

Senate  
via Zoom audio conference  
WEDNESDAY, December 2, 2020  
1:30 p.m.

## **A G E N D A**

### **I MATTERS TO BE CONSIDERED IN CLOSED SESSION - none**

### **II MATTERS RECOMMENDED FOR CONCURRENCE WITHOUT DEBATE**

1. **Report of the Senate Committee on Curriculum and Course Changes on Course and Program Changes** Page 4
2. **Revision to 2021 Summer Term Academic Schedule, College of Nursing** Page 255

### **III MATTERS FORWARDED FOR INFORMATION**

1. **Report of the Senate Committee on Awards [October 22, 2020]** Page 256
2. **Request to Increase Admission Target, Bachelor of Nursing, College of Nursing** *(for consultation)* Page 264

### **IV REPORT OF THE PRESIDENT Page 277**

### **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. on the Friday preceding the meeting.

### **VI CONSIDERATION OF THE MINUTES OF THE MEETING OF NOVEMBER 4, 2020**

### **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 287

Comments of the Senate Executive Committee will accompany the report on which they are made.

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.      **Reports of Faculty Council of the Price Faculty of Engineering**
  - a)      **RE: Revisions to Preliminary Engineering Program      Page 288**  
**and Admission Requirements, B.Sc. in Engineering**  
**Degrees**
    - (i)      **Report of the Senate Committee on Curriculum      Page 296**  
**and Course Changes**
    - (ii)      **Reports of the Senate Committee on Admissions      Page 297**
  - b)      **RE: Articulation Agreement Proposal, University of      Page 299**  
**Manitoba, B.Sc. Degrees in Engineering – UCSI College,**  
**American Degree Transfer Program**
    - (i)      **Report of the Senate Committee on Curriculum      Page 311**  
**and Course Changes**
    - (ii)      **Report of the Senate Committee on Admissions      Page 313**
    - (iii)      **Report of the Senate Planning and Priorities      Page 314**  
**Committee**
2.      **Reports of the Faculty Council of Graduate Studies on Course,**  
**Curriculum and Regulation Changes**
  - a)      **RE: Faculty of Architecture      Page 316**
  - b)      **RE: Department of Environment and Geography      Page 324**
  - c)      **RE: Faculty of Graduate Studies, Individual      Page 349**  
**Interdisciplinary Studies**
  - d)      **RE: Department of History      Page 367**
  - e)      **RE: Faculty of Law, Master of Human Rights      Page 372**
  - f)      **RE: Department of Occupational Therapy      Page 389**
  - g)      **RE: Department of Physics and Astronomy      Page 397**
  - h)      **RE: Department of Preventive Dental Science      Page 413**
  - i)      **RE: Department of Sociology and Criminology      Page 417**

X **ADDITIONAL BUSINESS**

1. **Senate Assessment Survey** (*for discussion*)

Page 421

XI **ADJOURNMENT**

*Please send to [shannon.coyston@umanitoba.ca](mailto:shannon.coyston@umanitoba.ca).*

## **Report of the Senate Committee on Curriculum and Course Changes Submitted to Senate for Concurrence Without Debate**

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### **Preamble:**

1. The [terms of reference](#) for the Senate Committee on Curriculum and Course Changes (SCCCC) are available on the University Governance website. The 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 Committee met on October 9, 14, 15, 16, 21, and 28, 2020, and participated in two electronic polls (November 9 – 12, November 17 – 20, 2020), to consider curriculum and course changes from Faculties, Colleges, and Schools.
3. The Report outlines course and curriculum changes endorsed by the SCCCC at the meetings noted above. Proposed course deletions, introductions, and modifications, and program modifications are described in detail in the attachments to the Report.

### **Observations:**

#### **1. General**

In keeping with past practice, most changes for departments totalling less than 10 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 changes are proposed. Major changes in existing programs are to be referred to the SPPC for assessment of resource implications.

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

ENGL 2650 Introduction to Critical Theory (3)  
GRMN 3262 Representations of the Holocaust in English Translation (C) (3)  
GRMN 3270 Studies in Contemporary German Cinema (C) (3)  
GRMN 3282 Sex, Gender and Cultural Politics in the German-Speaking World in English Translation (C) (3)  
GRMN 3390 German Representations of War (C) (3)  
GRMN 3510 Special Topics in German in English Translation (C) (3)  
GRMN 3530 Special Topics in Comparative German and Slavic Studies (C) (3)  
POL 2660 Special Topics in Polish Literature and Culture (3)  
SLAV 3530 Special Topics in Comparative German and Slavic Studies (3)

#### **3. Courses to be Removed from the List of Written English Courses**

ENGL 2640 History of Critical Theory: From Plato to Present (6)  
HIST 1500 An introduction to Modern World History: 1500 – Present (M) (6)  
HIST 2050 South Asia since 1947 (B) (3)

HIST 2130 Emergence of Modern South Asia: 1757-1947 (B) (3)  
HIST 2370 History of Europe since the French Revolution (E) (6)  
HIST 2410 History of India (B) (6)  
HIST 2490 History of Russia (E) (6)  
HIST 2520 A History of Germany since the Reformation (E) (6)  
HIST 2570 Nationalism in Modern Times (M) (3)  
HIST 2650 Modern China and Japan (B) (6)  
HIST 2820 An Introduction to Historical Method (G) (6)  
HIST 2930 The History of the British Isles, 412-1485 (D) (6)

4. **Courses Recommended for the Mathematics Requirement**

ECON 2040 Quantitative Methods in Economics (3)  
SOC 2294 Understanding Social Statistics (3)

5. **Courses Removed from the List of Courses for the Mathematics Requirement**

SOC 2290 Introduction to Research Methods (6)

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

LING 1000 Introduction to Linguistics (3)  
LING 1010 Language in Context (3)  
NATV 1310 Introductory Anishinaabemowin (Ojibwe) Immersion (3)  
NATV 1320 Anishinaabemowin (Ojibwe) Literacy for Fluent Speakers (3)  
SOC 1000 Introduction to Sociology (3)

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

HIST 1500 An introduction to Modern World History: 1500 – Present (M) (6)  
HIST 2050 South Asia since 1947 (B) (3)  
HIST 2130 Emergence of Modern South Asia: 1757-1947 (B) (3)  
HIST 2370 History of Europe since the French Revolution (E) (6)  
HIST 2410 History of India (B) (6)  
HIST 2490 History of Russia (E) (6)  
HIST 2520 A History of Germany since the Reformation (E) (6)  
HIST 2570 Nationalism in Modern Times (M) (3)  
HIST 2650 Modern China and Japan (B) (6)  
HIST 2820 An Introduction to Historical Method (G) (6)  
HIST 2930 The History of the British Isles, 412-1485 (D) (6)  
LING 1200 Introduction to Linguistics (6)  
LING 1380 General Phonetics (3)  
LING 1420 Language and Gender (3)  
NATV 1290 Introductory Inuktitut (3)  
SOC 1200 Introduction to Sociology (6)

## 8. Faculty of Arts

### Faculty of Arts

The faculty is proposing modifications to the programs listed below, as detailed in the attachments to the Report. In response to changes proposed by the Department of Mathematics, Faculty of Science, the programs will be modified to allow students to complete MATH 1210 - Techniques of Classical and Linear Algebra, with a minimum grade of "B" in place of MATH 1220 - Linear Algebra 1.

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

### Anthropology

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

The programs listed below will be modified. Among the changes, Program Note 2 will be added to clarify for students that ANTH 2430 – Ecology, Technology and Society, which was designed for Engineering students, cannot be used for credit toward anthropology programs. Other changes follow from course changes proposed by other departments.

- **Bachelor of Arts (General Major) in Anthropology**
- **Bachelor of Arts (Single Advanced Major) in Anthropology**
- **Bachelor of Arts (Double Advanced Major) in Anthropology**
- **Bachelor of Arts (Single Honours) in Anthropology**
- **Minor (Concentration) in Anthropology**

### Asian Studies

The program is proposing the modification of one (1) course. There would be no change to the overall number of credit hours offered by the program.

The programs listed below will be modified. List A Courses Acceptable for Asian Studies Credit will be revised to reflect course deletions proposed by the Department of History.

- **Bachelor of Arts (General Major) in Asian Studies**
- **Minor (Concentration) in Asian Studies**

### Canadian Studies

The programs listed below will be modified. Several changes will be made to the List of Approved Courses in Canadian Studies to reflect recent or proposed course changes in other units and SCCCC's recommendation, made in the Spring 2020, to include several courses offered by the Université de Saint-Boniface.

- **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 **Minor (Concentration) in Catholic Studies** will be modified. The List of Approved Courses in Catholic Studies will be revised to add ANTH 2650 – Archaeology of the Ancient Near East.

### Central and East European Studies

The programs listed below will be modified. The List of Approved Courses in Central and East European Studies will be revised to reflect course deletions proposed by the Department of History.

- **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**

Program proposal:

The department is proposing to introduce a Co-operative Education Option for the Bachelor of Arts (Single Advanced Major) in Central and Eastern European Studies. The program would follow a structure for Co-operative Education Options previously approved by Senate (May 16, 2018), for the Faculty of Arts. Students would be required to complete 120 credit hours of course work required for the Single Advanced Major, including 3 credit hours of work placements (ARTS 3010, ARTS 3020, ARTS 3030), totalling a minimum of 12 months, that would replace 3 credit hours of electives.

Introduction of a Co-operative Education Option would give students an opportunity to gain work experience and to develop skills beneficial to obtaining employment following graduation. This might lead to increased enrolment in the Single Advanced Major program. It would also strengthen existing connections the department has with various ethnic communities in the province, including the Ukrainian, Polish, German, Russian, and Hungarian communities, and with international contacts and organizations in Central and Eastern Europe.

The department indicated it has sufficient academic advising capacity to support the program. Students would also have access to supports provided by the existing Faculty of Arts Co-op Coordinator.

- **Bachelor of Arts (Single Advanced Major) in Central and Eastern European Studies, Co-operative Education Option**

### Economics

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

The program listed below will be modified to permit students to substitute MATH 1210 (A) - Techniques of Classical and Linear Algebra for MATH 1220 – Linear Algebra 1, as

detailed in the Report. The change is consistent with one proposed by the Faculty of Science, for the Bachelor of Science (Joint Honours) in Mathematics and Economics.

- **Bachelor of Arts (Joint Honours) in Economics and Mathematics**

The program listed below will be modified to permit (i) the substitution of STAT 2220 – Contemporary Statistics for Engineers for STAT 1150 – Introduction to Statistics and Computing and (ii) the substitution of MATH 1520 – Introductory Calculus for Management and Social Sciences for MATH 1230 – Differential Calculus, as detailed in the attachments to the Report.

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

#### English, Theatre, Film & Media

The department is proposing the deletion of one (1) course and the introduction of one (1) course. The overall number of credit hours offered by the department would decrease by 3 credit hours.

The programs listed below will be modified, as detailed in the attachments to the Report. Several modifications follow from proposed course changes. In the Single Honours program, a requirement for 12 credit hours in literature prior to 1700 would be modified to require 12 credit hours of literature prior to the Romantic period, which began in the late 18<sup>th</sup> century. The list of courses that could be used to meet the requirement would be expanded, which would give students more course choices and promote timely program completion.

- **Bachelor of Arts (Single Advanced Major) in English**
- **Bachelor of Arts (Double Advanced Major) in English**
- **Bachelor of Arts (Single Honours) in English**
- **Bachelor of Arts (Double Honours) in English**
- **Bachelor of Arts (Double Advanced Major) in Film Studies**

#### French, Spanish and Italian

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

The programs listed below will be modified, as detailed in the attachments to the Report. The program requirements and List A will be modified to reflect the introduction of ITLN 2300 - Special Studies, to expand course offerings in Italian Studies at the 2000 level, and to reflect course deletions proposed by the Department of History.

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

#### German and Slavic Studies

The department is proposing the deletion of three (3) courses, the introduction of four (4) courses, and the modification of nine (9) courses. There would be no change to the overall number of credit hours offered by the program

The programs listed below will be modified, as detailed in the attachments to the Report. List A – Courses Acceptable for Russian Credit will be modified to reflect course

changes proposed by the Department of History. The General Major in Ukrainian will be modified to reflect proposed changes to Ukrainian courses, and the General Major and Minor (Concentration) in Ukrainian would be modified to reflect the establishment of List A – Courses Acceptable for Ukrainian Credit.

- **Bachelor of Arts (General Major) in Russian**
- **Minor (Concentration) in Russian**
- **Bachelor of Arts (General Major) in Ukrainian**
- **Minor (Concentration) in Ukrainian**

Program proposal:

The department is proposing to introduce a Co-operative Education Option for the Bachelor of Arts (Single Honours) in German. The program would follow a structure for Co-operative Education Options previously approved by Senate (May 16, 2018), for the Faculty of Arts. Students would be required to complete 120 credit hours of course work required for the Single Honours program, including 3 credit hours of work placements (ARTS 3010, ARTS 3020, ARTS 3030), totalling a minimum of 12 months, that would replace 3 credit hours of electives (i.e., ancillary options).

Introduction of a Co-operative Education Option would give students an opportunity to gain work experience and to develop skills beneficial to obtaining employment following graduation. This might lead to increased enrolment in the Single Honours program. It would also draw upon and strengthen existing connections the department has with the German-Canadian community and the secondary school system in the province and with international contacts and organizations such as the German DAAD and equivalent organizations in Austria and Switzerland.

The department indicated it has sufficient academic advising capacity to support the program. Students would also have access to supports provided by the existing Faculty of Arts Co-op Coordinator.

- **Bachelor of Arts (Single Honours) in German, Co-operative Education Option**

#### Global Political Economy

The program is proposing the introduction of two (2) courses. The overall number of credit hours offered by the program would increase by 9 credit hours.

The program is proposing modifications to the programs listed below, as detailed in the attachments to the Report. Revisions to the List of Courses for Global Political Economy follow from course changes proposed by the Departments of History and Sociology and Criminology.

Changes to the entrance requirements and to the Faculty of Arts regulations concerning requirements for graduating with a B.A. General Degree or a B.A. Advanced Degree, to allow students who declare a Major in Global Political Economy to complete a Minor, were previously approved by Senate (November 4, 2020).

- **Bachelor of Arts (General Major) in Global Political Economy**
- **Bachelor of Arts (Single Advanced Major) in Global Political Economy**

## History

The department is proposing the deletion of twenty-eight (28) courses and the modification of twenty-one (21) courses. The overall number of credit hours offered by the department would decrease by 132 credit hours.

## Icelandic Language and Literature

The department is proposing the modification of three (3) courses. There would be no change to the overall number of credit hours offered by the department.

## Judaic Studies

The program is proposing modifications to the program listed below, as detailed in the attachments to the Report. The modifications involve revisions to List A Courses Acceptable for Judaic Studies Credit that follow from course changes made by the Departments of Anthropology, German and Slavic Studies, and History.

- **Minor (Concentration) in Judaic Studies**

## Labour Studies

The program is proposing three (3) course modifications. There would be no change to the overall number of credit hours offered by the program.

The program is proposing modifications to the programs listed below, as detailed in the attachments to the Report. The changes follow from course changes proposed by the Departments of History and Sociology and Criminology.

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

## Latin American Studies

The program is proposing modifications to the **Minor (Concentration) in Latin American Studies**, as detailed in the attachments to the Report. The revisions follow from course changes proposed by the Department of History.

## Linguistics

The department is proposing the deletion of twenty-one (21) courses, the introduction of twenty-five (25) courses, and the modification of seven (7) courses. The overall number of credit hours offered by the department would decrease by 3 credit hours.

The department is proposing the modification of the following programs, as detailed in the attachments to the Report. The objectives are to: (i) update course content, to reflect developments in the field and the research profile of the department, including the emergence of sociolinguistics as a focal area and a greater emphasis on quantitative methods; (ii) eliminate 6 credit courses; (iii) redistribute course offerings over four, rather than only three, to allow students to pursue a more advanced level of study in key areas; (iv) eliminate the list of “core courses,” which had become problematic as it privileged some subfields over others; (v) simplify the program requirements, by specifying a

smaller number of required courses, including LING 1000 and LING 1010 in Year 1, and LING 2100 and LING 2400 in Year 2, of the Major programs.

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

#### Medieval and Early Modern Studies

The program is proposing modifications to the programs listed below, as detailed in the attachments to the Report. The list of courses that would satisfy the Group 1 requirement would be revised to reflect course changes proposed by the Department of History.

- **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**

#### Native Studies

The department is proposing the deletion of four (4) courses the introduction of seven (7) courses, and the modification of two (2) courses. The overall number of credit hours offered by the department would increase by 9 credit hours.

The department is proposing modifications to the program information for the Academic Calendar for the Native Studies programs. The department is proposing modifications to the programs listed below, as detailed in the attachments to the Report.

- **Bachelor of Arts (General Major) in Native Studies, Option 1**
- **Bachelor of Arts (General Major) in Native Studies, Anishinaabemowin (Ojibwe) Language Focus (Option 2)**
- **Bachelor of Arts (Single Advanced Major)**
- **Bachelor of Arts (Single Advanced Major), Aboriginal Governance Stream**
- **Minor (Concentration) in Indigenous Languages, Options 1 and 2**

Program proposal:

The department is proposing the introduction of a **Bachelor of Arts (Double Advanced Major) in Native Studies**.

#### Political Studies

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

#### Religion

The department is proposing modifications to the programs listed below, as detailed in the attachments to the Report. The change involves a correction to the courses listed in the category "Islam," in the course lists organized by religious tradition.

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

Program proposal:

The department is proposing the introduction of a **Bachelor of Arts (Double Advanced Major) in Religion**, to give students greater flexibility and choice in their undergraduate program of study.

#### Sociology and Criminology

The department is proposing the deletion of two (2) courses, the introduction of three (3) courses, and the modification of thirty-four (34) courses. The overall number of credit hours offered by the department would decrease by 3 credit hours.

The department is proposing modifications to the programs listed below, as detailed in the attachments to the Report. The modifications relate to proposed course changes, including the deletion of SOC 1200 – Introduction to Society and SOC 2290 – Introduction to Research Methods and the introduction of SOC 1000 – Introduction to Sociology, SOC 2292 – Understanding Research, and SOC 2294 – Understanding Social Statistics.

- **Bachelor of Arts (General Major) in Sociology**
- **Bachelor of Arts (Single Advanced Major) in Sociology**
- **Bachelor of Arts (Single Honours) in Sociology**
- **Bachelor of Arts (Double Honours) in Sociology**
- **Minor (Concentration) in Sociology**
- **Bachelor of Arts (General Major) in Criminology**
- **Bachelor of Arts (Single Honours) in Criminology**

#### Ukrainian Canadian Heritage Studies

The program is proposing modifications to the programs listed below, as detailed in the attachments to the Report. The modifications involve changes to List A and List B, including the addition of various UKRN courses. The purpose is to broaden the course choices for students wishing to complete either a Major or Minor program, while still allowing room in the curricula for courses from other disciplines in this interdisciplinary program.

- **Bachelor of Arts (General Major) in Ukrainian Canadian Heritage Studies**
- **Bachelor of Arts (Single Advanced Major) in Ukrainian Canadian Heritage Studies**
- **Minor (Concentration) in Ukrainian Canadian Heritage Studies**

#### Women's and Gender Studies

The program is proposing modifications to the programs listed below, as detailed in the attachments to the Report. List A would be revised to reflect course changes proposed by the Department of History.

- **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**

9. **Faculty of Education**

Faculty of Education

The faculty is proposing a modification to the **Bachelor of Education** degree, which involves renaming the “Aboriginal Education Requirement” as the “Indigenous Education Requirement.” The courses that could be used to meet the requirement would also change, as detailed in the attachments to the Report. The reason for the changes is to reflect current usage, with respect to use of the terms “Aboriginal” and “Indigenous.”

Curriculum, Teaching and Learning

The department is proposing the deletion of one (1) course, the introduction of one (1) course, and the modification of six (6) courses. There would be no change to the overall number of credit hours offered by the department.

Educational Administration, Foundations and Psychology

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

10. **Faculty of Engineering**

Faculty of Engineering

The faculty is proposing modifications to five (5) courses. There would be no change to the overall number of credit hours offered by the faculty.

The faculty is proposing editorial revisions the description of the **Music Minor** for the Academic Calendar.

A proposal to modify the Preliminary Engineering Program is included as item IX (1)(a) on the December 2, 2020 Senate agenda.

Biosystems Engineering

The department is proposing the deletion of one (1) course and the modification of one (1) course. The overall number of credit hours offered by the department would decrease by 4 credit hours.

The programs listed below will be modified, as detailed in the attachments to the Report. Changes to the core program involve an expanded choice of Science Electives and the removal of BIOE 4700 – Alternative Building Design from the Biosystems Engineering

Design Electives. Modifications to various lists of electives for each of the specializations follow from course changes, including the proposed deletion of BIOE 4700, the modification of BIOE 4412 – Design of Light-Frame Buildings, and the recent introduction of MECH 4832 – Biomaterials in Biomedical Engineering, and from changes to the Science Electives, with recommended Science electives for each specialization.

- **Bachelor of Science in Engineering (Biosystems) (core)**
- **Bachelor of Science in Engineering (Biosystems), Biomedical Specialization**
- **Bachelor of Science in Engineering (Biosystems), Bioresource Specialization**
- **Bachelor of Science in Engineering (Biosystems), Environmental Specialization**

#### Civil Engineering

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

The department is proposing modifications to the programs listed below, as detailed in the attachments to the Report. The modifications follow from recent course changes made by the Department of Chemistry, Faculty of Science.

- **Bachelor of Science in Engineering (Civil)**
- **Bachelor of Science in Engineering (Civil), Environmental Option**

#### Electrical and Computer Engineering

The department is proposing the deletion of two (2) courses and the modification of one (1) course. The overall number of credit hours offered by the department would decrease by 8 credit hours.

The department is proposing modifications to the programs listed below, as detailed in the attachments to the Report.

- **Bachelor of Science in Engineering (Computer)**
  - **Computer Networks and Communications Focus Area**
  - **Embedded Systems Focus Area**

Modifications to the program requirements follow recent course changes made by the Department of Chemistry (Senate, May 13, 2020) and would result in a slight increase to required number of credit hours from: 152 – 157 to: 153.5 – 158.5 credit hours. The Natural Science Electives list would be revised to reflect the Chemistry course changes and to increase flexibility in course options. Revisions to the two Focus Areas and to the Approved Computer Science Electives follow from a proposed modification to the electives for COMP 4140, which would make the course inaccessible to Computer Engineering students.

- **Bachelor of Science in Engineering (Electrical)**
  - **Power and Energy Systems Focus Area**

Modifications to the program requirements and to the Natural Science Electives for Electrical Engineering list follow from recent Chemistry course changes, and would result in a slight increase to the required number of credit hours required from: 158 – 163 to: 159.5 – 164.5 credit hours. The Power and Energy Systems Focus Area would be revised to reflect the proposed deletion of ECE 4140.

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

The faculty is proposing to modify the programs listed below.

- **Bachelor of Kinesiology**
- **Bachelor of Kinesiology (Athletic Therapy)**

List A: List of Faculty of Science Electives would be modified to reflect courses changes recently made by the Department of Chemistry and the Faculty of Science.

- **Bachelor of Recreation Management and Community Development**

In Year 1, a requirement for SOC 1200 - Introduction to Sociology (6) would be replaced by a requirement for SOC 1000 – Introduction to Sociology (3), following from course changes proposed by the Department of Sociology and Criminology, Faculty of Arts. The number of elective credit hours would be increased from 9 to 12 credit hours. In Year 3, a requirement for REC 3630 – Service and Experiential Learning would be replaced by KPER 3630 – Service and Experiential Learning. The change is a correction that follows from the previous deletion of REC 3630 and introduction of KPER 3630 (Senate, January 4, 2017).

12. **College of Medicine**

**Pharmacology and Therapeutics**

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

13. **Faculty of Music**

The faculty is proposing the deletion of fourteen (14) courses, the introduction of sixteen (16) courses, and the modification of ten (10) courses. The overall number of credit hours offered by the faculty would increase by 3 credit hours. Several courses would be deleted and reintroduced with different course numbers and titles that more accurately reflect the course content, including MUSC 1194 – Jazz Improvisation 1, MUSC 2194 – Jazz Improvisation 2, MUSC 3194 – Jazz Improvisation 3, and MUSC 4194 – Jazz Improvisation 4.

The faculty is proposing modifications to the programs listed below, as detailed in the attachments to the Report. Modifications to the Bachelor of Jazz Studies program respond to recommendations in an undergraduate program review, including to: re-sequence jazz course offerings, for pedagogical reasons, to create a jazz-specific Year 1 curriculum, and to align the curriculum with similar programs at other Canadian institutions. Consistent with the model of the Bachelor of Music program, the modified program would require that students complete two ensembles in each year of the program. Many jazz students already participate in a second ensemble but receive no credit. The Faculty has provided a transition plan, as detailed in the attachments to the Report.

Changes to other programs follow from proposed course changes, as detailed in the attachments to the Report.

- **Bachelor of Jazz Studies**

- **Bachelor of Music**
- **Bachelor of Music (Music Education)**

14. **Faculty of Science**

Faculty of Science

The Faculty of Science is proposing to modify the **Bachelor of Science (General)** degree, as detailed in the attachments to the Report. Specifically, the Introductory Science requirements will be amended to reflect recent changes to Chemistry courses (Senate, May 13, 2020).

Biochemistry

The program is proposing modifications to the programs listed below, as detailed in the attachments to the Report. Many of the revisions, particularly to Years 1 and 2, follow from recent changes to Chemistry and Microbiology courses, to eliminate courses with embedded laboratories and to establish stand-alone laboratory courses (Senate, May 13, 2020). Among the revisions is a new requirement for CHEM 3760 – Advanced Methods for the Biochemistry Laboratory, which will be introduced specifically for Biochemistry Honours and Major programs, to address the loss of laboratory training arising from the CHEM and MBIO course changes and proposed changes to the Biochemistry curricula, including the removal of a requirement for PHYS 1070 – Physics 2: Waves and Modern Physics. These changes, together with the new requirements for STAT 1000 – Basic Statistical Analysis 1 or STAT 1150 – Introduction to Statistics and Computing (replacing MATH 1700 – Calculus 2) and BIOL 2520 – Cell Biology, would reduce the programs' current focus on the physical-chemical aspects of biochemistry and create more balance between the biological aspects of biochemistry, which would be in alignment with programs offered at other Canadian institutions.

The program has provided a transition plan for continuing students, as detailed in the attachments to the Report.

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

Biological Sciences

The department is proposing the introduction of three (3) courses and the modification of seventeen (17) courses. The overall number of credit hours offered by the department would increase by 9 credit hours.

The programs listed below will be modified, as detailed in the attachments to the Report. Various modifications either respond to recent Chemistry course changes (Senate, May 13, 2020) or are intended to address/reduce waitlists for several oversubscribed 2000 level BIOL courses. Four themes and the B.Sc.(Gen.) with a focus in Biological Sciences will be modified to increase flexibility in course choices, to facilitate program progression. The Evolution and Biodiversity Theme will be modified to add a statistics requirement, given an increasing need for numeracy and analytical skills in the field of biology.

- **Bachelor of Science (Honours) in Biological Sciences**

- **Bachelor of Science (Honours) in Biological Sciences, Co-operative Option**
- **Bachelor of Science (Major) in Biological Science**
- **Bachelor of Science (Major) in Biological Sciences, Co-operative Option**
- **Bachelor of Science (General) with a focus in Biological Sciences**
  - **including the following Themes, for both Honours and Major programs:**
    - **Cell, Molecular and Biology Theme**
    - **Ecology and Environmental Biology Theme**
    - **Environmental and Integrative Physiology Theme**
    - **Evolution and Biodiversity Theme**
    - **Integrative Biology**

### Chemistry

The department is proposing the deletion of one (1) course and the introduction of one (1) course. The overall number of credit hours offered by the department would increase by 1 credit hour.

### Computer Science

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

The department is proposing modifications to the programs listed below, as detailed in the attachments to the Report. In particular, the option to complete an Area Specialization will be removed. The department is proposing the closure of the Area Specializations listed below, as the specializations are not important to industry hiring graduates. Also, it had become difficult for students to complete the requirements; course changes made over time had led to limited course offerings. The department will create guides, to give students direction and to suggest particular course groupings based on career goals.

- **Bachelor of Science (Major) in Computer Science**
- **Bachelor of Science (Major) in Computer Science, Co-operative Option**
- **Bachelor of Computer Science (Honours)**
- **Bachelor of Computer Science (Honours), Co-operative Option**

#### **Program closures (Area Specializations):**

- **Theoretical Computer Science**
- **Networks and Security**
- **Artificial Intelligence**
- **Human Computer Interaction and Computer Graphics**
- **Databases**
- **Software Engineering**
- **Computer Systems**
- **Web-Based Systems**

### Genetics

The program is proposing modifications to the programs listed below, as detailed in the attachments to the Report. Modifications respond to recent Chemistry and Microbiology course changes (Senate, May 13, 2020).

