundation	Emmonsia Africana sp. nov: Characterization of epidemiology, clinical spectrum of disease, and environmental niche	$25,000
Kirshenbaum, Lorrie (Physiology & Pathophysiology)	CIHR	Targeting cell death signaling pathways in the heart	$569,850

Kreindler, Sara (Community Health Sciences)	CIHR	Getting to the source of inter-regional variation in patient flow performance: A complex systems perspective	$400,000
Kreindler, Sara (Community Health Sciences)	Research Manitoba	Getting to the source of inter-regional variation in patient flow performance: A complex systems perspective	$100,000
Linovski, Orly (City Planning)	SSHRC	Selecting the route: Balancing development and equity in transit decision-making	$47,092
Marshall, Aaron (Immunology)	Leukemia and Lymphoma Society of Canada	Control of malignant B cell migration by PI 3-kinases	$160,000
Marshall, Aaron (Immunology)	CancerCare Manitoba	ZAP-70-dependant alteration of PI3Ky signaling enhances microenvironmental interactions and survival of CLL cells	$36,750
Marshall, Aaron (Immunology)	Research Manitoba	ZAP-70-dependant alteration of PI3Ky signaling enhances microenvironmental interactions and survival of CLL cells	$36,750
Martin, Donna (Nursing)	CIHR	The micro- and macro-construction of induced displacement: Experiences, health outcomes and future plans of Little Saskatchewan First Nation	$617,855
McKenna, Sean (Chemistry)	Cancer Research Society, Inc.	Investigating the regulatory role of RNA-quadruplex helicases on telomerase activity	$118,600
McKenna, Sean (Chemistry)	Canadian Cancer Society Research Institute	Targeting a unique RNA structural feature to inhibit human telomerase activity	$199,200
Menec, Verena (Community Health Sciences)	CIHR	The care pathways and health service needs of people with early-onset dementia: A mixed methods study	$105,000
Murooka, Thomas (Immunology)	Research Manitoba	Dynamic in vivo imaging of DC:T cell interactions and their role in HIV spread	$225,000
Nickerson, Peter (Dean's Office - Faculty of Medicine)	Anonymous	PET-MRI imaging system	$1,500,000

Roberts, Daniel (Internal Medicine)	CIHR	Developing renal allograft surveillance strategies: From implantation to late post-transplant	$300,000
Safi-Harb, Samar (Physics and Astronomy)	Mitacs Inc.	Autonomous modeling of high-resolution x-ray spectra using robust global optimization methods	$30,000
Schroth, Robert (Preventive Dental Sciences)	Children's Hospital Foundation of Manitoba Inc.	Does early childhood nutritional status and well-being improve for children with severe early childhood dental caries following rehabilitative dental surgery?	$40,000
Sherif, Sherif (Electrical and Computer Engineering)	Mitacs Inc.	Spectroscopic optical coherence tomography for ageing assessment of high voltage transformer insulation	$90,000
Siddiqui, Tabrez (Physiology & Pathophysiology)	CIHR	Regulation of a neuronal synaptic pathway in neurodevelopmental and psychiatric disorders	$795,210
Singh, Harminder (Internal Medicine)	American Society for Gastrointestinal Endoscopy	Prevention of biofilm formation in duodenoscopes	$161,712
Snider, Carolyn (Emergency Medicine)	CIHR	Wraparound care for youth injured by violence: A randomized control trial	$100,000
Soussi Gounni, Abdelilah (Immunology)	Children's Hospital Foundation of Manitoba Inc.	Impact of sempaphorin 3E on regulatory T cell function in experimental model of sepsis	$36,750
Soussi Gounni, Abdelilah (Immunology)	Research Manitoba	Impact of semaphorin 3 on regulatory T-cell function in experimental model of sepsis	$36,750
't Jong, Geert (Pediatrics and Child Health)	Children's Hospital Foundation of Manitoba Inc.	Antibiotics exposure and development of chronic disease-an internation consortium study	$37,910
Tate, Robert (Community Health Sciences)	Research Manitoba	Trajectories of quality of life of very old men: The Manitoba follow-up study	$45,500
Taylor, Carla (Human Nutritional Sciences)	Research Manitoba	Isolation and characterization of a green lentil bioactive capable of inhibiting p38MAPK	$36,750

Taylor, Carla (Human Nutritional Sciences)	Children's Hospital Foundation of Manitoba Inc.	Isolation and characterization of a green lentil bioactive capable of inhibiting p38MAPK	$36,750
Thiessen, Kellie (Nursing)	Research Manitoba	Outcomes and costs of maternity care services in Manitoba	$201,399
Thompson, Shirley (Natural Resources Institute)	Tides Canada	Exploring sustainable livelihoods in fishing	$34,500
West, Adrian (Physiology & Pathophysiology)	Research Manitoba	Caveolae dynamics mediate mechanobiology-regulated signaling pathways in asthma	$223,871
Yang, Xi (Immunology)	Research Manitoba	A mechanistic study of the role of co-stimulatory signaling in NKT-mediated modulation of DC/DC subsets in inducing type-1 and type-17 responses in chlamydial lung infection	$73,500
Zarychanski, Ryan (Internal Medicine)	Manitoba Medical Service Foundation	Intravenous immunoglobulin in severe sepsis and septic shock	$25,000

ADMINISTRATIVE MATTERS

- Further to the previously-reported achievement of a **Sustainability Tracking, Assessment and Rating System Silver rating,** the Association for Advancement of Sustainability in Higher Education (AASHE) highlighted the University of Manitoba twice as a top performer in their 2015 annual report. Citations were for a 100% score in Coordination & Planning and for Diversity & Affordability related to innovation for our Pathways to Indigenous achievement. Report is online at: http://www.aashe.org/files/aashe_2015_sustainable_campus_index.pdf

- **RWLE Policy, Student Discipline Bylaw, Inappropriate or Disruptive Student Behaviour Policy, Violent or Threatening Behaviour Policy, Sexual Assault Policy (UPDATE):** The proposed draft policies are available for download from a consultation website (http://umanitoba.ca/admin/governance/governing_documents/behavioural_policy_review_consultations.html), along with a summary of the proposed changes. The Office of Legal Counsel has initiated consultations by presenting the policies to various groups, including the Associate Deans (Undergraduate), Provost Council, the Student Experience Committee, the unions (UMFA, CUPE, UNIFOR and AESES), and the Student Support group. The drafts have been forwarded to all LASH committees, as well as to OSHA. Presentations will continue in the coming weeks to the Present's Advisory Committee on Respect (PACR), to the Sexual Assault Working Group (SAWG), and to the Council on Student Affairs (COSA). A community consultation will also be organized in November at both the Fort Garry and Bannatyne campuses. Members of the University community may provide feedback through the consultation website or by email to the Office of Legal Counsel

(policy.feedback@umanitoba.ca). We have requested feedback in writing before December 18, 2015, as the feedback will be reviewed by the working group starting in January 2016.

- All remaining Truth and Reconciliation storage and compute devices were delivered to the university. These devices remain in powered off state in our data centre as we determine the best way to extract their data. One such service was the TRC.ca email system which we were able to make operational.

EXTERNAL MATTERS

- For the period of April 1, 2014 to November 5, 2015, the University has raised $94,045,148.93 for the 2015/2016 fiscal year. As of this date, we have raised $81 million more in our current fiscal year, as compared to last fiscal year.

- To date, we have raised $367,968,846 towards our $500 million goal for the Front and Centre campaign, which includes the commitment of $150 million from the Province of Manitoba.

- On Saturday, October 3, in front of an enthusiastic crowd at Investors Group Field, the University of Manitoba publicly launched Front and Centre: the campaign for the University of Manitoba during an exhilarating halftime show at the Winnipeg Blue Bombers game. University president David Barnard, campaign chair Paul Soubry, and campaign team member – and retired NFL star – Israel Idonije announced the total raised so far, $215,294,636.30 toward the campaign's ambitious and transformative $500 million goal.

- At a lively celebration on October 9 the provincial government announced its support for the University of Manitoba's Front and Centre campaign, committing $150 million towards: supporting future leadership; graduate and undergraduate students; advancing research to impact our community in Manitoba and around the world; giving faculty and students a place and a space to thrive; and transforming not only the university but our entire province.

- Nominations for the 2016 Distinguished Alumni Awards closed on October 26 and we are pleased to announce that 49 total nominations were received amongst the five categories. The Distinguished Alumni Awards Celebration of Excellence will be held on May 5, 2016 at the Winnipeg Art Gallery.

- Alumni receptions were held in Singapore, Kuala Lumpur and Hong Kong to launch Front and Centre: the Campaign for the University of Manitoba from October 13-15. It was a valuable opportunity to meet and visit with more than 150 alumni living and working in Hong Kong, Kuala Lumpur and Singapore, to hear their memories of their time in Manitoba, and to share with them the exciting things happening at the U of M this year.

- Lafarge Canada Inc. has committed $125,000 to ENGAP Scholarships

- Ladco Company Limited has made a gift of $250,000 designated to the Faculty of Engineering.

- A gift of $1,000,000 was received from Esther Suen to establish the Simatelex Charitable Foundation International Study Program

- The Gerald Schwartz and Heather Reisman Foundation made a gift of $600,000 to the Arni Thorsteinson International Exchange Program.

- CIBC is donating $500,000 to support bursaries for Asper Business students, including Indigenous students in the Aboriginal Business Education Program, and the creation of the CIBC Student Hot Spot in University Centre

- RBC Financial Group has committed $1,025,000 to support the Manitoba Online Overcoming Depression (MOOD) Program, the Health Sciences Students Northern Travel Initiative, and the RBC Award in Indigenous Business Education

- Scotiabank has made a gift of $500,000, specific designation to be determined

- The annual Isbister Legacy Luncheon was held on October 1, 2015 at Marshall McLuhan Hall in University Centre. More than 120 people were present for the reception and luncheon that celebrates individuals who have made gifts through their wills.

- A number of regional campaign launch events will be taking place across Canada in the coming weeks including:
    - Toronto – November 19
    - Calgary – November 26
    - Victoria – November 28
    - Vancouver – December 8

- Premier Greg Selinger made an announcement on September 14th in the Engineering and Information Technology Complex (EITC) to provide $500,000 that will create 18 new engineering seats and a new hybrid pathway between the University of Manitoba and other Manitoba post-secondary institutions. The latter will support increased credit transfer and recognition of prior experience for students coming from other post-secondary institutions the province.

- On October 9th Premier Selinger and James Allum, Minister of Education and Advanced Learning, officially announced the provincial government's $150 million commitment to the Front and Centre campaign in EITC. The Office of Government and Community Engagement (GCE) is working with the provincial government to identify the key projects within the $150 million contribution.

- October 19, 2015 - Justin Trudeau secured a Liberal majority government for the upcoming 42nd session of Parliament. GCE has secured meetings for President David Barnard and Vice-President John Kearsey with Robert-Falcon Ouellette, MP, Winnipeg Centre, and Terry Duguid, MP, Winnipeg South. Meetings are also to be confirmed with Jim Carr, MP, Winnipeg South Centre and MaryAnn Mihychuk, MP, Kildonan-St. Paul, who both received ministerial posts; Minister of Natural Resources and Minister of Employment, Workforce Development and Labour respectively. Moving forward, GCE will be securing meetings for President Barnard with key Ministers and other Manitoba MPs in Ottawa in February/March 2016.

- The alumni magazine (formerly On Manitoba), has been redesigned with a fresh look and a new name: UM Today The Magazine. Printed and mailed twice a year (spring and fall), the magazine will deliver compelling online content year-round, integrated with our popular UM Today News site. Extensive feedback was gathered from our alumni readers as we set out to build on the long-time success of On Manitoba magazine. With a fresh look and a new name, the magazine is one piece of a larger integrated platform of storytelling that also includes UM Today News, Facebook, Twitter, LinkedIn, Instagram and UM Alumni e-news. The fall issue featured a cover story on Manitoba's new Lieutenant Governor, alumna Janice Filmon.

UNIVERSITY OF MANITOBA | Office of Legal Counsel

E3-250 Engineering Building
Winnipeg, Manitoba
Canada R3T 2N2
Fax (204) 474-7454

Writer's Direct Line: (204) 474-8360
Email: maria.versace@umanitoba.ca

TO: Jeff Leclerc, University Secretary

FROM: Maria Versace, Legal Counsel

DATE: November 10, 2015

RE: Proposed revisions of Behavioural Policies (including *Respectful Work and Learning Environment Policy*, *Violent or Threatening Behaviour Policy*, *Inappropriate or Disruptive Student Behaviour Policy*, and *Student Discipline Bylaw*)

The University of Manitoba is seeking community feedback and consultation with regard to a review of the University's current behavioural policies, including the *Respectful Work and Learning Environment Policy*, the *Violent or Threatening Behaviour Policy*, the *Inappropriate or Disruptive Student Behaviour Policy*, and the *Student Discipline Bylaw*.

As part of this consultation process, I would like to present and provide some context and explanation regarding the revisions to Senate at the December 2015 meeting. Brandy Usick and Jackie Gruber would be available to co-present the policies with me.

By way of background, the review of these policies is being undertaken by a broad working group, including: Susan Gottheil, Vice-Provost (Students), Jeff Leclerc, University Secretary; Jay Doering, Vice-Provost (Graduate Education) and Dean, Faculty of Graduate Studies; Greg Juliano, Associate Vice-President (Human Resources); Naomi Andrew, General Counsel and Director, Fair Practices and Legal Affairs; Alan Scott, Chief Risk Officer; Jackie Gruber, Human Rights and Conflict Management Officer; Brandy Usick, Director, Student Advocacy and Accessibility; Maria Versace, Legal Counsel; and Marcia Yoshida, Student Appeals Officer.

The proposed revision has been guided by the following broad concerns:

1. A need to ensure compliance with The Human Rights Code (Manitoba) and The Workplace Safety and Health Regulation (Manitoba);

2. A desire to more clearly outline and streamline the University's response to sexual assault on campus;

3. A need for clarity with students and employees about behavioural expectations;

4. A need to respond to a changing environment, including the growing use of social media; and

5. A need for consistency in addressing student misconduct and concerning behaviour across the University.

The proposed revised documents are available for download from the following consultation website:

http://umanitoba.ca/admin/governance/governing_documents/behavioural_policy_review_consultations.html

A general overview of the proposed policy revisions can also be found at:

http://umanitoba.ca/admin/governance/media/Overview_of_Changes_-_2015_10_26.pdf

In addition to the presentation at Senate, proposed changes to these governing documents will be presented at two noon-hour community consultation meetings:

Fort Garry campus
Monday Nov. 23
12 – 1:00 PM
543-544 University Centre

-and-

Bannatyne campus
Thursday Nov. 26
12- 1:00 PM
164 Apotex Centre

Feedback can be submitted online to the consultation website, or to the email address:

policy.feedback@umanitoba.ca

We look forward to receiving feedback on these drafts in the coming weeks, and aim to have all feedback provided in writing on or before December 18, 2015, so that it may be compiled and reviewed in January by the working group.

S:\Legal\Vice-President (Administration)\2015\Behavioural Policies\Memo to Jeff Leclerc re Behavioural Policies - Nov 10 2015.docx

November 18, 2015

Report of the Senate Executive Committee

Preamble

The Executive Committee of Senate held its regular monthly meeting on the above date.

Observations

1. Speaker for the Executive Committee of Senate

Professor Mary Brabston will be the Speaker for the Executive Committee for the December meeting of Senate.

2. Comments of the Executive Committee of Senate

Other comments of the Executive Committee accompany the report on which they are made.