- **Bachelor of Science (Major) in Genetics**

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

### Mathematics

The department is proposing the modification of nine (9) courses. There would be no change to the overall number of credit hours offered by the department.

The programs listed below will be modified, as detailed in the attachments to the Report, to allow students to substitute MATH 1210 – Techniques of Classical Linear Algebra, with a specific minimum grade (either a “B” or an “A”) stipulated for each program, for MATH 1220 – Linear Algebra 1. The revised B.Sc.(Maj.) in Applied Mathematics programs would require a minimum grade of “C+” (decreased from “B”) in MATH 1300 – Vector Geometry and Linear Algebra. The objective is to increase flexibility and create additional pathways for students to enter a Mathematics program. Additionally, in the B.Sc.(Maj.) in Applied Mathematics the minimum grade required for MATH 1300 would be lowered to (C+) from (B).

- **Bachelor of Science (Honours) in Mathematics**
- **Bachelor of Science (Honours) in Mathematics, Co-operative Option**
- **Bachelor of Science (Double Honours) in Mathematics**
- **Bachelor of Science (Double Honours) in Mathematics, Co-operative Option**
- **Bachelor of Science (Major) in Mathematics**
- **Bachelor of Science (Major) in Mathematics, Co-operative Option**
- **Bachelor of Science (General) with a focus in Mathematics**
- **Minor in Mathematics**
  
- **Bachelor of Science (Major) in Applied Mathematics with Computer Science Option**
- **Bachelor of Science (Major) in Applied Mathematics with Computer Science Option, Co-operative Option**
- **Bachelor of Science (Major) in Applied Mathematics with Economics Option**
- **Bachelor of Science (Major) in Applied Mathematics with Economics Option, Co-operative Option**
- **Bachelor of Science (Major) in Applied Mathematics with Statistics Option**
- **Bachelor of Science (Major) in Applied Mathematics with Statistics Option, Co-operative Option**
  
- **Bachelor of Science (Joint Honours) in Computer Science and Mathematics**
- **Bachelor of Science (Joint Honours) in Computer Science and Mathematics, Co-operative Option**
- **Bachelor of Science (Joint Honours) in Mathematics and Economics**
- **Bachelor of Science (Joint Honours) in Mathematics and Physics and Astronomy**
- **Bachelor of Science (Joint Honours) in Mathematics and Physics and Astronomy, Co-operative Option**
- **Bachelor of Science (Joint Honours) in Statistics and Mathematics**
- **Bachelor of Science (Joint Honours) in Statistics and Mathematics, Co-operative Option**

## Microbiology

The department is proposing the deletion of three (3) courses, the introduction of four (4) courses, and the modification of nineteen (19) courses. The overall number of credit hours offered by the department would increase by 3 credit hours.

The programs listed below will be modified, as detailed in the attachments to the Report, including to reflect recent Chemistry course changes (Senate May 13, 2020) and the introduction of new laboratory-based courses in Microbiology. The number of elective courses in the Major programs would be reduced, to accommodate these course changes. In the Honours programs, a prescribed set of 3000- and 4000- level courses will be replaced by a requirement that students complete courses from several different areas of Microbiology, to ensure diversity in students' Microbiology education and give students more flexibility to select courses of interest.

- **Bachelor of Science (Honours) in Microbiology**
- **Bachelor of Science (Honours) in Microbiology, Co-operative Option**
- **Bachelor of Science (Major) in Microbiology**
- **Bachelor of Science (Major) in Microbiology, Co-operative Option**
- **Bachelor of Science (General) with a focus in Microbiology**
- **Minor in Microbiology**

## Statistics

The department is proposing the deletion of one (1) course, the introduction of three (3) courses, and the modification of six (6) courses. The overall number of credit hours offered by the department would increase by 9 credit hours.

The department is proposing to modify the programs listed below, as detailed in the attachments to the Report. List A: Statistics options for the Honours program will be revised to remove STAT 4600 – Topics in Statistics, which is to be deleted, and to add several courses proposed for introduction, including STAT 4900 – Advanced Topics in Statistics, STAT 4910 – Advanced Topics in Statistics, and STAT 4950 – Honours Thesis in Statistics. The first two of these courses would also be added to List D: Statistics options for the Major program.

- **Bachelor of Science (Honours) in Statistics**
- **Bachelor of Science (Honours) in Statistics, Co-operative Option**
- **Bachelor of Science (Major) in Statistics**
- **Bachelor of Science (Major) in Statistics, Co-operative Option**
- **Bachelor of Science (General) with a focus in Statistics**

## **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:

### **Faculty of Arts**

#### **Program proposals:**

- **Bachelor of Arts (Single Advanced Major) in Central and Eastern European Studies, Co-operative Education Option**
- **Bachelor of Arts (Single Honours) in German, Co-operative Education Option**
- **Bachelor of Arts (Double Advanced Major) in Native Studies**
- **Bachelor of Arts (Double Advanced Major) in Religion**

### **Faculty of Education**

### **Faculty of Engineering**

### **Faculty of Kinesiology and Recreation Management**

### **College of Medicine**

### **Faculty of Music**

### **Faculty of Science**

#### **Program closures (Area Specializations):**

- **Theoretical Computer Science**
- **Networks and Security**
- **Artificial Intelligence**
- **Human Computer Interaction and Computer Graphics**
- **Databases**
- **Software Engineering**
- **Computer Systems**
- **Web-Based Systems**

Respectfully submitted,

Professor Greg Smith, Chair  
Senate Committee on Curriculum and Course Changes

Faculty of Arts

Faculty of Arts

Modifications to the programs listed below are detailed on the next page:

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

**Bachelor of Arts in Mathematics (General Major, Single Advanced Major, Minor Concentration)**

- In response to course and program modifications proposed by the Department of Mathematics the Faculty of Arts proposes the following program modifications.

Added Material

~~Deleted Material~~

**9.3.1 Mathematics**

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>GENERAL MAJOR TOTAL: 30 CREDIT HOURS</b>			
MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> , MATH 1240 <sup>1</sup>	18 credit hours of 2000, 3000 and/or 4000 level Mathematics courses (of these a minimum of 3 credit hours must be at the 3000 or 4000 level)		
<b>SINGLE ADVANCED MAJOR TOTAL: 48 CREDIT HOURS</b>			
MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> , MATH 1240 <sup>1</sup>	MATH 2080, MATH 2090, MATH 2150	<ul style="list-style-type: none"> <li>• MATH 2020, MATH 2180, MATH 3470</li> <li>• MATH 2160 or MATH 3440</li> <li>• 15 credit hours from the following list of which at least 3 credit hours must be at the 3000 or 4000 level: MATH 2030, MATH 2040, MATH 2070, MATH 2160, MATH 2170, or any 3000 or 4000 level Mathematics course</li> </ul>	
<b>MINOR TOTAL: 18 CREDIT HOURS</b>			
<ul style="list-style-type: none"> <li>• MATH 1220<sup>1</sup>, MATH 1230<sup>1</sup>, MATH 1232<sup>1</sup></li> <li>• 9 credit hours from: MATH 1240<sup>1</sup> and 2000 and/or 3000 level Mathematics courses</li> </ul>			
<p><b>NOTES:</b></p> <p>1 MATH 1500 or MATH 1510 may be taken in place of MATH 1230; <u>MATH 1210 (B)</u>, MATH 1300 or MATH 1310 may be taken in place of MATH 1220; MATH 1700 or MATH 1710 may be taken in place of MATH 1232; MATH 1200 may be taken in place of MATH 1240, but these courses are not equivalent, i.e., students should note that MATH 1240 is a prerequisite to some 2nd year Mathematics courses for which MATH 1200 is not a prerequisite.</p> <p>For entry to either Major in Mathematics, the prerequisite is a grade of "C+" or better in six hours of Mathematics courses taken.</p> <p>For entry to the Minor in Mathematics, the prerequisite is a grade of "C" or better in six hours of Mathematics courses taken.</p> <p>A detailed listing of courses in the Department of Mathematics is available in the <i>Calendar</i> entries of the Faculty of Science.</p>			

## Anthropology

### Introduction:

ANTH 2650 Archaeology of the Ancient Near East Cr. Hrs. 3 +3.0

This course is an overview of the prehistory and early historical periods of the ancient Near East. Considerable attention is given to the fundamental transitions that transform the human existence and create the foundations for later civilization, such as: (1) the colonization of the region by humans; (2) the emergence of food production (domestication of plants and animals), settled village life, and hierarchical social organization; (3) the rise of states, urban centers, and writing; and (4) the emergence of militaristic empires. The course examines both archaeological and historical evidence with a heavy emphasis on material culture, primary archaeological, and historical data, and the process of scholarly interpretation. Prerequisite: [a grade of "C" or better in one of: ANTH 1210 or ANTH 1211] or written consent of instructor.

**NET CHANGE IN CREDIT HOURS: +3.0**

### Program modifications:

Modifications to the following programs are detailed on the next 2 pages:

- **Bachelor of Arts (General Major) in Anthropology**
- **Bachelor of Arts (Single Advanced Major) in Anthropology**
- **Bachelor of Arts (Double Advanced Major) in Anthropology**
- **Bachelor of Arts (Single Honours) in Anthropology**
- **Minor (Concentration) in Anthropology**

## Anthropology

- Modification of Program Notes

Added Material

~~Deleted Material~~

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>GENERAL MAJOR TOTAL: 30 CREDIT HOURS</b>			
ANTH 1210 and ANTH 1220 (or ANTH 1520)	<ul style="list-style-type: none"> <li>• ANTH 2000, ANTH 2100, ANTH 2860</li> <li>• ANTH 2020 or ANTH 2530</li> <li>• 12 credit hours from courses at the 2000 level and above (of these a minimum of 6 credit hours must be at the 3000 and/or 4000 level)<sup>1, 2, 3</sup></li> </ul>		
<b>SINGLE ADVANCED MAJOR<sup>4</sup> TOTAL: 48 CREDIT HOURS</b>			
ANTH 1210 and ANTH 1220 (or ANTH 1520)	<ul style="list-style-type: none"> <li>• ANTH 2000, ANTH 2100, ANTH 2860, ANTH 3470, ANTH 4850</li> <li>• ANTH 2020 or ANTH 2530</li> <li>• 3 credit hours from: ANTH 2820, ANTH 2890, ANTH 3720, ANTH 3730, ANTH 3930, ANTH 3950, ANTH 3980, ANTH 3990</li> <li>• 3 credit hours from courses at the 4000 level<sup>1</sup></li> <li>• 18 credit hours from courses at the 2000 level and above (of these a minimum of 9 credit hours must be at the 3000 and/or 4000 level)<sup>1, 2, 3</sup></li> </ul>		
<b>DOUBLE ADVANCED MAJOR<sup>4</sup> TOTAL: 42 CREDIT HOURS</b>			
ANTH 1210 and ANTH 1220 (or ANTH 1520)	<ul style="list-style-type: none"> <li>• ANTH 2000, ANTH 2100, ANTH 2860, ANTH 3470, ANTH 4850</li> <li>• ANTH 2020 or ANTH 2530</li> <li>• 3 credit hours from: ANTH 2820, ANTH 2890, ANTH 3720, ANTH 3730, ANTH 3930, ANTH 3950, ANTH 3980, ANTH 3990</li> <li>• 3 credit hours from courses at the 4000 level<sup>1</sup></li> <li>• 12 credit hours from courses at the 2000 level and above (of these a minimum of 9 credit hours must be at the 3000 and/or 4000 level)<sup>1, 2, 3</sup></li> </ul>		
<b>MINOR (CONCENTRATION) TOTAL: 18 CREDIT HOURS</b>			
ANTH 1210 and ANTH 1220 (or ANTH 1520)	12 credit hours from courses at the 2000 level and above <sup>2, 3</sup> ANTH 2000 is recommended for students taking a Minor because the course is fundamental to many subsequent Anthropology courses.		
<b>SINGLE HONOURS</b>			
ANTH 1210 and ANTH 1220 (or ANTH 1520)	<ul style="list-style-type: none"> <li>• ANTH 2000, ANTH 2100, ANTH 2860</li> <li>• ANTH 2020 or ANTH 2530</li> </ul>	<ul style="list-style-type: none"> <li>• ANTH 3470</li> <li>• 3 credit hours from one of the following: ANTH 2820, ANTH 2890, ANTH 3720, ANTH 3730, ANTH 3930, ANTH 3950, ANTH 3980, ANTH 3990</li> </ul>	<ul style="list-style-type: none"> <li>• ANTH 4850</li> <li>• 9 credit hours from courses at the 4000 level<sup>1</sup></li> </ul>

		<ul style="list-style-type: none"> <li>• 9 credit hours from courses at the 3000 level and above<sup>1</sup></li> </ul>	
	<ul style="list-style-type: none"> <li>• 15 credit hours from courses at the 2000 level and above<sup>2, 3</sup></li> <li>• 36 credit hours in ancillary options<sup>4</sup></li> </ul>		
<b>DOUBLE HONOURS</b>			
ANTH 1210 and ANTH 1220 (or ANTH 1520)	<ul style="list-style-type: none"> <li>• ANTH 2000, ANTH 2100, ANTH 2860</li> <li>• ANTH 2020 or ANTH 2530</li> </ul>	<ul style="list-style-type: none"> <li>• ANTH 3470</li> <li>• 3 credit hours from one of the following: ANTH 2820, ANTH 2890, ANTH 3720, ANTH 3730, ANTH 3930, ANTH 3950, ANTH 3980, ANTH 3990</li> <li>• 6 credit hours from courses at the 3000 level and above<sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>• ANTH 4850</li> <li>• 3 credit hours from courses at the 3000 level and above<sup>1</sup></li> <li>• 6 credit hours from courses at the 4000 level<sup>1</sup></li> </ul>
	<ul style="list-style-type: none"> <li>• 36 credit hours in second honours field</li> <li>• 6 credit hours in ancillary options<sup>4</sup></li> <li>• 12 credit hours in free options<sup>5</sup></li> </ul>		
<b>NOTES:</b>			
<p><sup>1</sup> No more than 6 credit hours may be taken from ANTH 4830 or ANTH 4840.</p> <p><sup>2</sup> ANTH 2370 is recommended. <u>Students may not use ANTH 2430 toward the completion of the Anthropology course requirements.</u></p> <p><sup>3</sup> 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.</p> <p><sup>4</sup> 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 <del>SOC 2290</del> <u>SOC 2294</u>, Statistics STAT 1000 and STAT 2000).</p> <p><sup>5</sup> 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 courses at the 3000 and 4000 level.</p>			

## Asian Studies

Modification:

ASIA 1770 Introduction to Japanese Cr. Hrs. 6 0.0

This course teaches basic Japanese grammar, vocabulary, pronunciation, and about 190 written characters. The course is intended for students with no prior knowledge of Japanese. Students with prior knowledge of the language are required to take a placement test or to meet with the Program Director or designate for an interview. This includes heritage learners (students who speak the language and/or whose family member(s) communicate with them in the language) and students whose knowledge comes from self-study, private instruction, or who have studied Japanese at high school or at institutions other than the University of Manitoba. Not open to students who previously obtained credit for ASIA 2770 or ASIA 3770.

**NET CHANGE IN CREDIT HOURS: 0.0**

Program modifications:

Modifications to the following programs are detailed on the next two pages:

- **Bachelor of Arts (General Major) in Asian Studies**
- **Minor (Concentration) in Asian Studies**

## Asian Studies

- Modification to List A Courses Acceptable for Asian Studies Credit used in the General Major and Minor (Concentration)

### Added Material

### ~~Deleted Material~~

<b>List A</b>	<b>Courses Acceptable for Asian Studies Credit</b>	<b>Credit Hours</b>
<b>Course No.</b>		
<b>Faculty of Arts</b>		
<b>Anthropology</b>		
ANTH 2450	Ethnology of China	3
<b>Asian Studies Asian Languages</b>		
ASIA 1750	Introduction to Korean	6
ASIA 1760	Introduction to Chinese (Mandarin)	6
ASIA 1770	Introduction to Japanese	6
ASIA 1780	Basic Sanskrit	6
ASIA 1790	Basic Hindi-Urdu	6
ASIA 2750	Intermediate Korean	6
ASIA 2760	Intermediate Chinese (Mandarin)	6
ASIA 2770	Intermediate Japanese	6
ASIA 2780	Intermediate Sanskrit	6
ASIA 3750	Advanced Korean	6
ASIA 3760	Advanced Chinese (Mandarin)	6
ASIA 3770	Advanced Japanese	6
ASIA 3780	Advanced Reading in Japanese	3
ASIA 3792	Linguistic Analysis of Japanese	3
<b>Asian Studies Other Asian courses</b>		
ASIA 1420	Asian Civilizations to 1500 (Same as HIST 1420)	3
ASIA 1430	Asian Civilizations from 1500 (Same as HIST 1430)	3
ASIA 2080	South Asian Civilization	3
ASIA 2570	History, Culture and Society in Chinese Film	3
ASIA 2580	Women in Chinese Film	3
ASIA 2600	Japanese Film	3
ASIA 2610	Modern Chinese Literature in Translation	3
ASIA 2620	Japanese Civilization	3
ASIA 2630	Chinese Civilization	3
ASIA 2650	Premodern Chinese Literature in Translation	3
ASIA 2662	Chinese Diaspora Literature	3
ASIA 2670	Modern Japanese Literature in Translation	3
ASIA 3480	Selected Topics in Asian Studies 1	3
ASIA 3490	Selected Topics in Asian Studies 2	3
ASIA 3520	The Japanese Theatre	3
ASIA 3560	Themes and Genres in Asian Literature	3
ASIA 3600	Japanese Popular Culture	3
<b>English, Theatre, Film &amp; Media</b>		
FILM 2380	The International Cinema 1 [Acceptable for credit only when the topic is Asia related]	3
<b>History</b>		
HIST 1420	Asian Civilizations to 1500 (Same as ASIA 1420)	3
HIST 1430	Asian Civilizations from 1500 (Same as ASIA 1430)	3
<del>HIST 2050</del>	<del>South Asia Since 1947</del>	<del>3</del>
<del>HIST 2130</del>	<del>Emergence of Modern South Asia: 1757-1947</del>	<del>3</del>
HIST 2410	History of India	6
<del>HIST 2650</del>	<del>Modern China and Japan</del>	<del>6</del>

HIST 2654	History of the People's Republic of China, 1949-Present	3
HIST 3090	Studies in Asian History	3
HIST 3580	Topics in Recent World History [Acceptable for credit only when the topic is Asia related]	3
<del>HIST 3980</del>	<del>Nationalism on the Indian Sub-Continent in the Twentieth Century</del>	<del>3</del>
HIST 4070	Issues in Modern Asian History 1: Selected Topics (M,B)	3
<b>Religion</b>		
RLGN 1322	Introduction to Eastern Religions	3
RLGN 2010	Introduction to Hinduism	3
RLGN 2020	Introduction to Buddhism	3
RLGN 2570	Indian Religious Art and Architecture	3
RLGN 2700	Religions of China and Japan	6
RLGN 3150	Buddhism in East Asia	3
RLGN 3160	Tibetan Religious Traditions	3
RLGN 3210	Indian Philosophy	3
RLGN 3220	Indian Religion and Society	3
RLGN 3260	Indian Buddhism	3
RLGN 3266	Readings in Buddhist Texts	3
RLGN 3270	Guru and Disciple	3
RLGN 3750	Topics in Indian Religious Art and Architecture	3
RLGN 4060	The Yoga Tradition	3
RLGN 4100	Advanced Studies in Buddhism	3
RLGN 4190	Advanced Studies in Hinduism	3
<b>School of Art</b>		
FAAH 1100	Survey of Asian Art	3
FAAH 3230	Chinese Art and Architecture	3
FAAH 3240	Japanese Art and Architecture	3
FAAH 3590	Islamic Art and Architecture	3

## Canadian Studies

Program modifications:

Modifications to the following programs can be found on the next 6 pages:

- **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 to the list of courses that can be used toward the Canadian Studies Requirements

### Added Material

### ~~Deleted Material~~

## 8.3.2 Canadian Studies

For course descriptions, see departmental listings.

### 8.3.2.1 List of Approved Courses in Canadian Studies

#### List of Approved Courses in Canadian Studies

Courses designated (USB) are offered in French at Université de Saint-Boniface.

### 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	6

#### Anthropology

ANTH 2040	Native North America: A Sociocultural Survey	3
ANTH 2041	Les Amérindiens de l'Amérique du nord: une étude socioculturelle (USB)	3
ANTH 2640	Manitoba Prehistory	3
ANTH 3461	Ethnologie des Amérindiens de l'Amérique du Nord (USB)	3
ANTH 3500	Peoples of the Arctic	3
ANTH 3501	Peuples de l'Arctique (USB)	3
ANTH 3550	Canadian Subcultures	3
ANTH 3551	Sous-cultures canadiennes (USB)	3
ANTH 3910	Archaeological Field Training	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 2310	Canadian Economic Problems	6
ECON 2311	Les problèmes économiques du Canada (USB)	6
ECON 2350	Community Economic Development	3
ECON 2362	Economics of Gender	3
ECON 3301	Histoire économique du Canada (USB)	6
ECON 3690	Economic Issues of Health Policy	3
ECON 3720	Urban and Regional Economics and Policies	3

English, Theatre, Film & Media		
ENGL 2270	Canadian Literature	6
ENGL 3270	Studies in Canadian Literature	3
ENGL 3271	Studies in Canadian Literature	3
FILM 2430	The Canadian Film	3
Français (USB)		
<u>FRAN 2313</u>	<u>La littérature du Canada français et du Québec, des origines à 1945 (USB)</u>	<u>3</u>
<u>FRAN 2323</u>	<u>La littérature du Canada français et du Québec, de 1945 à nos jours (USB)</u>	<u>3</u>
<u>FRAN 2333</u>	<u>Héritage folklorique et tradition orale au Canada français (USB)</u>	<u>3</u>
<u>FRAN 2343</u>	<u>Les influences de la littérature orale au Québec et au Canada français (USB)</u>	<u>3</u>
FRAN 2881	Civilisation canadienne-française (USB)	3
<u>FRAN 3313</u>	<u>La littérature québécoise avant la Révolution tranquille (1945-1960) (USB)</u>	<u>3</u>
<u>FRAN 3343</u>	<u>La production littéraire au Québec à l'époque de la Révolution tranquille (USB)</u>	<u>3</u>
FRAN 3531	Le théâtre québécois (USB)	3
FRAN 3541	Le théâtre de l'Ouest (USB)	3
FRAN 3851	Le théâtre de l'Ouest: poésie, nouvelles (USB)	3
FRAN 3861	Le théâtre de l'Ouest: romans (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
History		
HIST 1390	History of Colonial Canada: 1500-1885 (C)	3
HIST 1400	History of the Canadian Nation Since 1867 (C)	3
<u>HIST 1401</u>	<u>Histoire du Canada, des origines à 1800 (USB)</u>	<u>3</u>
<u>HIST 1403</u>	<u>Histoire du Canada, de 1800 à aujourd'hui (USB)</u>	<u>3</u>
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) (Cross-listed with Labour Studies LABR 2200)	3
HIST 2010	Indigenous History in Canada (C)	6
HIST 2020	The Métis in Canada (C)	3
HIST 2282	Inventing Canada (C)	3
<u>HIST 2283</u>	<u>Histoire des francophones de l'Ouest canadien (USB)</u>	<u>3</u>
HIST 2286	Modern Canada (C)	3

HIST 2288	History of Social Movements in Canada (C)	3
HIST 2971	Le Canada moderne: de 1921 à nos jours (USB)	6
<u>HIST 3031</u>	<u>La francophonie canadienne minoritaire (USB)</u>	<u>3</u>
<del>HIST 3050</del>	<del>Canada since 1945 (C)</del>	<del>6</del>
HIST 3052	Canada since the 1960s (C)	3
HIST 3054	Canada and the United States (C)	3
<u>HIST 3097</u>	<u>Histoire du Manitoba (USB)</u>	<u>3</u>
HIST 3214	Canada's Left: Rebellion and Repression (C) (Cross-listed with Labour Studies LABR 3214)	3
HIST 3250	Canada and the World, 1867 to the Present (C)	6
HIST 3272	The Métis Nation: The Modern Era (C)	3
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
<del>HIST 3690</del>	<del>History of Northern Canada (C)</del>	<del>6</del>
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 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)	6
HIST 4280	Topics in the Cultural History of Canada (C)	6
HIST 4340	Introduction to Archival Science (G)	6
HIST 4680	Social History of Health and Disease in Modern Canada (C)	6
HIST 4890	Canadian Social History (C)	6
Icelandic		
ICEL 2230	Contemporary Icelandic-Canadian Literature	3
ICEL 4440	The Icelanders in Canada	3
Labour Studies		
LABR 2200	Labour History: Canada and Beyond (C) (Cross-listed with History HIST 2200)	3
LABR 3214	Canada's Left: Rebellion and Repression (C) (Cross-listed with History HIST 3214)	3
LABR 3510	Industrial Relations (Cross-listed with Economics ECON 3510)	6
Linguistics		
LING 1360	Languages of Canada	3
Native Studies		
NATV 1200	Indigenous Peoples in Canada	6
NATV 1220	Indigenous Peoples in Canada, Part 1	3

NATV 1240	Indigenous Peoples in Canada, Part 2	3
NATV 1250	Introductory Cree 1	3
NATV 1260	Introductory Cree 2	3
NATV 1270	Introductory Anishinaabemowin (Ojibwe) 1	3
NATV 1280	Introductory Anishinaabemowin (Ojibwe) 2	3
<del>NATV 1290</del>	<del>Introductory Inuktitut</del>	<del>3</del>
NATV 1300	Selected Topics in Introductory Indigenous Language	3
NATV 2012	Indigenous History in Canada	6
NATV 2020	The Métis in Canada	3
NATV 2040	The Dakota, Lakota, and Nakota Nations	3
NATV 2060	Eastern Woodlands Encounters Columbus to Confederation	3
NATV 2070	Cree, Innu, and Dene Nations	3
NATV 2080	Inuit Society and Culture	3
NATV 2220	Indigenous Societies and the Political Process	3
NATV 2250	Intermediate Cree	6
NATV 2272	Intermediate Anishinaabemowin (Ojibwe) 1	3
NATV 2274	Intermediate Anishinaabemowin (Ojibwe) 2	3
NATV 2300	Cree Literature	3
NATV 2410	Indigenous Literature in Canada	3
NATV 2420	Inuit Literature in Translation	3
NATV 2450	Images of the "Indian" in North American Society	3
NATV 3000	Selected Topics	3
NATV 3222	Structure of the Anishinaabemowin (Ojibwe) Language	3
NATV 3224	Structure of the Cree Language	3
NATV 3240	Native Medicine and Health	3
NATV 3270	The Métis Nation	3
NATV 3280	Indigenous People and the Canadian Justice System	3
NATV 3300	Indigenous Language Planning and Development	3
NATV 3310	Canadian Law and Indigenous Peoples	3
<del>NATV 3340</del>	<del>Circumpolar Cultures and Lifestyles</del>	<del>3</del>
NATV 3370	Political Development in the North	3
NATV 3380	Gender and Indigenous 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 Indigenous Studies Research	3
NATV 4240	Arctic Lifestyles	3
NATV 4250	Indigenous Identities	3
NATV 4280	Missionaries, Colonialism and Indigenous People	3

Political Studies

<u>POLS 1501</u>	<u>Introduction à la politique I (USB)</u>	<u>3</u>
POLS 1502	Introduction to Political Studies	3
POLS 1506	Survey of Political Studies	3

POLS 2073	Introduction à la politique canadienne 1: État et société (USB)	3
POLS 2075	Introduction à la politique canadienne II: Institutions et politiques publiques (USB)	3
POLS 2561	Questions d'actualité en politique canadienne (USB)	6
POLS 2571	Initiation à l'administration publique (USB)	6
POLS 2702	Introduction to Canadian Politics	3
POLS 2802	Introduction to Indigenous Politics	3
POLS 3100	Gender and Politics in Canada	3
POLS 3171	La Charte canadienne des droits et libertés	
POLS 3470	Canadian Public Management	3
POLS 3512	Canadian Foreign and Defence Policy I	3
POLS 3514	Canadian Foreign and Defence Policy II	3
<u>POLS 3563</u>	<u>Le Canada dans le système mondial (USB)</u>	<u>3</u>
POLS 3670	Canadian Political Parties	3
POLS 3680	Indigenous Governance	3
POLS 3730	Canadian Constitutional Politics	3
POLS 3740	Provincial Politics	3
POLS 3750	City Politics	3
POLS 3860	Canadian Federalism	3
<u>POLS 3872</u>	<u>Indigenous Governance</u>	<u>3</u>
POLS 3940	Canadian Public Policy	3
POLS 4070	Advanced Seminar: Canadian Government	3
POLS 4080	Advanced Seminar: Canadian Democracy	3
POLS 4140	Canadian Political Ideas	3
<del>POLS 4150</del>	<del>Indigenous Governance</del>	<del>3</del>
POLS 4190	Manitoba Politics and Government	3
POLS 4560	Canada and the Arctic	3
<u>POLS 4630</u>	<u>Indigenous Political Movements and Activism</u>	<u>3</u>
POLS 4640	Comparative Indigenous Politics	3
Religion		
RLGN 2590	Religion and Social Issues	3
RLGN 2591	La religion et les problèmes sociaux (USB)	3
Slavic Studies		
UKRN 2410	Ukrainian Canadian Cultural Experience	3
Sociology and Criminology		
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 3471	Sociologie politique (USB)	3
SOC 3700	Sociology of Law	3
SOC 3762	Law, Justice, and Indigenous Peoples	3

#### Ukrainian Canadian Heritage Studies

UCHS 3100	The Ukrainian Arts in Canada	3
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#### School of Art

##### Fine Art / Art History

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

#### Clayton H. Riddell Faculty of Environment, Earth, and Resources

##### Geography

<u>GEOG 2213</u>	<u>Géographies autochtones et relations interculturelles (USB)</u>	<u>3</u>
GEOG 2570	Geography of Canada (A)	3
GEOG 2900	Geography of Canadian Prairie Landscapes (A)	3
GEOG 3431	Géographie du Canada (USB)	3
GEOG 3481	Particularités de la géographie du Canada (USB)	3
<u>GEOG 3831</u>	<u>L'espace francophone panaméricain (USB)</u>	<u>3</u>

##### Geological Sciences

GEOL 2350	Canada Rocks: The Geology of Canada	3
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## Catholic Studies

Program modification:

A modification to the **Minor (Concentration) in Catholic Studies** is described on the next 2 pages.