Respectfully submitted,

Dr. David Barnard, Chair
Senate Executive Committee
Terms of Reference:
http://umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/477.htm

REPORT OF THE SENATE COMMITTEE ON AWARDS – PART B

Terms of reference for the Senate Committee on Awards include the following responsibility:

> On behalf of Senate, to approve and inform Senate of all new offers and amended offers of awards that meet the published guidelines presented to Senate on November 3, 1999, and as thereafter amended by Senate. Where, in the opinion of the Committee, acceptance is recommended for new offers and amended offers which do not meet the published guidelines or which otherwise appear to be discriminatory under the policy on the *Non-Acceptance of Discriminatory Awards*, such offers shall be submitted to Senate for approval. (Senate, October 7, 2009)

Observation

At its meeting of October 19, 2015, the Senate Committee on Awards reviewed one new offer and two amended offers that appear to be discriminatory according to the policy on the *Non-Acceptance of Discriminatory Awards*, as set out in Appendix A of the *Report of the Senate Committee on Awards - Part B* (dated October 19, 2015).

Recommendation

The Senate Committee on Awards recommends that Senate and the Board of Governors approve one new offer and two amended offers, as set out in Appendix A of the *Report of the Senate Committee on Awards - Part B* (dated October 19, 2015). This award decision complies with the published guidelines of November 3, 1999, and is reported to Senate for information.

Respectfully submitted,

Dr. Phil Hultin
Chair, Senate Committee on Awards

Comments of the Senate Executive Committee:
The Senate Executive Committee endorses the report to Senate.

Senate, December 2, 2015

SENATE COMMITTEE ON AWARDS
Appendix A
October 19, 2015

1. NEW OFFERS

Gordon Chown, M.D., O.B.E., Professor of Pediatrics Bursary

In memory of Dr. Gordon Chown, a Professor of Pediatrics at the University of Manitoba, his daughter Margaret Morse, a pioneer in speech therapy, established a fund at The Winnipeg Foundation to support students in the Undergraduate Medical Education program in the College of Medicine at the University of Manitoba. Each year, The Winnipeg Foundation will report the amount of available annual earnings from the fund to Financial Aid and Awards at the University of Manitoba. Beginning in 2016-2017, the available annual earnings from the fund will be used to offer one or more bursaries to undergraduate students who:

(1) either (as self-declared on the University of Manitoba College of Medicine Supplemental Bursary Application):
    (a) are Indigenous (Status, Non-Status, Métis, Inuit), or
    (b) entered Canada with refugee status;
(2) are enrolled full-time in the Undergraduate Medical Education program in the College of Medicine, and are in good standing;
(3) have demonstrated financial need on the standard University of Manitoba bursary application form.

The selection committee will have the discretion to determine the number and value of the bursaries offered each year based on the available funds.

The Dean of the College of Medicine (or designate) will name the selection committee for this award.

The Board of Governors of the University of Manitoba has the right to modify the terms of this award if, because of changed conditions, it becomes necessary to do so. Such modification shall conform as closely as possible to the expressed intention of the donor in establishing the award.

(Attachment I)

2. AMENDMENTS

Dian Cohen Prize in Investments

The following amendments were made to the terms of reference for the Dian Cohen Prize in Investments:

- The name of the award was changed to: *Dian Cohen Aboriginal Business Education Prize in Competition.*
- The opening paragraph was revised to:

  Dr. Dian Cohen has established a fund at The University of Manitoba to support a prize for students in the I.H. Asper School of Business. Dr. Cohen was a key-note speaker at the 32nd Annual Commerce Business Banquet and she has established this fund on occasion of this event. The Manitoba Scholarship and Bursary Initiative has made a contribution to the fund. The purpose of the fund is to recognize the academic achievements of student members of Aboriginal Business Education Partners (ABEP) in the I.H. Asper School of Business who have participated in an established university-level business-related competition. ABEP is part of the I.H. Asper School of Business strategy to support a growing community requirement for the acquisition of business skills among Aboriginal people. Such skills help lead to the success of self-government and participation of Aboriginal people in the Canadian economy.

- The following statement was removed:

  The prize will be offered each year to the student who has achieved the highest standing in the course Investments (currently numbered 9.341) while maintaining full-time student status in the academic session in which this course is completed.

- The following numbered criteria were added:

  (1) was enrolled full-time (minimum 60% course load) in the I.H. Asper School of Business in the Bachelor of Commerce (Honours) degree program;

  (2) has achieved a minimum degree point average 3.0 based in the previous fall/winter session;

  (3) was a member of ABEP in the year in which the award is tenable;

  (4) has submitted proof of registration or participation in an established university-level business-related competition in the year in which the award is tenable.

- The selection committee statement was revised to:

  The selection committee shall be named by the Director of ABEP (or designate) and may include the Director of Financial Aid and Awards (or designate).

- The standard Board of Governors statement was added.

(Attachment II)

Wiciwawin Aboriginal Emergency Bursary

The following amendments were made to the terms of reference for the Wiciwawin Aboriginal Emergency Bursary:

- The name of the award was changed to: *Wiciwawin Emergency Bursary for Indigenous Students.*

- The opening paragraph was revised to:

  The Wiciwawin Emergency Bursary fund has been established by a number of donors, many of whom are Indigenous alumni of the University of Manitoba and many of whom are staff members of the University. Wiciwawin (pronounced "wee-chi-way-win") is a Cree word meaning "a gift that is given by many." The purpose of this fund is to provide immediate emergency bursaries to Indigenous students who are under unexpected financial strain. Each year, up to the available annual income from the fund will be used to offer emergency bursaries to students who:

- The numbered eligibility criteria were revised to:

  (1) are Indigenous (Status, Non-Status, Métis, Inuit) ;

  (2) are enrolled as full-time or part-time undergraduate or graduate students in any faculty, college, or school at the University of Manitoba ;

  (3) have demonstrated satisfactory academic standing, defined as:

  (a) for undergraduate students, a minimum degree grade point average of 2.0;

  (b) for graduate students, a minimum grade point average of 3.0, based on the last two years of coursework;

  (4) have completed a University of Manitoba emergency assistance application and have outlined their emergency situation during an interview with the Director of Financial Aid and Awards (or designate).

- The following statements were removed:

- *Preference in selection may be given to students who are full-time students, are from a northern or remote community, those who live on their own in Winnipeg, and those who report an affiliation with an Aboriginal community group or organization.*
- *This fund is endowed. Only the available annual income from the fund may be used to support the bursaries.*
- *The selection of eligible student recipients shall accord with the guidelines established from time to time for the University of Manitoba's student emergency bursary funds.*

(Attachments III and IV)

September 24, 2015

Dr. Philip Hultin
Chair, Senate Committee on Awards
c/o Mandy Laing,
Awards Establishment/Selection Coordinator
420 University Centre
University of Manitoba

RE: Gordon Chown, M.D., O.B.E., Professor of Pediatrics Bursary

Dear Dr. Hultin,

The College of Medicine supports the establishment of the Gordon Chown, M.D., O.B.E., Professor of Pediatrics Bursary.

In the Fall Term of 2014, the College's self-declared Indigenous student population was 5.6% of total enrolment, compared to the University of Manitoba Indigenous student population average of 7.3%.

Indigenous student enrolment data for the past five years in College of Medicine is provided for context in the table below.

Year (Fall Term)	Number of Aboriginal Students	Total Students	% Aboriginal Students
2014	32	568	5.6
2013	28	561	5.0
2012	29	559	5.2
2011	33	542	6.1
2010	26	549	4.7

In 2014, the University of Manitoba's total refugee student population was 15 students. In 2012, there were a total of nine U of M students with refugee status (0.03% of students). In comparison, according to a report published by the Province of Manitoba[1], there were 1,140 people with refugee status living in Manitoba (0.09% of the provincial population) in 2012.

The numbers of students with refugee status enrolled at the University of Manitoba in the last five years is provided below for context.

Year	Number of Student with Refugee Status	Total Students	% Refugee Students	Provincial Refugee Population
2014	15	29,657	0.05%	n/a
2013	12	29,759	0.04%	n/a
2012	9	29,181	0.03%	0.09%
2011	3	28,430	0.01%	0.11%
2010	0	27,751	0.00%	0.08%

As an institution, our commitment is to increase the number of Indigenous students on our campuses. Additionally, the College of Medicine has recently taken steps to revise its admissions criteria to address "…the under-representation of individuals who come from socio-economically disadvantaged backgrounds..."[2] Increasing the number of bursaries, scholarships and awards for Indigenous students and those from refugee backgrounds, contributes to these endeavours. This bursary will provide the College of Medicine the opportunity to recruit, support and retain under-represented students at the University of Manitoba and, in doing so, will also contribute to the success of these students.

Sincerely,

Brian Postl, MD
Dean of Medicine, Dean & Vice-Provost (Health Sciences)
University of Manitoba

[1] Manitoba Immigration and Multiculturalism. *Manitoba Immigration Facts – 2012 Statistical Report.* https://www.gov.mb.ca/mal/multiculturalism/pdf/manitoba_immigration_facts_report_2012.pdf

[2] Report of the Senate Committee on Admissions concerning a proposal from the College of Medicine to amend its admissions policy (2015.03.17), p. 374, presented to University of Manitoba Senate, May 13, 2015 (approved).

UNIVERSITY OF MANITOBA | Asper School of Business

Michael Benarroch, PhD
Dean and CA Manitoba Chair in Business Leadership
314 Drake Centre
181 Freedman Crescent
Winnipeg, Manitoba
Canada R3T 5V4
Telephone 204-474-9712
Fax 204-474-7928
Email: Dean_AsperSchool@UManitoba.ca

September 17, 2015

Dr. Philip Hultin
Chair, Senate Committee on Awards
c/o Tyler Kroeker, Awards Establishment/Selection Coordinator
422 University Centre
University of Manitoba

RE: Dian Cohen Prize in Investments

Dear Dr. Hultin,

The I.H. Asper School of Business supports the amendment of the Dian Cohen Prize in Investments.

In the Fall Term of 2014, the I.H. Asper School of Business' self-declared Indigenous student population was 3.6% of total enrolment, compared to the University of Manitoba Indigenous student population average of 7.2%.

Indigenous student enrolment data for the past five years in the I.H. Asper School of Business is provided for context in the table below.[1]

Year (Fall Term)	Number of Indigenous Students in the I.H. Asper School of Business	Total Students in the I.H. Asper School of Business	% Indigenous Students
2014	63	1753	3.6%
2013	55	1752	3.1%
2012	59	1742	3.4%
2011	62	1698	3.7%
2010	62	1604	3.9%

As an institution, our commitment is to increase the number of Indigenous students on our campuses. Increasing the number of bursaries, scholarships, and awards for Indigenous students contributes to this commitment. This prize will provide the I.H. Asper School of Business the opportunity to recruit, support, and retain Indigenous students at the University of Manitoba and, in doing so, will also contribute to the success of individual Indigenous students.

Sincerely,

Michael Benarroch

[1] The University of Manitoba's Office of Institutional Analysis. Cited September 17, 2015

UNIVERSITY OF MANITOBA | Indigenous Student Centre

Indigenous Student Centre
Migizii Agamik
114 Sidney Smith Street
Winnipeg, MB R3T2N2
P: 204-474-8850
F: 204-275-3142
www.umanitoba.ca/student/isc

October 9, 2015

Dr. Philip Hultin
Chair, Senate Committee on Awards
c/o Adrienne Domingo, Awards Establishment Coordinator
423 University Centre
University of Manitoba

RE: Wiciwawin Emergency Bursary for Indigenous Students

On behalf of the Indigenous Student Centre at the University of Manitoba, I submit this letter in support of amending the Wiciwawin Emergency Bursary for Indigenous Students.

Current data shows that so many Indigenous students struggle to adjust to the rigours of new financial systems, new academic expectations, and new cultural environments that students encounter when they embark on post-secondary studies.

The Wiciwawin bursary has helped a number of students who desperately needed help due to unforeseen and usually very stressful situations. Every single student who has received the bursary has been so grateful for the support that they receive from the University of Manitoba, and they have been able to continue on in their studies with peace of mind, confidence, and excitement – knowing that they can focus on their educational goals instead of worrying about where the money will come in order to make ends meet. The Wiciwawin bursary has been the defining difference for many students. As resources grow and change, so should our ability to get bursaries into the hands of students, which is why I fully endorse the amendments made to the current terms of reference that broaden the criteria for eligibility.

The University of Manitoba has over 2,100 Aboriginal students enrolled in full and part-time studies. Our goal is to increase the number of Aboriginal students who attend, succeed, and graduate from our institution. In order to do this, we must provide opportunities that respect the holistic preparedness of the students. Supporting students in a meaningful financial way is one of the most important things we can do as an institution and as a community to ensure that students with so much potential will be given a fair opportunity to enroll, persist, and graduate as a means of fulfilling their dreams.

With respect,

Christine Cyr, Director
Indigenous Student Centre

UNIVERSITY OF MANITOBA | Enrolment Services

Financial Aid & Awards
422 University Centre
Winnipeg, Manitoba
Canada R3T 2N2
Telephone (204) 474-9531
Fax (204) 474-7543
awards@umanitoba.ca

October 5, 2015

Dr. Philip Hultin
Chair, Senate Committee on Awards
c/o Adrienne Domingo, Awards Establishment Coordinator
423 University Centre
University of Manitoba

RE: Wiciwawin Emergency Bursary for Indigenous Students

Dear Dr. Hultin,

The Financial Aid and Awards Office supports the amendment of the Wiciwawin Emergency Bursary for Indigenous Students. In the Fall Term of 2014, the University of Manitoba's self-declared Indigenous student population was 7.3% of total enrolment, compared to the Province of Manitoba's Indigenous population of 16.7% in 2011.[1] Indigenous student enrolment data for the past five years at the University of Manitoba is provided for context in the table below.[2]

Year (Fall Term)	Indigenous Students at the University of Manitoba	Students at the University of Manitoba	% Indigenous Students
2014	2,168	29,657	7.3%
2013	2,140	29,759	7.2%
2012	2,087	29,181	7.2%
2011	2,021	28,430	7.1%
2010	1,912	27,751	6.9%

As an institution, our commitment is to increase the number of Indigenous students on our campuses. Increasing the number of bursaries, scholarships, and awards for Indigenous students contributes to this commitment. This award will provide the University of Manitoba with the opportunity to recruit, support, and retain Indigenous students and, in doing so, will also contribute to the success of individual Indigenous students.

Sincerely,

Jane Lastra
Director, Financial Aid and Awards

[1] Statistics Canada. Aboriginal Peoples in Canada: First Nations People, Metis and Inuit, National Household Survey, 2011, Catalogue no. 99-011-X2011001. Cited September 16, 2015
[2] The University of Manitoba's Office of Institutional Analysis. Cited September 30, 2015

STUDENT AFFAIRS
creating opportunities for student success

Report of the Senate Committee on Admissions concerning a proposal from the College of Dentistry to modify the selection process for the Doctor of Dental Medicine program (2015.10.26)

Preamble:

1. The terms of reference for this committee can be found at: *http://umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/490.htm.*

2. The College of Dentistry is proposing changes to the selection process used to admit students to the Doctor of Dental Medicine (D.M.D) program.

3. The proposal was approved by the Dental College Council on September 21, 2015 and was endorsed by SCADM on October 26th, 2015.

Observations:

1. In 2014 the Canadian Dental Association and the Association of Canadian Faculties of Dentistry jointly published the document "Admissions Processes for Dentistry Programs in Canada: A Report for the Canadian Dental Association and the Association of Canadian Faculties of Dentistry on Current Practices and Future Directions." The authors found that:
   - Pre-dental overall Grade Point Average and Science Grade Point Average represented the best predictors of academic performance of dental students.
   - Interviews were able to assess non-cognitive and personality traits of applicants, with a structured format increasing assessment reliability and validity.
   - Research had not yet been performed to appropriately assess the validity or non-validity of the Perceptual Ability Test.
   - The Manual Dexterity Test had null to weak predictive validity on student performance.
   - Of the Dental Aptitude Test components, the Academic Average and Reading Comprehension tests represented the best predictors of academic performance of dental students.

2. This proposal introduces two amendments to the D.M.D selection process:
   i. Deletion of the Manual Dexterity Test component from the applicants' Canadian Dental Aptitude Test score.
   ii. Redistribution of the weighted values of components of the applicants' Canadian Dental Aptitude Test score:

   Current weighting
   - Manual Dexterity Test score -33.33%.
   - Perceptual Ability Test score - 33.33%
   - Academic Average Test score - 33.33%

   Proposed weighting
   - The Perceptual Ability Test score-25%
   - The Academic Average Test score-75%

Recommendation:
The Senate Committee on Admissions recommends that the proposal to modify the selection process for the Doctor of Dental Medicine program be approved effective for the September, 2017 admission cycle.

Respectfully submitted
Susan Gottheil, Chair, Senate Committee on Admissions

Comments of the Senate Executive Committee:
The Senate Executive Committee endorses the report to Senate.

UNIVERSITY OF MANITOBA | Faculty of Health Sciences

College of Dentistry
Office of the Acting Associate Dean (Academic)
D113E, 780 Bannatyne Ave.
Winnipeg, Manitoba R3E 0W2
Tel: 204-480-1302
Fax: 204-789-3912
E-mail: Dieter.Shonwetter@umanitoba.ca

October 2, 2015

Ms Susan Gottheil,
Chair, Senate Committee on Admissions
c/o Office of the University Secretary
312 Administration Building
University of Manitoba
Winnipeg, Manitoba R3T 2N2

Dear Ms Gottheil,

At a September 21, 2015 meeting of Dental College Council the following motion was presented and approved to modify the College of Dentistry admission process:

"THAT the Manual Dexterity Test component be deleted from the applicants' Canadian Dental Aptitude Test score and, in order to accommodate this deletion, the Perceptual Ability Test score be weighted at 25% of the applicants' Canadian Dental Aptitude Test score, and the Academic Average Test score, representing an average of the Biology, Chemistry and Reading Comprehension scores, be weighted at 75% of the applicants' Canadian Dental Aptitude Test score."

This proposed modification to our admissions structure is in response to a report published by the Canadian Dental Association and the Association of Canadian Faculties of Dentistry in which the authors assessed admissions practices for Canadian dental schools. As highlighted in the attached document, *Proposed Changes to the Dental Aptitude Test Scoring in the Selection Process of the College of Dentistry*, the College has determined that the proposed modification to our admissions process meets the recommendations of this report and is supported by an informal internal review of our own admission data.

Dr. John Perry, the Chair of the Committee for Selection in Dentistry, will be available to speak to the Senate Committee on Admissions when this matter is considered.

Based on the above and the attached document, I request that the Senate Committee on Admissions approve the above changes to the College of Dentistry admissions process. Please feel free to contact me if there are any further questions.

Sincerely,

Dieter J. Schönwetter BTh BA MA PhD
Acting Associate Dean Academic

c.c. Dr. J. Perry, Chair, Committee for Selection in Dentistry
Dr. A. Iacopino, Dean, College of Dentistry

Proposed Changes to the Dental Aptitude Test Scoring in the Selection Process of the College of Dentistry

Preamble

The following changes are proposed by Dental College Council for consideration by the Senate Committee on Admissions:

- Deletion of the Manual Dexterity Test component from the applicants' Canadian Dental Aptitude Test score.
- Redistribution of the weighted values of components of the applicants' Canadian Dental Aptitude Test score.

Background

The College of Dentistry selection process uses the following selection tools to rank applicants:

1. An adjusted Grade Point Average score, weighted at 33.33% of the overall score.
2. A structured interview, weighted at 33.33% of the overall score.
3. A Canadian Dental Aptitude Test score, weighted at 33.33% of the overall score.

Currently the Canadian Dental Aptitude Test score at the College of Dentistry is derived from the following components:

1. Manual Dexterity Test score, weighted at 33.33% of the Canadian Dental Aptitude Test score.
2. Perceptual Ability Test score, weighted at 33.33% of the Canadian Dental Aptitude Test score.
3. Academic Average Test score, weighted at 33.33% of the Canadian Dental Aptitude Test score.

The Academic Average Test score represents an average of the Biology, Chemistry and Reading Comprehension scores.

Observations

In 2014 the Canadian Dental Association and the Association of Canadian Faculties of Dentistry jointly published the document "Admissions Processes for Dentistry Programs in Canada: A Report for the Canadian Dental Association and the Association of Canadian Faculties of Dentistry on Current Practices and Future Directions" http://acfd.ca/files/2013/06/CDA-ACFD-Admissions-Report.pdf.

Through a literature review, the authors of the document critically assessed the quality of the selection tools and processes used for dentistry programs in Canada, and drew conclusions regarding the validity of the selection tools. They found that:

- pre-dental overall Grade Point Average and Science Grade Point Average represented the best predictors of academic performance of dental students.
- interviews were able to assess non-cognitive and personality traits of applicants, with a structured format increasing assessment reliability and validity.
- research had not yet been performed to appropriately assess the validity or non-validity of the Perceptual Ability Test.
- the Manual Dexterity Test had null to weak predictive validity on student performance.
- of the Dental Aptitude Test components, the Academic Average and Reading Comprehension tests represented the best predictors of academic performance of dental students

The Committee for Selection in Dentistry and Dental College Council support the document's recommendation that efforts should be made by dental schools to focus their admissions processes on selection tools with the strongest evidence to support their validity and performance predictability, and cease the use of those tools exhibiting evidence that shows such tools are not effective in the admissions process.

Recommendation:

As the Manual Dexterity Test shows null to weak predictive validity on student performance, Dental College Council approved the following motion at a meeting of September 21, 2015:

> **"that the Manual Dexterity Test component be deleted from the applicants' Canadian Dental Aptitude Test score and, in order to accommodate this deletion, the Perceptual Ability Test score be weighted at 25% of the applicants' Canadian Dental Aptitude Test score, and the Academic Average Test score, representing an average of the Biology, Chemistry and Reading Comprehension scores, be weighted at 75% of the applicants' Canadian Dental Aptitude Test score."**

If this recommendation is accepted by Senate, implementation will occur in the 2017 admission cycle.

October 13, 2015

Report of the Senate Committee on Curriculum and Course Changes, Part B - Submitted to Senate for Ordinary Debate

Preamble:

1. The terms of reference for the Senate Committee on Curriculum and Course Changes (SCCCC) are found on the website at: http://www.umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/497.html.
2. This part of the report contains observations and recommendations on curriculum and course change proposals for units where the net increase is more than nine credit hours. The Senate Planning and Priorities Committee also considered the proposal from the Faculty of Health Sciences for a Biomedical Sciences Concentration, in the Bachelor of Health Sciences degree.
3. The SCCCC's recommendation concerning proposed modifications of the Bachelor of Health Sciences and the Bachelor of Health Studies degrees, which involve changes to the list of electives for these programs among other changes, are described in the Report of the Senate Committee on Curriculum and Course Changes, Part A – Submitted for Concurrence without Debate [October 20, 2015].

Observations

1. The Faculty of Health Sciences is proposing to introduce a Biomedical Sciences Concentration, within the Bachelor of Health Sciences degree, in the Interdisciplinary Health Programs (IHP). The B.H.Sc. degree is one of two degree programs offered within the IHP, which is administered by the Faculty of Health Sciences and is offered in collaboration with the Faculties of Arts and Science.
2. The purpose of the proposed Biomedical Sciences Concentration, within the Bachelor of Health Sciences degree, would be to:

   > …provide another path for undergraduate students interested in pursuing biomedical research at the graduate level; provide a more comprehensive foundation in biomedical sciences for those pursuing careers in the health sector or further studies in post-baccalaureate programs (such as medicine, dentistry, pharmacy, medical rehabilitation); and create new interdisciplinary experiences and educational opportunities for undergraduate students.

3. The proposed Biomedical Sciences Concentration would: (i) enhance the biomedical content of the B.H.Sc. degree, for those students who complete the concentration; (ii) establish a link between the B.H.Sc. degree and the Faculty of Health Sciences; (iii) respond to a need to create a pathway from undergraduate to graduate studies, in the areas of disease processes and biomedical research, which has been identified in several reviews of graduate programs offered by departments within the College of Medicine.
4. The proposal for the Biomedical Sciences Concentration involves the introduction of three courses totaling twelve (12) credit hours: HEAL 3610 – Mechanisms of Disease 1, HEAL 4630 – Mechanisms of Disease 2, and HEAL 4640 – Mechanisms of Disease 3. The curriculum for the concentration would also require that students complete two

prerequisite courses, BIOL 2520 – Cell Biology and CHEM 2360 – Biochemistry 1: Biomolecules and an Introduction to Metabolic Energy.

5. Initially, enrolment in the concentration would be limited to twenty-four (24) students each year, given the cost of offering the laboratory component of HEAL 4640 and restrictions on space in the laboratory setting.
6. Given enrolment limitations in HEAL 4640, entrance to the concentration would be competitive. Entrance to the concentration would require (i) registration in the B.H.Sc. degree, (ii) submission of a statement of interest in obtaining the concentration, to be submitted by May 15 following successful completion of HEAL 3610, and (iii) a minimum grade of "B" in HEAL 3610. A maximum of twenty-four (24) students would be selected for entrance, from among those who meet the entrance requirements, based on the highest Degree Grade Point Averages achieved after the completion of HEAL 3610.
7. The committee was concerned about the possible impact of the proposal on enrolment in the two prerequisite courses that are offered by the Faculty of Science (BIOL 2520 and CHEM 2360) and which are already oversubscribed. The Faculty of Health Sciences contended that there is existing capacity in these courses given that, when it was established with the support of the Faculty of Science, it was anticipated that enrolment in B.H.Sc. degree might be as high as forty (40) students per year and that the program has never reached enrolment capacity. In recent years, total enrolment in the program has averaged twenty (20) to twenty-five (25) students. The committee was also advised that the University is working to address issues related to service teaching through the Strategic Resource Planning (SRP) process. The SCCCC continued to be concerned about the potential impact on the two prerequisite courses, given that the Biomedical Sciences Concentration was not part of the original proposal for the B.H.Sc. degree, and it is not known how demand for the concentration would impact demand for the two science prerequisites.

Recommendation

The Senate Committee on Curriculum and Course Changes recommends:

THAT Senate approve a proposal for a Biomedical Sciences Concentration, in the Bachelor of Health Sciences, Faculty of Health Sciences, including the introduction of three courses, effective September 1, 2016.

Respectfully submitted,

Professor G. Smith, Acting Chair
Senate Committee on Curriculum and Course Changes

Comments of the Senate Executive Committee:
The Senate Executive Committee endorses the report to Senate.

September 28, 2015

Report of the Senate Planning and Priorities Committee RE: Proposal for a Biomedical Sciences Concentration in the Bachelor of Health Sciences, Faculty of Health Sciences

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Preamble:

1. The terms of reference of the Senate Planning and Priorities Committee (SPPC) are available at http://umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/510.html. The SPPC has the responsibility to report to Senate on curriculum changes with significant resource implications, including additions to curricula of more than nine (9) credit hours.

2. At its meeting on September 28, 2015, the committee considered a proposal, from the Faculty of Health Sciences, to establish a Biomedical Sciences Concentration within the Bachelor of Health Sciences program. Establishment of the program would involve the introduction of three (3) courses and a net increase of twelve (12) credit hours to the curriculum.

3. The Bachelor of Health Sciences is one of two degree programs offered within the Interdisciplinary Health Program (IHP) that is administered by the Faculty of Health Sciences and is offered in collaboration with the Faculties of Arts and Science. Administrative responsibility for the IHP programs, the second of which is the Bachelor of Health Studies degree, was recently transferred to the Faculty of Health Sciences from the former Faculty of Human Ecology (Senate, October 1, 2014).

Observations:

1. The purpose of the proposed Biomedical Sciences Concentration, within the Bachelor of Health Sciences degree, would be to:

   > …provide another path for undergraduate students interested in pursuing biomedical research at the graduate level; provide a more comprehensive foundation in biomedical sciences for those pursuing careers in the health sector or further studies in post-baccalaureate programs (such as medicine, dentistry, pharmacy, medical rehabilitation); and create new interdisciplinary experiences and educational opportunities for undergraduate students.

2. The proposed Biomedical Sciences Concentration would: (i) enhance the biomedical content of the B.H.Sc. degree, for those students who complete the concentration; (ii) establish a link between the B.H.Sc. degree and the Faculty of Health Sciences; (iii) respond to a need to create a pathway from undergraduate to graduate studies, in the areas of disease processes and biomedical research, which has been identified in several reviews of graduate programs offered by departments within the College of Medicine.

3. The program would require the introduction of three (3) courses totaling twelve (12) credit hours: HEAL 3610 – Mechanisms of Disease 1, HEAL 4630 – Mechanisms of Disease 2, and HEAL 4640 – Mechanisms of Disease 3. The curriculum would also require that students complete two prerequisite courses, BIOL 2520 – Cell Biology and CHEM 2360 – Biochemistry 1: Biomolecules and an Introduction to Metabolic Energy. These are existing courses offered by departments in the Faculty of Science.

4. Initially, enrolment in the concentration would be limited to twenty-four (24) students each year. The enrolment limit relates to the cost of offering the laboratory component of HEAL 4640 and to restrictions on space in the laboratory setting.

5. The cost of delivering the concentration on an ongoing basis would be $8,702. Resources would be derived from laboratory fees, which would generate $3,600 assuming an enrolment of twenty-four (24) students and a baseline faculty contribution of $5,102 from the Faculty of Health Sciences.

6. Resources would be required for salaries for two (2) positions for Teaching Assistants and for operating costs associated with the laboratory component of HEAL 4640. Resources are already in place for an Undergraduate Program Advisor for the IHP programs. Other staff resources that would be required to support the concentration, including an Administrative Assistant and teaching staff, would be drawn from existing staff within the basic science departments.[1]

7. Introduction of the concentration would also entail a one-time expenditure of $93,838 to purchase laboratory equipment required for HEAL 4640. The cost would be covered by the Faculty of Health Sciences.

10. The Library has indicated that it can support the proposed course introductions identified in observation 3. Space for student advising services for the IHP programs, including the proposed concentration, exists in the Human Ecology Building on the Fort Garry Campus.

11. The committee raised a concern regarding access to the required prerequisite courses, BIOL 2520 and CHEM 2350, which the Faculty of Science has indicated already have limited enrolment capacity. In response, the Faculty of Health Sciences observed (i) that the original proposal for the B.H.Sc. and B.H.St. programs anticipated a maximum enrolment of forty (40) students in each program and (ii) the Faculty of Science, which is a partner in the IHP, had acknowledged, at that time, that it could support the needs of the program. The committee was also advised that, over the last several years, the University has addressed issues related to service teaching through the Strategic Resource Planning (SRP) process.

12. The committee observed that, notwithstanding the enrolment limits projected when Senate (May 17, 2006) and the Board of Governors (June 20, 2006) first approved the B.H.Sc. program, recent budget cuts, increasing enrolment in the Faculty of Science, and ongoing financial pressures at the University mean that any enrolment increase that might occur as a result of the implementation of the Biomedical Sciences Concentration would take place in a different resource context than existed in 2006. Given this, students could potentially experience difficulty accessing the required Science prerequisites.

[1] Including the Departments of Biochemistry and Medical Genetics; Human Anatomy and Cell Science; Immunology; Medical Microbiology; Pathology; Pharmacology and Therapeutics; Physiology and Pathophysiology;

Recommendation

The Senate Planning and Priorities Committee recommends THAT:

Senate approve a proposal for a Biomedical Sciences Concentration, in the Bachelor of Health Sciences degree, Faculty of Health Sciences, effective September 2016.

Respectfully submitted,

Ada Ducas, Chair
Senate Planning and Priorities Committee

Comments of the Senate Executive Committee:
The Senate Executive Committee endorses the report to Senate.