## Catholic Studies

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

### Added Material

### ~~Deleted Material~~

## List of Approved Courses in Catholic Studies

### Faculty of Arts

#### Anthropology

ANTH 2650 Archaeology of the Ancient Near East 3

#### 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 2700 Catholicism and the Paranormal 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

#### 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

## Central and Eastern European Studies

Program modifications:

Modifications to the following programs are detailed on the next 5 pages:

- **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 (Single Advanced Major) in Central and East European Studies**  
(*new*)
- **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

- Addition of Co-op Option to Single Advanced Major program
- Modification to 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

### ~~Deleted Material~~

#### **8.5.1 Program Information**

The disintegration of the former Soviet Union has altered the social, political, and economic environment of Central and Eastern Europe. The emergence of new independent countries and the transition from an environment dominated by communist political and economic structures continue to reshape Europe. This program offers an array of courses from five departments. It explores past and present issues in the region.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 3: Basic Faculty Regulations for the B.A. General, Advanced and Honours Degree Programs.

#### **Major Program**

For entry to the Major, the prerequisite is a grade of "C" or better in both six credit hours of Russian, German, Polish, Ukrainian, Hungarian or Yiddish and six credit hours from the list of approved courses in Central and East European Studies below. For students who have taken additional courses toward the Major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

#### **Single Advanced Major Cooperative Education Option**

Students interested in alternating employment terms and academic terms as part of the Single Advanced Major may apply to enter the Co-operative Education option upon completion of their second year in the program (48 credit hours total). The course and grade requirements for entry to this option are the same as those required for entry to the regular four-year Single Advanced Major program. Students should refer to the general faculty regulations for Cooperative Options (section 3.4).

#### **Minor (Concentration) Program**

For entry to the Minor (Concentration), the prerequisite is a grade of "C" or better in both six credit hours of Russian, German, Polish, Ukrainian, Hungarian or Yiddish and six credit hours from the list of approved courses in Central and East European Studies below.

#### **Honours Program (Double Honours Only)**

For entry to the Honours program, see Section 3: Basic Faculty Regulations for the B.A. General, Advanced and Honours Degree Programs.

This program is only available to students registered in the Honours program in Economics, History or Political Studies.

Courses used toward the Major, Minor (Concentration) or Honours may not also be used toward a Major, Minor (Concentration) or Honours in the department in which they are offered.

### 8.5.2 Central and East European Studies

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>SINGLE ADVANCED MAJOR TOTAL: 48 CREDIT HOURS</b>			
<ul style="list-style-type: none"> <li>6 credit hours in a language from courses numbered at the 1000 or 2000 level<sup>2</sup> in Russian, German, Ukrainian, Polish, Hungarian or Yiddish</li> <li>6 credit hours from the List of Approved Courses in Central and East European Studies</li> </ul>	<ul style="list-style-type: none"> <li>30 credit hours from the List of Approved Courses in Central and East European Studies. Within these 30 credit hours, a minimum of 6 credit hours must be completed in each of two different subject fields</li> <li>6 credit hours from the List of Approved Courses in Central and East European Studies or from language courses numbered at the 1000, 2000, or 3000 level<sup>3</sup> in Russian, German, Ukrainian, Polish, Hungarian or Yiddish</li> </ul>		

<b>SINGLE ADVANCED MAJOR COOPERATIVE EDUCATION OPTION TOTAL: 51 CREDIT HOURS</b>			
<ul style="list-style-type: none"> <li>6 credit hours in a language from courses numbered at the 1000 or 2000 level<sup>2</sup> in Russian, German, Ukrainian, Polish, Hungarian or Yiddish</li> <li>6 credit hours from the List of Approved Courses in Central and East European Studies</li> </ul>	<ul style="list-style-type: none"> <li>30 credit hours from the List of Approved Courses in Central and East European Studies. Within these 30 credit hours, a minimum of 6 credit hours must be completed in each of two different subject fields</li> <li>6 credit hours from the List of Approved Courses in Central and East European Studies or from language courses numbered at the 1000, 2000, or 3000 level<sup>3</sup> in Russian, German, Ukrainian, Polish, Hungarian or Yiddish</li> </ul>		
	<ul style="list-style-type: none"> <li>ARTS 3010 (1), ARTS 3020 (1), ARTS 3030 (1)</li> </ul>		

**NOTES:**

<sup>1</sup> Students must ensure that all course prerequisites are met when selecting courses for the Double Honours program. Students should consult the program coordinator when selecting courses in Year 1 and 2 of the program.

<sup>2</sup> Students should note that while the majority of students begin language instruction with courses numbered at the 1000 level, in exceptional circumstances and with the approval of the committee, students may begin language instruction with courses numbered at the 2000 level.

<sup>3</sup> Students who begin their language instruction in Year 1 with 6 credit hours of courses numbered beyond the 1000 level may take 6 credit hours at the 1000, 2000 or 3000 levels in a different language approved by the program coordinator.

<sup>4</sup> Students who have declared a Major in Russian, German or Ukrainian can either take 6 credit hours from each of two different subject fields from the List of Approved Courses in Central and East European Studies, or 6 credit hours from courses numbered at the 1000 or 2000 level in a language (Russian, German, Ukrainian, Polish, Hungarian or Yiddish) other than their declared Major and 6 credit hours from the List of Approved Courses in Central and East European Studies.

<sup>5</sup> Courses must be individually approved by the program coordinator as relevant to Central and East European Studies. For information on available courses, please contact the program coordinator.

<sup>6</sup> Ancillary options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (excluding Central and East European Studies courses).

<sup>7</sup> Free options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (including Central and East European Studies courses).

### **List of Approved Courses in Central and East European Studies**

#### Faculty of Arts

#### Anthropology

ANTH 2060 European Archaeology 3

#### Economics

ECON 2510 The Economy of Ukraine 3

#### 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 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 1410	Love in Russian Culture 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
RUSN 2410	Russian Literature after Stalin	3
RUSN 2600	Special Topics in Russian Culture in English Translation	3
RUSN 2740	Literature and Revolution	3
RUSN 3770	Tolstoy	3
RUSN 3780	Dostoevsky	3
SLAV 3530	Special Topics in Comparative German and Slavic Studies	3
SLAV 3920	Gogol	3
UKRN 2200	Ukrainian Myth, Rites and Rituals	3
UKRN 2600	Special Topics in Ukrainian Studies	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
History		
HIST 2240	History of Antisemitism and the Holocaust (E)	6
<del>HIST 2490</del>	<del>History of Russia</del>	<del>6</del>
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 3062	German and German-Jewish History, 1618 to the Present (E)	6
<del>HIST 3064</del>	<del>German and German-Jewish History, 1618-1900 (E)</del>	<del>3</del>
<del>HIST 3066</del>	<del>German and German-Jewish History, 1900 to the Present (E)</del>	<del>3</del>
<del>HIST 4300</del>	<del>Problems in Modern Russian and Soviet History</del>	<del>6</del>
Judaic Studies		
JUD 3010	Topics in Jewish Studies (when its focus is on Central and Eastern European Studies)	3
YDSH 2320	Yiddish Literature and Language	6
Political Studies		
POLS 3720	Politics, Government and Society in Ukraine	3
POLS 3810	Introduction to Marxism	3
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

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

## Economics

### Introductions:

ECON 4610 Economics and Society Field Placement Seminar Cr. Hrs. 3 +3.0

A seminar to be taken concurrently with ECON 4620 in which each student will relate theory and practice. This course is also offered as GPE 4510 and LABR 4510. Students may not hold credit for ECON 4610 and either GPE 4510 or LABR 4510. Intended for students in the Economics Single Advanced Major (Economics and Society Stream) or Honours (Economics and Society Stream). Prerequisite: written consent of the Associate Head (Economics and Society Stream). Corequisite: ECON 4620.

ECON 4620 Economics and Society Field Placement Cr. Hrs. 6 +6.0

An educationally directed field experience in which the student will undertake specific tasks and assignments in some aspects of Community Economic Development and/or economic policy. Field placement options include community-based organizations, government departments and agencies, policy and research organizations, unions, and other employers. This course is also offered as GPE 4520 and LABR 4520. Students may not hold credit for ECON 4620 and either GPE 4520 or LABR 4520. Intended for students in the Economics Single Advanced Major (Economics and Society Stream) or Honours (Economics and Society Stream). Prerequisite: written consent of the Associate Head (Economics and Society Stream). Corequisite: ECON 4610.

### **NET CHANGE IN CREDIT HOURS: +9.0**

### Modification:

ECON 2040 Quantitative Methods in Economics Cr. Hrs. 3 0.0

The course will be modified to meet the University's Mathematics (M) requirement. *See section 4 of this Report.*

### Program modifications:

Modifications to the following programs are detailed on the next 2 pages:

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

**Department of Economics**

- Modification to the program notes to include an acceptable substitution for the Economics-Mathematics Joint Honours Program

Added Material

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**8.9.4 Economics-Mathematics Joint Honours Program**

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>JOINT HONOURS TOTAL: 120 CREDIT HOURS</b>			
<ul style="list-style-type: none"> <li>• Both ECON 1010 and ECON 1020, or both ECON 1210 and ECON 1220</li> <li>MATH 1220<sup>1</sup>, MATH 1230<sup>1</sup>, MATH 1232<sup>1</sup>, MATH 1240<sup>1</sup></li> <li>• STAT 1150<sup>1, 2</sup></li> <li>• COMP 1010<sup>2</sup></li> <li>• 6 credit hours of electives, which should include the required "Written English" course</li> </ul>	<ul style="list-style-type: none"> <li>• ECON 2010, ECON 2020</li> <li>• MATH 2020, MATH 2080, MATH 2090, MATH 2150, MATH 2180</li> <li>• 9 credit hours of approved electives</li> </ul>	<ul style="list-style-type: none"> <li>• ECON 3010, ECON 3020, ECON 3040<sup>2</sup></li> <li>• MATH 2030, MATH 2160, MATH 3320, MATH 3340, MATH 3440, MATH 3470, MATH 3472</li> <li>• 24 credit hours of approved Economics courses<sup>3</sup></li> <li>• 3 credit hours from MATH 3420, MATH 3460, MATH 3610, MATH 4370, or any Mathematics course at the 4000 level</li> <li>• 3 credit hours of Mathematics courses at the 3000 or 4000 level</li> </ul>	
30 HOURS	30 HOURS	60 HOURS	
<p><b>NOTES:</b></p> <p><sup>1</sup> Students in this program must achieve a minimum grade of "B" in MATH 1230, MATH 1232, MATH 1220, and MATH 1240. 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: <u>MATH 1210 (A)</u>, MATH 1300 (A) in place of MATH 1220, MATH 1500 (A) in place of MATH 1230, MATH 1700 (A) in place of MATH 1232, MATH 1690 (B) in place of MATH 1230 and MATH 1232. With permission from the department, students may be able to substitute STAT 1000 and STAT 2000 in place of STAT 1150.</p> <p><sup>2</sup> Some courses may be taken in a different year than indicated; STAT 1150, COMP 1010, ECON 3040 may be taken in Year 2. The normal prerequisite for ECON 3040 is ECON 2040, which will be waived for students in this program who have completed Year 1.</p> <p><sup>3</sup> Of the 24 credit hours in electives in Economics in Years 3 and 4, no more than 6 credit hours may be at the 2000 level or below and at least 6 credit hours must be at the 4000 level. Students are encouraged to take ECON 4010, ECON 4020 and ECON 4040.</p>			

**Department of Economics**

- Modification to accommodate Department of Statistics change in prerequisites and program notes to include acceptable substitutions for Economics-Statistics Joint Honours Program

Added Material

~~Deleted Material~~

**8.9.6 Economics-Statistics Joint Honours Program**

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>JOINT HONOURS TOTAL: 120 CREDIT HOURS</b>			
<ul style="list-style-type: none"> <li>• Both ECON 1010 and ECON 1020, or both ECON 1210 and ECON 1220</li> <li>• MATH 1220<sup>1</sup>, MATH 1230<sup>1</sup>, MATH 1232<sup>1</sup>, MATH 1240<sup>1</sup></li> <li>• STAT 1150<sup>1</sup></li> <li>• COMP 1010</li> <li>• Plus 6 credit hours of electives which should include the required "Written English" course</li> </ul>	<ul style="list-style-type: none"> <li>• ECON 2010, ECON 2020</li> <li>• STAT 2150, STAT 2300, STAT 2400, STAT 2800</li> <li>• MATH 2080, MATH 2150<sup>1</sup></li> <li>• Plus 6 credit hours of approved Economics electives<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>• ECON 3010, ECON 3020</li> <li>• STAT 3100, STAT 3150, STAT 3450</li> <li>• MATH 2160, MATH 3610</li> <li>• Plus 3 credit hours of approved Economics electives<sup>2</sup></li> <li>• 6 credit hours of approved Statistics electives<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>• ECON 4040, ECON 4042</li> <li>• STAT 4100</li> <li>• Plus 12 credit hours of approved Economics electives<sup>2</sup></li> <li>• 9 credit hours of approved Statistics electives<sup>3</sup></li> </ul>
30 HOURS	30 HOURS	30 HOURS	30 HOURS
<p><b>NOTES:</b></p> <p><sup>1</sup> The following substitutions are allowed: MATH 1300 in place of MATH 1220, MATH 1500 or MATH 1520 in place of MATH 1230, MATH 1700 in place of MATH 1232, MATH 2720 in place of MATH 2150, STAT 1000 and STAT 2000 (B) or STAT 2220 in place of STAT 1150. Students must attain specific grade requirements in order to meet the upper level course prerequisites. Consult course descriptions for further information.</p> <p><sup>2</sup> 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.</p> <p><sup>3</sup> The 15 credit hours of electives in Statistics in Years 3 and 4 must all be at the 3000 level or higher, at least 9 of which must be at the 4000 level. The following courses are recommended: STAT 3030, STAT 3490, STAT 3550, STAT 3690, STAT 4150, STAT 4250, STAT 4630.</p>			

## English, Theatre, Film & Media

### Deletion:

ENGL 2640 History of Critical Theory: From Plato to Present Cr. Hrs. 6 -6.0

### Introduction:

ENGL 2650 Introduction to Critical Theory Cr. Hrs. 3 +3.0

An introduction to the history and application of critical theory for the study of literature and other media. The course will cover at least three distinct schools of critical theory and at least two distinct historical eras. Prerequisite: [a grade of "C" or better in ENGL 1200 or ENGL 1201 or ENGL 1300 or ENGL 1301] or [a grade of "C" or better in each of ENGL 1400 (or the former ENGL 1310) and ENGL 1340].

**NET CHANGE IN CREDIT HOURS: -3.0**

### Program modifications:

Modifications to the following programs are detailed on the next 5 pages:

- **Bachelor of Arts (Single Advanced Major) in English**
- **Bachelor of Arts (Double Advanced Major) in English**
- **Bachelor of Arts (Single Honours) in English**
- **Bachelor of Arts (Double Honours) in English**
  
- **Bachelor of Arts (Double Advanced Major) in Film Studies**

**Department of English, Theatre, Film & Media**

- Modification to Single Advanced Major, Double Advanced Major, Single Honours, and Double Honours programs

Added Material

~~Deleted Material~~

**8.10.2 English**

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>SINGLE ADVANCED MAJOR<sup>2, 4, 5, 6</sup> TOTAL: 48 CREDIT HOURS</b>			
ENGL 1200 (6) or ENGL 1300 (6) or both ENGL 1400 and ENGL 1340	<ul style="list-style-type: none"> <li>• 6 credit hours of ENGL or FILM or THTR at or above the 1000 level<sup>2</sup></li> <li>• 6 credit hours of ENGL or FILM or THTR at or above the 2000 level<sup>2</sup></li> <li>• 21 credit hours of ENGL at or above the 2000 level</li> <li>• 9 credit hours of ENGL at or above the 3000 level</li> </ul> <p>Of the 2000 and 3000 level ENGL courses taken above, a minimum of 15 credit hours must be selected from the Literature Prior to 1900 list<sup>4</sup>.</p>		
<b>DOUBLE ADVANCED MAJOR<sup>2, 4, 5, 6</sup> TOTAL: 42 CREDIT HOURS</b>			
ENGL 1200 (6) or ENGL 1300 (6) or both ENGL 1400 and ENGL 1340	<ul style="list-style-type: none"> <li>• 6 credit hours of ENGL or FILM or THTR at or above the 1000 level<sup>2</sup></li> <li>• 6 credit hours of ENGL or FILM or THTR at or above the 2000 level<sup>2</sup></li> <li>• 15 credit hours of ENGL at or above the 2000 level</li> <li>• 9 credit hours of ENGL at or above the 3000 level</li> </ul> <p>Of the 2000 and 3000 level ENGL courses taken above, a minimum of 12 credit hours must be selected from the Literature Prior to 1900 list<sup>4</sup>.</p>		
<b>SINGLE HONOURS<sup>3, 4, 5</sup></b>			
ENGL 1200 (6) or ENGL 1300 (6) or both ENGL 1400 and	<ul style="list-style-type: none"> <li>• <del>ENGL 2640(6)</del><sup>7</sup></li> <li>• <u>ENGL 2650</u><sup>7</sup></li> </ul>		

ENGL 1340	<ul style="list-style-type: none"> <li>• <u>3 credit hours selected from the following courses: ENGL 2550, ENGL 2620, ENGL 3620, ENGL 3630, FILM 2330, FILM 3420, THTR 3460</u></li> <li>• 9 credit hours in ENGL at or above the 2000 level</li> <li>• 12 credit hours of ENGL selected from the Literature prior to 1900 list<sup>4</sup></li> <li>• 12 credit hours of literature prior to <del>1700</del> <u>the Romantic Period</u> selected from: ENGL 2070(6), ENGL 2080(6), ENGL 2090(6), <u>ENGL 2120 (6)</u>, ENGL 3000(6), ENGL 3010(6), ENGL 3020(6), ENGL 3030, ENGL 3050(6), ENGL 3080, ENGL 3090, <u>ENGL 3120</u>, ENGL 3180<sup>9</sup></li> <li>• 12 credit hours in other literature after 1900, selected from: ENGL 2160(6), ENGL 2180(6), ENGL 2830, ENGL 3980, ENGL 3990<sup>9</sup></li> <li>• 6 credit hours in Canadian literature selected from: ENGL 2270(6), ENGL 3270<sup>9</sup></li> </ul> <p>Of the courses selected above, a minimum of 9 credit hours must be at or above the 3000 level.</p> <ul style="list-style-type: none"> <li>• 9 credit hours of 4000 level ENGL</li> <li>• 24 credit hours in ancillary options<sup>10</sup></li> </ul>
<b>DOUBLE HONOURS</b> <sup>4, 5, 8</sup>	
ENGL 1200 (6) or ENGL 1300 (6) or both ENGL 1400 and ENGL 1340	<ul style="list-style-type: none"> <li>• <del>ENGL 2640 (6)</del><sup>7</sup></li> <li>• <u>ENGL 2650</u><sup>7</sup></li> <li>• <u>3 credit hours selected from the following courses: ENGL 2550, ENGL 2620, ENGL 3620, ENGL 3630, FILM 2330, FILM 3420, THTR 3460</u></li> <li>• 18 credit hours of ENGL selected from the Literature prior to 1900 list<sup>4</sup></li> <li>• 6 credit hours in ENGL at or above the 2000 level</li> </ul> <p>Of the credit hours listed above, at least 6 credit hours must be at the 3000 level</p>

- 6 credit hours of 4000 level ENGL
- 36 credit hours in second honours field
- 6 credit hours in ancillary options<sup>10</sup>
- 12 credit hours in free options<sup>11</sup>

**NOTES:**

1. Students in the General Major program in English may use up to 6 credit hours in Film Studies or Theatre courses toward the completion of their Major requirements, with the exception of THTR 1220, THTR 2170, THTR 2180 and THTR 2490. Additionally, students may use up to 3 credit hours of FILM at the 1000 level toward this requirement. Any FILM or THTR courses so applied may not also be used toward a Minor (Concentration) in Film Studies or Theatre respectively.
2. Students in the Single Advanced Major and Double Advanced Major programs in English may use up to 12 credit hours in Film Studies or Theatre courses toward the completion of their Major requirements, with the exception of THTR 1220, THTR 2170, THTR 2180 and THTR 2490. Any FILM or THTR courses so applied may not also be used toward a Minor (Concentration) in Film Studies or Theatre respectively.
3. Students in the Single Honours program may use up to 6 credit hours in Film Studies or Theatre courses, with the exception of FILM 1290, FILM 1310 (or the former FILM 1300), THTR 1220, THTR 2170, THTR 2180 and THTR 2490. Any Film Studies or Theatre courses so applied may not also be used toward a Minor (Concentration) in Film Studies or Theatre respectively.
4. Students may use ENGL 2490 Literature in Translation (maximum 3 credit hours) to satisfy requirements for the General Major, Single Advanced Major, Double Advanced Major, Single Honours or Double Honours. Students may not use ENGL 2490 to satisfy the requirements for a Minor (Concentration).
5. Credit in ENGL 2000 may be used toward the 48 hours in general courses required for a Single Advanced Major only
6. It is recommended that students in the Single and Double Advanced Major programs complete ~~a six credit hour theory course, specifically ENGL 2640~~ ENGL 2650.
7. Single Honours and Double Honours students should attempt to complete ~~ENGL 2640~~ ENGL 2650 (required year 2 course) as early as possible, as it may not be offered every year.
8. FILM 2280 may be used as an English course to satisfy requirements in the English Minor (Concentration) and Double Honours programs. If it is used as

such, it may not also be applied to a Minor (Concentration) in Film Studies or as an ancillary option in the Film Studies Single Honours program.

9. Certain courses that vary in content from year to year may also satisfy this requirement, as determined by the Department.
10. Ancillary options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (excluding English courses).
11. Free options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (including English courses).

**Department of English, Theatre, Film & Media**

Film Studies Double Advanced Major Program

- Modify program to reflect deletion of ENGL 2640 and introduction of ENGL 2650

Added Material

~~Deleted Material~~

**8.10.6 Film Studies**

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>DOUBLE ADVANCED MAJOR<sup>1</sup> TOTAL: 42 CREDIT HOURS</b>			
FILM 1290 and FILM 1310	<ul style="list-style-type: none"> <li>• FILM 2280 (6)               <ul style="list-style-type: none"> <li>• FILM 2380 or FILM 2430</li> <li>• FILM 3420<sup>2</sup></li> <li>• 18 credit hours in Film Studies at or above the 2000 level</li> <li>• 6 credit hours in Film Studies at or above the 3000 level</li> </ul> </li> </ul>		
<p><b>NOTES:</b></p> <p><sup>1</sup> The content of topics courses (FILM 2380, FILM 2460, FILM 3250, FILM 3270, FILM 3400) will vary from term to term and may be taken more than once for credit.</p> <p><sup>2</sup> Students may use <del>ENGL 2640(6)</del> <u>ENGL 2650</u> in place of FILM 3420 to satisfy the theory requirement in the Double Advanced Major program in Film Studies.</p> <p><sup>3</sup> Students shall not use the following courses to satisfy the ENGL / THTR requirements in the Single Advanced Major program: ENGL 0930, ENGL 2000, THTR 2170, THTR 2180, THTR 2490. Any English or Theatre course(s) used to satisfy this requirement may not also be used to satisfy a Minor (Concentration) in Film Studies or Theatre respectively.</p>			

## French, Spanish and Italian

Introduction:

ITLN 2300 Special Studies in Italian Cr. Hrs. 3 +3.0

The content of this course will vary from year to year depending on the needs and interests of instructors and students. Prerequisite: A grade of "C" or better in ITLN 1080 or written consent of department head. Students can earn multiple credits for this course only when the topic subtitle is different.

**NET CHANGE IN CREDIT HOURS: +3.0**

Program modifications:

Modifications to the following programs are detailed on the next 3 pages:

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

## Department of French, Spanish and Italian

### Italian Studies

- Modification to General Major, Single Advanced Major, and update to List A

#### Added Material

#### ~~Deleted Material~~

#### 8.11.11 Italian Studies

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>GENERAL MAJOR TOTAL: 30 CREDIT HOURS</b>			
ITLN 1080	ITLN 2080, or 6 credit hours selected from: ITLN 2090, ITLN 2100, ITLN 2200, <u>ITLN 2300</u>	6 credit hours selected from: ITLN 3050, ITLN 3060, ITLN 3760, ITLN 3770, ITLN 3780	
	Plus at least 12 credit hours of additional courses selected from List A		
<b>SINGLE ADVANCED MAJOR TOTAL: 48 CREDIT HOURS</b>			
ITLN 1080	ITLN 2080, or 6 credit hours selected from: ITLN 2090, ITLN 2100, ITLN 2200, <u>ITLN 2300</u>	6 credit hours selected from: ITLN 3050, ITLN 3060, ITLN 3760, ITLN 3770, ITLN 3780	
	Plus at least 30 credit hours of additional courses selected from List A		

#### List A

##### Faculty of Arts

##### Italian

ITLN 2200	Let's Get Graphic: Italian through Graphic Novels	3
<u>ITLN 2300</u>	<u>Special Studies in Italian</u>	<u>3</u>
ITLN 3050	Italian Through Literature	3
ITLN 3060	Italian Through Film	3
ITLN 3760	Italian Translation Workshop	3
ITLN 3770	Modern Italian Usage	3

ITLN 3780 A Voyage through the Italian Mind: An Italian Culture Course 3

Classics

CLAS 1280 Introduction to Ancient Roman Culture 3

CLAS 2160 Roman History: The Roman Republic, 753-30 BC 3

CLAS 2170 Roman History: The Roman Empire, 30 BC-AD 337 3

CLAS 2622 Latin Literature in Translation 3

CLAS 2680 Roman Art and Archaeology 3

LATN 1080 Introduction to the Reading of Latin 1 3

LATN 1090 Introduction to the Reading of Latin 2 3

LATN 2700 Intermediate Readings in Latin 3

LATN 2720 Selected Readings in Republican and Augustan Poetry 3

LATN 2740 Selected Readings in Republican and Augustan Prose 3

LATN 2780 History of the Latin Language 3

LATN 2800 Readings in Medieval or Renaissance Latin 3

LATN 3740 Roman Comedy 3

LATN 3760 Orations of Cicero 3

LATN 3780 Roman Satire 3

LATN 3800 Lyric and Elegiac Poetry of the Augustan Age 3

LATN 3820 Virgil's Aeneid 3

LATN 3840 Virgil's Eclogues and Georgics 3

LATN 3860 The Roman Historians 3

LATN 3880 Poetry of the Silver Age 3

History

HIST 2350 Europe 1789-1870 (E) 3

HIST 2360 Europe 1870 to the Present (E) 3

~~HIST 2370 History of Europe since the French Revolution (E) 6~~

HIST 2900 Topics in Social History (G) (when taught as "Topic: Italy") 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 3680 Europe, 1870-1945 (E) 6~~

~~HIST 3682 Europe 1870-1918 (E) 3~~

~~HIST 3684 Europe 1918-1945 (E) 3~~

**School of Art**

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

**Marcel A. Desautels Faculty of Music**

MUSC 3100 Opera Repertoire 3

For course descriptions, see departmental listings.

## German and Slavic Studies

### Deletions:

POL 3890 Advanced Polish Cr. Hrs. 6	-6.0
UKRN 3950 Advanced Ukrainian 1 Cr. Hrs. 3	-3.0
UKRN 3960 Advanced Ukrainian 2 Cr. Hrs. 3	-3.0

### Introductions:

POL 3892 Advanced Polish: Conversational Practice Cr. Hrs. 3 +3.0  
Development of skills in spoken and written Polish, within the context of contemporary Polish culture, via a variety of sources, such as: news articles, comics, music. Students may not hold credit for both POL 3892 and the former POL 3890. Prerequisite: a grade of "C" or better in POL 2890 or written consent of department head.

POL 3894 Advanced Polish Through Short Stories Cr. Hrs. 3 +3.0  
Development of advanced language skills: writing, reading, listening comprehension, and speaking. Exploration and analysis of Polish cultural tropes within the context of short stories. Students may not hold credit for both POL 3894 and the former POL 3890. Prerequisite: a grade of "C" or better in POL 2890 or written consent of department head.

UKRN 3952 Advanced Ukrainian Conversational Practice Cr. Hrs. 3 +3.0  
Development of oral and comprehension skills within the context of contemporary Ukrainian living culture via a variety of sources, such as: short stories, news articles, comics, cartoons, films, music, etc. Students may not hold credit for both UKRN 3952 and the former UKRN 3950. Prerequisite: a grade of "C" or better in UKRN 2720 or UKRN 2730 or written consent of department head.

UKRN 3962 Advanced Ukrainian Through Short Stories Cr. Hrs. 3 +3.0  
Development of advanced language skills in modern Ukrainian: writing, reading, listening comprehension, and speaking. Continued work in advanced composition, translation, readings and study of selected literary and other texts within the context of short stories. Students may not hold credit for both UKRN 3962 and the former UKRN 3960. Prerequisite: a grade of "C" or better in UKRN 2720 or UKRN 2730 or written consent of department head.

## **NET CHANGE IN CREDIT HOURS: 0.0**

### Modifications:

GRMN 3200 Deutsche Sprachpraxis 1 (A) Cr. Hrs. 6 0.0  
Modern German usage through conversation, writing and practical exercises; study of contemporary fictional and non-fictional texts and films. Emphasis on vocabulary and structural and stylistic problems. Students may not hold credit for both GRMN 3200 and GRMN 3201. Prerequisite: a grade of "C" or better in GRMN 2100 or GRMN 2105 or the former GRMN 2101 or written consent of department head.

GRMN 3262 Representations of the Holocaust in English Translation (C) Cr. Hrs. 3 0.0  
The course will be modified to meet the University's Written English (W) requirement. See *section 2 of this Report*.

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.	
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 3282 Sex, Gender and Cultural Politics in the German-Speaking World in English Translation (C) Cr. Hrs. 3	0.0
GRMN 3390 German Representations of War (C) Cr. Hrs. 3	0.0
GRMN 3510 Special Topics in German in English Translation (C) Cr. Hrs. 3	0.0
GRMN 3530 Special Topics in Comparative German and Slavic Studies (C) Cr. Hrs. 3	0.0
POL 2660 Special Topics in Polish Literature and Culture Cr. Hrs. 3	0.0
SLAV 3530 Special Topics in Comparative German and Slavic Studies Cr. Hrs. 3	0.0
<i>These six courses will be modified to meet the University's Written English (W) requirement. See section 2 of this Report.</i>	

Program modifications:

Modifications to the following programs are detailed on the next 8 pages:

- **Bachelor of Arts (Single Honours) in German, Co-operative Education Option**  
(*new*)
- **Bachelor of Arts (General Major) in Russian**
- **Minor (Concentration) in Russian**
- **Bachelor of Arts (General Major) in Ukrainian**
- **Minor (Concentration) in Ukrainian**

## **German**

- Addition of Co-operative Education as an option for the Honours program.

### Added Material

### Deleted Material

## **8.12.2 German Program Information**

For entry, continuation and graduation requirements for the General Degree and Honours Degree, see Section 3: Basic Faculty Regulations for the B.A. General, Advanced and Honours Degree Programs.

### **General Major Program**

For entry to the Major, the prerequisite is a grade of "C" or better in 6 credit hours in German courses at any level. For students who have taken additional courses toward the Major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate, including the higher grade of repeated courses and excluding failed courses.

### **Minor (Concentration) Program**

For entry to the Minor (Concentration), the prerequisite is a grade of "C" or better in 6 credit hours in German.

### **Honours Program**

For entry to the Honours program, see Section 3: Basic Faculty Regulations for the B.A. General, Advanced and Honours Degree Programs.

### **Honours Co-operative Education Option**

Students interested in alternating employment terms and academic terms as part of the Single Honours program in German may apply to enter the Co-operative Education option. The course and grade requirements for entry to this option are the same as those required for entry to the regular four-year Single Honours program. Students should refer to the general faculty regulations for Cooperative Options (section 3.4).

### **Other**

German courses are arranged into categories as follows:

Category A: Language courses

Category B: Literature, Culture and Applied Linguistics courses conducted in German

Category C: Literature, Culture and Applied Linguistics courses conducted in English

### 8.12.3 German

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>SINGLE HONOURS<sup>4</sup></b>			
<ul style="list-style-type: none"> <li>• 36 credit hours of German (of which at least 24 credit hours must be German courses numbered at the 2000, 3000 or 4000 level) to include:</li> </ul> GRMN 1120 <sup>1</sup> GRMN 2100 <sup>2</sup> GRMN 2120 or GRMN 2130 GRMN 2140 GRMN 3200 <ul style="list-style-type: none"> <li>• In years 2 and 3 students must also complete 24 credit hours of ancillary options<sup>6</sup> and 6 credit hours of free options<sup>5</sup></li> </ul>		<ul style="list-style-type: none"> <li>• GRMN 4600<sup>3</sup></li> <li>• GRMN 4570</li> <li>• 6 additional credit hours in German courses numbered at the 4000 level</li> <li>• 6 additional credit hours in German courses numbered at the 3000 or 4000 level</li> <li>• 12 credit hours in free options<sup>5</sup></li> </ul>	
<ul style="list-style-type: none"> <li>• Within the required credit hours in German, 15 credit hours must be from Category B courses and a further 15 credit hours must be from Categories B or C courses</li> </ul>			

<b>SINGLE HONOURS<sup>4</sup> CO-OPERATIVE EDUCATION OPTION</b>			
<ul style="list-style-type: none"> <li>• 36 credit hours of German (of which at least 24 credit hours must be German courses numbered at the 2000, 3000 or 4000 level) to include:</li> </ul> GRMN 1120 <sup>1</sup> GRMN 2100 <sup>2</sup> GRMN 2120 or GRMN 2130 GRMN 2140 GRMN 3200 <ul style="list-style-type: none"> <li>• In years 2 and 3 students must also complete 21 credit hours of ancillary options<sup>4</sup> and 6 credit hours of free options<sup>2</sup></li> </ul>		<ul style="list-style-type: none"> <li>• GRMN 4600<sup>3</sup></li> <li>• GRMN 4570</li> <li>• 6 additional credit hours in German courses numbered at the 4000 level</li> <li>• 6 additional credit hours in German courses numbered at the 3000 or 4000 level</li> <li>• 12 credit hours in free options<sup>2</sup></li> </ul>	
		<ul style="list-style-type: none"> <li>• <u>ARTS 3010 (1), ARTS 3020 (1), ARTS 3030 (1)</u></li> </ul>	
<ul style="list-style-type: none"> <li>• Within the required credit hours in German, 15 credit hours must be from Category B courses and a further 15 credit hours must be from Categories B or C courses</li> </ul>			

<b>NOTES:</b>
<p><sup>1</sup> Students with superior language ability will not be required to complete GRMN 1120 if they complete either GRMN 2100 or GRMN 3200 with a minimum grade of "C".</p> <p><sup>2</sup> Students with superior language ability will not be required to complete GRMN 2100 if they complete GRMN 3200 with a minimum grade of "C".</p> <p><sup>3</sup> With written consent of department head, students may substitute GRMN 4600 with GRMN 4200.</p> <p><sup>4</sup> Honours courses: all 4000 level courses.</p>

\*Free options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (including German courses).

\*Ancillary options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (excluding German courses in the Single Honours, and excluding German and the second Honours field courses in the Double Honours).

**Letter of Interest: Faculty of Arts Co-operative Education Program in German Studies**

**German Canadian Congress (MB) Inc.**

Contact Person:

Bjoern E. Meinhardt, President

Contact Information:

58-81 Garry Street

Winnipeg, MB R3C 4J9

Phone: (204) 989-8300

E-Mail: info@gccmb.ca

Our organization/company – German Canadian Congress – hereby expresses interest in participating in the Faculty of Arts Co-operative Education Program with a particular interest in students in German Studies. This letter of interest is non-binding and does not entail any obligations on our part at this point.

Place and Date: *Winnipeg, MB - 1 June 2020*

Signature:

*Bjoern E. Meinhardt*



**Westgate Mennonite Collegiate**  
86 West Gate  
Winnipeg, Manitoba  
Canada R3C 2E1  
Tel: (204) 775-7111  
Fax: (204) 786-1651

June 17, 2020

**Letter of Interest: Faculty of Arts Co-operative Education Program in German Studies**

Westgate Mennonite Collegiate

Our school Westgate Mennonite Collegiate hereby expresses interest in participating in the Faculty of Arts Co-operative Education Program with a particular interest in students in German Studies. This letter of interest is non-binding and does not entail any obligations on our part at this point.

Sincerely,

A handwritten signature in black ink, appearing to be "D. H. ...", written over a light blue horizontal line.

Principal,  
Westgate Mennonite Collegiate

**Russian**

- General Major and Minor (Concentration) program modifications required as a result of the deletion of a course by the Department of History.
- Modify “List A” of courses acceptable for Russian credit

Added Material

~~Deleted Material~~

**8.12.6 Russian**

**List A Courses Acceptable for Russian Credit**

With written consent from the department head, courses offered by other departments may be approved for credit.

Course No. Credit Hours

**Faculty of Arts**

**History**

<del>HIST 2490</del> <del>History of Russia (E)</del>	<del>6</del>
HIST 2660 History of the Soviet Union (E)	3
HIST 2840 A History of Russia to 1917 (E)	3

## Ukrainian

- General Major and Minor (Concentration) program modifications
- Reintroduction of Advanced Ukrainian courses
- Introduce "List A" in order to expand options available to students.

### Added Material

### ~~Deleted Material~~

## 8.12.9 Ukrainian

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>GENERAL UKRAINIAN MAJOR TOTAL: 30 CREDIT HOURS</b>			
30 credit hours of Ukrainian to include:			
<ul style="list-style-type: none"> <li>• UKRN 1310<sup>1</sup> or UKRN 1320<sup>1</sup></li> <li>• UKRN 2720<sup>2</sup> or UKRN 2730<sup>2</sup></li> <li>• <del>UKRN 3950<sup>3</sup> and UKRN 3960<sup>3</sup></del></li> <li>• <u>UKRN 3952<sup>3</sup> and UKRN 3962<sup>3</sup></u></li> <li>• In addition to the above required courses, students must complete the balance of credit hours by taking Ukrainian (UKRN) or Slavic Studies (SLAV) courses <u>or up to a maximum of 6 credit hours selected from courses on List A<sup>4</sup></u></li> </ul>			
<b>UKRAINIAN MINOR (CONCENTRATION) TOTAL: 18 CREDIT HOURS</b>			
6 credit hours in Ukrainian (UKRN) courses	12 credit hours in Ukrainian (UKRN) or Slavic Studies (SLAV) courses <u>or up to a maximum of 6 credit hours selected from courses on List A<sup>4</sup></u>		
<b>NOTES:</b>			
<p><sup>1</sup> With written consent from the department head, students with superior language ability can substitute UKRN 1310 or UKRN 1320 with UKRN 2720 or UKRN 2730.</p> <p><sup>2</sup> With written consent from the department head, students with superior language ability can substitute UKRN 2720 or UKRN 2730 with other 2000 or 3000 level Ukrainian courses.</p> <p><sup>3</sup> With written consent from the department head, other 3000 level Ukrainian language courses may be approved for credit.</p> <p><del><sup>4</sup> With written consent from the department head, <u>further courses from List A or courses offered by other departments may be approved for credit.</u></del></p>			

**List A**      **Courses Acceptable for Ukrainian Credit**<sup>4</sup>

<u>ECON 2510</u>	<u>The Economy of Ukraine</u>	<u>3</u>
<u>HIST 2600</u>	<u>Introduction to Ukraine (E)</u>	<u>3</u>
<u>HIST 2610</u>	<u>Making of Modern Ukraine (E)</u>	<u>3</u>
<u>POLS 3720</u>	<u>Politics, Government, and Society in Ukraine</u>	<u>3</u>

## Global Political Economy

### Introductions:

GPE 4510 Global Political Economy Field Placement Seminar Cr. Hrs. 3 +3.0

A seminar to be taken concurrently with GPE 4520 in which each student will relate theory and practice. This course is also offered as ECON 4610 and LABR 4510. Students may not hold credit for GPE 4510 and either ECON 4610 or LABR 4510. Intended for students in the Global Political Economy Single Advanced Major. Prerequisite: written consent of the Global Political Economy Program Coordinator. Corequisite: GPE 4520.

GPE 4520 Global Political Economy Field Placement Cr. Hrs. 6 +6.0

An educationally directed field experience in which the student will undertake specific tasks and assignments in some aspects of Community Economic Development and/or economic policy. Field placement options include community-based organizations, government departments and agencies, policy and research organizations, unions, and other employers. This course is also offered as ECON 4620 and LABR 4520. Students may not hold credit for GPE 4520 and either ECON 4620 or LABR 4520. Intended for students in the Global Political Economy Single Advanced Major. Prerequisite: written consent of the Global Political Economy Program Coordinator. Corequisite: GPE 4510.

**NET CHANGE IN CREDIT HOURS: +9.0**

### Program modifications:

Modifications to the programs listed below are detailed on the next 6 pages:

- **Bachelor of Arts (General Major) in Global Political Economy**
- **Bachelor of Arts (Single Advanced Major) in Global Political Economy**

## Global Political Economy

- Proposal to allow GPE students to declare a Minor.
- Program modifications required in response to History and Sociology and Criminology course changes.

### Added Material

### ~~Deleted Material~~

## Section 3

### 3.1.4 Ten Faculty Requirements for Graduating with a B.A. General Degree

...

4) Major: 30 credit hours which constitute a **Major** in one of the subject fields approved by the Faculty of Arts (see Section 5.1.1). The student must also have a minimum grade point average of 2.00 (i.e. "C" average) or better in courses where a final grade is recorded and that are used toward the Major including only the last grade of any course that has been repeated and excluding any failed course(s). A student who declares only one Major must also complete a Minor. A student who declares a Double Major will not be required nor allowed to complete a Minor, but must complete 30 credit hours as specified by each Major department. *Students who have questions about a Major in a particular subject are strongly urged to consult an instructor in the appropriate department.* A Major may be declared once the prerequisite is satisfied.

Students who declare and complete a Major in Global Political Economy **will not** be required ~~nor allowed~~ to complete a separate field for a Minor for purposes of satisfying the degree requirements.

5) Minor: 18 credit hours which are in a subject field that is different from that of the declared Major, which constitute a **Minor** approved by the Faculty of Arts (see Section 5.1.1). A student who declares only one Major must also complete a Minor. A student who declares a Double Major will not be required nor allowed to complete a Minor. It is not possible to declare a "Double Minor." No course can be used to satisfy both the Major(s) and the Minor requirement. A Minor may be declared once the prerequisite is satisfied.

...

### 3.2.4 Ten Faculty Requirements for Graduating with a B.A. Advanced Degree

...

4) **Single Advanced Major:** 48 credit hours which constitute a Single Advanced Major in one of the subject fields approved by the Faculty of Arts (see Section 5.1.1). The student must have a grade point average of 2.00 (i.e. "C" average) or better in courses where a final grade is recorded that are used toward the Major including only the last grade of any course that has been repeated and excluding any failed course(s). A student who declares a Single Advanced Major must also complete a Minor with the exception of students whose Major is Global Political Economy. Students with an Advanced Major in Global Political Economy **will not** be required ~~nor allowed~~ to complete a Minor for purposes of satisfying the degree requirements.

**Double Advanced Major:** At least 42 credit hours which constitute a Double Advanced Major in each of two subject fields approved by the Faculty of Arts (see Section 5.1.1). The student must have a grade point average of 2.00 (i.e. "C" average) or better in courses where a final grade is recorded that are used toward each Major including only the last grade of any course that has been repeated and excluding any failed course(s). A student who declares a Double Advanced Major will not be required nor allowed to complete a Minor, but must complete the Double Advanced Major in accordance with the requirements as specified by the Major department. A Major may be declared once the prerequisite has been satisfied.

**Note:** No course can be used to satisfy both the Single Advanced Major and Minor requirement. Similarly no course can be used to satisfy both Double Advanced Majors. Not every department offers a Single or Double Advanced Major. See the departmental listings in Sections 8 and 9 for information.

5) **Minor:** 18 credit hours which are in a subject field that is different from that of the declared Single Advanced Major, which constitute a Minor approved by the Faculty of Arts (see Section 5.1.1). A student who declares a Single Advanced Major must also complete a Minor. A student who declares a Double

Advanced Major will not be required nor allowed to complete a Minor. No course can be used to satisfy both the Advanced Major(s) and the Minor requirement. Only one Minor may be declared. A Minor may be declared once the prerequisite has been satisfied.

...

## Section 8

### 8.13.1 Program Information

Global Political Economy (GPE) is an interdisciplinary program offered through five departments: History, Sociology and Criminology, Economics, Anthropology, and Political Studies. The program draws on multiple disciplinary perspectives to develop critical understanding of complex, contemporary global events and issues, and to build the research, analytical, and communication skills necessary to address them. Faculty from each participating discipline collaborate to create Major and Advanced Major degree programs focused on analyzing changes in global political and economic relations, and linking them with local issues, cultures, and political economies.

For entry to the General Major, the prerequisite is a grade of "C" or better in the following: both ECON 1010 and ECON 1020, or both ECON 1210 and ECON 1220; and 6 credit hours from GPE 1700 (or GEOG 1700), HIST 1370, HIST 1380, ~~HIST 1500~~, HIST 2730, HIST 2732, HIST 2734.

For entry to the Single Advanced Major, the prerequisite is a grade of "C" or better in the following: both ECON 1010 and ECON 1020, or both ECON 1210 and ECON 1220; and 6 credit hours from GPE 1700 (or GEOG 1700), HIST 1370, HIST 1380, ~~HIST 1500~~, HIST 2730, HIST 2732, HIST 2734, POLS 2602.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 3: Basic Faculty Regulations for the B.A. General, Advanced and Honours Degree Programs.

**Note:** Students who declare and complete a GPE Major will not be required ~~or allowed~~ to complete a separate field for a Minor for purposes of satisfying degree requirements. Students in the GPE programs may choose to declare a Minor; however, no course can be used to satisfy both a Major program requirement and a Minor requirement.

### 8.13.2 Global Political Economy

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>GENERAL MAJOR<sup>1</sup> TOTAL: 48 CREDIT HOURS</b>			
<ul style="list-style-type: none"> <li>• 6 credit hours from the following: HIST 1370, HIST 1380, <del>HIST 1500</del>, HIST 2730, HIST 2732, HIST 2734</li> <li>• ECON 1010 and ECON 1020, or ECON 1210 and ECON 1220</li> <li>• GPE 1700 (or GEOG 1700)</li> </ul>	<ul style="list-style-type: none"> <li>• ANTH 2000<sup>2</sup></li> <li>• ECON 2540</li> <li>• ECON 2550</li> <li>• GPE 2700</li> <li>• <del>SOC 2290<sup>3</sup></del>, <u>Both SOC 2292<sup>3</sup> and SOC 2294<sup>3</sup></u> or both ANTH 3930 and STAT 1000</li> </ul>	<ul style="list-style-type: none"> <li>• ANTH 3320<sup>2</sup></li> <li>• GPE 3700</li> <li>• POLS 3250<sup>4</sup> or ANTH 3750</li> <li>• POLS 3270<sup>4</sup></li> <li>• SOC 3380 or SOC 3838 or SOC 3840 or SOC 3890<sup>3</sup></li> </ul>	

<b>SINGLE ADVANCED MAJOR TOTAL: 66 CREDIT HOURS</b>			
<ul style="list-style-type: none"> <li>• 6 credit hours from the following: HIST 1370, HIST 1380, <del>HIST 1500</del>, HIST 2730, HIST 2732, HIST 2734</li> <li>• ECON 1010 and ECON 1020, or ECON 1210 and ECON 1220</li> </ul>	<ul style="list-style-type: none"> <li>• ANTH 2000<sup>2</sup></li> <li>• ECON 2540</li> <li>• ECON 2550</li> <li>• GPE 2700</li> <li>• <del>SOC 2290</del><sup>3</sup>, <u>Both SOC 2292<sup>3</sup> and SOC 2294<sup>3</sup></u> or both ANTH 3930 and STAT 1000</li> </ul>	<ul style="list-style-type: none"> <li>• ANTH 3320<sup>2</sup></li> <li>• GPE 3700</li> <li>• POLS 3250<sup>4</sup> or ANTH 3750</li> <li>• POLS 3270<sup>4</sup></li> <li>• SOC 3380 or SOC 3838 or SOC 3840 or SOC 3890<sup>3</sup></li> </ul>	GPE 4700
<ul style="list-style-type: none"> <li>• GPE 1700 (or GEOG 1700)</li> <li>• POLS 2602</li> </ul>	In years 2, 3 and 4 students must take an additional 9 credit hours from List A.		

**NOTES:**

<sup>1</sup> Students in the General Major are very strongly advised to include in their elective courses a minimum of 6 credit hours from the following list (if not already taken in the core requirements): ANTH 2530, ANTH 3750, ECON 2630, HIST 1370, HIST 1380, ~~HIST 1500~~, HIST 2670, HIST 2680, HIST 2730, HIST 2732, HIST 2734, POLS 2502, POLS 2602, POLS 3250, POLS 3810, SOC 3380, SOC 3838, SOC 3840, SOC 3890.

<sup>2</sup> Students are advised to take ANTH 1220 or ANTH 1520 as an elective in Year 1 as it is the prerequisite for some upper level Anthropology courses. Otherwise, students will require written consent from the Anthropology Department Head prior to registration.

<sup>3</sup> Students are advised to take ~~SOC 1200~~ SOC 1000 as an elective in Year 1 as it is the prerequisite for upper level Sociology courses. Otherwise, students will require written consent from the Sociology and Criminology Department Head prior to registration.

<sup>4</sup> Students are advised to take POLS 2502 as an elective in Year 2 as it is the prerequisite for upper level Political Studies courses. Otherwise, students will require written consent from the Political Studies Department Head prior to registration.

**List of Courses for Global Political Economy**

See the departmental Calendar section for full course descriptions.

## Global Political Economy

GPE 1700	Social Justice in the 21 <sup>st</sup> Century: Global Political Economy and Environmental Change (same as GEOG 1700)	3
GPE 2700	Perspectives on Global Political Economy	3
GPE 3700	A Survey of Global Political Economy	3
GPE 4700	Studies in Global Political Economy	6

## Anthropology

ANTH 2000	Culture, Society, and Power	3
ANTH 2530	Anthropology of Political Systems	3
ANTH 3320	Women in Cross-Cultural Perspective	3
ANTH 3750	Globalization and the World-System	3

## Economics

ECON 1010	Introduction to Microeconomic Principles	3
ECON 1020	Introduction to Macroeconomic Principles	3
ECON 1210	Introduction to Canadian Economic Issues and Policies	3
ECON 1220	Introduction to Global and Environmental Economic Issues and Policies	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

## History

HIST 1370	<del>An Introduction to</del> Modern World History: 1500-1800 (M)	3
HIST 1380	<del>An Introduction to</del> Modern World History: 1800 - Present (M)	3
HIST 1500	<del>An Introduction to Modern World History: 1500 - Present (M)</del>	6
HIST 2730	Modern World History, 1914-1945: The 30 Years' Crisis (G,M)	3
HIST 2732	Modern World History, 1945-1992: The Age of Three Worlds (G,M)	3
HIST 2734	Modern World History, 1980-Present: New World Order? (G,M)	3

## Political Studies

POLS 2602	Introduction to comparative Politics	3
POLS 3250	International Political Economy	3
POLS 3270	Theories of the Capitalist World Order	3

## Sociology and Criminology

<del>SOC 2290</del>	<del>Introduction to Research Methods</del>	<del>6</del>
<u>SOC 2292</u>	<u>Understanding Social Research</u>	<u>3</u>
<u>SOC 2294</u>	<u>Understanding Social Statistics</u>	<u>3</u>
SOC 3380	Power, Politics and the Welfare State	3
SOC 3838	Ecology and Society	3
SOC 3840	Community and Social Reconstruction	3
SOC 3890	Power and Inequality in Comparative Perspective	3

## List A

### Faculty of Arts

#### Anthropology

ANTH 2530	Anthropology of Political Systems	3
ANTH 3750	Anthropological Perspectives on Globalization and the World-System	3

#### Economics

ECON 2630	An Introduction to the World's Economies	6
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#### History

HIST 1370	<del>An Introduction to Modern World History: 1500-1800 (M)</del>	3
HIST 1380	<del>An Introduction to Modern World History: 1800 - Present (M)</del>	3
<del>HIST 1500</del>	<del>An Introduction to Modern World History: 1500 - Present (M)</del>	<del>6</del>
HIST 2670	History of Capitalism (M)	3
HIST 2680	A History of Socialism from the French Revolution to the Present (M)	3
HIST 2730	Modern World History, 1914-1945: The 30 Years' Crisis (G,M)	3

HIST 2732	Modern World History, 1945-1992: The Age of Three Worlds (G,M)	3
HIST 2734	Modern World History, 1980-Present: New World Order? (G,M)	3
HIST 3580	Topics in Recent World History (M)	3
	Acceptable for credit only when the topic is "Global Economic Crises in World History, 1929-Present"	

#### Political Studies

POLS 2502	Introduction to World Affairs	3
POLS 3250	International Political Economy	3
POLS 3810	Introduction to Marxism	3

#### Sociology and Criminology

SOC 2240	Sociology of Globalization	3
SOC 3380	Power, Politics and the Welfare State	3
SOC 3838	Ecology and Society	3
SOC 3840	Community and Social Reconstruction	3
SOC 3890	Power and Inequality in Comparative Perspective	3

## History

### Deletions:

HIST 1500 An introduction to Modern World History: 1500 – Present (M) Cr. Hrs. 6	-6.0
HIST 2050 South Asia since 1947 (B) Cr. Hrs. 3	-3.0
HIST 2130 Emergence of Modern South Asia: 1757-1947 (B) Cr. Hrs. 3	-3.0
HIST 2370 History of Europe since the French Revolution (E) Cr. Hrs. 6	-6.0
HIST 2410 History of India (B) Cr. Hrs. 6	-6.0
HIST 2490 History of Russia (E) Cr. Hrs. 6	-6.0
HIST 2520 A History of Germany since the Reformation (E) Cr. Hrs. 6	-6.0
HIST 2570 Nationalism in Modern Times (M) Cr. Hrs. 3	-3.0
HIST 2650 Modern China and Japan (B) Cr. Hrs. 6	-6.0
HIST 2820 An Introduction to Historical Method (G) Cr. Hrs. 6	-6.0
HIST 2930 The History of the British Isles, 412-1485 (D) Cr. Hrs. 6	-6.0
HIST 3040 Mexico, Central America and Cuba since 1945 (A) Cr. Hrs. 3	-3.0
HIST 3050 Canada since 1945 (C) Cr. Hrs. 6	-6.0
HIST 3064 German and German-Jewish History, 1618-1900 (E) Cr. Hrs. 3	-3.0
HIST 3066 German and German-Jewish History, 1900 to the Present (E) Cr. Hrs. 3	-3.0
HIST 3070 History of the United States from 1877-1939 (A) Cr. Hrs. 6	-6.0
HIST 3136 History of Medieval Italy, 568-1300 (D) Cr. Hrs. 3	-3.0
HIST 3140 Medieval Italy (D) Cr. Hrs. 6	-6.0
HIST 3210 The History of Popular Radicalism in the Twentieth Century (M) Cr. Hrs. 3	-3.0
HIST 3480 The Margins of the Middle Ages (D) Cr. Hrs. 3	-3.0
HIST 3680 Europe, 1870-1945 (E) Cr. Hrs. 6	-6.0
HIST 3682 Europe, 1870-1918 (E) Cr. Hrs. 3	-3.0
HIST 3684 Europe 1918-1945 (E) Cr. Hrs. 3	-3.0
HIST 3690 History of Northern Canada (C) Cr. Hrs. 6	-6.0
HIST 3700 History of Working People and Labour Movements 1700 to the Present (G) Cr. Hrs. 6	-6.0
HIST 3880 Europe in Transition: 1348 - 1648 (E) Cr. Hrs. 6	-6.0
HIST 3980 Nationalism on the Indian Sub-Continent in the Twentieth-Century (B) Cr. Hrs. 3	-3.0
HIST 4300 Problems in Modern Russian and Soviet History (E) Cr. Hrs. 6	-6.0

### **NET CHANGE IN CREDIT HOURS: -132.0**

### Modifications:

HIST 1370 Modern World History: 1500 - 1800 (M) Cr. Hrs. 3	0.0
A study of the forces which created the modern world, including the rise of capitalism and the encounter of Western and non-Western societies. Students may not hold credit for both HIST 1370 and the former HIST 1500.	
HIST 1380 Modern World History: 1800 - Present (M) Cr. Hrs. 3	0.0
A study of the forces which created the modern world, including industrialization, imperialism, decolonization, and the emergence of revolution and counter-revolution. Students may not hold credit for both HIST 1380 and the former HIST 1500.	