UNIVERSITY
OF MANITOBA

College of Rehabilitation Sciences

TO: **Dr. David Collins, Vice-Provost (Integrated Planning and Academic Programs)**

FROM: **Emily Etcheverry, Ph.D., OT(C), Chair, Interdisciplinary Health Program Council, Faculty of Health Sciences**

COPY TO: **Shannon Coyston, Academic Specialist, Office of the University Secretary**
Cassandra Davidson, Undergraduate Program Analyst, Office of the Vice-President (Academic) & Provost

DATE: **September 4, 2015**

SUBJECT: **IHP Proposal**

Dear Dr. Collins,

Further to my previous correspondence by email on August 14, 2015 and further direction received from your office, I am now sending the single-sided, signed original hard copies of all forms pertaining to the IHP proposal to introduce a Biomedical Concentration in the Bachelor of Health Sciences Degree.

The IHP Council and the Faculty of Health Sciences Executive Council approved the proposal in its original form on June 8 and June 11, 2015 respectively and subsequently in final form, as attached, on September 1 and September 3, 2015 respectively.

Thank you for your consideration. Please let me know if there are questions or any revisions/clarifications required. We look forward to your response.

Emily

Office of the Vice-President (Academic) & Provost

PROPOSAL FOR NEW ACADEMIC MINOR OR CONCENTRATION

Date: **12 August 2015**

Faculty: **Faculty of Health Sciences**
Department: **Interdisciplinary Health Program (IHP)**

Contact Details: **Dr. Emily Etcheverry**
Chair, IHP Council
Emily.Etcheverry@umanitoba.ca

Section 1: **Program Overview:**

1. Program type: Minor: ☐ Concentration: ☒

2. Proposed program name: Biomedical Sciences

3. Length of program:
Indicate the required number of credit hours including any associated pre-requisite requirements.

Biomedical Science concentration within the 4 year Bachelor of Health Sciences degree (120 credit hours). 18 credit hours specific to the concentration.

4. Proposed start of program: 1 September 2016

Section 2: **Program Details**

5. Description of program:
Provide a brief outline of the program, its objectives and how it will benefit student.

The Bachelor of Health Science (BHSc) is one of two degrees within the larger Interdisciplinary Health Program (IHP) housed within the Faculty of Health Sciences and offered in collaboration with the Faculties of Arts and Science. While there are a number of required science courses in the BHSc degree, there is little *biomedical* content. To enhance this program we are proposing a concentration in Biomedical Sciences and introducing courses related to the *mechanisms of disease*, and an opportunity to experience how this is approached specifically through *biomedical laboratory experience*. Development of the concentration within the existing BHSc degree will provide students not only with an interdisciplinary experience involving both the biological and social sciences, but also with a new way to prepare themselves for graduate studies in biomedical disciplines.

- The concentration will provide another path for undergraduate students interested in pursuing biomedical research at the graduate level; provide a more comprehensive foundation in biomedical sciences for those pursuing careers in the health sector or further studies in post-baccalaureate programs (such as medicine, dentistry, pharmacy, medical rehabilitation); and create new interdisciplinary experiences and educational opportunities for undergraduate students.

6. Course Requirements:
Provide a list of courses (include course codes) and breakdown of course requirements by level (e.g. 6 hours at the 1000 level, 3 hours at the 2000 level, etc.). Indicate whether proposed coursework is currently offered or new. Note any pre-requisite details where applicable.

New required courses for the Concentration are to be completed in years 3 and 4 of the BHSc degree (18 credit hours):

HEAL 3610	Mechanisms of Disease 1 Cr. Hrs. 3	+3.0
HEAL 4630	Mechanisms of Disease 2 Cr. Hrs. 3	+3.0
HEAL 4640	Mechanisms of Disease 3 Cr. Hrs. 6	+6.0

Required prerequisites for HEAL 3610 that are also required for the Concentration:

BIOL 2520	Cell Biology Cr. Hrs. 3	+3.0
CHEM 2360	Biochemistry 1: Biomolecules and an Introduction to Metabolic Energy Cr. Hrs. 3	+3.0

7. Program availability:
Will this program be offered to all students eligible to declare a minor/concentration or will it be restricted to a subset of students. If the latter, provide a brief explanation as to why the program will be restricted.

The Biomedical Sciences concentration will be available to all BHSc students, but restricted to those who successfully complete HEAL 4640.

HEAL 4640 is a biomedical research-intensive lecture and laboratory course with limited space availability, with a minimum enrolment of 6 students and a maximum enrolment of 24 students per year.

8. Admission requirements:
If applicable, outline any admission requirements to the program.

Admission to BHSc degree:

Approval of the concentration requires no changes to the admission requirements for the BHSc degree.

Admission to the BHSc degree requires completion of a minimum of 24 credit hours of university-level courses with a minimum GPA of 2.0. Academic requirements for admission are available at the following link: http://www.umanitoba.ca/student/admissions/media/health_science_studies_bulletin.pdf

Required year 1 courses may be completed as part of U1 or part of a program in another faculty (e.g. BSc) or following admission to the BHSc degree.

Admission to Biomedical Sciences concentration:

Normally a written statement of interest must be submitted to the Student Advisor declaring an interest in obtaining the concentration by May 15 following completion of HEAL 3610. Students will normally be informed whether space is available for them in the concentration by mid-June.

In order to be eligible for the concentration students require a minimum grade of B in HEAL 3610. Normally, the maximum enrolment will be 24 students with the highest degree GPA after completion of HEAL 3610.

Students may only register via Student Advisor and permission of Instructor.

Section 3: **Program Demand**

9. Strategic priorities:
Comment on how the program fits within the university's strategic priorities.

The University of Manitoba Strategic Research Plan 2015-2020 indicates that contributions to discovery and innovation are priorities. Our view is that the concentration fits into these priorities via education and training of individuals in the area of integrative research in health and well-being.

However, there is currently no biomedical content in the existing BHSc degree, and no established links between the BHSc degree and the Faculty of Health Sciences. As such, the original program does not meet the needs for students with an interest in understanding disease processes or biomedical research and, thus, by extension pursuing a career where this knowledge may be motivational and beneficial including graduate studies at the Masters and Ph.D. levels. The need for this path has been identified repeatedly in external evaluations of departmental graduate programs within the College of Medicine.

Development of a "concentration" in Biomedical Science (Biomed. Sc.) within the existing BHSc degree would fill this gap. It would provide students not only with an interdisciplinary experience involving both the biological and social sciences but with another path to further studies in biomedical research, including entering the graduate programs offered by basic and clinical science departments in the Faculty of Health Sciences. Successful graduates of existing Biomedical Science-related programs have gone on to careers in: biomedical research; further studies in medicine, dentistry, medical sciences, pharmacy, the pharmaceutical industry, forensic research, teaching; and other graduates have gone on to complete Master's and PhD programs.

10. Student demand:
Provide evidence of student demand and interest in the program.

There is a demand for highly trained and qualified personnel to serve the needs of Manitobans and those elsewhere. This includes in the health and wellbeing-related sectors of the economy. While we have many excellent training programs within these sectors, we believe that providing a concentration focused on Biomedical Science will enhance our available programs. Furthermore, the opportunity to pursue "biomedical sciences" as a specialization within an undergraduate degree program and even within a BHSc degree program is already available elsewhere not only at other medical-doctoral universities but also at non-medical-doctoral universities in Canada and internationally.

The Canadian Institutes of Health Research (CIHR) recently released their presentation "Positioning Trainees for Success in the Canadian Health Research Enterprise" (April 2nd, 2015). They state: "The

success of the Canadian Health Research Enterprise depends on its ability to position health research trainees for success where they are needed: government, academic, industry, health care system, etc." They go on to state a need to "prepare (trainees) for diverse roles in the Canadian health research enterprise", and part of their recipe for success is to "expose trainees to diverse expertise and environments." The existing BHSc degree with its integrated exposure to the social sciences provides a broader context not always found in undergraduate science degrees, and as such may provide expanded opportunities for our students.

We also believe that the concentration will help to make the University of Manitoba more competitive in terms of student recruitment as "biomedical sciences" education is offered at many institutions in Canada and abroad.

11. Projected enrolment:
Based on the evidence of demand, provide projected enrolment numbers in the program.

While we hope this will increase interest in BHSc as a whole, the cost of providing the concentration (specifically HEAL 4640 Mechanisms of Disease 3) means that we are limited to 24 students per year at this time.

As the concentration matures and should additional resources be allocated, we anticipate that enrolment will increase.

12. Effects on other programs:
Comment on the potential effect of the program on other existing programs.

We have advised all of the Faculties that currently contribute to the BHSc degree of our desire to introduce a new concentration in Biomedical Sciences, and have received letters of support from contributing and supporting units (please see enclosed).

13. Similar programs:
If known, describe similar programs within Manitoba, outlining any similarities or differences with the proposed program.

There are no other programs within Manitoba similar to the Biomedical Sciences concentration. At present there is no undergraduate program that introduces the topic of "mechanisms of disease" by taking advantage collectively of the experience, expertise and laboratory resources available within the basic biomedical science departments in the College of Medicine; specifically, Human Anatomy & Cell Science, Biochemistry & Medical Genetics, Immunology, Medical Microbiology, Physiology & Pathophysiology, and Pharmacology & Therapeutics, as well as Pathology. This will represent the first joint program encompassing all of the basic biomedical science departments in the College of Medicine, integrating our expertise with the existing BHSc degree.

14. External consultation:
Where appropriate, outline any consultations with industry, business, and/or any third-party groups in development of the proposed program.

After an environmental scan of programs nationally and internationally, we identified that the opportunity to pursue "biomedical sciences" as a specialization (concentration) within an undergraduate degree program and even within a BHSc degree program is already available elsewhere not only at other medical-doctoral universities but also at non-medical-doctoral universities in Canada and internationally (e.g. McMaster University, University of Ottawa, Dalhousie University, University of Calgary, University of Buffalo, Newcastle University, University of Edinburgh). Review of the description for these programs was used to inform members of the IHP committee on the utility of a new program at the

University of Manitoba.

Section 4: **Resource Requirements**

15. Projected Costs & Revenues:
Provide a general overview of the projected costs and revenues of the program. Where applicable, comment in detail on the below.

No salary support is requested/required for instructors in the new concentration (instructors will be drawn from existing faculty members – indicated by letters of support from participating departments). There are no additional costs to operate HEAL 3610 and HEAL 4630.

Teaching Assistants: HEAL 4640 will require 2 teaching assistants at an initial salary of $22.00/hour x 10 hours x 5 modules x 2 TAs = $2200 for the first offering of this course (increasing by 2.0% annually). The costs of the teaching assistants will be paid from funds provided by the Faculty of Health Sciences. These positions will be advertised under the CUPE 3909 collective agreement.

Laboratory costs: HEAL 4640 will require yearly expenditures of consumable supplies for laboratory operations. Funds to cover these costs will be obtained from laboratory fees and the Faculty of Health Sciences will underwrite the balance. For example, for the first offering of this course the costs are $6006.00 (increasing by 2.0% annually).

Laboratory fee: For HEAL 4640, an annual laboratory fee of $150.00 per student will be levied, pending approval, providing up to $3,600/year in revenue based on a class size of 24 students.

16. Coursework:
Comment on whether the proposed program will require the offering of additional courses.

We are requesting the acceptance of three new courses into the BHSc degree, which will be required to complete the concentration:

HEAL 3610	Mechanisms of Disease 1 (3 credit hours)
HEAL 4630	Mechanisms of Disease 2 (3 credit hours)
HEAL 4640	Mechanisms of Disease 3 (6 credit hours)

The two other requirements for the concentration, BIOL2520 and CHEM 2360, are existing approved courses on the IHP approved electives list.

The requirements to declare a concentration will integrate within the existing BHSc degree credit hour guidelines.

17. Staffing:
Comment on whether the proposed program will require additional academic or administrative staff.

There is currently no need for additional academic staff in the new concentration since instructors will be drawn from existing faculty members.

Teaching assistants will be advertised under the CUPE 3909 collective agreement and will be drawn from qualified trainees, and employed through the existing University agreements with TAs.

Administrative Assistant (1.0 FTE) – in support of the new HEAL courses, it is anticipated that this/these individual/s will be drawn from existing staff member(s) within the basic science departments (indicated in letter of support from Physiology and Pathophysiology).

Administration of the concentration will be incorporated into the portfolio of the existing support staff within the IHP program.

Student Advising is currently conducted by Ms. Alisa Claman, Undergraduate Program Advisor, Interdisciplinary Health Program. She will also be responsible for advising students interested in the concentration.

18. Infrastructure / Equipment:
Comment on how the proposed program will impact the use of current infrastructure and equipment.

Scheduling for HEAL 3610 at the Fort Garry campus will be required. HEAL 4630 and HEAL 4640 will be conducted at the Bannatyne campus and the National Microbiology Laboratory (NML). Lecture and laboratory space has been identified at the Bannatyne campus and NML.

For HEAL 4640, the Faculty of Health Sciences will provide funds for initial set up costs for equipment that does not already exist at these sites (e.g. PCR thermocyclers, Nanodrop spectrophotometer, Inverted microscope).

19. Library Resources:
If the program involves new courses, or coursework that has not been offered on a regular basis in recent years, comment on the adequacy of existing library resources.

Approval from the Library for the three new HEAL courses has been received (August 4, 2015).

20. Additional Funds:
Provide information on whether new funds are required for this program. If so, provide details.

Teaching Assistants: HEAL 4640 will require 2 teaching assistants at an initial salary of $22.00/hour x 10 hours x 5 modules x 2 TAs = $2200 in Year 1 (increasing by 2.0% annually). The costs of the teaching assistants will be underwritten by the Faculty of Health Sciences.

Laboratory costs: HEAL 4640 will require yearly expenditures of consumable supplies for laboratory operations. Funds to cover these costs will be obtained from laboratory fees and the balance will be underwritten by the Faculty of Health Sciences. $6006.00 in the first year offered.

Start-up equipment: For HEAL 4640, the Faculty of Health Sciences will provide funds for initial set up costs for equipment that does not already exist at these sites (e.g. PCR thermocyclers, Nanodrop spectrophotometer, Inverted microscope). $94,000.

Section 5: **Approvals**

Faculty Approvals

Department / Program Head:	<signature required>	3 September 2015
Dean / Director:	<signature required>	3 September 2015
Faculty / School Council:	<signature required>	3 September 2015

Institutional Approvals

Senate Committee on Curriculum & Course Changes:		35T
Senate Planning & Priorities Committee (*if required)*:		35T
Senate Approval:		35T
Provost Approval:	<signature required>	35T

Course introductions:

Introductions:

HEAL 3610 Mechanisms of Disease 1 Cr.Hrs. 3 +3.0
This course will provide an overview of cellular processes and immunology, followed by an introduction to common processes underlying the development of human disease. These include: cell injury and death (including metabolism and aging); neoplasia; inflammation; toxins and trauma; genetic diseases and susceptibility; and immune dysregulation. The focus will be on both local and systemic disease processes, and the progression of cells and tissues from a health to a pathological state. For IHP students only. Prerequisites: BIOL 2520 (C) and CHEM 2360 (C).

HEAL 4630 Mechanisms of Disease 2 Cr.Hrs. 3 +3.0
This course will expand upon the concepts learned in HEAL 3610 by exploring systemic diseases. The focus will be on understanding how some disease processes are not constrained by individual tissues and/or organs and may progress to affect the patient systemically. Specific diseases such as cancer, diabetes, multiple sclerosis, and HIV will be used as examples. For Bachelor of Health Sciences students only. Prerequisite: HEAL 3610 (B).

HEAL 4640 Mechanisms of Disease 3 Cr.Hrs. 6 +6.0
(Lab required) Students will learn experimental techniques commonly used in modern biomedical science through lectures and laboratory sessions. Students will have the opportunity to conduct hands-on experiments in a modern research setting by rotating through five laboratory modules that will explore biomedical science methods such as histology and microscopy, cell culture, molecular biology, systems biology and proteomics, and HLA genotyping. These modules will be based on the diseases discussed in HEAL 4630, and will allow students to establish a direct connection between their experimental work and disease mechanisms. For students in the Bachelor of Health Sciences program only. Prerequisites: HEAL 4630 (B) and permission of instructor.