- HIST 2286 Modern Canada (C) Cr. Hrs. 3 0.0  
 This course addresses the history of Canada since the First World War with attention to social, political, economic, diplomatic and cultural topics such as: interwar and postwar life, struggles for equality, international and internal conflict, immigration, new technologies, nationalism, aboriginal affairs, the arts and Canada's role in the world. Students may not hold credit for HIST 2286 and any of: the former HIST 2970, the former HIST 2971, or the former HIST 3050.
- HIST 2350 Europe 1789 - 1870 (E) Cr. Hrs. 3 0.0  
 The History of Europe during the French Revolution and the conservative reaction to it, focusing on political ideologies and national and international politics. Students may not hold credit for both HIST 2350 and the former HIST 2370.
- HIST 2360 Europe 1870 to the Present (E) Cr. Hrs. 3 0.0  
 The history of Europe since 1870, focusing on industrialisation, imperialism, political ideologies, and national and international politics. Students may not hold credit for HIST 2360 and either HIST 2361 or the former HIST 2370.
- HIST 2390 Early Modern Europe, 1450-1789 (E) Cr. Hrs. 6 0.0  
 This course is a survey of early modern European history. It will include such major topics as the Renaissance, the printing revolution, the Reformation, European interactions with the rest of the world and imperialism, the military revolution, the witch trials and the Enlightenment.
- HIST 2400 History of Human Rights and Social Justice in the Modern World (M) Cr. Hrs. 3 0.0  
 Introductory course examining the emergence of the modern human rights era and social justice movements globally. Possible topics of study: human rights as global norm; non-Western conceptions of rights; workplace rights; indigenous rights; women's and gender rights.
- HIST 2660 History of the Soviet Union (E) Cr. Hrs. 3 0.0  
 Attention will be given in particular to the Russian Revolution, the nature of the Soviet political system, the major social and economic experiments, and the Soviet role in international politics. Students may not hold credit for HIST 2660 and any of: HIST 2661 or the former HIST 2490 or the former HIST 3471.
- HIST 2730 Modern World History, 1914-1945: The 30 Years' Crisis (M) Cr. Hrs. 3 0.0  
 A global economic, social, political and cultural history of the twentieth century history from World War I to the eve of the Cold War, emphasising the impact of war and economic crisis. Students may not hold credit for HIST 2730 and any of: HIST 2381 or the former HIST 2380.
- HIST 2732 Modern World History, 1945-1992: The Age of Three Worlds (M) Cr. Hrs. 3 0.0  
 A global, economic, social, political and cultural history of the twentieth century from the onset of the Cold War and decolonization to the collapse of the Soviet Union. Students may not hold credit for HIST 2732 and any of: HIST 2381 or the former HIST 2380 or the former HIST 2720.
- HIST 2734 Modern World History, 1980-Present: New World Order? (M) Cr. Hrs. 3 0.0  
 A global, economic, social, political and cultural history of the twenty-first century, emphasizing the on-going development of the post-Cold War international economic and political order. Students may not hold credit for HIST 2734 and any of: HIST 2381 or the former HIST 2380 or the former HIST 2720.

- HIST 2840 A History of Russia to 1917 (E) Cr. Hrs. 3 0.0  
 A survey of the historical development of Russia from its beginnings to the end of the Imperial period. Students may not hold credit for HIST 2840 and any of: HIST 2841 or the former HIST 2490 or the former HIST 3471.
- HIST 3062 German and German-Jewish History, 1618 to the Present (E) Cr. Hrs. 6 0.0  
 The history of Germany from 1618 to the present with a focus on the experience of German Jewry. Students may not hold credit for HIST 3062 and any of: the former HIST 3060 or the former HIST 3064 or the former HIST 3066. Prerequisite: [a grade of "C" or better in six credit hours of history] or written consent of department head.
- HIST 3080 Consumer Culture in the United States (A) Cr. Hrs. 3 0.0  
 This course traces the development of consumer society in the United States from the colonial era to the present. Topics addressed include the histories of: branding, mass distribution, department stores, advertising, mass-market magazines, consumer organizing, and consumer protest. Prerequisite: a grade of C or better in six credit hours of history, or written consent of the department head.
- HIST 3138 History of Medieval Italy, 1300-1500 (D) Cr. Hrs. 3 0.0  
 An examination of the political, social, economic and cultural history of the Italian peninsula during the later Middle Ages. Students may not hold credit for both HIST 3138 and the former HIST 3140. Prerequisite: [a grade of "C" or better in six credit hours of history] or written consent of department head.
- HIST 3574 Disease and Society in the Modern World (M) Cr. Hrs. 3 0.0  
 This course will emphasize the relationship between disease and imperialism, capitalist development, and war; and examine social and state responses. The course will explore connections between the biological and the cultural aspects of infectious disease experiences. Students may not hold credit for both HIST 3574 and HIST 3110 with the topics "History of Disease" and/or "History of Health and Disease." Prerequisite: [a grade of "C" or better in six credit hours of history] or written consent of department head.
- HIST 3760 Problems in United States History (A) Cr. Hrs. 3 0.0  
 The subject matter of this course will be announced each year. Consult the History department. Students may not hold credit for both HIST 3760 and HIST 3761. Prerequisite: [a grade of "C" or better in six credit hours of history] or written consent of department head. The course content may vary. Students can earn multiple credits for this course only when the topic subtitle is different.
- HIST 4010 Imperialism, Decolonization and Neo-Colonialism, 1700 to the Present (M) 0.0  
 Cr. Hrs. 6  
 Studies in the theories and practise of imperialism from an historical perspective. Prerequisite: written consent of department head.
- HIST 4070 Issues in Modern Asian History 1: Selected Topics (B) Cr. Hrs. 3 0.0  
 The content of this course will vary. Emphasis will be on analysis of important issues and recent developments in the history and historiography of modern Asia. Consult the History Department for particulars. Prerequisite: written consent of department head. The course content may vary. Students can earn multiple credits for this course only when the topic subtitle is different.

HIST 4100 Studies in United States History Since 1877 (A) Cr. Hrs. 6 0.0  
An examination of United States history from the close of the Reconstruction era to the present. Students will gain exposure to the political, economic, social and/or cultural history of the United States. Course content may vary according to the instructor. Prerequisite: written consent of department head.

HIST 4960 Studies in European History (E) Cr. Hrs. 6 0.0  
A seminar course whose content will vary from year to year. Students can earn multiple credits for this course only when the topic subtitle is different. Prerequisite: written consent of department head.

### Icelandic Language and Literature

Modifications:

ICEL 1200 Introduction to Icelandic Cr. Hrs. 6 0  
(Lab required) Language of instruction: English. Intended for students with little or no previous knowledge of Icelandic. Emphasis will be placed on functional spoken and written comprehension and communication, with some basic Icelandic grammar. Pronunciation and conversation skills are developed in weekly language laboratory sessions. May not be held with the former ICEL 1240. Not open to students with native oral fluency.

ICEL 2200 Intermediate Icelandic 1 Cr. Hrs. 6 0.0  
Languages of instruction: English and Icelandic. Emphasis on expanding the vocabulary and knowledge of more complex grammatical structures. Students develop their spoken and written comprehension and communication through conversational practice, oral presentations, watching films and television shows, studying fictional as well as non-fictional texts and writing short papers in Icelandic. May not be held with the former ICEL 2240. Prerequisite: ICEL 1200 or the former ICEL 1240, or written consent of instructor.

ICEL 3200 Intermediate Icelandic 2 Cr. Hrs. 6 0.0  
Language of instruction: Icelandic. Emphasis on advanced syntax and grammar, word formation, and the use of idiomatic phrases. Reading of selected fictional and non-fictional texts, spoken and written discussion, translation exercises, oral presentations and written composition. May not be held with the former ICEL 3230. Prerequisite: ICEL 2200 or the former ICEL 2240, or written consent of instructor. Pre- or corequisite: LING 1000 or LING 1440 or the former LING 1200 or the former ENGL 2470 or written consent of instructor.

**NET CHANGE IN CREDIT HOURS: 0.0**

### Judaic Studies

Program modification:

Modifications to the following programs are detailed on the next 2 pages:

- **Minor (Concentration) in Judaic Studies**

## Judaic Studies

- Modification to the List of courses available for use to satisfy the requirements of the Minor (Concentration) in Judaic Studies

### Added Material

### ~~Deleted Material~~

## List A

### Courses Acceptable for Judaic Studies Credit

With written consent of the program coordinator courses not on this list may be taken for credit if they include sufficient Judaic Studies content.

Course No.

Credit Hours

#### Anthropology

ANTH 2650	Archaeology of the Ancient Near East	3
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#### Classics

CLAS 3260	Hellenistic Civilization: History and Archaeology	3
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GRK 2810	Prose Writings of the Hellenistic and Greco-Roman Periods	3
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#### German and Slavic Studies

GRMN 3260	Representations of the Holocaust (B)	3
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GRMN 3262	Representations of the Holocaust in English Translation (C)	3
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UKRN 2820	Holodomor and Holocaust in Ukrainian Literature and Culture	3
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#### History

HIST 2240	History of Antisemitism and the Holocaust (E)	6
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HIST 2250	Social History of the Jews: Antiquity to Present (G)	6
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HIST 3062	German and German-Jewish History, 1618 to the Present (E)	6
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<del>HIST 3064</del>	<del>German and German-Jewish History, 1618-1900 (E)</del>	<del>3</del>
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<del>HIST 3066</del>	<del>German and German-Jewish History, 1900 to the Present (E)</del>	<del>3</del>
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HIST 4500	Jewish and European History and Historiography (E)	6
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#### Political Studies

POLS 3340	Middle East Politics	3
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POLS 3342	Arab-Israeli Conflict	3
Religion		
RLGN 1120	Biblical Hebrew	6
RLGN 1390	Readings in Biblical Hebrew 1	3
RLGN 1400	Readings in Biblical Hebrew 2	3
RLGN 2140	Introduction to Judaism	3
RLGN 2160	Hebrew Bible (Tanakh / "Old Testament")	3
RLGN 2162	Great Jewish Books	3
RLGN 2770	Contemporary Judaism	3
RLGN 3280	Hasidism	3
RLGN 3400	Zionism: Religious Perspectives	3
RLGN 3800	Selected Old Testament Literature and Themes	6
RLGN 3810	The Talmud	3
RLGN 3824	Kabbalah	3
RLGN 3830	The Bible as Story	3
RLGN 4300	Advanced Topics in Judaism	3

## Labour Studies

### Modifications:

LABR 3700 History of Working People and Labour Movements 1700 to the Present 0.0  
Cr. Hrs. 6

A survey of working class history with emphasis upon the varieties of labour movements and trade unions. The course will refer to the social and political experience of working people in Great Britain, Europe and the United States and will devote one term to Canadian topics. May not be held with the former HIST 3700. Prerequisite: [a grade of "C" or better in six credit hours of Labour Studies or History] or written consent of the Labour Studies coordinator.

LABR 4510 Labour Studies Field Placement Seminar Cr. Hrs. 3 0.0

A seminar to be taken concurrently with LABR 4520 in which each student will relate theory and practice. This course is also offered as ECON 4610 and GPE 4510. Students may not hold credit for LABR 4510 and either ECON 4610 or GPE 4510. Intended for students in the Labour Studies Advanced Major. Prerequisite: written consent of the Labour Studies coordinator. Corequisite: LABR 4520.

LABR 4520 Labour Studies Field Placement Cr. Hrs. 6 0.0

An educationally directed field experience in which the student will undertake specific tasks and assignments in some aspects of labour relations. Field placement options include a labour union, professional association, employer, provincial department of labour, public archives. This course is also offered as ECON 4620 and GPE 4520. Students may not hold credit for LABR 4520 and either ECON 4620 or GPE 4520. Intended for students in the Labour Studies Advanced Major. Prerequisite: written consent of the Labour Studies coordinator. Corequisite: LABR 4510.

### **NET CHANGE IN CREDIT HOURS: 0.0**

### Program modifications:

Modifications to the following programs are detailed on the next 3 pages:

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

## Labour Studies

- Proposal to modify BA General Major and Single Advanced Major as a result of proposals submitted by the Departments of History, and Sociology and Criminology.

### Added Material

### ~~Deleted Material~~

### 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.

### Faculty of Arts

#### Anthropology

ANTH 2510 Anthropology of Economic Systems 3

ANTH 3750 Anthropological Perspectives on Globalization and the World-System 3

#### Economics

ECON 2350 Community Economic Development 3

ECON 2362 Economics of Gender 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 3362 Labour Economics 1 3

ECON 3364 Labour Economics 2 3

#### History

HIST 2200 Labour History: Canada and Beyond (C) (same as LABR 2200) 3

HIST 2282 Inventing Canada (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 2732 Modern World History, 1945-1992: The Age of Three Worlds 3

HIST 2734 Modern World History, 1980-Present: New World Order

HIST 2971 Le Canada moderne: de 1921 à nos jours (C) (USB) 6

~~HIST 3050 Canada since 1945 (C)~~ 6

HIST 3052 Canada Since the 1960s 3

HIST 3054 Canada and the United States 3

HIST 3210	<del>The History of Popular Radicalism in the Twentieth Century (M)</del>	<del>6</del>
HIST 3212	Global Sweatshops, Global Struggles (M)	3
HIST 3214	Canada's Left: Rebellion and Repression (C) (same as LABR 3214)	3
HIST 3572	The History of Women, Gender, and Sexuality in Canada (C)	6
HIST 3700	<del>History of Working People and Labour Movements 1700 to the Present (G)</del> <del>(same as LABR 3700)</del>	<del>6</del>
HIST 3730	A History of Western Canada (C)	6
HIST 3800	History of Winnipeg from 1870-2000 (C)	3
HIST 4890	Canadian Social History	6
Native Studies		
NATV 3170	Indigenous Peoples and Racism in Canada	3
Philosophy		
PHIL 2290	Ethics and Society	6
PHIL 2830	Business Ethics	3
Political Studies		
POLS 3470	Canadian Public Management	3
POLS 3810	Introduction to Marxism	3
POLS 3940	Canadian Public Policy	3
POLS 4370	Comparative Public Administration	3
Sociology		
<del>SOC 2290</del>	<del>Introduction to Research Methods</del>	<del>6</del>
<u>SOC 2292</u>	<u>Understanding Social Research</u>	<u>3</u>
<u>SOC 2294</u>	<u>Understanding Social Statistics</u>	<u>3</u>
SOC 3371	Sociologie du travail (USB)	3
SOC 3380	Power, Politics and the Welfare State	3
SOC 3471	Sociologie politique (USB)	3
SOC 3820	Qualitative and Historical Methods in Sociology	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 3100	Sex Work in Contemporary Canadian Culture	3
WOMN 3550	Feminist Community Organizing: Theories and Practices	3
<b>I.H. Asper School of Business (Faculty of Management)</b>		
Business Administration		
GMGT 2060	Management and Organizational Theory	3

GMGT 2070	Introduction to Organizational Behaviour	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	3
HRIR 4420	Compensation	3
HRIR 4480	Collective Bargaining and Administration	3
HRIR 4520	Comparative Industrial Relations and Human Resource Management	3

For course descriptions, see departmental listings.

Latin American Studies

Program modifications:

Modifications to the **Minor (Concentration) in Latin American Studies** are detailed on the next 2 pages.

## Latin American Studies Minor (Concentration)

- This program modification is being proposed in response to the deletion of HIST 3040 proposed by the Department of History

### Added Material

### ~~Deleted Material~~

#### **8.19.1 Program Information**

Through varied courses students may explore the cultural, political, historical, economic, and social structures and dynamics of Latin America. This interdisciplinary Minor includes courses from different departments and allows students to gain a deeper understanding of the subject field without being restricted to one discipline. Students are encouraged to participate in international exchange programs in Latin America which may also count toward the Minor.

A Minor (Concentration) in Latin American Studies consists of at least 18 credit hours from a **minimum of two different departments chosen from the following list.**

#### **Faculty of Arts**

##### Anthropology

ANTH 2690 Peoples and Cultures of Contemporary Latin America 3

##### French, Spanish and Italian

SPAN 2200 Spanish American Culture and Civilization 3

SPAN 2210 Voices and Images of Latin America 3

SPAN 2570 Special Studies (Acceptable for credit only when course content is on Latin American studies)<sup>1</sup> 3

SPAN 3080 Contemporary Latin American Novel 3

SPAN 3270 Special Studies (Acceptable for credit only when course content is on Latin American studies)<sup>1</sup> 3

SPAN 3300 Cinema and Literature 3

SPAN 3320 Testimony and Human Rights in Latin America 3

SPAN 3780 Short Fiction in Spanish 3

SPAN 3790 Latin American Cinema and Society 3

##### History

HIST 2140 Colonial Latin America (A) 3

HIST 2150 Independent Latin America (A) 3

HIST 2900 Topics in Social History (G) (Acceptable for credit only when course content is on Latin American studies)<sup>1</sup> 6

HIST 3020 South America Since 1945 (A) 3

~~HIST 3040 Mexico, Central America, and Cuba Since 1945 (A) 3~~

HIST 3110 Topics in History 1 (G) (Acceptable for credit only when course content is on Latin American studies)<sup>1</sup> 3

HIST 3740 Topics in Latin American History (A) 3

HIST 3750	Indigenous Peoples in Modern Latin America (A)	3
HIST 4000	Topics in History (G) (Acceptable for credit only when course content is on Latin American studies) <sup>1</sup>	3
HIST 4150	The Social History of the Latin American State (A)	6
HIST 4870	Contemporary Latin America (A)	6

**NOTE:**

<sup>1</sup>Written consent of program coordinator required to use course in the Minor (Concentration).

For entry to the Minor (Concentration) in Latin American Studies, the prerequisite is a grade of "C" or better in six credit hours from the approved list.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 3: Basic Faculty Regulations for the B.A. General, Advanced and Honours Degree Programs.

For course descriptions, see departmental listings.

## Linguistics

### Deletions:

LING 1200 Introduction to Linguistics Cr. Hrs. 6	-6.0
LING 1380 General Phonetics Cr. Hrs. 3	-3.0
LING 1420 Language and Gender Cr. Hrs. 3	-3.0
LING 2200 Syntax Cr. Hrs. 6	-6.0
LING 2420 Phonology Cr. Hrs. 3	-3.0
LING 2440 Analytic Techniques Cr. Hrs. 3	-3.0
LING 2460 Morphology Cr. Hrs. 3	-3.0
LING 2620 Language in Society Cr. Hrs. 3	-3.0
LING 2640 Comparative Linguistics Cr. Hrs. 3	-3.0
LING 2720 Applied Linguistics Cr. Hrs. 3	-3.0
LING 2830 Linguistic Anatomy and Physiology 1 Cr. Hrs. 3	-3.0
LING 2850 Linguistic Anatomy and Physiology 2 Cr. Hrs. 3	-3.0
LING 2880 Acoustic Phonetics Cr. Hrs. 3	-3.0
LING 3120 Syntactic Theory Cr. Hrs. 3	-3.0
LING 3140 Phonological Theory Cr. Hrs. 3	-3.0
LING 3200 The Structure of a non-Indoeuropean Language Cr. Hrs. 6	-6.0
LING 3300 The Structure of ASL Cr. Hrs. 6	-6.0
LING 3400 Field Methods Cr. Hrs. 6	-6.0
LING 3820 Special Topics Cr. Hrs. 3	-3.0
LING 3840 Special Topics in ASL Cr. Hrs. 3	-3.0
LING 3920 Special Studies Cr. Hrs. 3	-3.0

### Introductions:

LING 1000 Introduction to Linguistics Cr. Hrs. 3 +3.0  
Introduction to the scientific study of human language. Basic principles of sound systems, word structure, sentence structure, and meaning across the languages of the world. May not be held with the former LING 1200.

LING 1010 Language in Context Cr. Hrs. 3 +3.0  
Language as a communication system embedded in a particular geographical, historical, and social context. Psychological and neurological aspects of language. Acquisition of first and second languages. May not be held with the former LING 1200. Prerequisite: [a grade of "C" or better in LING 1000] or written consent of instructor.

LING 2100 Phonetics and Phonology Cr. Hrs. 3 +3.0  
Fundamentals of the linguistic study of speech sounds. Exercises in phonetic transcription and phonological analysis in a variety of languages. May not be held with the former LING 1380 or the former LING 2420. Prerequisite: [a grade of "C" or better in LING 1000 or the former LING 1200] or written consent of instructor.

LING 2210 Language and Gender Cr. Hrs. 3 +3.0  
An exploration of the multiple relationships between language and gender. How are gender differences manifested and perpetuated through language use? How are these differences acquired, and what do they reflect? How does gender interact with other factors such as class, sexual orientation, and ethnicity in language? May not be held with the former LING 1420.

- LING 2330 Historical Linguistics Cr. Hrs. 3 +3.0  
How languages change over time at all levels of linguistic structure. Methods for reconstructing earlier linguistic stages. Language families and linguistic prehistory. May not be held with the former LING 2640. Prerequisite: [a grade of "C" or better in LING 1010 or the former LING 1200] or written consent of instructor.
- LING 2340 Language Endangerment Cr. Hrs. 3 +3.0  
A survey of the causes and effects of language shift and language loss, as well as techniques for the documentation and revitalization of endangered languages. Students may not hold credit for both LING 2340 and the former LING 3820 when titled "Language Endangerment and Language Revitalization." Prerequisite: [a grade of "C" or better in LING 1000 or the former LING 1200] or written consent of instructor.
- LING 2400 Morphology and Syntax Cr. Hrs. 3 +3.0  
Fundamentals of the linguistic study of the structure of words and sentences. Exercises in morphological and syntactic analysis in a variety of languages. May not be held with the former LING 2200 or the former LING 2460. Prerequisite: [a grade of "C" or better in LING 1000 or the former LING 1200] or written consent of instructor.
- LING ~~2860~~ 2840 Anatomy of Speech Production Cr. Hrs. 3 3.0  
+ An intensive survey of the principal organs of speech and hearing, their embryology, and the general features of their evolutionary history. Some consideration will also be given to their pathological impairment. May not be held with the former LING 2830. Prerequisite: [a grade of "C" or better in LING 1000 or the former LING 1200] or written consent of instructor.
- LING 2870 Neuroanatomy of Hearing and Speech Cr. Hrs. 3 +3.0  
A survey of the structures of the central and peripheral nervous systems as they relate to the production and perception of speech and the processing of language. Includes a survey of linguistic aphasiology and a review of neurological deficits associated with abnormal language behaviour. May not be held with the former LING 2850. Prerequisite: [a grade of "C" or better in LING 1000 or the former LING 1200] or written consent of instructor.
- LING 3110 Phonological Analysis Cr. Hrs. 3 +3.0  
Key concepts in segmental and suprasegmental phonology. Emphasis on the development of skills in analysis and argumentation. Prerequisite: [a grade of "C" or better in LING 2100 or the former LING 2420] or written consent of instructor.
- LING 3130 Acoustic Phonetics Cr. Hrs. 3 +3.0  
The physical principles involved in the production, propagation and reception of sound. The subjective characteristics of sounds (loudness, pitch and quality) are related to their objective parameters (intensity, frequency and spectrum). The physical methods and the types of equipment used to analyze the basic physical properties of sounds will be demonstrated. May not be held with the former LING 2880. Prerequisite: [a grade of "C" or better in LING 2100 or the former LING 1380] or written consent of instructor.
- LING 3210 Sociolinguistics Cr. Hrs. 3 +3.0  
Study of the relationship between language and its social context. This course explores aspects of linguistic variation within and across speech communities, and considers language variation according to the socio-economic status, ethnicity, age, gender, and geographical distribution of its speakers. It will also cover other topics such as identity and ideology. May not be held with

the former LING 2620. Prerequisites: [a grade of "C" or better in both LING 1010 (or the former LING 1200) and LING 2210 (or the former LING 1420)] or written consent of instructor.

LING 3310 Structure of a Specific Language Cr. Hrs. 3 +3.0  
Every language has unique properties that deepen our overall understanding of linguistic structure. In this course, the phonology, morphology, and syntax of a specific language are systematically explored on the basis of field records and descriptions which have become classics. The language of study will vary from year to year. May not be held with the former LING 3200. Prerequisites: [a grade of "C" or better in each of LING 2100 (or the former LING 2420) and LING 2400 (or the former LING 2200)] or written consent of instructor.

LING 3320 Structure of an Algonquian Language Cr. Hrs. 3 +3.0  
Introduction to the linguistic analysis of the languages of the Algonquian family through the in-depth study of the structure of a particular Algonquian language. The language of study will vary from year to year. Students may not hold credit for LING 3320 and any of: NATV 3222 or NATV 3224 or the former NATV 2320 or the former LING 3200 or the former LING 3820 when titled "Structure of the Cree Language" or "Structure of the Ojibway Language." Prerequisites: [a grade of "C" or better in each of LING 2100 (or the former LING 2420) and LING 2400 (or the former LING 2200)] or written consent of instructor.

LING 3330 Structure of ASL Cr. Hrs. 3 +3.0  
An examination of ASL as a signed, as opposed to spoken, language. Topics include phonetic, phonological, morphological and syntactic structures. May not be held with the former LING 3300. Prerequisite: [a grade of "C" or better in LING 2400 or the former LING 2200] or written consent of instructor.

LING 3340 ASL in Context Cr. Hrs. 3 +3.0  
This course situates the structure and use of ASL in a broader context, drawing on perspectives from fields such as discourse analysis, cognitive linguistics, sociolinguistics, and language acquisition. May not be held with the former LING 3300. Prerequisite: [a grade of "C" or better in LING 1000 or the former LING 1200] or written consent of instructor.

LING 3410 Syntactic Analysis Cr. Hrs. 3 +3.0  
An exploration of problems in the structure of phrases and clauses, including typological variation and connections with morphology and semantics. Emphasis on the development of skills in analysis and argumentation. Prerequisite: [a grade of "C" or better in LING 2400 or the former LING 2200 or the former LING 2460] or written consent of instructor.

LING 3880 Second Language Acquisition Cr. Hrs. 3 +3.0  
Theories, methods, and findings concerning the various aspects of learning a second language. Examination of variables that impact second language acquisition and development. May not be held with the former LING 2720. Prerequisite: [a grade of "C" or better in LING 1010 or the former LING 1200] or written consent of instructor.

LING 4110 Phonological Theory Cr. Hrs. 3 +3.0  
Contemporary approaches to the study of sound systems are introduced through the examination of selected phonological issues drawn from the primary research literature. May not be held with the former LING 3140. Prerequisite: [a grade of "C+" or better in LING 3110 or the former LING 2420] or written consent of instructor.

LING 4210 Language Variation and Change Cr. Hrs. 3 +3.0  
The field of variationist sociolinguistics is introduced through a survey of the primary research literature and practical experience in methods of data collection and analysis. Prerequisite: [a grade of "C+" or better in LING 3210 or the former LING 2620] or written consent of instructor.

LING 4410 Syntactic Theory Cr. Hrs. 3 +3.0  
The goals and tenets of contemporary syntactic theory are introduced through the examination of selected syntactic issues drawn from the primary research literature. May not be held with the former LING 3120. Prerequisite: [a grade of "C+" or better in LING 3410 or the former LING 2200] or written consent of instructor.

LING 4920 Topics in Linguistics Cr. Hrs. 3 +3.0  
Topics of current interest in linguistics. Prerequisite: written consent of instructor. The course content may vary. Students can earn multiple credits for this course only when the topic subtitle is different.

LING 4930 Topics in ASL Cr. Hrs. 3 +3.0  
Topics of current interest in ASL linguistics. Prerequisite: written consent of instructor. The course content may vary. Students can earn multiple credits for this course only when the topic subtitle is different.

LING 4940 Special Studies Cr. Hrs. 3 +3.0  
Supervised study on a topic in linguistics. Prerequisite: written consent of instructor. The course content may vary. Students can earn multiple credits for this course only when the topic subtitle is different.