NET CHANGE IN CREDIT HOURS: +12.0

Current and Revised Program Chart for the Integration of a Biomedical Sciences Concentration into the Faculty of Health Sciences, Bachelor of Health Sciences Degree

Requirements	Cr Hrs	Guidance & Supplementary Information
Year 1, BHSc degree, required courses:		Admission to the BHSc degree requires completion of a minimum of 24 cr hrs of university-level courses with a minimum GPA of 2.0. Academic requirements for admission are available at the following link: http://www.umanitoba.ca/student/admissions/media/health_science_studies_bulletin.pdf Required year 1 courses may be completed as part of U1 or part of a program in another faculty (e.g. BSc.) or following admission to the BHSc degree.
CHEM 1300 Structure & Modeling	3	
CHEM 1310 Physical Chemistry	3	
BIOL 1020 Biology	3	
BIOL 1030 Biology	3	
BIOL 1410 Anatomy of the Human Body	3	
BIOL 1412 Physiology of the Human Body	3	
STAT 1000 Basic Statistical Analysis 1	3	
PLUS		
PSYC 1200 Introduction to Psychology	6	
Free elective	3	
	30	

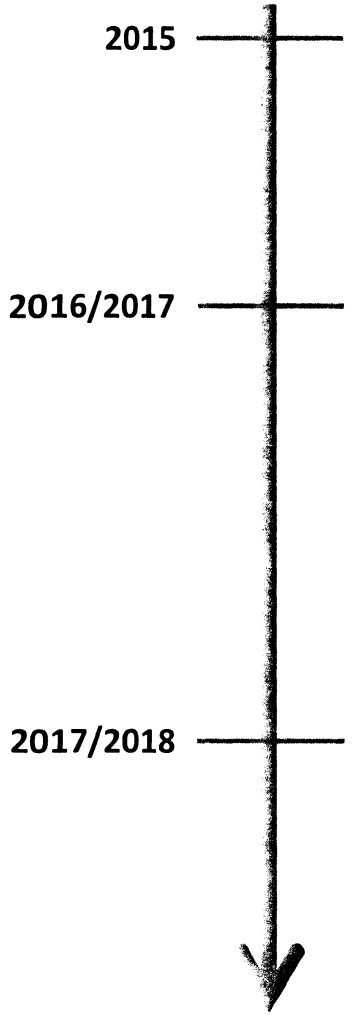
Requirements[1]	Cr Hrs	Guidance & Supplementary Information
Year 2, BHSc degree, Required "Linking" Courses:		
PHIL 1290 Critical Thinking	3	
ECON 1210 Intro to Canadian Economic Issues & Policies	3	
GMGT 1010 or 2070 Business & Society or Admin Theory	3	
HNSC 1210 Nutrition for Health & Changing Lifestyles	3	
FMLY 3780 or 3790 Development/Evaluation of Programs	3	
PSYC 2250 or HMEC 2000 Intro to Psych Research or Intro Res	3	
NATV 1220 or 1240 Native Peoples of Canada 1 or 2	3	
HMEC 3000 Introduction to Social Epidemiology	3	
PLUS 6 cr hrs chosen from the following courses:		
PHIL 2740 Ethics in Biomedicine	3	
GEOG 4290 Geographies of Health & Health Care	3	
SOC 2490 Sociology of Health & Illness	3	
	30	
BHSc degree Required "Integration" Courses		These courses are offered in a case-study format in years 2, 3 and 4.
HEAL 2600 Integration: Individual Focus HEAL	3	
3600 Integration: Community Focus HEAL 4600	3	
Integration: Canada & World Focus	3	
	9	
		Advising for students interested in pursuing the Concentration: BIOL 2520 and CHEM 2360 are pre-requisites for HEAL 3610, so students should plan Year 3 accordingly. It is strongly recommended that they meet with the IHP Student Advisor to ensure that requirements can be met.

[1]Grey boxes indicate where the Concentration fits into the BHSc degree.

Requirements[1]	Cr Hrs	Guidance & Supplementary Information
Years 3 & 4, BHSc degree, required courses HEAL 4620 Health Sciences Capstone **Elective courses are to be completed in years 3 and 4** from approved list of elective courses (Appendix 1). Note that this group of elective courses must meet the following criteria: • Science courses: minimum 21/36 credit hours • Social Sciences: minimum 12/36 credit hours • 3000 & 4000 level courses: minimum 24/36 credit hours[2] Additional credit hours required from elective courses in Appendix 1:	3 36 12 **51**	Note the following regarding credit hours: 1. The sum of the credit hours required for years 3 and 4 in the BHSc degree shown in the box to the left is 51. 2. The remaining 9 credit hours from the Integration Courses, shown on page 1 bring the sum total number of credit hours over years 3 and 4 to 60. 3. The distribution of these hours over years 3 and 4 will depend upon the choice of elective courses and timing of the Integration courses.
Declaration of Interest in the Concentration: A written statement of interest must be submitted to the IHP Student Advisor declaring an interest in obtaining the concentration by May 15, following completion of HEAL 3610 (with a minimum grade of B). Students will be informed whether they will be eligible to pursue the concentration by mid-June. Normally, the maximum enrolment in the concentration will be 24 students for a given graduating year.		
Required courses for the Concentration are to be completed in years 3 & 4: Year 3: BIOL 2520 Cell Biology (Fall term) CHEM 2360 Biochem 1: Biomol. & Intr. Met. Engy. (Fall term) HEAL 3610 Mechanisms of Disease 1 (Winter term) Year 4: HEAL 4630 Mechanisms of Disease 2 (Fall term) HEAL 4640 Mechanisms of Disease 3 (Winter term) Note that HEAL 3610 will be offered as an elective course for all students in the BHSc degree.		

[1]Grey boxes indicate where the Concentration fits into the BHSc degree.
[2]PHAC 4030 and 4040 are recommended electives for students in the Concentration.

Transition Plan for a Biomedical Sciences Concentration within the Bachelor of Health Sciences Degree
Interdisciplinary Health Program, Faculty of Health Sciences
for the Students Currently Enrolled in the B.H.Sc. degree



2015

- Obtain approval from Senate and the Provost for introduction of the Concentration (new HEAL 3610, 4630 and 4640 courses in the BHSc program and the modification of the BHSc program to include the Concentration).

2016/2017

- In January 2016, advertise the Concentration to BHSc students so they can plan courses accordingly; continue to advertise and provide student advising annually.
- **Class of 2018:** Students take BIOL 2520 and CHEM 2360 in the Fall of 2016.
- In January of 2017, offer HEAL 3610 as an elective to BHSc students who have completed BIOL 2520 and CHEM 2360.

2017/2018

- **Class of 2018:** Students admitted to the Concentration will complete HEAL 4630 in term 1 of Year 4 and HEAL 4640 in term 2, and will receive the Biomedical Sciences Concentration when they graduate in June, 2018.
- **Class of 2019:** Offer HEAL 3610 as an elective to BHSc students in Year 3, who have the necessary pre-requisite courses.

STATEMENT OF ADDITIONAL COSTS, WORKLOAD, AND/OR SUPPLIES

1. **Six year Budget Projection:** We have projected a 6 year budget for the BHSc Biomedical Sciences concentration, beginning with initial creation in Year 0.

	Year 0 2016	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021
EXPENDITURES						
Salaries						
1.0 FTE Administrative Assistant*	0	0	0	0	0	0
2.0 Teaching Assistants	0	2,200	2,242	2,284	2,328	2,372
	0	2,200	2,242	2,284	2,328	2,372
Operating Costs						
Laboratory consumable costs for HEAL 4640	0	6,006	6,126	6,249	6,374	6,501
	0	6,006	6,126	6,249	6,374	6,501
Equipment Costs						
One-time equipment purchase	94,000	0	0	0	0	0
TOTAL PROGRAM EXPENDITURES	**94,000**	**8,206**	**8,368**	**8,533**	**8,702**	**8,873**
REVENUE						
Lab fees ($150/student; if maximum enrolment of 24 students)	0	3,600	3,600	3,600	3,600	3,600
TOTAL REVENUE	**0**	**3,600**	**3,600**	**3,600**	**3,600**	**3,600**
OVERALL PROGRAM SUPLUS (Deficit)**	**(94,000)**	**(4,606)**	**(4,768)**	**(4,933)**	**(5,102)**	**(5,273)**

*It is anticipated that this Administrative Assistant will be an existing staff member.
**Balance of cost will be funded through the College of Medicine, Faculty of Health Sciences

2. **Budget Justifications**

1) **EXPENDITURES**

a) Salaries

No salary support is requested/required for instructors in the new concentration (instructors are drawn from existing faculty members).

Administrative Assistant (1.0 FTE) –this individual will represent an existing staff member in the IHP office.

Teaching Assistants (2.0 FTE) – HEAL 4640 will require 2 teaching assistants at an initial salary of $22.00/hour (increasing by 2.0% annually) x 10 hours x 5 modules = **$2,200**.

b) Operating Costs

Ongoing operating costs for consumable items are required for the five laboratory modules of HEAL 4640. Estimated annual costs, based on an enrolment of up to 24 students, are as follows for the first year of the program (with typical expenditures listed; 2.0% increase per year):

Histology and microscopy module (Microscope slides; embedding, mounting and sectioning supplies; stains; microscope and cryostat time)	**$1040**
Cell culture module (Culture media; plastic ware; transfection reagents; CO_2)	**$337**
Molecular biology module (PCR reagents and supplies; gel electrophoresis supplies; western blotting supplies; DNA/protein ladders; restriction endonucleases; buffers; culture plates and media)	**$486**
Proteomics and systems biology module (Reagents; plasticware; filter cartridges)	**$146**
HLA typing module (HLA typing trays; agarose)	**$1992**
Costs common for all modules (Microcentrifuge tubes; conical tubes; gloves; pipette tips; miscellaneous disposables/consumables)	**$2005**
TOTAL OPERATING COSTS (year 1)	**$6006**

c) Equipment Costs

A number of pieces of scientific equipment are required for HEAL 4640. These costs are anticipated to be one-time expenditures occurring prior to the start of the program, and will include one year of warranty support beyond the warranty included in the baseline price of the equipment (typically one year). Equipment price estimates include shipping/handling and applicable taxes.

The required equipment includes tabletop centrifuges (x2); PCR thermocyclers (x3); agarose gel electrophoresis rigs (x3); protein gel electrophoresis rigs (x2); electrophoresis power supplies (x5); vortexes (x10); ice buckets (x6); a UV transilluminator with 6 x face shields; a Nanodrop spectrophotometer; an Inverted microscope with camera and screen; computers for

student use (x3); pippettors (x12 complete sets including P20, P200 and P1000 sizes); racks for tubes of various sizes. The estimated one-time cost for this equipment is **$94,000**.

2) REVENUE

a) Lab Fees

The cost per student for laboratory consumables is approximately $250 per student starting in the first year that HEAL 4640 is offered (increasing 2% annually thereafter). Therefore, an annual laboratory fee of $150.00 per student will be levied, providing up to $3,600/year in revenue based on a class size of 24 students. Additional funds beyond those obtained via laboratory fees will be provided by the Faculty of Health Sciences.

3) FURTHER CONSIDERATIONS

Additional cost savings may be realized by sharing of reagents between modules and use of some non-perishable supplies from year-to-year, thus the cost estimates represent the anticipated maximum outlay.

4) PHYSICAL RESOURCES

No new space is required at present, however it is anticipated that as future buildings are added to the Health Sciences campus, new customized wet laboratory space will be made available for HEAL 4640.

5) BALANCE SHEET

Relevant information is included in the SPPC spreadsheet.

University of Manitoba
SPPC Program Proposal Financial Form[1]

Form Instructions:

1. When proposing a new program *Current Fiscal Year* (the first column) should be left blank, with the first year of the program starting in year 1.
2. When proposing a program expansion *Current Fiscal* should be entered in the first column.
3. If a program reaches maturity prior to *Fiscal Year 4*, remaining fiscal year columns must still be completed so that *Ongoing Program Funding* can be calculated.
4. Fill in line items for revenue, expenditure, and capital as these pertain to the program. Examples are correspondently listed to the right of the table.
5. Ensure that line items account for overhead. For example, include the amount of tuition that the program will receive after administrative overhead.
6. Only fill out areas shaded in green, using cash accounting. The increment, on-going and total will self-populate accordingly.

Overview	
Institution:	University of Manitoba
Program Name:	Bachelor of Health Sciences (Biomedical Sciences concentration)
Contact Information:	Dr. Shahin Shooshtari, Program Director, Interdisciplinary Health Program, Faculty of Health Sciences; (204) 474-8052; Shahin.Shooshtari@umanitoba.ca
Date:	12-Aug-15

	Current Fiscal Year	Fiscal Year 1	Increment	Fiscal Year 2	Increment	Fiscal Year 3	Increment	Fiscal Year 4	Increment	Ongoing Program Funding
	(Enter 0's if new program)	Budget Yr 1	(change from current year to year 1)	Budget Yr 2	(change from year 1 to year 2)	Budget Yr 3	(change from year 2 to year 3)	Budget Yr 4	(change from year 3 to year 4)	
REVENUE INFORMATION										
Tuition - Laboratory fees (if 24 students)		$ 3,600	$ 3,600	$ 3,600	$ -	$ 3,600	$ -	$ 3,600	$ -	$ 3,600
Contribution from Institution*		$ 98,606	$ 98,606	$ 4,768	$ (93,838)	$ 4,933	$ 165	$ 5,102	$ 169	$ 5,102
Other Revenue		$ -	$ -		$ -		$ -		$ -	$ -
			$ -		$ -		$ -		$ -	$ -
*provided by Faculty of Health Sciences			$ -		$ -		$ -		$ -	$ -
			$ -		$ -		$ -		$ -	$ -
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Total Revenue (A)	**$ -**	**$ 102,206**	**$ 102,206**	**$ 8,368**	**$ (93,838)**	**$ 8,533**	**$ 165**	**$ 8,702**	**$ 169**	$ 8,702

	Current Fiscal Year	Fiscal Year 1	Increment	Fiscal Year 2	Increment	Fiscal Year 3	Increment	Fiscal Year 4	Increment	Ongoing Program Funding
	(Enter 0's if new program)	Budget Yr 1	(change from current year to year 1)	Budget Yr 2	(change from year 1 to year 2)	Budget Yr 3	(change from year 2 to year 3)	Budget Yr 4	(change from year 3 to year 4)	
EXPENDITURE INFORMATION										
Salaries - Direct (faculty, program administrators)	$ -		$ -		$ -		$ -		$ -	$ -
Salaries - Indirect (student TA support)	$ -	$ 2,200	$ 2,200	$ 2,242	$ 42	$ 2,284	$ 42	$ 2,328	$ 44	$ 2,328
Operating costs	$ -	$ 6,006	$ 6,006	$ 6,126	$ 120	$ 6,249	$ 123	$ 6,374	$ 125	$ 6,374
			$ -		$ -		$ -		$ -	$ -
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Total Expenditures (B)	**$ -**	**$ 8,206**	**$ 8,206**	**$ 8,368**	**$ 162**	**$ 8,533**	**$ 165**	**$ 8,702**	**$ 169**	$ 8,702

	Current Fiscal Year	Fiscal Year 1	Increment	Fiscal Year 2	Increment	Fiscal Year 3	Increment	Fiscal Year 4	Increment	Ongoing Program Funding
	(Enter 0's if new program)	Budget Yr 1	(change from current year to year 1)	Budget Yr 2	(change from year 1 to year 2)	Budget Yr 3	(change from year 2 to year 3)	Budget Yr 4	(change from year 3 to year 4)	
CAPITAL INFORMATION										
Major Equipment		$ 94,000	$ 94,000		$ (94,000)		$ -		$ -	$ -
Renovations			$ -		$ -		$ -		$ -	$ -
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Total Capital (C)	**$ -**	**$ 94,000**	**$ 94,000**	**$ -**	**$ (94,000)**	**$ -**	**$ -**	**$ -**	**$ -**	$ -

Revenues less Expenditures and Capital (A-(B+C))	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	$ -
Funding Request	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

UNIVERSITY OF MANITOBA | Faculty of Health Sciences

College of Medicine
Office of the Dean of Medicine
and Vice-Provost, FHS
230-745 Bannatyne Avenue
Basic Medical Sciences Building
Winnipeg, Manitoba R3E 0J9
Phone: (204) 789-3485
Fax: (204) 789-3661

August 13, 2015

Dr. David Collins
Vice-Provost
Academic Planning and Programs

Dear Dr. Collins;

Development of a biomedical concentration within the Interdisciplinary Health program (IHP) Bachelor of Health Sciences degree is a high priority for the Faculty of Health Sciences and the College of Medicine.

The IHP program recently migrated to the Faculty of Health Sciences (FHS) from the Faculty of Human Ecology. Academic governance and administrative support for the program now resides in the FHS. The IHP Council and the FHS Executive Council recently passed a motion to approve a Biomedical concentration within the Bachelor of Health Sciences degree which is one of two degrees offered through the IHP. Introduction of opportunities for students to receive education in biomedical sciences is a long standing goal of the basic sciences departments of the College of Medicine. Integration of this education into the IHP BHSc is recognized by both the IHP Council and FHS Executive Council as an excellent way to enhance student experience by including new disease related health sciences content and access to state of the art laboratory facilities which are otherwise not open to undergraduate students. The new learning opportunities offered are important for the University of Manitoba as the only medical-doctoral university in Manitoba. This concentration will offer enhanced preparation of undergraduate students for research related employment and for graduate studies in the health sciences.

I have reviewed the proposed budget for the program and acknowledge the contribution needed from FHS. Specifically, I confirm that the College of Medicine will provide a contribution of 94K for new laboratory equipment. In addition the Faculty resources will be made available to support teaching assistants and the cost of consumable laboratory supplies not covered by the tuition laboratory fee in the proposal.

Sincerely,

Brian Postl, MD, FRCP(C)
Dean and Vice Provost

UNIVERSITY OF MANITOBA | Faculty of Arts

3rd Floor Fletcher Argue Building
University of Manitoba
Winnipeg, Manitoba
Canada R3T 5V5
Telephone (204) 474-9100
Fax (204) 474-7590
Email arts_inquiry@umanitoba.ca

June 11, 2015

Dr. Shahin Shooshtari
Director, Interdisciplinary Health Program
219 Human Ecology Bldg.
University of Manitoba
Winnipeg, MB
R3T 2N2

Dear Dr. Shooshtari:

I am writing to indicate the Faculty of Arts' support for the introduction of the Biomedical Sciences Concentration in the Bachelor of Health Sciences degree, recently proposed by the Interdisciplinary Health Program.

Please let us know if there is any other information we can provide in support of this proposal.

Sincerely,

Dr. Jeffery Taylor
Dean, Faculty of Arts

THE UNIVERSITY OF MANITOBA
Faculty of Science
250 Machray Hall

INTER-DEPARTMENTAL CORRESPONDENCE

DATE: August 24, 2015

TO: Emily Etcheverry, Associate Dean Allied Health

FROM: Stefi Baum, Dean, Faculty of Science

RE: Biomedical Sciences Concentration in Health Sciences

The Faculty of Science is happy to support the proposed modification to the Bachelor of Health Sciences Program involving a concentration in biomedical sciences with the introduction of three new research-intensive lecture and laboratory courses. It is an addition to their program that should help to prepare a small number of undergraduate students for further graduate training in biomedical sciences.

There is one caveat however. We note that there is no explicit mention of an increase in the number of students in the program or in the BS part of the program/this concentration (currently ~20 for the entire IHP program, so we are estimating ~10 in the BS), and no resources are requested to increase capacity in the BIOL 2520 and CHEM/MBIO 2360. These two courses are currently filled to capacity with waiting lists, as are the prerequisite courses for them. Thus without additional resources, the IHP can grow only from within the cohort of students currently graduating from the required courses.

RECEIVED
AUG 2 8 2015

UNIVERSITY OF MANITOBA

STATEMENT OF SUPPORT: PART A - REQUEST

Complete Sections A through D of this form and send a copy, together with Part B and any additional supporting documentation, to unit(s) from which you are seeking a statement of support. The completed form (Sections A through E) is to be submitted to SCCCC along with Statements of Support (Part B) received. See the *Guidelines for Completion of Undergraduate/Certificate Course and Curriculum Changes*.

SECTION A –UNIT REQUESTING STATEMENT OF SUPPORT

Faculty/College/School: Health Sciences

Department: Interdisciplinary Health

SECTION B – NATURE OF REQUEST FOR SUPPORT

☑ possible curricular overlap or infringement or conflict of jurisdiction with another unit(s)

☐ possible curriculum/course changes in another unit(s) arising from proposed curriculum/course change in your unit

Request for assessment of course intended to satisfy:

☐ W requirement ☐ M requirement ☐ RIC list

Request that response be provided by: 15-Aug-2015

SECTION C – DESCRIPTION OF PROPOSED CURRICULUM/COURSE CHANGE

Briefly describe the proposed curriculum/course change in your unit and outline the request for support.

The Interprofessional Health Studies (IHP) Degree programs (BHSc and BHSt) currently list HNSC 1210 and HMEC 2000 as required courses for those programs. In addition there are 20 courses offered by the Faculty of Agricultural and Food Sciences that are approved electives for the IHP programs (the list is attached).
It is being proposed that the IHP BHSc degree program be modified to introduce a concentration in Biomedical Sciences. The proposal seeks approval for 3 new courses that will be required for the concentration and adds two new electives that will be recommended for students in the concentration.(see attached overview of the concentration)
Your support for this concentration including the continued inclusion of the required and elective courses offered by the Faculty of Agricultural and Food Sciences is requested.

SECTION D – UNIT(S) RECEIVING REQUEST FOR STATEMENT OF SUPPORT

List the faculties/colleges/schools/departments solicited for a statement of support.

Faculties of Arts, Science, Management, Environment Earth and Resources, Health Sciences Agricultural and Food Sciences

SECTION E – STATEMENT(S) OF SUPPORT RECEIVED

Attach responses received from other units (including responses to requests for asessement for the W requirement, M requirement, or RIC list, if appropriate) to your faculty/college/school submission to SCCCC.

UNIVERSITY OF MANITOBA

STATEMENT OF SUPPORT: PART B - RESPONSE

Section F is to be completed by the unit requesting a statement of support. Sections G through J are to be completed by the unit responding to the request. See the *Guidelines for Completion of Undergraduate/Certificate Course and Curriculum Changes*. The completed form (Part B) is to be returned to the unit requesting support.

SECTION F –UNIT REQUESTING SUPPORT

Faculty/College/School: Health Sciences

Department: Interdisciplinary Health

SECTION G – UNIT RESPONDING TO REQUEST

Faculty/College/School: Agricultural and Food Sciences

Department: Choose one

SECTION H – RESPONSE TO REQUEST

The Faculty of Agricultural and Food Sciences supports, in principle, the continued inclusion of the listed required and elective FAFS courses for the proposed IHP BHSc degree program. Where required, the FAFS may impose reserve requests for some of the courses listed. FAFS is undertaking a review of the Faculty degree core courses offerings which may result in future changes to HMEC2000. Specific details are listed below.
There is mutual benefit to ensure close collaborations with respect to curriculum development for FAFS and Medicine, especially between Human Nutritional Sciences and Community Health Sciences. Therefore we request the IHP Council consider FAFS representation in the future.

SECTION I – IMPACT ON COURSE(S)/PROGRAM(S) IN UNIT RESPONDING AND NEXT STEPS

List course(s)/programs(s) in your unit that would be impacted by the course/curriculum changes being proposed, and indicate when your unit will submit corresponding changes to the SCCCC for Senate approval (e.g. Fall 2015 or Spring 2016).

Required courses:
HNSC 1210 – has sufficient capacity. Impact is related to additional instructor time with increasing student numbers.
HMEC 2000- is expected to be reviewed with respect to competencies delivered and potential integration with another course or modification. In the near term, this course will require a reserve request to address space/instructor capacity in the 17 lab sessions offered.

Elective Courses:
TXSC 3500 – no longer offered
TXSC 4500 – no longer offered

All other FAFS courses listed for the Sciences Orientation elective and the Social Science Orientation elective have some additional space capacity. Depending upon student demand, FAFS may require reserve requests in some cases in the future.

SECTION J – SIGNATURES

Department Approval: Jared Carlberg _____ 27-8-2015
Type Name Signature Date

Faculty/College/School Approval:
_____ _____ Aug. 27, 2015
Type Name Signature Date

UNIVERSITY OF MANITOBA | Faculty of Health Sciences

Medicine
Professor and Head
Department of Physiology
& Pathophysiology
434 Basic Medical Sciences Building
745 Bannatyne Avenue
Winnipeg, MB CANADA
R3E 0J9
Tel: 204 789-3694
FAX: 204 789 3934

August 12th, 2015

Shahin Shooshtari, Ph.D.,
Director, Interdisciplinary Health Program,
Associate Professor
Department of Family Social Sciences
& Community Health Sciences,
University of Manitoba,
Winnipeg, Manitoba

Dear Dr. Shooshtari

We all support the introduction of a Biomedical Science concentration within the B.H.Sc. program. Members of our departments have been involved in the development of the concentration, and specifically three new courses related to the mechanisms of diseases: HEAL 3610, HEAL 4630 and HEAL 4640.

By our signatures below, we take the responsibility on behalf of our respective Departments to participate in the delivery of these courses by working together to provide instructors.

Yours sincerely

Dr. Peter A. Cattini
Physiology & Pathophysiology

Dr. Gabor Fischer
Pathology

Dr. Paul Fernyhough
Pharmacology & Therapeutics

Dr. Keith Fowke
Medical Microbiology

Dr. Thomas Klonisch
Human Anatomy & Cell Science

Dr. Louise Simard
Biochemistry & Medical Genetics

Dr. Xi Yang
Immunology

UNIVERSITY OF MANITOBA | Faculty of Medicine

Dr. Thomas Klonisch
Professor & Head
Department of Human Anatomy
and Cell Science
Basic Medical Sciences Bldg
145-730 Bannatyne Avenue
Winnipeg, Manitoba
Canada R3E 0J9
Fax: (204) 789-3920
Tel: (204) 789-3893,-3652
klonisch@cc.umanitoba.ca

Winnipeg, June 09, 2015

Dr. Peter Cattini
Dept. of Physiology and Pathophysiology
College of Medicine, Faculty of Health Sciences
University of Manitoba

RE: Letter of Support for the Biomedical Science (Biomed. Sc.) Concentration in the Existing Bachelor of Health Sciences (B.H.Sc.) Undergraduate Degree Program

Peter

Dear Dr. Cattini,

I am delighted to write this strong letter of support for your initiative to create a Biomedical Science (Biomed. Sc.) concentration in the existing B.H.Sc. undergraduate degree program. This support is enthusiastically shared by my faculty members at the Dept. of Human Anatomy and Cell Science. As you know, one of my faculty members, Dr. Sari Hannila, actively participates in your team to generate this B.H.Sc. concentration.

My faculty is committed to actively contribute to the teaching in this interdisciplinary program. We believe that the anatomy component will advance the basic structure-function knowledge of those students. Not only may this provide a competitive edge to those students entering into a professional health science program but is potentially mutually beneficial for the five Colleges representing professional health science programs at the University of Manitoba.

The Dept. of Human Anatomy and Cell Science will also support this program by providing access to research laboratory space and common research equipment for use by the students of this program in the laboratory practicum course. I am referring specifically to the histology and microscopy facilities in my department.

The creation of this concentration will provide research faculty members at my department with better access to highly motivated undergraduate students. The program is also expected to create enhanced awareness of the department's research profile among students at the Fort Garry campus and improve graduate student recruitment.

I wish you the best of luck for this initiative.

Best regards,

Thomas Klonisch
Professor/ Head

UNIVERSITY OF MANITOBA | Faculty of Medicine

Department of Immunology
471 Apotex Centre
750 McDermot Avenue
Winnipeg, Manitoba
Canada R3E 0T5
Telephone: (204) 789-3509
Fax: (204) 789-3921

June 10, 2015

Shahin Shooshtari, PhD
Director, Interdisciplinary Health Program
Departments of Family Social Sciences
& Community Health Sciences
University of Manitoba
219 Human Ecology
Fort Garry Campus

Dear Dr. Shooshtari:

Re: Bachelor of Health Sciences Biomedical Sciences (B.H.Sc (Biomed Sc.)) program

I am writing to strongly support the proposed B.H.Sc (BioMed Sc) program. This program provides a unique opportunity for students who are in the health sciences area with particular interest in biomedical sciences. It will provide interdisciplinary experience for undergraduates and provide a clear path for them to pursue a graduate degree in a biomedical research field. Thus, it is an important supplement to the existing B.H.Sc program. The representative of the Immunology Department, Dr. Cindy Ellison, is a member of the development team for the program. She has added an immunological perspective to the designed curriculum. Professors from the Department of Immunology have a strong interest in teaching the courses which will be provided in the program. The laboratories in the Immunology Department will also provide opportunities for the students enrolled in the program for their practicum requirement.

If you have any questions, please feel free to contact me at 204-272-3082.

Sincerely,

Dr. Xi Yang, M.D., Ph.D.
Professor and Head
Department of Immunology

XY/km

UNIVERSITY OF MANITOBA

Faculty of Health Sciences
College of Medicine
Biochemistry and Medical Genetics

336 – 745 Bannatyne Avenue
Winnipeg, Manitoba
Canada R3E 0J9
Telephone (204) 789-3593
Fax (204) 789-3900
bmg@umanitoba.ca

June 9th, 2015

Shahin Shooshtari, PhD
Director, Interdisciplinary Health Program
Associate Professor
Departments of Family Social Sciences
& Community Health Sciences
University of Manitoba
Researcher, St. Amant Research Center
219 Human Ecology
Winnipeg, Manitoba
R3T 2N2

Re: Biomedical Sciences Concentration in the Bachelor of Health Sciences

Dear. Dr. Shooshtari,

I was extremely pleased to learn that the proposal for the Biomedical Sciences Concentration in the Bachelor of Health Sciences was approved by the Interdisciplinary Health Program Council at their recent meeting of June 8th, 2015. This unanimous approval is consistent with our department's commitment to the creation and implementation of this concentration. Indeed, I completely supported the efforts of one of our Faculty members, Dr. Mark Nachtigal, who was part of the development team.

Please accept this letter of the strongest support for the Biomedical Sciences Concentration; Biochemistry and Medical Genetics will play a very active role in the training of undergraduate students registered in this program. This program will not only allow us to positively respond to one of the deficits identified by the external reviewers of our graduate program, but will enhance ties between the two campuses, provide undergraduate students who were unaware of our strengths in biomedical sciences an opportunity to pursue either professional biomedical careers or biomedical research, and will provide important teaching opportunities for our graduate students. Finally, the BHSc in Biomedical Sciences represents a truly inter-disciplinary, inter-departmental endeavour which is better aligned with team-based professional practice and research clusters.

Sincerely,

Louise R. Simard
Professor, Department Head
Tel: 204-977-5689
Louise.Simard@med.umanitoba.ca

UNIVERSITY of MANITOBA | Department of Medical Microbiology

Keith R. Fowke, Ph.D.
Professor and Head,
Medical Microbiology
Professor, Community Health Sciences
545-745 Bannatyne Avenue
Winnipeg, Manitoba
Canada R3E 0J9
Telephone (204) 789-3818
Fax (204) 789-3926
Keith.Fowke@umanitoba.ca

June 6, 2015

Shahin Shooshtari, PhD
Director, Interdisciplinary Health Program
Associate Professor
Departments of Family Social Sciences
& Community Health Sciences
University of Manitoba
Researcher, St. Amant Research Center
219 Human Ecology
Winnipeg, Manitoba

Dear Dr. Shooshtari:
It is with great pleasure that I provide this letter indicating my department's support for the proposed Biomedical Sciences Concentration in the Bachelor of Health Sciences program. This is an extremely exciting initiative that offers new opportunities to students in the biomedical sciences. Our department has been active in the development of the concept of the Concentration and we will be pleased to participate in the implementation of the program.