#### **NET CHANGE IN CREDIT HOURS: -6.0**

#### Modifications:

LING 1440 Descriptive Grammar of Modern English Cr. Hrs. 3 0.0  
What are the criteria that are used to distinguish "good" from "bad" grammar? What are the rules we need to know in order to speak and write "properly"? In focusing on basic concepts in traditional grammar, this course reviews parts of speech, the English tense system, sentence types (e.g., active vs. passive), question formation and types of embedded clauses. It examines the rules of traditional grammar and explores the linguistic structures that lie behind the rules. This course is not intended for students learning English; it presupposes native or near-native competence in English. Not open to students who are currently enrolled in, or have previously obtained credit in LING 2400 or the former LING 2200.

LING 2202 Multilingualism Cr. Hrs. 3 0.0  
Study of various aspects of multilingualism from a sociolinguistic perspective. The course will introduce concepts such as bilingualism, diglossia, pidgins and creoles, code-switching, language maintenance, language loss and language shift, language policy and planning, language revitalization, and linguistic landscape. Prerequisite: [a grade of "C" or better in LING 1010 or the former LING 1200] or written consent of instructor.

LING 2500 Semantics and Pragmatics Cr. Hrs. 3 0.0

This course introduces students to basic theories of semantics and pragmatics, with application to the analysis of linguistic data. Topics covered include sense vs. reference, lexical relations, presupposition and topicality, participant roles, information structure, speech acts, metaphor, and metonymy. Prerequisite: [a grade of "C" or better in LING 1000 or the former LING 1200] or written consent of instructor.

LING 2600 Verbal Art Cr. Hrs. 3 0.0

Puns, punchlines, slogans and the chant of the auctioneer are as much instances of verbal art as are rhetorical flourishes and formal literary structures. With spoken language as its major focus, this course draws on a variety of languages, sources and genres to study artistic and playful uses of language.

LING 2800 Communication Disorders Cr. Hrs. 3 0.0

A general introduction to the major pathologies of speech, language and hearing as viewed against the background of normal linguistic structures and functions. The distinction between mechanically- and neurologically-based disorders is illustrated in terms of aetiology, diagnosis and approaches to treatment. Prerequisite: [a grade of "C" or better in LING 1000 or the former LING 1200] or written consent of instructor.

LING 3860 Child Language Development Cr. Hrs. 3 0.0

The study of first language acquisition from infancy through childhood. Aspects of phonology, morphology, pragmatics and syntax acquisition are discussed, as well as formal theories of acquisition, second language and bilingual acquisition, atypical development and the relationship of language acquisition with literacy. Also offered as PSYC 3860. Students may not hold credit for LING 3860 and any of: PSYC 3860 or the former LING 2860 or the former PSYC 2860. Prerequisite: [a grade of "C" or better in 9 credit hours of Linguistics courses] or [a grade of "C" or better in PSYC 2290 or PSYC 2291] or written consent of department head.

LING 4300 Field Methods Cr. Hrs. 3 0.0

Working with a speaker of an unfamiliar (and, usually, unrecorded) language, students are apprenticed in the collection, analysis, and interpretation of raw data. May not be held with the former LING 3400. Prerequisites: [a grade of "C+" or better in both LING 3110 (or the former LING 2420) and LING 3410 (or the former LING 2200)] or written consent of instructor.

Program modifications:

Modifications to the following programs are detailed on the next 6 pages:

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

# Linguistics Program charts and descriptions for Academic Calendar

Added material

~~Deleted material~~

## 8.20.1 Program Information

The linguistics approach to language is based on the analysis of sound, the structure of words and sentences, and the meanings they transmit. But it also has to deal with the way sounds change, words come and go, and meanings shift. Linguistics is the humanities discipline that is closest to being a science in the generally accepted sense of the word. Partly because human language, the subject of linguistics, is almost entirely acquired subconsciously, it is a massive and intricate structure that is free to develop in accordance with natural rather than with consciously determined social laws.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 3: Basic Faculty Regulations for the B.A. General, Advanced and Honours Degree Programs.

### Major Program

For entry to the Major, the prerequisite is a grade of “C” or better in LING 1010 or the former LING 1200 or written consent of the department head. For students who have taken additional courses toward the Major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

### Minor (Concentration) Program

For entry to the Minor (Concentration), the prerequisite is a grade of “C” or better in LING 1010 or the former LING 1200, or written consent of the department head.

### Other

In addition to its core concentration in Linguistic Theory and Analysis and such other areas of study as Applied Linguistics, Verbal Arts, etc., Linguistics also offers:

A pre-professional concentration in Applied Linguistic Science, which will be of special interest to students planning a career in speech/language pathology; contact department general office for information; and

A program in American Sign Language/English Interpretation, is offered jointly with Red River College; see below for details. This program is currently undergoing revisions; interested students should contact the department general office for information.

Students intending to Major in Linguistics are strongly encouraged to undertake the in-depth study of a second language.

### 8.20.2 Linguistics

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>GENERAL MAJOR TOTAL: 30 CREDIT HOURS</b>			
LING 1200 <sup>±</sup>	<ul style="list-style-type: none"> <li>• <u>at least 9 credit hours chosen from the core courses<sup>2</sup> numbered at the 2000 level</u></li> <li>• <u>at least 6 credit hours chosen from the core courses<sup>2</sup> numbered at the 3000 level</u></li> <li>• <u>9 additional credit hours of Linguistics (LING)</u></li> </ul>		
<u>LING 1000, LING 1010</u>	<ul style="list-style-type: none"> <li>• <u>LING 2100</u></li> <li>• <u>LING 2400</u></li> <li>• <u>3 credit hours in Linguistics courses numbered at or above the 1000 level</u></li> <li>• <u>9 credit hours in Linguistics courses numbered at or above the 2000 level</u></li> </ul>	<ul style="list-style-type: none"> <li>• <u>6 credit hours in Linguistics courses numbered at or above the 3000 level</u></li> </ul>	
<b>SINGLE ADVANCED MAJOR TOTAL: 48 CREDIT HOURS</b>			
LING 1200 <sup>±</sup>	<ul style="list-style-type: none"> <li>• <u>at least 12 credit hours chosen from the core courses<sup>2</sup> numbered at the 2000 level</u></li> <li>• <u>LING 3200 or LING 3300 or LING 3400</u></li> <li>• <u>LING 3120 or LING 3140</u></li> <li>• <u>3 additional credit hours chosen from the core courses<sup>2</sup> numbered at the 3000 level</u></li> <li>• <u>18 additional credit hours of Linguistics (LING)</u></li> </ul>		
<u>LING 1000, LING 1010</u>	<ul style="list-style-type: none"> <li>• <u>LING 2100</u></li> <li>• <u>LING 2400</u></li> <li>• <u>3 credit hours in Linguistics courses numbered at or above the 1000 level</u></li> <li>• <u>12 credit hours in Linguistics courses numbered at or above the 2000 level</u></li> </ul>	<ul style="list-style-type: none"> <li>• <u>15 credit hours in Linguistics courses numbered at or above the 3000 level</u></li> </ul>	<ul style="list-style-type: none"> <li>• <u>6 credit hours in Linguistics courses numbered at the 4000 level</u></li> </ul>
<b>DOUBLE ADVANCED MAJOR TOTAL: 42 CREDIT HOURS</b>			
LING 1200 <sup>±</sup>	<ul style="list-style-type: none"> <li>• <u>at least 12 credit hours chosen from the core courses<sup>2</sup> numbered at the 2000 level</u></li> <li>• <u>LING 3200 or LING 3300 or LING 3400</u></li> <li>• <u>LING 3120 or LING 3140</u></li> <li>• <u>3 additional credit hours chosen from the core courses<sup>2</sup> numbered at the 3000 level</u></li> <li>• <u>12 additional credit hours of Linguistics (LING)</u></li> </ul>		
<u>LING 1000, LING 1010</u>	<ul style="list-style-type: none"> <li>• <u>LING 2100</u></li> <li>• <u>LING 2400</u></li> <li>• <u>3 credit hours in Linguistics courses numbered at or above the 1000 level</u></li> <li>• <u>9 credit hours in Linguistics courses numbered at or above the 2000 level</u></li> </ul>	<ul style="list-style-type: none"> <li>• <u>12 credit hours in Linguistics courses numbered at or above the 3000 level</u></li> </ul>	<ul style="list-style-type: none"> <li>• <u>6 credit hours in Linguistics courses numbered at the 4000 level</u></li> </ul>

<b>MINOR (CONCENTRATION) TOTAL: 18 CREDIT HOURS</b>		
LING 1200 <sup>1</sup> LING 1000, LING 1010	<ul style="list-style-type: none"> <li>• at least 6 credit hours chosen from the core courses<sup>2</sup> numbered at or above the 2000 level</li> <li>• 6 additional credit hours of Linguistics (LING)</li> <li>• 12 credit hours in Linguistics courses numbered at or above the 2000 level</li> </ul>	
<p><b>NOTES:</b></p> <p><sup>1</sup> Students are advised to take LING 1380 General Phonetics as early as possible in their program (ideally during their first year, in addition to LING 1200 Introduction to Linguistics) as this course is a prerequisite for many of the advanced courses.</p> <p><sup>2</sup> Not all of the core courses listed below will necessarily be offered every year; this includes even those at the 2000 level which are prerequisites for courses at the 3000 level. Students intending to Major in Linguistics are advised to plan their programs well in advance, and to consult the Linguistics department at the beginning of each academic year.</p>		

Core Courses	Description	Credit Hours
LING 2200	Syntax	6
LING 2420	Phonology	3
LING 2440	Analytic Techniques	3
LING 2460	Morphology	3
LING 2640	Comparative Linguistics	3
LING 3120	Syntactic Theory	3
LING 3140	Phonological Theory	3
LING 3200	The Structure of a Non-Indoeuropean Language	6
LING 3300	The Structure of ASL	6
LING 3400	Field Methods	6
LING 3820	Selected Topics	3
LING 3840	Special Topics in ASL	3

Program in Linguistics and American Sign Language/English Interpretation taught jointly with Red River College leading to a B.A. General Degree

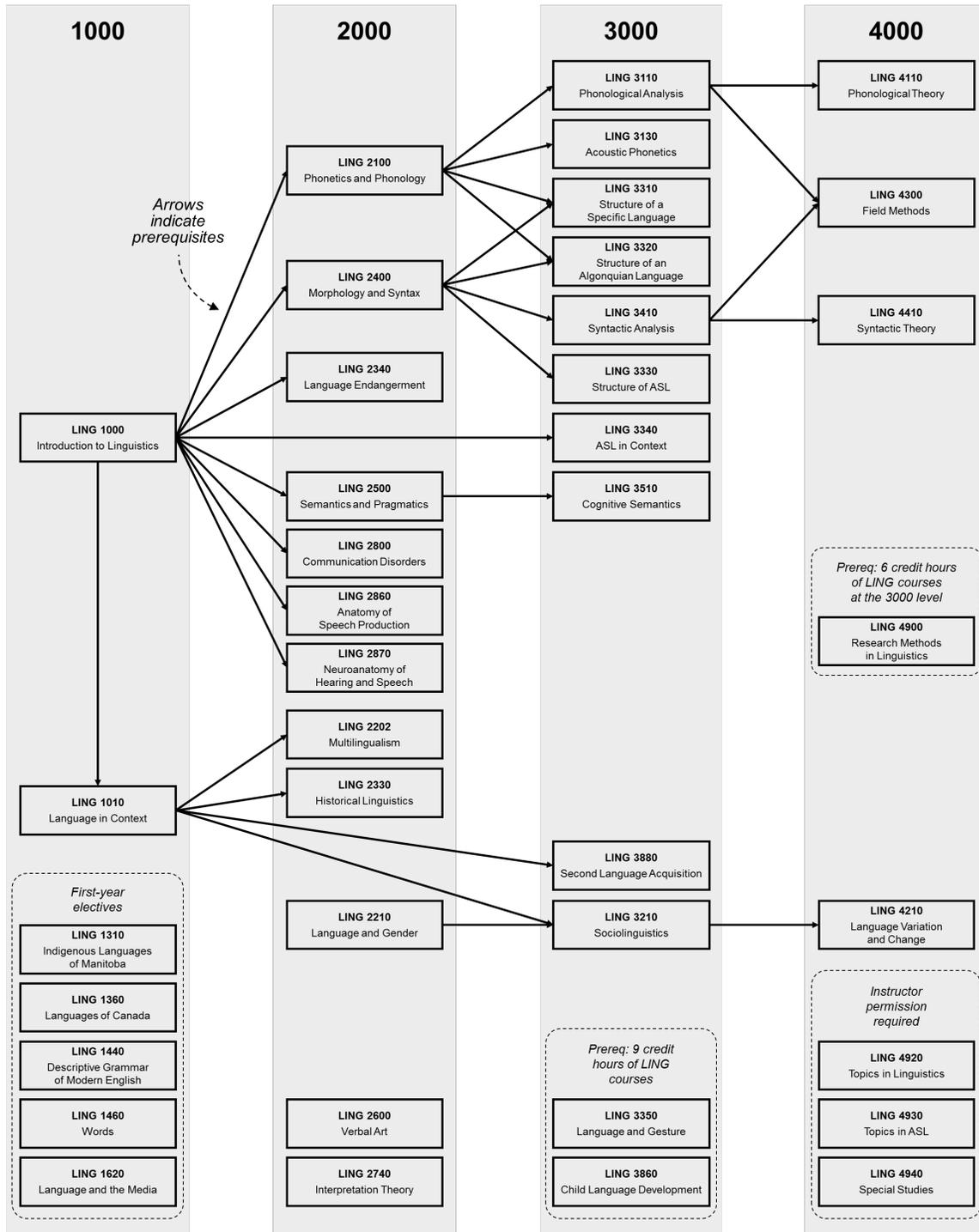
Students who wish to pursue this program must seek separate admission to both the University of Manitoba and Red River College. As this program is currently undergoing revisions, interested students should contact the Department of Linguistics for further information.

*[no changes to existing calendar content after this point]*

# Transition plan

The new curriculum is proposed to begin in Fall 2021. Redundant existing courses are proposed to be deleted at the same time. The diagram below illustrates the complete set of undergraduate LING courses after the proposed deletions and introductions. Arrows between courses indicate prerequisites.

**Proposed undergraduate Linguistics curriculum**



Note that the course offerings at the 1000 level include several courses that do not serve as prerequisites for subsequent LING courses (LING 1310, 1360, 1440, 1460, 1620). All of these courses already exist; they are not part of the proposed changes to the program. These courses focus on specific language-related topics that are of general interest but are not core subfields of linguistics. They function as elective courses for students in various programs as well as a recruitment tool for the core Linguistics program.

**Pathways to completion for continuing students.** As the proposed new program requirements are more flexible than the existing requirements, we anticipate that most continuing students will complete their programs under the new requirements. In that case, the following substitutions can be made:

<b>New requirement</b>	<b>Accommodation for former courses</b>
LING 1000 and LING 1010	The former LING 1200 can be used in place of LING 1000 and LING 1010
Credit hours at the 1000 level	Can be satisfied by any current or former 1000-level LING courses
Credit hours at the 2000 level	Can be satisfied by any current or former 2000-level LING courses, as well as the former LING 1380
Credit hours at the 3000 level	Can be satisfied by any current or former 3000-level LING courses, as well as the former LING 2200, LING 2420, LING 2620, LING 2720, and LING 2880
Credit hours at the 4000 level	Can be satisfied by any current 4000-level LING courses, as well as the former LING 3120, LING 3140, LING 3400, LING 3820, LING 3840, and LING 3920
Must complete LING 2100	This requirement shall be deemed to be satisfied if the student has completed either the former LING 1380 or the former LING 2420
Must complete LING 2400	This requirement shall be deemed to be satisfied if the student has completed either the former LING 2200 or the former LING 2460

For continuing students who need to complete their program under the existing requirements, the following substitutions can be made:

<b>Existing requirement</b>	<b>Accommodation for new courses</b>
Core courses numbered at the 2000 level	Can be satisfied by the former core courses (LING 2200, LING 2420, LING 2440, LING 2460, LING 2640) and also by LING 2330, LING 3110, and LING 3410
Core courses numbered at the 3000 level	Can be satisfied by the former core courses (LING 3120, LING 3140, LING 3200, LING 3300, LING 3400, LING 3820, LING 3840) and also by LING 3310, LING 3320, LING 3330, LING 3340, and any 4000-level LING courses
One of LING 3200, 3300, 3400 (each 6ch)	Can also be satisfied by any six credit hours from LING 3310, LING 3320, LING 3330, LING 3340, or LING 4300
One of LING 3120 or 3140	Can also be satisfied by either LING 4110 or LING 4410

For continuing students in the joint program in Linguistics (U of M) and ASL/English Interpretation (RRC), the following substitutions can be made:

<b>Existing requirement</b>	<b>New courses to be taken as substitute</b>
LING 2200 (6ch)	Both LING 2400 (3ch) and LING 2500 (3ch)
LING 2460 (3ch)	Any one of LING 3350, LING 3410, LING 3510 (each 3ch)

LING 3300 (6ch)	Both LING 3330 (3ch) and LING 3340 (3ch)
LING 3840 (3ch)	LING 4930 (3ch)

**Dissemination.** Upon approval of the changes, a guide to the new curriculum and program requirements, based on the material above, will be circulated to Linguistics majors and minors and Arts academic advisors. In addition, one or more in-person or online question-and-answer sessions will be held.

### **Consultation with other units**

The proposed changes affect the following units:

- Icelandic (deletion of LING 1200)
- Native Studies (introduction of LING 3320)
- RIC List (introduction of LING 1000 and LING 1010)

Statements of support from these units are attached to the forms for the relevant courses.

### **Resource implications**

There are no additional costs, workload, or supplies associated with the proposed changes. The proposed revisions to the curriculum affect the sequencing and prioritization of course content, but there is no change to the overall footprint of the Linguistics programs. The total number of credit hours on the books will not increase, nor will the number of credit hours that are taught per semester.

## Medieval and Early Modern Studies

Program modifications:

Modifications to the following programs are listed 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

- General Major, Single Advanced Major, Minor (Concentration)
- This proposed change to the Group 1 listing is in direct response to the History Department's proposed deletion of several courses found on the Medieval and Early Modern Studies *Group 1: History, Philosophy and Religions* list.

### Added Material

### ~~Deleted Material~~

## Section 8.21.1

### 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.

#### 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 2180	The History of Catholicism to 1540 (G)	3
<del>HIST 2930</del>	<del>The History of the British Isles, 412-1485 (D)</del>	<del>6</del>
<del>HIST 3136</del>	<del>History of Medieval Italy, 568-1300 (D)</del>	<del>3</del>
HIST 3138	History of Medieval Italy, 1300-1500 (D)	3
<del>HIST 3140</del>	<del>Medieval Italy (D)</del>	<del>6</del>
<del>HIST 3480</del>	<del>The Margins of the Middle Ages (D)</del>	<del>3</del>
HIST 3550	Popular Culture, Crime and Punishment in England, 1550-1850 (E)	3
<del>HIST 3880</del>	<del>Europe in Transition: 1348-1648 (E)</del>	<del>6</del>
HIST 4040	The Later Middle Ages (D)	6
HIST 4050	England in the Long Eighteenth Century (E)	6

#### Religion

RLGN 2114	Monks, Mystics and Manuscripts in Medieval Christianity	3
RLGN 3194	Islamic Philosophy	3
RLGN 3230	Gender, the Body, and Sexuality in Early Christianity	3
RLGN 3824	Kabbalah	3
RLGN 4282	Advanced Studies in Medieval Christianity	3

## Native Studies

### Deletions:

NATV 1290 Introductory Inuktitut Cr. Hrs. 3	-3.0
NATV 3130 International Indigenous Literatures Cr. Hrs. 3	-3.0
NATV 3340 Circumpolar Cultures and Lifestyles Cr. Hrs. 3	-3.0
NATV 3390 Cultural Continuity and Change in Cumberland Sound Cr. Hrs. 3	-3.0

### Introductions:

NATV 1310 Introductory Anishinaabemowin (Ojibwe) Immersion Cr. Hrs. 3 +3.0  
Practical course intended for beginner level students who have no knowledge of Anishinaabemowin (Ojibwe). This course uses immersion methodologies, so very little English is used in the instruction. Emphasis will be on oral work for the purpose of learning very basic communication skills in Ojibwe. Regular attendance and active participation are obligatory.

NATV 1320 Anishinaabemowin (Ojibwe) Literacy for Fluent Speakers Cr. Hrs. 3 +3.0  
Practical course intended for students who are fluent Anishinaabemowin speakers that are not literate in Ojibwe. Emphasis will be on reading and in writing in the Double Vowel Ojibwe Orthography. Regular attendance and active participation are obligatory. Prerequisite: written consent of instructor or department head.

NATV 2276 Intermediate Anishinaabemowin (Ojibwe) Immersion Cr. Hrs.3 +3.0  
Practical course intended for students who are not yet fully proficient in Anishinaabemowin (Ojibwe). Emphasis will be on oral work for the purpose of improving fluency. This course will use immersion methods and so all instruction will be in Ojibwe. Regular attendance and active participation are obligatory. Prerequisite: a grade of "C" or better in NATV 1280 or NATV 1310 or written consent of instructor.

NATV 3180 Advanced Anishinaabemowin (Ojibwe) 1 Cr. Hrs. 3 +3.0  
Continuation of NATV 2274 Intermediate Anishinaabemowin (Ojibwe) 2. Students will learn advanced verb forms, new vocabulary, and to speak, read and write Anishinaabemowin. Prerequisite: a grade of "C" or better in NATV 2274 or written consent of the instructor or department head.

NATV 3190 Advanced Anishinaabemowin (Ojibwe) 2 Cr. Hrs. 3 +3.0  
Continuation of NATV 3180 Advanced Anishinaabemowin (Ojibwe) 1. Students will learn advanced verb forms, new vocabulary, and to speak, read and write Anishinaabemowin. Prerequisite: a grade of "C" or better in NATV 3180 or written consent of the instructor or department head.

NATV 4100 Seminar in Advanced Anishinaabemowin (Ojibwe) Language Studies Cr. Hrs. 3+3.0  
This course will further investigate the grammar of the language. Various types of stories in different dialects will be used to illustrate the complexities of Anishinaabemowin. The students will translate English stories into Anishinaabemowin and engage in writing the language. The students will also learn to transcribe oral stories in Anishinaabemowin and translate them. Prerequisite: a grade of "C" or better in NATV 3190 or written consent of the instructor or department head.

NATV 4110 Algonquin Creative Writing Cr. Hrs. 3 +3.0  
This course is intended for students who are fluent and literate in Ojibwe, Cree or Ojicree or have taken Intermediate or Advanced level Ojibwe. Emphasis will be on learning the principles of storytelling, writing compositions in an Algonquian language and editing. Prerequisites: a grade of C or better in NATV 3190 or written consent of the instructor or department head.

**NET CHANGE IN CREDIT HOURS: +9.0**

Modifications:

NATV 3222 Structure of Anishinaabemowin (Ojibwe) Language Cr. Hrs. 3 0.0  
A detailed structural analysis of Anishinaabe (Ojibwe) with special attention to the problem of dialect variation and to the contrastive analysis of Anishinaabemowin and English. Students may not hold credit for both NATV 3222 and any of: NATV 3224, LING 3320, or the former NATV 2330. Prerequisite: [a grade of "C" or better in both NATV 2272 and NATV 2274] or [a grade of "C" or better in the former NATV 2270] or written consent of department head.

NATV 3224 Structure of the Cree Language Cr. Hrs. 3 0.0  
A detailed structural analysis of Cree with special attention to the problem of dialect variation and to the contrastive analysis of Cree and English. Students may not hold credit for both NATV 3224 and any of: the former NATV 2320, NATV 3222, or LING 3320. Prerequisite: [a grade of "C" or better in NATV 2250] or written consent of department head.

Program modifications:

Modifications to the programs listed below are outlined on the next 6 pages:

- **Bachelor of Arts (General Major) in Native Studies, Option 1**
- **Bachelor of Arts (General Major) in Native Studies, Anishinaabemowin (Ojibwe) Language Focus (Option 2)**
- **Bachelor of Arts (Single Advanced Major)**
- **Bachelor of Arts (Single Advanced Major), Aboriginal Governance Stream**
- **Bachelor of Arts (Double Advanced Major) in Native Studies (*new*)**
- **Minor (Concentration) in Indigenous Languages, Options 1 and 2**

## **Native Studies**

- Changes to: Preamble wording; BA General Major; BA General (Ojibwe Focus); Double Advanced Major option introduced; Single Advanced Major Aboriginal Governance Stream.

### Added Material

### ~~Deleted Material~~

## **8.22.1 Program Information**

Courses in this department examine the history, art, literature, governance, languages, and the philosophical and religious traditions of Canada's original inhabitants. Other courses explore ~~Canadian~~ North American legal, political, and health care systems in relation to Indigenous (First Nations, Metis, and Inuit) people. Indigenous and non-Indigenous students may specialize in either Native studies or Indigenous languages, Anishinaabemowin (Ojibwe) and Cree.

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 3: Basic Faculty Regulations for the B.A. General, Advanced and Honours Degree Programs.

## **Major Program**

For entry to the Major, the prerequisite is a grade of "C" or better in NATV 1200 or "C" or better in both NATV 1220 and NATV 1240. For students who have taken additional courses toward the Major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

## **Anishinaabemowin (Ojibwe) and Cree Language Focus Areas (General Major Degree only)**

Students may elect to take courses that, in combination, make up a focus area in either the Anishinaabemowin (Ojibwe) or Cree languages. The required courses for these focus areas will be completed as part of the General Major Degree requirements.

## **Minor (Concentration) Program**

### A) Native Studies

For entry to the Minor (Concentration), the prerequisite is a grade of "C" or better in one of NATV 1200 or "C" or better in both NATV 1220 and NATV 1240.

### B) Indigenous Languages

For entry to the Minor (Concentration), the prerequisite is a grade of "C" or better in both NATV 1250 and NATV 1260; or "C" or better in both NATV 1270 and NATV 1280; or "C" or better in NATV 2250, or both NATV 2272 and NATV 2274 (the former NATV 2270).

## Other

Students will be permitted to register for a Major in Native Studies and a Minor in Indigenous Languages. Students may not complete both a Major and Minor in Native Studies. Students Majoring in Native Studies (no language concentration) who choose to complete an Indigenous Language Minor will be required to complete 18 credit hours of Indigenous Language courses in addition to the six credit hours of Indigenous Language required in the General Major program.

Likewise, students may not complete both the General Major Degree with an Indigenous Language Focus [Anishinaabemowin (Ojibwe) / Cree] and an Indigenous Language Minor.

Before registering for approved cross-listed courses, students should consult the *Calendar* or the departments regarding prerequisites for specific courses.