Best regards,

Keith Fowke

Keith Fowke, PhD
Professor and Head, Dept of Medical Microbiology

Public Health Agency of Canada
Agence de la santé publique du Canada

Office of the Scientific Director General
National Microbiology Laboratory
1015 Arlington Street
Winnipeg MB R3E 3R2

June 16, 2015

Dr. Shahin Shooshtari
Director, Interdisciplinary Health Program
Associate Professor, Departments of Family Social Sciences & Community Health Sciences
University of Manitoba
Researcher, St. Amant Research Center
219 Human Ecology
Winnipeg, MB R3T 2N2

Dear Dr. Shooshtari,

This letter is provided in support of the proposal headed by Dr. Cattini for a Biomedical Science (Biomed. Sc.) concentration within the existing Bachelor of Health Sciences (B.H.Sc.) Undergraduate Degree Program. As outlined in the proposal, Dr. Burgener has developed a lab module ("Proteomics and Systems Biology") as part of the Mechanisms of Disease 3 course (Practicum syllabus) that would consist of 2 afternoon wet-lab sessions within the JCWilt Infectious Disease Research Centre. This would provide undergraduate students hands-on experience with sample preparation for proteomic experiments.

I can confirm that we will provide access to the facility, and lab space/infrastructure necessary to support this course component within the JCWilt Infectious Disease Research Centre.

Best regards,

Matthew W. Gilmour, PhD FCCM ARMCCM
Scientific Director General
National Public Health Laboratories
(National Microbiology Laboratory; Laboratory for Foodborne Zoonoses)

Cc: Brian Postl, Dean, Faculty of Health Sciences
Dr. Peter A. Cattini, Professor and Head, Physiology & Pathophysiology

Canada

UNIVERSITY OF MANITOBA | Faculty of Medicine

Department of Pathology
401 Brodie Centre
727 McDermot Avenue
Winnipeg, Manitoba
Canada R3E 3P5
Telephone 204.789.3538
Fax 204.789.3931

June 15, 2015

Dr. Shahin Shooshtari
Director, Interdisciplinary Health Program
Faculty of Health Sciences
University of Manitoba

Dear Dr. Shooshtari:

I am writing to express my enthusiastic support for the new Biomedical Science Concentration being developed for the Bachelor of Health Sciences Degree in the Interdisciplinary Health Program (IHP). This is an exciting and much needed opportunity that will greatly benefit the undergraduate students, the IHP, and the Faculty of Health Sciences.

In collaboration with the other basic science departments in the Faculty, the Department of Pathology will gladly provide teaching support for the two new Mechanisms of Disease courses (1 and 2) which is an integral part of the Biomedical Sciences Concentration. We will also provide support for the Mechanisms of Disease 3 practicum-based course in the form of laboratory space, the use of equipment, and the provision of teaching assistants, as required. In return, several important new opportunities will arise. Firstly, our department, along with the other basic sciences departments, will become engaged in teaching undergraduate students from the Fort Garry campus. Secondly, the increased exposure of these students to the graduate programs available to at the Bannatyne Campus will provide an important avenue for recruitment. Thirdly, the laboratory practicum will provide much needed teaching opportunities for graduate students and post-doctoral fellows in the faculty. These benefits are particularly important because increased involvement in undergraduate teaching was identified as an area requiring development during the last formal review of our graduate program. As such, this new concentration will serve to strengthen our existing thesis-based MSc program and our practicum-based MSc Pathologist Assistant program.

In addition, the proposal clearly outlines several other important benefits that the Biomedical Sciences concentration will provide to both the Interdisciplinary Health Program and the Faculty. It is clear that the Biomedical Sciences Concentration development team has done a considerable amount of work and has produced an outstanding product, to which I offer my full support.

Sincerely,

John G. Gartner, M.D.,C.M., F.R.C.P.(C)
Professor and Head, Department of Pathology
Faculty of Health Sciences, College of Medicine
University of Manitoba
Tel:(204)789-3382; Fax:(204)789-3931
Email: john.gartner@umanitoba.ca

UNIVERSITY OF MANITOBA | Faculty of Health Sciences

Medicine
Professor and Head
Department of Physiology
& Pathophysiology
434 Basic Medical Sciences Building
745 Bannatyne Avenue
Winnipeg, MB CANADA
R3E 0J9
Tel: 204 789-3694
FAX: 204 789 3934

August 11, 2015

Shahin Shooshtari, PhD
Director, Interdisciplinary Health Program
Associate Professor
Department of Family Social Sciences
& Community Health Sciences
University of Manitoba
Researcher, St. Amant Research Centre
219 Human Ecology
Winnipeg, Manitoba

Dear. Dr. Shooshtari:

It is with great pleasure that I provide this letter indicating my department's support for the proposed Biomedical Sciences Concentration in the Bachelor of Health Sciences undergraduate program. We are very excited about this initiative that offers new opportunities to students in the biomedical sciences and faculty in basic science departments. Our department, including Dr. Michael Czubryt and myself, have been active in the development of the concept of the Concentration, and fully supports each of the three new courses to be offered (Mechanisms of Disease 1, 2 and 3). We will be pleased to participate in the implementation of this Concentration and making resources available where appropriate and possible, including Administrative Assistant services to assist in supporting the three new course offerings.

Sincerely,

Peter A. Cattini, PhD
Professor & Head
Department of Physiology & Pathophysiology

/gem

UNIVERSITY
OF MANITOBA

Department of Biological Sciences
Faculty of Science

Biological Sciences Building, University of Manitoba,
50 Sifton Rd, Winnipeg, MB, Canada. R3T 2N2
Tel: (204) 474-9730; Fax: (204) 474-7604

September 16, 2015

Dr. Shahin Shooshtari, PhD,
Director, Interdisciplinary Health Program
Associate Professor,
Department of Community Health Sciences,
College of Medicine, Faculty of Health Sciences,
University of Manitoba

Re: Bachelor of Health Sciences – proposed Concentration in Biomedical Sciences

Dear Dr. Shooshtari:

The Department of Biological Sciences is pleased to support the proposal to modify the Bachelor of Health Sciences Program (B.H.Sc.) to establish a concentration in biomedical sciences for undergraduate students. Review of the proposal shows it involves the introduction of three new courses that include both lecture and laboratory formats; these courses will be based in the Faculty of Health Sciences, as an addition to the B.H.Sc. program. The proposal aims to help in preparing a small number of undergraduate students (maximum 24) for further training in research programs at the graduate level, in biomedical (and possibly other) sciences. It also may lead to alternative career pathways in industry including pharmaceuticals, medical diagnostics or laboratory medicine, forensics, and possibly professional programs. Many of these career tracks are noted in the proposal to advance the preparation of trainees for the Canadian health-research enterprise.

The Department of Biological Sciences is specifically involved in this proposal through reliance on our department continuing to deliver the Cell Biology course (BIOL 2520), as it is a prerequisite for HEAL 3610 (Mechanisms of Disease 1). As the course is also a requirement in our departmental BSc Major and Honours programs, and in the interdisciplinary Genetics program, the course would also be offered consistently, year over year.

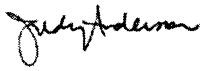
Registration in the proposed concentration is indicated as a maximum of 24. We note that although the BIOL 2520 course is currently offered in all of the Fall, Winter and Summer terms, the demand for undergraduate student enrolment typically exceeds the cap on this course in every term. Since there is no specific indication the proposal, of new support/resources that would enable an increase in capacity in the BIOL 2520 (e.g., with an additional section), it may be challenging in some years, to handle the potential for increased demand - large rooms are at a very high premium in a Faculty that teaches ~5000 undergraduate students each and there is a very limited budget for sessional instruction. In the absence of new resources, the B.H.Sc. (Biomedical Sciences) program would only be able to grow from within the cohort of students currently completing the required course, BIOL 2520 (and other courses, as stipulated in the proposal).

Other courses in Biological Sciences listed in the proposal, in particular Anatomy of the Human Body (BIOL 1410) and Physiology of the Human Body (BIOL 1412) are in extremely high demand in other programs on campus (e.g., required for admission to nursing, and in the newly proposed midwifery program, etc.). Although these courses are offered in Fall (1410), Winter (1412) and Summer session (1410 and 1412), none of these offerings would have any additional capacity over and above the current caps, since we are already unable to meet current demand. Timetabling issues may arise for students who require courses at both Fort Garry and Bannatyne campus locations (unless there are distance-lecture options), and have to reliably schedule travel and attendance in lectures and labs of the new courses. No doubt the program committee has developed a plan on that matter.

In addition, courses in human physiology (Human Physiology 1, BIOL 2410 and Human Physiology 2, BIOL 2420) are in high demand, although newly available by Distance Education in Summer and regular sessions. We also have offered a primer course in Pathological Mechanisms, as a special topics course at the 4000 level (BIOL 4890), that may be useful in the program as an option, if the instructor is available in a given term.

Nonetheless, the new concentration proposed in this broadly-based Bachelor of Health Sciences program sounds interesting. We wish you success in launching the new courses, with the approval of the proposed new concentration in Biomedical Sciences.

Yours sincerely



Dr. Judy E. Anderson, Ph.D.,
Professor & Head

cc: Dr. Stefi Baum, Dean, Faculty of Science
Dr. Ben Li, Associate Dean (Undergraduate Programs), Faculty of Science

UNIVERSITY
OF MANITOBA

September 15, 2015

Dr. Shahin Shooshtari, PhD Director, Interdisciplinary Health Program Associate Professor Department of Community Health Sciences College of Medicine
Faculty of Health Sciences
University of Manitoba Researcher
St. Amant Research Center 219 Human Ecology Winnipeg, Manitoba, R3T 2N2

Dear Dr. Shooshtari,

The Department of Chemistry supports the Biomedical Sciences concentration in the Bachelor of Health Sciences undergraduate degree at the University of Manitoba.

A mandatory course in this program is HEAL 3610 - Mechanisms of Disease 1 (Cr. Hrs. 3). As I understand it, this course will have CHEM 2370 (Biochemistry 2: Catabolism, Synthesis, and Information Pathways) as a mandatory prerequisite. This is appropriate because disease mechanisms require an understanding of the fundamental molecular basis of cell metabolism. Consequently, we strongly support this prerequisite. By way of background, to take CHEM 2370 students must have completed CHEM 2360 (Biochemistry 1: Biomolecules and an Introduction to Metabolic Energy), CHEM 2210 (Introductory Organic Chemistry 1: Structure and Function), CHEM 1310 (University 1 Chemistry: An Introduction to Physical Chemistry) and CHEM 1300 (University 1 Chemistry: Structure and Modelling in Chemistry) courses that provide a minimal grounding in the atomic and molecular basis of matter including living organisms.

The first sentence in the description of the Bachelor of Health Studies program on your www site states: *"The curriculum of this program integrates social science concepts, such as sociology and economics with science concepts, such as biology and metabolism."*
In our view, CHEM 2370 (Catabolism, Synthesis, and Information Pathways) should be a mandatory course in any program claiming "*metabolism*" as a central theme. This is especially true when the program and concentration have as an important goal the preparation of students for graduate research.

While the Department of Chemistry strongly supports the goals of the concentration in Biomedical Sciences we note that all of the mandatory courses given by the Department of Chemistry are oversubscribed and that additional resources would be needed to absorb more students into laboratory and lecture sections.

Best wishes,

Joe O'Neil

Acting Head
Department of Chemistry
390 Parker Building
144 Dysart Rd.
University of Manitoba
Winnipeg, Manitoba
R3T 2N2

Report of the Faculty Council of Graduate Studies on Program and Curriculum Changes

Preamble:

1. The Faculty of Graduate Studies has responsibility for all matters relating to the submission of graduate course, curriculum and program changes. Recommendations for new programs or changes are submitted by the Faculty Council of Graduate Studies for the approval of Senate.

2. The Faculty Council of Graduate Studies met on October 16, 2015 to consider a proposal from the Asper School of Business (MBA).

Observations

1. The **Asper School of Business** proposes the introduction of a new concentration in the MBA program entitled "Financial Analyst". This would add to the existing nine concentrations in the MBA. The new concentration includes the introduction of three (3) new courses.

Rationale:

The Asper MBA program is introducing a new program concentration "Financial Analyst stream", approved by the MBA Program Committee on April 24, 2015 and by Asper School of Business Faculty Council on May 8, 2015. This technical concentration provides high-quality ethics-based professional and academic training in Finance. This concentration will successfully prepare students for the CFA Program while developing their general management skills through core courses in the Asper MBA. The suite of courses in the concentration delivers finance education and advanced specialized skills while guiding professional practice. This concentration can prepare a student without significant prior background in finance for a position in a financial firm where proficiency in the CFA Program Candidate Body of Knowledge is desirable. Graduate of the Asper MBA with a Financial Analyst concentration are qualified to pursue job opportunities at financial service firms such as banks, pension funds, insurance companies, investment banks, mutual funds, hedge funds, asset-management firms, and brokerage firms. Opportunities also exist with non-financial firms for graduates seeking to specialize in valuation and capital market strategy.

The past two decades have marked a dramatic increase in financial-market volatility globally. This trend has spawned a surge in the demand for financial services professionals equipped with specialized skills which make them better prepared to face heightened financial-market risks and operational complexities. The financial and economic crises of the past decade have heightened not only the need for rigorous specialized skills but also for improved ethical practices in the financial services industry. The Chartered Financial Analyst (CFA) Institute sets professional and ethical standards for financial services professionals worldwide. The CFA grants a globally-recognized professional finance designation that gives CFA charter holders the opportunity to advance in the financial sector. Therefore, we have used the CFA Body of Knowledge as the frame of reference for

this proposed MBA concentration. We worked with the CFA to map over 70% of the CFA Program Candidate Body of Knowledge, in addition to the CFA Institute Code of Ethics and Standards of Professional Conduct, into this new MBA concentration. With this coverage, the Asper MBA Financial Analyst concentration will be eligible for recognition by the CFA Institute soon after its inception (in its first term, planned for Fall 2016). The CFA Recognition Program certifies the curricula alignment with the CFA Program Candidate Body of Knowledge. The Asper MBA (Financial Analyst) program will be listed as a recognized program on the CFA Institute website and promotional materials.

A candidate must pass three examinations in order to be granted a CFA designation. This is a formidable task. The 2013 CFA Annual Report shows an estimated three and a half year average time taken by a successful candidate to pass the three CFA examinations. Candidate examination results provided by the CFA indicate a ten-year average failure rate (as of June of 2014) of 61%, 56%, and 47% for the level-1, level-2, and level-3 examinations, respectively. The difficulty in obtaining the CFA charter brought about the need for university-based professional programs with curricula centred on the CFA Program Candidate Body of Knowledge (upon which CFA examinations are based). The demand for academic-based CFA education has increased globally. As of December 2013 the CFA reports 148 CFA Program Partners in 40 countries and 182 programs under the University Recognition Program in 25 countries worldwide. Nationally, while eleven Canadian universities offer graduate CFA Partner or University Recognition programs, there is only one graduate program offered in Canada's western provinces (at the University of British Columbia). The proposed Financial Analyst concentration in the Asper MBA will fill this void in graduate academic CFA education and it will also be the only such program between Ontario and British Columbia. The Asper School has gathered feedback from stakeholders - such as local leaders in the financial services industry, our current students, and Asper School faculty – all supporting the need for this new program.

This Financial Analyst concentration will prepare students for the next steps toward obtaining a Chartered Financial Analyst designation, one of the most respected globally-recognized credentials in the financial services industry, and prepare its graduates for employment opportunities in this sector. Graduates will be highly skilled management professionals with a strong awareness of and adherence to the ethical standards and practices of the financial services sector. In terms of learning outcomes, Asper MBA graduates with this concentration will: have demonstrated knowledge of techniques for financial assets valuation; have the ability to assess financial risk and develop proper strategies for controlling this risk; have the knowledge required to develop an appropriate benchmark for risk compensation; have the ability to facilitate decision making based on sound financial modeling; have the ability to determine whether firm investment and policies create value; apply ethical values consistent with academic integrity and proper professional judgments; have the capability to engage in applied financial research; have the ability to communicate effectively in a professional setting, both orally and in writing; and have exceptional general management and leadership skills, as honed through the core of the Asper MBA curriculum.

The Asper MBA Financial Analyst concentration will consist of (in addition to all other core MBAcourses):

FIN 7000	Managerial Economics (1.5 Credits) - core MBA course
FIN 7020	Corporate Finance (3 Credits)- core MBA course
ACC 7010	Accounting Fundamentals (3 Credits) - core MBA course
FIN 7130*	Alternative Markets and Instruments (1.5 Credits) - new course
FIN 7140*	Financial Modeling (3 Credits) - new course
FIN 7180*	Behavioral Finance (3 Credits) - new course
FIN 7152	Investment Policy (3 Credits) - current MBA elective
FIN 7080	International Finance (3 Credits) - current MBA elective
FIN 7240	Readings in Accounting and Finance (3 Credits) - existing course
FIN 7260	Special Topics in Finance/Portfolio Management (3 Credits) – existing course
FIN 7260	Special Topics in Finance/Fixed Income Securities (3 Credits) - existing course

*the three new courses were approved by Asper School Faculty Council on November 21, 2014.

All students pursuing this concentration will have to complete 30 credit hours of core MBA courses as well as 22.5 credit hours of specialized Finance courses and 7.5 credit hours of other MBA electives of their choice, graduating with 60 credit hours of total courses (same as all other MBA students).

Anticipated implementation date of the Financial Analyst concentration is Fall 2016.

Course Introductions

FIN 7140 Financial Modeling **+3**
This course will cover spreadsheet implementation of practitioner-oriented financial models. Prerequisite: FIN 7020 (or the former FIN 6072). May not be held with FIN 4240 (cross listed undergrad course).

FIN 7130 Alternative Markets and Instruments **+1.5**
This course will provide an overview of alternative investments pricing and roles in portfolio construction. Topics will include real estate, private equity, commodities, managed futures, hedge funds, and distressed debt. Prerequisite: FIN 7020 (or the former FIN 6072).

FIN 7180 Behavioural Finance **+3**
This course will explore how human biases impact the financial decisions of market participants and their practical implications. Topics will include prospect theory, heuristics, market anomalies, and behavioural corporate finance. Prerequisite: FIN 7020 (or the former FIN 6072). May not be held with FIN 4250 (cross listed undergrad course).

NET CREDIT HOUR CHANGE **+7.5**

Report of the Faculty Council of Graduate Studies on Program and Curriculum Changes

Recommendations

The Faculty Council of Graduate Studies recommends THAT: the program changes from the unit listed below be approved by Senate:

Asper School of Business (MBA)

Respectfully submitted,

Dean J. Doering, Chair
Graduate Studies Faculty Council

/py

Comments of the Senate Executive Committee:
The Senate Executive Committee endorses the report to Senate.

Report of the Faculty Council of Graduate Studies on Program and Curriculum Changes

Preamble

1. The Faculty of Graduate Studies (FGS) has responsibility for all matters relating to the submission of graduate course, curriculum and program changes. Recommendations for new programs or program changes are submitted by the Faculty Council of Graduate Studies for the approval of Senate.

2. The Faculty Council of Graduate Studies met on October 16, 2015 to consider a proposal from the Dept. of Biochemistry & Medical Genetics.

Observations

1. The **Dept. of Biochemistry & Medical Genetics** proposes the following curriculum revisions to their MSc and PhD programs.

MSc

- The MSc course requirement will be a minimum of 10.0 credit hours. Existing requirements are 13 credit hours.
- The courses in the MSc program must include:
    - IMED 7120 Medical Biochemistry (3.0 credits)
    - IMED 7170 Medical Genetics (3.0 credits)
    - BGEN 7000 Research Seminar (1.0 credit)
    - An additional 3.0 credit hours in course work suitable for the student's academic program as agreed upon by the student and their advisor and/or advisory committee. IMED 7410 Biomedical Trainee Skills (3.0 credits) is strongly recommended to fulfill the MSc program requirements.
- After consultation with the advisory committee, if it is deemed that a student already holds a course equivalent to IMED 7120 or IMED 7170, alternative coursework will be selected as agreed by the student and their advisor and/or advisory committee.
- For students accepted into the BMG MSc program with a research focus in computational biology, courses in their MSc program will include either IMED 7120 Medical Biochemistry (3.0 credits) or IMED 7170 Medical Genetics (3.0 credits), BGEN 7000 Research Seminar (1.0 credit), and an additional 6.0 credit hours in course work suitable for the student's academic program as agreed upon by the student and their advisor and/or advisory committee.

PhD

- The PhD course requirement will be a minimum of 7.0 credit hours for students who transition from the MSc program (in addition to the 10.0 credit hours required in fulfilment of the MSc program). Therefore, there will be no change from our existing requirements.

- There are no requirements currently defined for students with a thesis-based MSc degree who apply for enter directly into the PhD program. Therefore we are defining that a minimum of 10.0 credit hours for students with a thesis-based MSc degree who enter directly into the PhD program will be required.
- For students with a thesis-based MSc degree that are accepted directly into the PhD program, course work may include:

    - IMED 7120 Medical Biochemistry (3.0 credits)
    - IMED 7170 Medical Genetics (3.0 credits)
    - or both
    - This requirement will be made in consultation between the student and their advisor and/or advisory committee.
- The courses to fulfill the PhD program will include:
    - BGEN 8000 Research Seminar (1.0 credit)
    - The remaining courses will be selected as agreed upon by the student and their advisor and/or advisory committee

Rationale

The Dept. of Biochemistry & Medical Genetics' goal is to provide the best possible graduate experience in the fields of biochemistry and medical genetics for its students. Standardizing course requirements for its trainees will ensure they graduate with discipline-specific skills and background allowing them to teach within their discipline. For MSc students this will provide a discipline-based and highly structured academic program. For PhD students, this will provide a discipline-based and enhanced research-focused training experience.

The proposed changes are designed to fine-tune and enhance the graduate student's educational experience while meeting the Faculty of Graduate Studies' recommended date to completion requirements.

The proposed changes are in-line with other graduate program changes recently approved by the University of Manitoba (e.g. Department of Physiology & Pathophysiology). They are also in-line with programs at other institutions offering graduate training in the disciplines of biochemistry and human genetics (see list of comparative programs at 7 other Canadian universities below).

Name of School	Faculty	Department	Research Interests	Thesis		Coursework	
				M.Sc.	Ph.D.	M.Sc.	Ph.D
McGill University	Medicine	Human Genetics	Genetic Epidemiology Genomics Gene Regulation Developmental Biology Genetics of Specifics Diseases Gene Therapy Legal, Ethical & Policy Issues re: Human Genetics	Yes	Yes	15 credit hours total	18 credit hours if direct entry to PhD 9 credit hours if hold MSc
University of Ottawa	Medicine	Human & Molecular Genetics	Developmental Genetics Neuromuscular Disease Microbial Genetics Host Resistance Cancer Biology Aging Development of novel molecular therapeutics Gene Therapy Growth & Development Auto-Immune Diseases Molecular Biology of Viruses Bacteria & Parasites Genetic Epidemiology Retinal Development & Disease Animal Models of Human Disease Molecular Aspects of Signal Transduction	Yes	Yes	6 credit hours total	6 credit hours total
University of British Columbia	Medicine	Medical Genetics	Developmental Genetics & Birth Defects Epigenetics and Chromosome Transmission Genomics and Bioinformatics Genetic Epidemiology and Human Gene Mapping Neurogenetics and Immunogenetics Stem Cells and Gene Therapy Pharmacogenomics Clinical Genetics, Genetic Counselling, Ethics & Policy	Yes	Yes	12 to 18 credit hours	12 to 18 credit hours
University of Saskatchwan	Medicine	Biochemistry	Analytical Biochemistry Cell Biochemistry Cell Biology & Cancer Enzymes and Metabolism Nucleic Acids and Gene Expression Plant Biochemistry Protein Structure and Molecular Mechanisms Other areas: Experimental Medicine, Microbes, Immunity and Inflammation, Reproduction & Developmental Sciences & Therapeutics, Drug Development, and Human Toxicology	Yes	Yes	At the discretion of the dept	At the discretion of the department
Queen's University	Graduate Studies	Biomedical & Molecular Sciences	Protein Structure & Function Enzyme Catalytic Mechanisms Cell Signalling Pathways Cytoskeletal Proteins	Yes	Yes	12 credit hours total	Not normally required if student holds MSc

			Gene Expression Regulation & Metabolism					
University of Toronto	Medicine	Laboratory Medicine & Pathobiology	Development of Analytical Technologies Application of Basic Research Techniques Microbial Diseases	Yes	Yes	3 credit hours total		12 credit hours total
University of Calgary	Graduate Studies	Biochemistry & Molecular Biology	Cell Structure & Signalling Benomics, Proteomics & Bioinformatics Molecular & Developmental Genetics Molecular Biology of Disease	Yes	Yes	none		none

Recommendations

The Faculty Council of Graduate Studies recommends THAT: the program changes from the unit listed below be approved by Senate:

Dept. of Biochemistry & Medical Genetics

Respectfully submitted,

Dean J. Doering, Chair
Graduate Studies Faculty Council

/py

Comments of the Senate Executive Committee:
The Senate Executive Committee endorses the report to Senate.

October 16, 2015

Report of the Faculty Council of Graduate Studies on Program and Curriculum Changes

Preamble:

1. The Faculty of Graduate Studies has responsibility for all matters relating to the submission of graduate course, curriculum and program changes. Recommendations for new programs or changes are submitted by the Faculty Council of Graduate Studies for the approval of Senate.

2. The Faculty Council of Graduate Studies met on October 16, 2015 to consider a proposal from the College of Rehabilitation Sciences.

Observations:

1. The **College of Rehabilitation Sciences** proposes the name change of the M.Sc. Medical Rehabilitation degree to fall in line with name of the College of Rehabilitation Sciences; thus, M.Sc. Rehabilitation Sciences.

   The School of Medical Rehabilitation was incorporated as one of the five member colleges under the recent restructuring initiative for the Faculty of Health Sciences. At the same time, the School was renamed as the College of Rehabilitation Sciences. The M.Sc. Medical Rehabilitation degree remains housed within, and at the level of, the College of Rehabilitation Sciences. In order to re-align the name of the M.Sc. degree within the new Faculty and College structure it is proposed to change the name of the degree from M.Sc. Medical Rehabilitation to M.Sc. Rehabilitation Sciences.

   The Program Committee of the MSc Medical Rehabilitation degree program has proposed this change and the College of Rehabilitation Sciences Council Executive, with powers to act for the Council, has considered and voted unanimously to approve this name change.

Recommendations

The Faculty Council of Graduate Studies recommends THAT: the program changes from the unit listed below be approved by Senate:

College of Rehabilitation Sciences

Respectfully submitted,

Dean J. Doering, Chair
Graduate Studies Faculty Council

/py

Comments of the Senate Executive Committee:
The Senate Executive Committee endorses the report to Senate.

October 19, 2015

Report of the Senate Committee on Rules and Procedures Regarding the Re-Allocation of the Faculty of Human Ecology Student Senate Seat

Preamble

1. The terms of reference of the Senate Committee on Rules and Procedures are found on the University Governance website at:

   http://umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/509.html

   wherein the Committee is charged with the responsibility to consider and to make recommendations to Senate on any matter concerning rules and procedures.

2. The Committee recently considered the re-allocation of the Faculty of Human Ecology Student seat on Senate.

Observations

1. The University Secretary brought to the Committee's attention that with the closing of the Faculty of Human Ecology, the one seat in Senate assigned to a student Senator from that Faculty must now be re-allocated. Although *The University of Manitoba Act* provides for twenty-eight student Senators, the Act does not provide for the distribution of the positions. The decision is left to Senate.

2. According to preliminary enrolment data for the fall term of 2015, student enrolment in the Asper School of Business was 1,762 and the Faculty of Engineering was 1,729. Since the Asper School of Business is provided two seats on Senate and since the Faculty of Engineering currently holds only one seat, the proposal was to allocate the one available seat to the Faculty of Engineering. In doing so, the distribution of student representatives in Senate would become:

   - Agricultural and Food Sciences: 1
   - Architecture: 1
   - Arts: 3
   - Education: 2
   - Engineering: 2
   - Environment, Earth, and Resources: 1
   - Fine Arts: 1
   - Graduate Studies: 3
   - Health Sciences: 5

   elected by the students in each professional college as follows:

   - Dentistry (including Dental Hygiene): 1
   - Medicine: 1
   - Rehabilitation Sciences: 1
   - Nursing: 1
   - Pharmacy: 1

- Kinesiology and Recreation Management: 1
- Law: 1
- Management: 2
- Music: 1
- Science: 3
- Social Work: 1

Total = 28

3. Upon approval, the Policy on the Election of Students to Senate would be revised accordingly. Ideally, the re-allocation would be effective January 1, 2016 to be in place for the election of students to Senate for the 2016-2017 term.

3. The Senate Committee on Rules and Procedures reviewed and considered the proposed re-allocation. The Committee is supportive of this change.

Recommendation

The Senate Committee on Rules and Procedures recommends:

THAT Senate approve the re-allocation of the one Student Senate seat from the former Faculty of Human Ecology to the Faculty of Engineering to be effective for the 2016-2017 Senate term, and the revision of the Policy on the Election of Students to Senate to reflect the change.

Respectfully submitted,

Dean J. Doering, Chair
Senate Committee on Rules and Procedures

Comments of the Senate Executive Committee:
The Senate Executive Committee endorses the report to Senate.

UNIVERSITY OF MANITOBA | Office of the University Secretary

312 Administration Building
Winnipeg, Manitoba
Canada R3T 2N2
Telephone (204) 474-9593
Fax (204) 474-7511

MEMORANDUM

DATE: October 23, 2015

TO: Members of Senate

FROM: Jeff M. Leclerc, University Secretary

SUBJECT: Election of the Chancellor

Every three years, the Chancellor of the University is elected by the Committee of Election. Chancellor Harvey Secter's current term as Chancellor of the University of Manitoba ends on May 31, 2016. Chancellor Secter is eligible for re-election and has indicated his willingness to stand for re-election.

In accordance with *The University of Manitoba Act*, the Committee of Election consists of the members of the Board of Governors and the members of the Senate meeting in joint session. The Chair of the Board of Governors is the Chair of the Committee of Election, while the University Secretary, as Secretary of Senate, is designated as Secretary of the Committee of Election.

To facilitate the election of a Chancellor, the Board of Governors and the Senate approved a Policy on the Election of the Chancellor in 2011. This Policy provides for a Chancellor Search Committee to solicit and review nominations and recommend a candidate for Chancellor to the Committee of Election for approval. The Chancellor Search Committee is comprised of:

- The Chair of the Board of Governors (as Chair);
- The President
- Three members of Senate who are not students, elected by Senate;
- Two students, one undergraduate and one graduate, elected by Senate;
- Two members of the University of Manitoba Alumni Association, nominated by the Alumni Association; and
- The University Secretary, as secretary (non-voting).

The Committee of Election will meet on February 3, 2016 at 1:00 p.m.

I write to request that Senate elect its members to the Chancellor Search Committee at its December meeting. Nominations will be received from the floor of Senate in the same manner as nominees are presented for Senate members on the Executive Committee and the Board of Governors.