### 8.22.2 Native Studies

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>NATIVE STUDIES GENERAL MAJOR (Option 1)<sup>2</sup> TOTAL: 30 CREDIT HOURS</b>			
NATV 1200 (6) or NATV1220 and NATV 1240	6 credit hours of Indigenous Language courses <sup>1</sup> offered by Native Studies  NATV 2530  9 credit hours of Native Studies at the 2000 level or above  6 credit hours in of Native Studies at the 3000 level or above		
<b>NATIVE STUDIES GENERAL MAJOR, Anishinaabemowin (Ojibwe) Language Focus (Option 2) TOTAL: 30 CREDIT HOURS</b>			
NATV 1200 (6) or NATV 1220 and NATV 1240	NATV 1270, NATV 1280  NATV 2272, NATV 2274  <del>NATV 3222, NATV 3300</del> <u>NATV 3180, NATV 3190</u>  NATV 2530  3 credit hours of Native Studies at the 3000 level or above		

**NATIVE STUDIES GENERAL MAJOR, Cree Language Focus (Option 3)**  
**TOTAL: 30 CREDIT HOURS**

NATV 1200 (6) or NATV 1220 and NATV 1240	NATV 1250, NATV 1260 NATV 2250 (6) NATV 3224, NATV 3300 NATV 2530 3 credit hours of Native Studies at the 3000 level or above	
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**NATIVE STUDIES SINGLE ADVANCED MAJOR TOTAL: 48 CREDIT HOURS**

NATV 1200 (6) or NATV 1220 and NATV 1240	12 credit hours in Native Studies numbered at the 2000 level or above <sup>3</sup> 6 credit hours of Indigenous Language courses <sup>1</sup> offered by Native Studies NATV 2530 12 credit hours of Native Studies at the 3000 level or above.	NATV 4230 or NATV 4290 6 credit hours in courses offered by Native Studies numbered at the 4000 level.
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**NATIVE STUDIES DOUBLE ADVANCED MAJOR TOTAL: 42 CREDIT HOURS**

<u>NATV 1200 (6)</u> <u>or</u> <u>NATV 1220 and</u> <u>NATV 1240</u>	<u>9 credit hours in Native Studies</u> <u>numbered at the 2000 level or above<sup>3</sup></u> <u>6 credit hours of Indigenous Language</u> <u>courses<sup>1</sup> offered by Native Studies</u> <u>NATV 2530</u> <u>9 credit hours of Native Studies at the</u> <u>3000 level or above.</u>	<u>NATV 4230</u> <u>or</u> <u>NATV 4290</u> <u>6 credit hours</u> <u>in courses</u> <u>offered by</u> <u>Native Studies</u> <u>numbered at</u> <u>the 4000 level.</u>
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**NATIVE STUDIES MINOR (CONCENTRATION) TOTAL: 18 CREDIT HOURS**

NATV 1200 (6) or NATV 1220 and NATV 1240	12 credit hours in courses offered by Native Studies numbered at the 2000 level or above <sup>3</sup>	
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<b>INDIGENOUS LANGUAGES MINOR (CONCENTRATION)<sup>6</sup> (OPTION 1) TOTAL: 18 CREDIT HOURS</b>			
NATV 1250 and NATV 1260  or  NATV 1270 and NATV 1280	NATV 2250 (6), or both NATV 2272 and NATV 2274	6 credit hours in Indigenous languages <sup>1</sup> , or 6 credit hours of approved courses in Native Studies <sup>4,5</sup>	
<b>INDIGENOUS LANGUAGES MINOR (CONCENTRATION)<sup>6</sup> (OPTION 2) TOTAL: 18 CREDIT HOURS</b>			
NATV 2250 or both NATV 2272 and NATV 2274	NATV 3222 or NATV 3224  NATV 3300	6 credit hours in Indigenous languages <sup>1</sup> or 6 credit hours of approved courses in Native Studies <sup>4,5</sup>	
<b>NOTES:</b>			
<p>1 The following courses count as Indigenous Language courses: NATV 1250, NATV 1260, NATV 1270, NATV 1280, <del>NATV 1290</del>, NATV 2250, NATV 2272, NATV 2274, NATV 2300, NATV 2310, <u>NATV 3180, NATV 3190</u>, NATV 3222, NATV 3224, and NATV 3300. Students may take a placement exam to place into advanced Indigenous Language courses.</p> <p>2 Students may substitute up to 12 credit hours from the list of approved courses in lieu of Native Studies but must have six credit hours in Native Studies or Indigenous Languages courses offered by Native Studies numbered at the 3000 level or above.</p> <p>3 Students may substitute up to six credit hours from the list of approved courses in lieu of Native Studies courses.</p> <p>4 No more than 12 credit hours may be taken from NATV 1200, NATV 1220, NATV 1240, NATV 1250, NATV 1260, NATV 1270, NATV 1280, NATV 2250, NATV 2272, NATV 2274.</p> <p>5 Six credit hours may be from related linguistics courses approved by the department.</p> <p>6 Students who wish to declare a Major or a Minor should consult with the department head.</p>			

### 8.22.3 Native Studies Aboriginal Governance Stream

Students interested in pursuing a Single Advanced Major in Aboriginal Governance are required to take a Minor in Business. The requirements for both are set out below. For course descriptions, including any prerequisites and/ or restrictions see the appropriate departmental listing in this *Calendar*. The conditions for entry, continuation and graduation requirements may be found in Section 3: Basic Faculty Regulations for the B.A. General, Advanced and Honours Degree Programs.

#### Major Program

For entry to the Advanced Major, Aboriginal Governance Stream, the prerequisite is a grade of "C" or better in NATV 1200 or a "C" or better in both NATV 1220 and NATV 1240.

For students who have taken additional courses toward the Major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

#### Minor Program

For entry to the required Minor in Business for students who wish the Aboriginal Governance Stream, the prerequisite is 6 credit hours from ACC 1100, GMGT 2060, HRIR 2440 or MKT 2210 with a grade of "C" or better in each.

For information on this program contact the Department of Native Studies.

### 8.22.4 Native Studies Aboriginal Governance Stream

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>NATIVE STUDIES SINGLE ADVANCED MAJOR - ABORIGINAL GOVERNANCE STREAM</b> TOTAL: 51 CREDIT HOURS			
NATV 1200 (6) or NATV1220 and NATV 1240	<ul style="list-style-type: none"> <li>• ECON 1010 or ECON 1210 or ECON 1220</li> <li>• NATV 2110, POLS 2702, POLS 2802, STAT 1000</li> <li>• 12 credit hours from Political Governance courses: NATV 2220, NATV 3310, NATV 3280, NATV 3370, NATV 4200, <del>POLS 4150</del> <u>POLS 3872</u></li> <li>• 12 credit hours from Aboriginal Business and Economics courses: NATV 3120, NATV 3160, NATV 3350, NATV 4320</li> <li>• 6 credit hours from Traditional Knowledge courses: NATV 2030, NATV 3330, NATV 4220, NATV 4230</li> </ul>		
<b>REQUIRED MINOR IN BUSINESS FOR THOSE STUDENTS IN A DECLARED ABORIGINAL GOVERNANCE STREAM<sup>1</sup></b> TOTAL: 18 CREDIT HOURS			
ACC 1100, GMGT 2060, HRIR 2440, MKT 2210	6 credit hours from: ACC 1110, ENTR 2010, ENTR 2020, GMGT 2010, GMGT 3300, LEAD 2010, FIN 2200, FIN 3470, HRIR 4410, MIS 2000		

**NOTE:**

1 Students must ensure that all course prerequisites are met when selecting courses for the Minor.

**List of Approved Courses in Native Studies**

Approved courses from other faculties/schools for partial fulfilment of the Major and Minor in Native Studies are given below

**School of Art**

FAAH 2090	Art of the North American Aboriginal Peoples	3
FAAH 3430	Inuit Art	3

**History Department**

HIST 1390	History of Colonial Canada: 1500-1885 (C)	3
HIST 1440	History of Canada (C)	6
<u>HIST 2010</u>	<u>Indigenous History in Canada (C)</u>	<u>3</u>
<del>HIST 2280</del>	<del>Aboriginal History of Canada</del>	<del>6</del>
HIST 4010	Imperialism, Decolonization, and Neo-Colonialism, 1700 to the Present (G,M)	6
HIST 4120	History of Aboriginal Rights (C)	6

## Political Studies

### Deletions:

POLS 4150 Indigenous Governance Cr. Hrs. 3 -3.0

### Introductions:

POLS 3872 Indigenous Governance Cr. Hrs. 3 +3.0

This course examines theories, debates and controversies related to the study and practices of Indigenous governance both inside and outside the state-centric system. The objective is to engage students in critical thinking about these issues with a view to advancing their own ideas about the future of Indigenous governance in Canada. Students may not hold credit for both POLS 3872 and POLS 3140 when titled "Indigenous Governance," the former POLS 4150 or POLS 4160 when titled "Indigenous Governance."

POLS 4630 Indigenous Political Movements and Activism Cr. Hrs. 3 +3.0

Indigenous peoples have a long history of confronting the state. This course offers an examination of theories of political activism and Indigenous political movements. The course addresses questions such as: what are the unique characteristics of Indigenous political activism, why have these movements occurred, what change have these movements supported, and have these movements been successful. Restricted to students enrolled in the Honours program in Political Studies or with written consent of the instructor or department head.

## **NET CHANGE IN CREDIT HOURS: +3.0**

### Modifications:

POLS 3250 International Political Economy Cr. Hrs. 3 0.0

A survey of the relationship between political authority and the production and distribution of global wealth. Emphasis is placed on the historical development of international political economy, its fundamentals, as well as major theoretical perspectives. Students may not hold credit for both POLS 3250 and POLS 3251. Prerequisite: [a grade of "C" or better in one of: POLS 2502, or (POLS 2043 and POLS 2045), or the former POLS 2040, or the former POLS 2041] or written consent of instructor or department head.

POLS 3270 Theories of the Capitalist World Order Cr. Hrs. 3 0.0

A critical survey of major theories that have successively dominated understandings of the modern capitalist world order including mercantilism, free trade, imperialism, hegemonic stability theory, globalization, regionalism, empire and multipolarity, paying particular attention to the political economy underlying each. Prerequisite: [a grade of "C" or better in one of: POLS 2502, or (POLS 2043 and POLS 2045), or the former POLS 2040, or the former POLS 2041] or written consent of instructor or department head.

POLS 3340 Middle East Politics Cr. Hrs. 3 0.0

An examination of the Middle East as a region of global strategic significance, with an emphasis on the major issues related to war and peace in selected Middle Eastern conflicts. Students may not hold credit for both POLS 3340 and POLS 3140 when titled "Middle East Politics."

## Religion

Modifications to the programs listed below are detailed on the next page:

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

## Department of Religion

- Addition of Double Advanced Major option
- Correct Islam list (2770 previously added to list in error.)

### Added Material

### ~~Deleted Material~~

#### 8.26.2 Religion

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>SINGLE ADVANCED MAJOR TOTAL: 48 CREDIT HOURS</b>			
6 credit hours in Religion courses	<ul style="list-style-type: none"> <li>• 12 credit hours in Religion courses numbered at the 4000 level <del>(with written consent of the department head, students may be permitted to substitute courses numbered at the 3000 level)</del></li> <li>• 30 credit hours in Religion courses</li> </ul>		
<ul style="list-style-type: none"> <li>• Within the courses required above, only 12 credit hours are permitted to be numbered at the 1000 level</li> <li>• Within the courses required above, students must complete courses from at least three religious traditions: Buddhism, Christianity, Hinduism, Islam, Judaism<sup>1</sup></li> </ul>			
<b><u>DOUBLE ADVANCED MAJOR TOTAL: 42 CREDIT HOURS</u></b>			
<u>6 credit hours in Religion courses</u>	<ul style="list-style-type: none"> <li>• <u>6 credit hours in Religion courses numbered at the 4000 level</u></li> <li>• <u>30 credit hours in Religion courses</u></li> </ul>		
<ul style="list-style-type: none"> <li>• <u>Within the courses required above, only 12 credit hours are permitted to be numbered at the 1000 level</u></li> <li>• <u>Within the courses required above, students must complete courses from at least three religious traditions: Buddhism, Christianity, Hinduism, Islam, Judaism<sup>1</sup></u></li> </ul>			

#### NOTES:

<sup>1</sup> Religious traditions are categorized as follows:

Buddhism includes:

RLGN 2020, RLGN 3150, RLGN 3152, RLGN 3162, RLGN 3260, RLGN 3266, RLGN 4100.

Christianity includes:

RLGN 1350, RLGN 2036, RLGN 2040, RLGN 2052, RLGN 2114, RLGN 2170, RLGN 2520, RLGN 2530, RLGN 2840, RLGN 2850, RLGN 3230, RLGN 3780, RLGN 3870, RLGN 4280, RLGN 4282.

Hinduism includes:

RLGN 2010, RLGN 3210, RLGN 4060, RLGN 4190.

Islam includes:

RLGN 2100, ~~RLGN 2770~~ RLGN 2778, RLGN 2790, RLGN 3190, RLGN 3194, RLGN 4180.

Judaism includes:

RLGN 1120, RLGN 1390, RLGN 1400, RLGN 2140, RLGN 2160, RLGN 2162, RLGN 2770, RLGN 3280, RLGN 3800, RLGN 3810, RLGN 3824.

<sup>2</sup> Ancillary options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (excluding Religion courses).

<sup>3</sup> Free options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (including Religion courses).

<sup>4</sup> Honours courses: all 4000 level courses.

## Sociology and Criminology

### Deletions:

SOC 1200 Introduction to Sociology Cr. Hrs. 6	-6.0
SOC 2290 Introduction to Research Methods Cr. Hrs. 6	-6.0

### Introductions:

SOC 1000 Introduction to Sociology Cr. Hrs. 3	+3.0
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Sociology is the systematic study of society. It is the study of people and how they interact with each other and social groups. Topics include (but are not limited to): culture, socialization, race and ethnicity, social stratification, gender and sexuality, social inequality, globalization, the environment, crime and deviance, and health. Students may not hold credit for SOC 1000 and any of: SOC 1211 or SOC 1221 or the former SOC 1200 or the former SOC 1201.

SOC 2292 Understanding Social Research Cr. Hrs. 3	+3.0
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An overview of the tools social scientists employ to understand, interpret, critique, and conduct research in the social world. Topics include the production of knowledge, the research process, ethical considerations, conceptualization of research problems, measurement, and popular qualitative and quantitative methodologies. Students may not hold credit for both SOC 2292 and SOC 2291 or the former SOC 2290. Prerequisite: [a grade of "C" or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of "C" or better in both SOC 1211 and SOC 1221].

SOC 2294 Understanding Social Statistics Cr. Hrs. 3	+3.0
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Focus is on the various statistical procedures sociologists use when analyzing quantitative data. The course introduces students to basic statistical computations and analyses in order to develop an awareness of statistics in social research. Concentration is on what, when and how to apply and interpret relevant statistical techniques in order to answer specific research questions. Students may not hold credit for both SOC 2294 and SOC 2291 or the former SOC 2290. Prerequisite: SOC 2292.

## **NET CHANGE IN CREDIT HOURS: - 3.0**

### Modifications:

SOC 2220 Sociological Theoretical Foundations Cr. Hrs. 3	0.0
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A review of classical sociological theory. The focus will be on the central figures and schools of thought in Sociology. Students may not hold credit for both SOC 2220 and SOC 2221.

Prerequisite: [a grade of "C" or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of "C" or better in both SOC 1211 and SOC 1221].

SOC 2240 Sociology of Globalization Cr. Hrs. 3	0.0
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Explores various sociological theories of globalization, stratification, local-global linkages, transnational social movements, and migration, in order to grasp what globalization is, its extent, its driving forces, and its effects. Students may not hold credit for both SOC 2240 and SOC 3460 when titled "Sociology of Globalization." Prerequisite: [a grade of "C" or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of "C" or better in both SOC 1211 and SOC 1221].

- SOC 2260 Cities and Urban Life Cr. Hrs. 3 0.0  
 A consideration of the social, cultural and urban processes and their relationship to urban life, with an emphasis on urban experience, sociality, and social inequality. Students may not hold credit for SOC 2260 and any of: SOC 2261 or the former SOC 2270 or the former SOC 2271. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].
- SOC 2310 Selected Social Problems Cr. Hrs. 3 0.0  
 An examination of one or more contemporary social problems, other than crime and delinquency. Issues that might be addressed include poverty, war, environment, licit and illicit drugs, and death and dying. Consult the Registration Guide or contact the instructor for specific content in any particular academic year. Students may not hold credit for both SOC 2310 and SOC 2311. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221]. The course content may vary. Students can earn multiple credits for this course only when the topic subtitle is different.
- SOC 2320 Canadian Society and Culture Cr. Hrs. 3 0.0  
 A sociological analysis of Canadian institutions with reference to historical, cultural, economic, and political perspectives. Students may not hold credit for both SOC 2320 and SOC 2321. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].
- SOC 2330 Social Psychology in Sociological Perspective Cr. Hrs. 3 0.0  
 The course examines the interrelations of the individual, the group, and society, with emphasis on interaction as the process that gives form, direction, and meaning to the everyday lives of people. Topics to be discussed may include: self -esteem, identity, impression management, motivation and emotion. Students may not hold credit for both SOC 2330 and SOC 2331. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].
- SOC 2350 Collective Behaviour Cr. Hrs. 3 0.0  
 The analysis of various forms of collective behaviour, such as crowds, mobs, and social movements. The underlying social conditions, action processes, and consequences of such behaviour will be considered. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].
- SOC 2360 Small Group Interaction Cr. Hrs. 3 0.0  
 The basic sociological concepts and methods used in analyzing and designing small groups such as the family, children's groups, work groups, and friendship groups. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221]. SOC 2330 or SOC 2331 is recommended.
- SOC 2370 Ethnic Relations Cr. Hrs. 3 0.0  
 Introduction to the social and social psychological aspects of ethnic relations in Canada. Students may not hold credit for both SOC 2370 and SOC 2371. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].

- SOC 2380 Sociology of Religion Cr. Hrs. 3 0.0  
 A study of the nature and function of religion as a social institution with emphasis on early theorists, primitive religions, belief systems, and typologies. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].
- SOC 2390 Social Organization Cr. Hrs. 3 0.0  
 The process of ordering social life and the structures that result. Power, conflict, social control, bureaucracy, industrialization, urbanization, and centralization. Students may not hold credit for both SOC 2390 and SOC 2391. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].
- SOC 2450 Sociology of the Body Cr. Hrs. 3 0.0  
 Despite its centrality in social life, the human body is too often taken for granted. This course explores a variety of sociological perspectives on the socially constructed nature of bodies to understand how society and social relations both shape and are shaped by the human body. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].
- SOC 2460 The Family Cr. Hrs. 3 0.0  
 A sociological analysis of the various family arrangements and practices in contemporary societies and their historical roots. An examination of the relationships between family and other institutions in the context of widespread social changes. Students may not hold credit for both SOC 2460 and SOC 2461. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].
- SOC 2480 Population Problems Cr. Hrs. 3 0.0  
 A survey of the impact of population growth, contraction, density and distribution on the social, political and economic institutions of developing and developed societies. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].
- SOC 2490 Sociology of Health and Illness Cr. Hrs. 3 0.0  
 A general introduction to health sociology. The course examines health and illness as social concepts by exploring the personal and structural determinants of health status, and everyday health care practices in which people engage to maintain their health and to manage illness. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].
- SOC 2510 Criminology Cr. Hrs. 3 0.0  
 A general introduction to theories of deviant behaviour and criminology. The explanation of crime with reference to physical, psychological, and social factors. Students may not hold credit for both SOC 2510 and SOC 2511. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].

- SOC 2620 The Sociology of Aging Cr. Hrs. 3 0.0  
 This course explores sociological approaches to the study of age-related phenomena and processes, and aging societies, with a focus on Canadian issues. Associations will be drawn between individual aging experiences and outcomes, and broader political, economic, sociocultural, demographic and historical contexts (including globalization). Strategies to promote the social inclusion of older adults and reduce age-based social inequalities will be discussed. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].
- SOC 2630 Social Change Cr. Hrs. 3 0.0  
 Major trends of social changes in society, revolutionary and evolutionary change; problems in the measurement and prediction of social change patterns, consequences and problems of future change. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].
- SOC 3100 Practicum in Criminological/Sociological Research Cr. Hrs. 6 0.0  
 This course is designed to develop students' research skills and experience through placement in a criminal justice or other social service agency having a mandate relevant to the study of sociology or criminology. The course consists of supervised work within the agency and classroom instruction, culminating in the production of a research report. Enrolment is competitive and special advance permission is required to register. To be considered for admission, students must complete an application form (available from the Department of Sociology and Criminology website) by the last day of May preceding the Fall term in which the student intends to take the course. Students may not hold credit for both SOC 3100 and the former SOC 3760. Prerequisite: written consent of department head.
- SOC 3370 Sociology of Work Cr. Hrs. 3 0.0  
 An examination of work as a central aspect of human social life; its changing nature and content in response to technological, political, and social change; how work is organized and understood by employers and workers; its consequences for individuals, social institutions, and society. Students may not hold credit for SOC 3370 and either of SOC 3371 or LABR 3370. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].
- SOC 3380 Power, Politics and the Welfare State Cr. Hrs. 3 0.0  
 A critical evaluation of sociological theory and research focusing on power and politics in society. Topics covered include: the dimensions of power (economic, political, ideological), classes and class conflict, political socialization, the origin and nature of the state, and the welfare state. Students may not hold credit for SOC 3380 and any of: SOC 3471 or the former SOC 3470. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221] or written consent of department head.
- SOC 3450 Sociological Perspectives on the Social Determinants of Health Cr. Hrs. 3 0.0  
 This course will apply a sociological perspective to a critical and theoretically informed study of the social structures influencing personal and population health, including intersections of class, gender, ethnicity, and aging as sources of health inequities. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].

- SOC 3460 Selected Topics Cr. Hrs. 3 0.0  
 The content of this course will vary from year to year, but will consist of a thorough sociological treatment of some topic of current interest. Prerequisite: [a grade of "C" or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of "C" or better in both SOC 1211 and SOC 1221]. The course content may vary. Students can earn multiple credits for this course only when the topic subtitle is different.
- SOC 3540 The Sociology of Health Care Systems Cr. Hrs. 3 0.0  
 An analysis of the social organization of formal and informal health care, including topics such as professionalism and health care, the nature of therapeutic relationships, institutional vs. community-based care, social reform and health care policy, medicine and the state, and emerging patterns of health care. Prerequisite: [a grade of "C" or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of "C" or better in both SOC 1211 and SOC 1221]. SOC 2490 is recommended.
- SOC 3580 Media, Culture and Society Cr. Hrs. 3 0.0  
 A consideration of the influence of media on contemporary society, analyzing the production, circulation and consumption of various media forms and their relationship to social life. Students may not hold credit for SOC 3580 and any of: SOC 3581 or the former SOC 3590 or the former SOC 3591. Prerequisite: [a grade of "C" or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of "C" or better in both SOC 1211 and SOC 1221]. SOC 2330 or SOC 2331 is recommended.
- SOC 3660 Sociology of Mental Disorder Cr. Hrs. 3 0.0  
 A study of the social processes involved in becoming and being mentally ill. Topics such as the public imagery of madness, decision-making rules in psychiatry, life in the mental hospital, and community attitudes toward the mentally ill will be considered. Prerequisite: [a grade of "C" or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of "C" or better in both SOC 1211 and SOC 1221]. SOC 2490 is recommended.
- SOC 3730 Society and Education Cr. Hrs. 3 0.0  
 A critical examination of schools at all levels and the challenges they face. Issues such as, curriculum, classroom interaction, gender, race, class and equality of educational opportunities will be explored. The course should be useful to students interested in careers in education and counselling. Students may not hold credit for both SOC 3730 and SOC 3731. Prerequisite: [a grade of "C" or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of "C" or better in both SOC 1211 and SOC 1221].
- SOC 3770 Women, Health and Medicine Cr. Hrs. 3 0.0  
 A systematic sociological analysis of women's participation in the health care system, as consumers as well as providers. Historical and contemporary health issues of women are explored, as are women's efforts to control their experiences and improve their well-being. Prerequisite: [a grade of "C" or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of "C" or better in both SOC 1211 and SOC 1221]. SOC 2490 is recommended.
- SOC 3810 Sociological Perspectives on Gender and Sexuality Cr. Hrs. 3 0.0  
 An exploration of the relations between men and women in contemporary society. This course will use historical and cross-cultural standpoints to examine the social construction of gender and sexuality, and the ideological and material structures which (re)produce gender difference.

Students may not hold credit for both SOC 3810 and SOC 3811. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].

SOC 3820 Qualitative and Historical Methods in Sociology Cr. Hrs. 3 0.0  
An introduction to a variety of data gathering techniques such as participant observation, interviewing, life histories, archival research, document analysis, and the use of case studies. Emphasis will be placed on the use of inductive/deductive procedures in the transformation of raw data into theoretical interpretations. Prerequisite: [a grade of “C” or better in SOC 2292 or SOC 2291 or the former SOC 2290] or written consent of the department head.

SOC 3838 Ecology and Society Cr. Hrs. 3 0.0  
Examines changing patterns of social organizations of civilizations, the resultant social constructions of the human/nature interface, the human social contribution to the global ecological crisis, and possible strategies to create sustainable societies. Consideration of topics such as population, consumption, capitalism, and agricultural practices. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].

SOC 3840 Community and Social Reconstruction Cr. Hrs. 3 0.0  
An examination of the changing relationships between the global economic market, the declining resource base of the nation state, and the shift to local control within civil society. Topics may include: the central role of the household in civil society, the informal sector, local initiatives (e.g., co-housing, cooperative, land trusts), and community development. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].

SOC 3860 Genocide, Crime and Society Cr. Hrs. 3 0.0  
A critical sociological and criminological examination of comparative genocide studies. Emphasis is placed on the utility of sociological and criminological theoretical frameworks for understanding and explaining genocide, as well as the conceptual and moral failings of criminology and sociology in the face of genocide. Students may not hold credit for both SOC 3860 and SOC 3740 when titled "Genocide." Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].

SOC 3890 Power and Inequality in Comparative Perspective Cr. Hrs. 3 0.0  
Engaging in a cross-temporal and cross-national investigation, this course critically surveys classical and contemporary debates around the inevitability of social inequality, and explores the ways that inequalities have been reproduced and rationalized, or attenuated and challenged, throughout human history. Key facets and indicators of inequality (such as poverty, homelessness, social exclusion and the distribution of income and wealth) and their relation to central axes of social inequality (class, gender, race/ethnicity and age) are considered. Put simply, this course is concerned with 'who gets what and why?' Students may not hold credit for SOC 3890 and any of: SOC 3871 or the former SOC 3870. Prerequisite: [a grade of “C” or better in SOC 1000 or the former SOC 1200 or the former SOC 1201] or [a grade of “C” or better in both SOC 1211 and SOC 1221].

Program modifications:

Modifications to the programs listed below are detailed on the next 5 pages:

- **Bachelor of Arts (General Major) in Sociology**
- **Bachelor of Arts (Single Advanced Major) in Sociology**
- **Bachelor of Arts (Single Honours) in Sociology**
- **Bachelor of Arts (Double Honours) in Sociology**
- **Minor (Concentration) in Sociology**
- **Bachelor of Arts (General Major) in Criminology**
- **Bachelor of Arts (Single Honours) in Criminology**

## Sociology and Criminology

- Course deletions and additions of two key courses necessitates program modifications in all Sociology and Criminology programs.

### Added Material

### ~~Deleted Material~~

## 8.27.1 Sociology Program Information

Sociology examines ...

### Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in ~~SOC 1200~~ SOC 1000 or a grade of "C" or better in both SOC 1211 and SOC 1221. For students who have taken additional courses toward the Major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

### Minor (Concentration) Program

For entry to the Minor (Concentration), the prerequisite is a grade of "C" or better in ~~SOC 1200~~ SOC 1000 or a grade of "C" or better in both SOC 1211 and SOC 1221.

### Honours Program

For entry to the Honours program, see Section 3: Basic Faculty Regulations for the B.A. General, Advanced and Honours Degree Programs.

## 8.27.2 Sociology

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>GENERAL MAJOR TOTAL: 30 CREDIT HOURS</b>			
<del>SOC 1200</del> <u>SOC 1000</u> or <u>both of</u> SOC 1211 and SOC 1221	<ul style="list-style-type: none"> <li>• <del>SOC 2220, SOC 2290</del></li> <li>• <u>SOC 2292, SOC 2294</u></li> <li>• one of: SOC 3310, SOC 3330, SOC 3350, SOC 3360, SOC 3380, SOC 3390, SOC 3700</li> <li>• <del>12</del> <u>15</u> credit hours<sup>1</sup> in Sociology courses numbered at the 2000 or 3000 level</li> </ul>		

<b>SINGLE ADVANCED MAJOR TOTAL: 48 CREDIT HOURS</b>		
<del>SOC 1200</del> SOC 1000 or <u>both of</u> SOC 1211 and SOC 1221	<ul style="list-style-type: none"> <li>• <del>SOC 2220, SOC 2290</del></li> <li>• <u>SOC 2292, SOC 2294</u></li> <li>• 6 credit hours from: SOC 3310, SOC 3330, SOC 3350, SOC 3360, SOC 3380, SOC 3390, SOC 3700</li> <li>• <del>9</del> <u>12</u> credit hours<sup>1</sup> in Sociology courses numbered at the 2000 or 3000 level</li> </ul>	18 credit hours in Sociology courses numbered at the 2000 or 3000 level

<b>MINOR (CONCENTRATION) TOTAL: 18 CREDIT HOURS</b>		
<del>SOC 1200</del> SOC 1000 or <u>both of</u> SOC 1211 and SOC 1221	<del>12</del> <u>15</u> credit hours <sup>1</sup> in Sociology courses numbered at the 2000 or 3000 level	

<b>SINGLE HONOURS<sup>34</sup></b>			
<del>SOC 1200</del> SOC 1000 or <u>both of</u> SOC 1211 and SOC 1221	<ul style="list-style-type: none"> <li>• SOC 2010, SOC 2220, <del>SOC 2290</del></li> <li>• <u>SOC 2292, SOC 2294</u></li> <li>• <del>6</del> <u>9</u> credit hours<sup>1</sup> in Sociology</li> <li>• <del>12</del> <u>9</u> credit hours in ancillary options<sup>12</sup></li> </ul>	<ul style="list-style-type: none"> <li>• 6 credit hours from SOC 3310, SOC 3330, SOC 3350, SOC 3360, SOC 3380, SOC 3390, SOC 3700</li> <li>• 12 credit hours in Sociology courses numbered at the 2000 or 3000 level</li> <li>• 12 credit hours in ancillary options<sup>12</sup></li> </ul>	<ul style="list-style-type: none"> <li>• SOC 4450, SOC 4460, SOC 4560, SOC 4570</li> <li>• 3 credit hours from SOC 3820, SOC 4580</li> <li>• <del>12</del> <u>15</u> credit hours in ancillary options<sup>12</sup></li> </ul>

<b>DOUBLE HONOURS<sup>34</sup></b>			
<del>SOC 1200</del> SOC 1000 or <u>both of</u> SOC 1211 and SOC 1221	<ul style="list-style-type: none"> <li>• SOC 2010, SOC 2220, <del>SOC 2290</del></li> <li>• <u>SOC 2292, SOC 2294</u></li> <li>• 6 credit hours in ancillary options<sup>12</sup></li> </ul>	<ul style="list-style-type: none"> <li>• 6 credit hours from SOC 3310, SOC 3330, SOC 3350, SOC 3360, SOC 3380, SOC 3390, SOC 3700</li> <li>• <del>3</del> <u>6</u> credit hours<sup>1</sup> in Sociology courses numbered at the 2000 or 3000 level</li> <li>• 6 credit hours in free options<sup>23</sup></li> </ul>	<ul style="list-style-type: none"> <li>• SOC 4450, SOC 4460, SOC 4560, SOC 4570</li> <li>• 3 credit hours from SOC 3820, SOC 4580</li> <li>• 6 credit hours in free options<sup>23</sup></li> </ul>
At least 36 credit hours in other Honours field			
<b>NOTES:</b>			
<sup>1</sup> <u>Students who use SOC 1200 (6) or both of SOC 1211 and 1221 to satisfy the year one requirements will be required to complete three (3) fewer credit hours in Sociology courses numbered at the 2000 or 3000 level.</u>			
<sup>12</sup> Ancillary options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (excluding Sociology courses).			
<sup>23</sup> Free options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (including Sociology courses).			
<sup>34</sup> Honours courses: SOC 2010 and all 4000 level courses.			

### 8.27.3 Criminology Program Information

Criminology is concerned with ...

#### Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in ~~SOC 1200~~ SOC 1000 or a grade of "C" or better in both SOC 1211 and SOC 1221. For students who have taken additional courses toward the Major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

It is not possible to have a Major in Criminology and a Minor in Sociology.

#### Honours Program

For entry to the Honours program, see Section 3: Basic Faculty Regulations for the B.A. General, Advanced and Honours Degree Programs.

### 8.27.4 Criminology

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>GENERAL MAJOR TOTAL: 30 CREDIT HOURS</b>			
<del>SOC 1200</del> SOC 1000 or both of SOC 1211 and SOC 1221	<ul style="list-style-type: none"> <li>• <del>SOC 2290, SOC 2292</del></li> <li>• <u>SOC 2294</u></li> <li>• <u>SOC 2510</u></li> <li>• <u>SOC 2610</u></li> </ul>	<ul style="list-style-type: none"> <li>• <u>12 15</u> credit hours<sup>1</sup> from: SOC 3100, SOC 3310, SOC 3400, SOC 3410, SOC 3660, SOC 3700, SOC 3710, SOC 3720, SOC 3740, SOC 3750, SOC 3790, SOC 3830, SOC 3850, SOC 3860, SOC 3880</li> </ul>	

<b>SINGLE HONOURS</b>			
<p><del>SOC 1200</del>            SOC 1000            or <u>both of</u>            SOC 1211 and            SOC 1221</p>	<ul style="list-style-type: none"> <li>• SOC 2010, SOC 2220, <del>SOC 2290</del>, <u>SOC 2292</u>, <u>SOC 2294</u>, SOC 2510, SOC 2610</li> <li>• 12 credit hours in ancillary options<sup>12</sup></li> </ul>	<ul style="list-style-type: none"> <li>• 3 credit hours of criminology-related theory courses from SOC 3310 or SOC 3700</li> <li>• 3 credit hours<sup>23</sup> of criminology or sociology-related theory courses from SOC 3310, SOC 3330, SOC 3350, SOC 3360, SOC 3380, SOC 3390, SOC 3700</li> <li>• <del>12</del> <u>15</u> credit hours<sup>1,23</sup> from SOC 3100, SOC 3310, SOC 3400, SOC 3410, SOC 3660, SOC 3700, SOC 3710, SOC 3720, SOC 3740, SOC 3750, SOC 3790, SOC 3830, SOC 3850, SOC 3860, SOC 3880</li> <li>• <del>12</del> <u>9</u> credit hours in ancillary options<sup>12</sup></li> </ul>	<ul style="list-style-type: none"> <li>• SOC 4450, SOC 4490, SOC 4570</li> <li>• 3 credit hours of research methods courses from SOC 3820 or SOC 4580</li> <li>• 3 credit hours of advanced theory courses from SOC 4460 or SOC 4560</li> <li>• <del>12</del> <u>15</u> credit hours in ancillary options<sup>12</sup></li> </ul>
<p><b>NOTES:</b></p> <p><sup>1</sup> <u>Students who use SOC 1200 (6) or both of SOC 1211 and 1221 to satisfy the year one requirements will be required to complete three (3) fewer credit hours in Sociology courses numbered at the 2000 or 3000 level.</u></p> <p><sup>12</sup> Ancillary options are to be chosen from courses that are acceptable for credit in the Faculty of Arts (excluding Sociology courses).</p> <p><sup>23</sup> These courses can include SOC 3310 or SOC 3700 if not already completed as a criminology or sociology-related theory requirement.</p> <p><u>4. Equivalent courses offered through the Université de Saint-Boniface may be used in lieu of the specified courses identified in the degree program chart.</u></p>			

## Ukrainian Canadian Heritage Studies

Program modifications:

Modifications to the programs listed below are detailed on the next 3 pages:

- **Bachelor of Arts (General Major) in Ukrainian Canadian Heritage Studies**
- **Bachelor of Arts (Single Advanced Major) in Ukrainian Canadian Heritage Studies**
- **Minor (Concentration) in Ukrainian Canadian Heritage Studies**

## Ukrainian Canadian Heritage Studies

- General Major, Single Advanced Major, Minor (Concentration)

### Added Material

### ~~Deleted Material~~

#### **8.28.2 Ukrainian Canadian Heritage Studies**

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>GENERAL MAJOR TOTAL: 30 CREDIT HOURS</b>			
6 credit hours from List A	24 credit hours from List B taken from each of three different departments, to include at least 6 credit hours from the 3000 level or higher		
<b>SINGLE ADVANCED MAJOR TOTAL: 48 CREDIT HOURS</b>			
6 credit hours from List A	<ul style="list-style-type: none"> <li>• 6 credit hours from List A</li> <li>• 36 credit hours from List B, to include at least 12 credit hours from the 3000 level or higher</li> </ul>		
<b>MINOR (CONCENTRATION) TOTAL: 18 CREDIT HOURS</b>			
6 credit hours from List A	• 12 credit hours from List B taken from each of two different departments		

### List A

#### Faculty of Arts

##### Economics

ECON 1210	Introduction to Canadian Economic Issues and Policies	3
ECON 1220	Introduction to Global and Environmental Economic Issues and Policies	3

##### German and Slavic Studies

UKRN 1230	Ukrainian Language Seminar Abroad	3
UKRN 1310	Introductory Ukrainian	6
UKRN 2260	Ukrainian Culture Seminar Abroad	3
UKRN 2720	Intermediate Ukrainian	6
<u>UKRN 2770</u>	<u>Ukrainian Culture until 1900</u>	<u>3</u>
<u>UKRN 2780</u>	<u>Ukrainian Culture from 1900 to present</u>	<u>3</u>
<u>UKRN 3952</u>	<u>Advanced Ukrainian Conversational Practice</u>	<u>3</u>
<u>UKRN 3962</u>	<u>Advanced Ukrainian Through Short Stories</u>	<u>3</u>

##### History

HIST 1200	An Introduction to the History of Western Civilization (G)	6
HIST 1350	An Introduction to the History of Western Civilization to 1500 (G)	3
HIST 1360	An Introduction to the History of Western Civilization from 1500 (G)	3
HIST 1400	History of the Canadian Nation Since 1867 (C)	3

Political Studies		
POLS 1502	Introduction to Political Studies	3
POLS 1506	Survey of Political Studies	3
POLS 2502	Introduction to World Affairs	3
POLS 2504	Introduction to International Relations	3
POLS 2702	Introduction to Canadian Politics	3
Religion		
RLGN 1322	Introduction to Eastern Religions	3
RLGN 1324	Introduction to Western Religions	3
RLGN 1350	The History of Eastern Christianity	6
Sociology and Criminology		
<del>SOC 1200</del>	<del>Introduction to Sociology</del>	<del>6</del>
<u>SOC 1000</u>	<u>Introduction to Sociology</u>	<u>3</u>

### **Clayton H. Riddell Faculty of Environment, Earth, and Resources**

Geography		
GEOG 1280	Introduction to Human Geography	3
GEOG 1290	Introduction to Physical Geography	3

### **School of Art**

FAAH 1030	Introduction to Art 1A	3
FAAH 1040	Introduction to Art 2A	3

### **List B**

#### **Faculty of Arts**

Economics		
ECON 2510	The Economy of Ukraine	3
German and Slavic Studies		
UKRN 2410	Ukrainian Canadian Cultural Experience	3
<u>UKRN 2200</u>	<u>Ukrainian Myths, Rites and Rituals</u>	<u>3</u>
<u>UKRN 2600</u>	<u>Special Topics in Ukrainian Studies</u>	<u>3</u>
<u>UKRN 2820</u>	<u>Holodomor and Holocaust in Ukrainian Literature and Culture</u>	<u>3</u>
History		
HIST 2600	Introduction to Ukraine (E)	3
HIST 2610	Making of Modern Ukraine (E)	3
HIST 3910	The Ukrainians in Canada (C)	3

Political Studies

POLS 3720 Politics, Government and Society in Ukraine 3

Religion

RLGN 2520 Eastern Christianity in North America 3

RLGN 2530 Eastern Christianity in the Contemporary World 3

Ukrainian Canadian Heritage Studies

UCHS 3100 The Ukrainian Arts in Canada 3

**Clayton H. Riddell Faculty of Environment, Earth, and Resources**

Geography

GEOG 2570 Geography of Canada (A) 3

GEOG 2900 Geography of Canadian Prairie Landscapes (A) 3

**School of Art**

FAAH 3280 Early Byzantine Art and Architecture 3

FAAH 3290 Later Byzantine Art and Architecture 3

## Women's and Gender Studies

Modifications to the programs listed below are detailed on the next 2 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

- General Major, Single Advanced Major, Double Advanced Major, Minor (Concentration), Single Honours, Double Honours
- Change to title of a course on List A
- Change proposed as a result of the Department of History proposing to change the title of HIST 3760.

### Added Material

### ~~Deleted Material~~

## Section 8.29.2

### 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

##### Classics

CLAS 2210 Women in Ancient Greece and Rome 3

##### Economics

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 3572 The History of Women, Gender, and Sexuality in Canada (C) 6

HIST 3760 Problems in ~~American~~ United States History ± (A) 3

Acceptable for credit only when the topic is "Gender and Sexuality in 20th Century America."

HIST 4060 Gender History in Canada (C) 6

##### Native Studies

NATV 2430 Indigenous Women's Stories 3

NATV 3360	Indigenous Women in Canada	3
NATV 3380	Gender and Indigenous Societies	3
Philosophy		
PHIL 3220	Feminist Philosophy	3
Political Studies		
POLS 3100	Gender and Politics in Canada	3
Psychology		
PSYC 2380	Psychology of Gender	3
PSYC 3570	Psychology of Women	3
Religion		
RLGN 2680	Women and Religion 1	3
RLGN 2690	Women and Religion 2	3
Slavic Studies		
UKRN 3970	Women and Ukrainian Literature	3
Sociology		
SOC 2460	The Family	3
SOC 2461	La famille (USB)	3
SOC 3350	Feminism and Sociological Theory	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
<b>School of Art</b>		
FAAH 2110	Women and Art	3
FAAH 4090	Seminar on Contemporary Issues in Art	3
	Acceptable for credit only when the topic is "Women Artists."	
<b>Clayton H. Riddell Faculty of Environment, Earth, and Resources</b>		
GEOG 4280	Gender and the Human Environment	3
<b>Marcel A. Desautels Faculty of Music</b>		
MUSC 4130	History of Women in Music	3
<b>Faculty of Nursing</b>		
NURS 3330	Women and Health	3
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 Education

Faculty of Education

Program modification:

Modifications to the **Bachelor of Education** are outlined on the next 5 pages.

### 3.2 Early Years Stream Course Chart

Early Years Stream			
Year 1		Year 2	
Fall	Winter	Fall	Winter
EDUB 3012	EDUB 3016		EDUB 4014
EDUB 3010	EDUB 3014	EDUB 4010	EDUA/EDUB Elective <sup>3</sup>
Aboriginal Indigenous Education <sup>1</sup>	EDUB 3018 <sup>2</sup>	EDUB 4012	EDUA/EDUB Elective <sup>3</sup>
EDUA 3000 or EDUA 3002	EDUA 3000 or EDUA 3002		EDUA 4000
EDUB 3310 (Practicum 1)	EDUB 3312 (Practicum 2)	EDUB 4310 (Practicum 3)	EDUB 4312 (Practicum 4)
15 Credit Hours	15 Credit Hours	15 Credit Hours	15 Credit Hours
<p><sup>1</sup> All graduates of the After-Degree B.Ed. program must have 3 credit hours of <del>Aboriginal</del> <b>Indigenous</b> Education coursework chosen from: EDUA 3400 <del>3404</del> or EDUB 3402 <del>3406</del>.</p> <p><sup>2</sup> Meets the Special Education/Diversity coursework requirement.</p> <p><sup>3</sup> See 5a: Education Electives</p>			

### 3.3 Middle Years Stream Course Chart

Middle Years Stream			
Year 1		Year 2	
Fall	Winter	Fall	Winter
EDUB 3050	EDUB 3052	EDUB 3060	EDUB 4050
EDUB 3056	EDUB 3054	EDUB 3062	EDUB 3058
Aboriginal Indigenous Education <sup>1</sup> or Special Education /Diversity <sup>2</sup>	Aboriginal Indigenous Education <sup>1</sup> or Special Education /Diversity <sup>2</sup>	EDUB 3064	EDUB 4052
EDUA 3000 or EDUA 3002	EDUA 3000 or EDUA 3002	EDUA/EDUB Elective <sup>3</sup>	EDUA 4000

EDUB 3320 (Practicum 1)	EDUB 3322 (Practicum 2)	EDUB 4320 (Practicum 3)	EDUB 4322 (Practicum 4)
15 Credit Hours	15 Credit Hours	15 Credit Hours	15 Credit Hours

<sup>1</sup> All graduates of the After-Degree B.Ed. program must have 3 credit hours of **Aboriginal Indigenous** Education coursework chosen from: EDUA 3400 **3404** or EDUB 3402 **3406**.

<sup>2</sup> All graduates of the After-Degree B.Ed. program must have 3 credit hours of Special Education/Diversity coursework chosen from: EDUA 3420, EDUB 3426, EDUB 3506, EDUB 3508 or EDUB 3510.

<sup>3</sup> See 5a: Education Electives

### 3.4 Senior Years Stream Course Chart

<b>Senior Years Stream</b>			
<b>Year 1</b>		<b>Year 2</b>	
<b>Fall</b>	<b>Winter</b>	<b>Fall</b>	<b>Winter</b>
EDUB 3100	EDUB 3102	EDUB 4XXX <sup>4, 5</sup> Curriculum & Instruction	EDUB 4102
EDUB 3XXX <sup>3</sup> Curriculum & Instruction	EDUB 4XXX <sup>4, 5</sup> Curriculum & Instruction	EDUA/EDUB Electives <sup>6</sup>	EDUB 4100
<b>Aboriginal Indigenous</b> Education <sup>1</sup> or Special Education / Diversity <sup>2</sup>	<b>Aboriginal Indigenous</b> Education <sup>1</sup> or Special Education / Diversity <sup>2</sup>	EDUA/EDUB Electives <sup>6</sup>	EDUA/EDUB Elective <sup>6</sup>
EDUA 3000 or EDUA 3002	EDUA 3000 or EDUA 3002	EDUA 4000	EDUA/EDUB Elective <sup>6</sup>
EDUB 3330 (Practicum 1)	EDUB 3332 (Practicum 2)	EDUB 4330 (Practicum 3)	EDUB 4332 (Practicum 4)
15 Credit Hours	15 Credit Hours	15 Credit Hours	15 Credit Hours

<sup>1</sup> All graduates of the After-Degree B.Ed. program must have 3 credit hours of **Aboriginal Indigenous** Education coursework chosen from: EDUA 3400 **3404** or EDUB 3402 **3406**.

<sup>2</sup> All graduates of the After-Degree B.Ed. program must have 3 credit hours of Special Education/Diversity coursework chosen from: EDUA 3420, EDUB 3426, EDUB 3506, EDUB 3508 or EDUB 3510.

<sup>3</sup> 3 credit hours chosen from EDUB 3110, EDUB 3120, EDUB 3130 or EDUB 3140 dependent on Major subject area.

<sup>4</sup> 3 credit hours chosen from EDUB 4110, EDUB 4112, EDUB 4114, EDUB 4120, EDUB 4122, EDUB 4124, EDUB 4130, EDUB 4132, EDUB 4134, EDUB 4140, EDUB 4142, EDUB 4144, EDUB 4146, EDUB 4148, EDUB 4150, EDUB 4152, EDUB 4154 as required for major and as required for minor. Not all courses are offered every year.

<sup>5</sup> Registration in EDUB 4XXX is dependent on scheduling. May require 6 credits of EDUB 4XXX for both subject areas to be taken in second term of program.

## SECTION 5a: Education Elective Courses Education Electives

Not all courses are offered every year.

All students admitted to the Bachelor of Education degree programs for September 2015 or later are required to complete education elective courses as part of their program (see 3.2, 3.3, or 3.4)

Students can choose from the lists of electives below. Students may seek permission to have other B.Ed. courses considered as an elective in their program by first consulting the Student Services Office (203 Education) and then obtaining approval from the instructor, the department head and an Academic Advisor. Forms are available from the Student Services Office or from the Faculty of Education website. (Note: If permission is being sought to take courses with a prerequisite and/or those intended for Senior Years teachable major or minor subjects, evidence of having appropriate background in the area as acquired through coursework or related experiences should be provided on the "Registration Permission" form).

PBDE students can request permission to enrol in B.Ed. courses by following the procedure outlined above.

Education Electives (restricted to B.Ed. students):

~~EDUA 3400 Aboriginal Education~~

**EDUA 3404 Indigenous Education**

EDUA 3420 Cross-Cultural Education

EDUA 3500 Recent Developments in Educational Administration & Foundations

EDUA 3502 Recent Developments in Educational Psychology

EDUA 3506 Foundations of Moral & Religious Education

EDUA 3508 Measurement and Evaluation

EDUA 3510 Communication & Interpersonal Relationships in Education EDUB 1610 CyberPedagogy:  
Technology Production in Education

EDUB 1614 K-8 Curriculum Studies

EDUB 2160 Teaching Music in Early/Middle Years

~~EDUB 3402 Aboriginal Perspectives and the Curriculum~~

**EDUB 3406 Indigenous Perspectives and the Curriculum**

EDUB 3426 La pédagogie du français de base aux niveaux intermédiaire et de la jeune Enfance

EDUB 3502 Recent Developments in Curriculum, Teaching & Learning 1

EDUB 3504 Academic & Professional English for Multilingual Teachers

EDUB 3506 Principles and procedures of Second Language Teaching

EDUB 3508 Language and Content Instruction of ESL/Bilingual Students

EDUB 3510 Language Awareness for Teachers

EDUB 3512 Literature for Adolescents

EDUB 3514 Literature for Children

EDUB 3516 Art Across the Curriculum

EDUB 3518 Drama Across the Curriculum

EDUB 3520 Historical Development of Physical Science up to the 20th Century

EDUB 3522 Recent Developments in Learning and Teaching Senior Years Mathematics

EDUB 3524 Practical Work in School Science

EDUB 3526 Integration of Technological Literacy Across the K-12 Curriculum

EDUB 3528 Media Literacy

EDUB 3530 Beyond Schools: Experiencing Teaching & Learning in Community Settings

EDUB 3532 Basic Experiences in Movement & Dance Education

EDUB 3534 Teaching Writing: Creating Communities of Writers in Diverse Classrooms and Contexts

EDUB 4100 Teacher and Technology

EDUB 4502 Recent Developments in Curriculum, Teaching & Learning 2

Education Electives (open to non-Education students during Open Access period):

EDUA 1560 Adult Learning and Development

EDUA 1570 Foundations of Adult Education

EDUA 1580 Program Planning in Adult Education

EDUA 1590 Facilitating Adult Education

EDUB 1600 Teaching General Music

## Curriculum, Teaching and Learning

### Deletion:

EDUB 3402 Aboriginal Perspectives and the Curriculum Cr.Hrs. 3 -3.0

### Introductions:

EDUB 3406 Indigenous Perspectives and the Curriculum Cr Hrs.3 +3.0

The course will focus on fostering teacher candidate pedagogical knowledge, orientations and capabilities for developing and implementing curricula for kindergarten through to Grade 12 that reflect Indigenous perspectives. May not be held with the former EDUB 1602, the former EDUB 3402 or EDUB 1840 when titled "Integrating Aboriginal Perspectives into the Manitoba Curriculum."

## **NET CHANGE IN CREDIT HOURS: +0.0**

### Modifications:

EDUB 3310 Early Years: Practicum 1 Cr. Hrs. 3 0.0

Practical teaching experience for Early Years in a Manitoba school with the guidance and under the supervision of a faculty advisor and cooperating teacher(s). May not be held with the former EDUB 1960. This is a pass/fail course. Pre- or corequisites: [3 credit hours from: EDUA 3404 (or the former EDUA 3400), EDUB 3406 (or the former EDUB 3402), EDUB 3018] and [3 credit hours from EDUB 3010, EDUB 3012].

EDUB 3312 Early Years: Practicum 2 Cr. Hrs. 3 0.0

Practical teaching experience for Early Years in a Manitoba school with the guidance and under the supervision of a faculty advisor and cooperating teacher(s). May not be held with the former EDUB 1960. This is a pass/fail course. Prerequisite: EDUB 3310. Pre- or corequisites: [3 credit hours from EDUA 3404 (or the former EDUA 3400) or EDUB 3406 (or the former EDUB 3402)] and EDUB 3010, EDUB 3012, EDUB 3018.

EDUB 3320 Middle Years: Practicum 1 Cr. Hrs. 3 0.0

Practical teaching experience for Middle Years in a Manitoba school with the guidance and under the supervision of a faculty advisor and cooperating teacher(s). May not be held with the former EDUB 1970. This is a pass/fail course. Pre- or corequisites: EDUB 3050 and [3 credit hours from: EDUA 3404 (or the former EDUA 3400), EDUB 3406 (or the former EDUB 3402), EDUB 3506 (or the former EDUB 1620), EDUB 3508 (or the former EDUB 1820), EDUA 3420, EDUB 3426, EDUB 3510].

EDUB 3322 Middle Years: Practicum 2 Cr. Hrs. 3 0.0

Practical teaching experience for Middle Years in a Manitoba school with the guidance and under the supervision of a faculty advisor and cooperating teacher(s). May not be held with the former EDUB 1970. This is a pass/fail course. Prerequisite: EDUB 3320. Pre- or corequisites: EDUB 3052 and [3 credit hours from: EDUA 3404 (or the former EDUA 3400) or EDUB 3406 (or the former EDUB 3402)] and [3 credit hours from: EDUB 3506 (or the former EDUB 1620), EDUB 3508 (or the former EDUB 1820), EDUA 3420, EDUB 3426, EDUB 3510].

EDUB 3330 Senior Years: Practicum 1 Cr. Hrs. 3 0.0  
Practical teaching experience for Senior Years in a Manitoba school with the guidance and under supervision of a faculty advisor and cooperating teacher(s). May not be held with the former EDUB 1980. This is a pass/fail course. Pre- or corequisites: EDUB 3100 and [3 credit hours from: EDUB 3110, EDUB 3120, EDUB 3130, EDUB 3140] and [3 credit hours from: EDUA 3404 (or the former EDUA 3400), EDUB 3406 (or the former EDUB 3402), EDUB 3506 (or the former EDUB 1620), EDUB 3508 (or the former EDUB 1820), EDUA 3420, EDUB 3426, EDUB 3510].

EDUB 3332 Senior Years: Practicum 2 Cr. Hrs. 3 0.0  
Practical teaching experience for Senior Years in a Manitoba school with the guidance and under the supervision of a faculty advisor and cooperating teacher(s). May not be held with the former EDUB 1980. This is a pass/fail course. Prerequisite: EDUB 3330. Pre- or corequisites: [3 credit hours from: EDUA 3404 (or the former EDUA 3400) or EDUB 3406 (or the former EDUB 3402)] and [3 credit hours from: EDUB 3506 (or the former EDUB 1620), EDUB 3508 (or the former EDUB 1820), EDUA 3420, EDUB 3426, EDUB 3510].

### Educational Administration, Foundations and Psychology

#### Deletion:

EDUA 3400 Aboriginal Education Cr. Hrs. 3 -3.0

#### Introductions:

EDUA 3404 Indigenous Education Cr. Hrs.3 +3.0  
A study of fundamental issues, philosophies, and models of Indigenous education. Within a multi-modal and interactive setting, cultural, spiritual, social, and political perspectives regarding Indigenous education will be critically explored. May not be held with the former EDUA 1500 or the former EDUA 3400.

EDUA 5302 Gender and Sexual Diversity in Education and Community Cr. Hrs. 3 +3.0  
This course explores the various historical, political, and social struggles facing lesbian, gay, bisexual, trans\*, two-spirit, and queer (LGBT2Q) people in educational contexts and their communities. The course explores LGBT2Q experiences with, and concerns relating to, policy, curriculum, administration, school experience, support, pedagogy, and community organizations. Students in this course will learn strategies for making their learning environments more inclusive of gender and sexuality diversity. May not be held with EDUA 5080 when titled "LGBTQ Issues in Education & Community" or "Gender and Sexual Diversity in Education and Community."

### **NET CHANGE IN CREDIT HOURS: +3.0**

#### Modification:

EDUA 5642 Inclusive Education: Transition from School to Adult Life Cr. Hrs. 3 0.0  
An examination of the practices for supporting students from preschool until they transition into adulthood, including the nature of support services and an analysis of factors influencing program development and effectiveness. May not be held with the former EDUA 5640 or the former EDUA 5650.

## Faculty of Engineering

### Faculty of Engineering

#### Modifications:

ENG 1430 Design in Engineering Cr. Hrs. 3 0.0

The creative process; the design process; working in a team. The engineering profession from the perspective of students and professionals. Academic, legal and ethical considerations.

Prerequisites: [A minimum grade of 60% in Pre-Calculus Mathematics 40S (or a minimum grade of "C" in one of MATH 0401, MATH 1230, MATH 1500, MATH 1501, MATH 1510, MATH 1520, MATH 1690, MSKL 0100, or the former MATH 1680)] and [a minimum grade of 60% in Physics 40S (or a passing grade in PHYS 0900 or PSKL 0100; or a minimum grade of "C" in PHYS 1050 or PHYS 1051)] and [a minimum grade of 60% in Chemistry 40S (or a passing grade in CHEM 0900 or CSKL 0100; or a minimum grade of "C" in CHEM 1100 or CHEM 1301 or the former CHEM 1300)] or their equivalents.

ENG 1440 Introduction to Statics Cr. Hrs. 3 0.0

Statics of particles; rigid bodies, equilibrium of rigid bodies; analysis of structures; distributed forces. Not to be held with ENG 1441. Prerequisites: [A minimum grade of 60% in Pre-Calculus Mathematics 40S (or a minimum grade of "C" in one of MATH 0401, MATH 1230, MATH 1500, MATH 1501, MATH 1510, MATH 1520, MATH 1690, MSKL 0100, or the former MATH 1680)] and [a minimum grade of 60% in Physics 40S (or a passing grade in PHYS 0900 or PSKL 0100; or a minimum grade of "C" in PHYS 1050 or PHYS 1051)] and [a minimum grade of 60% in Chemistry 40S (or a passing grade in CHEM 0900 or CSKL 0100; or a minimum grade of "C" in CHEM 1100 or CHEM 1301 or the former CHEM 1300)] or their equivalents.

ENG 1450 Introduction to Electrical and Computer Engineering Cr. Hrs. 3 0.0

Part I: Current, voltage, energy, potential, power Ohm's law; independent sources; capacitor, inductor, ideal diode, op-amp; Kirchoff's law; simple circuits (Resistive, RC, RL, OP-Amp; Diode); introduction to ac theory (Sinusoidal waveform, phase relations of voltage and current waveforms for R,L,C. RL and RC circuits). Part II: Applications (Digital Logic, motors).

Prerequisites: [A minimum grade of 60% in Pre-Calculus Mathematics 40S (or a minimum grade of "C" in one of MATH 0401, MATH 1230, MATH 1500, MATH 1501, MATH 1510, MATH 1520, MATH 1690, MSKL 0100, or the former MATH 1680)] and [a minimum grade of 60% in Physics 40S (or a passing grade in PHYS 0900 or PSKL 0100; or a minimum grade of "C" in PHYS 1050 or PHYS 1051)] and [a minimum grade of 60% in Chemistry 40S (or a passing grade in CHEM 0900 or CSKL 0100; or a minimum grade of "C" in CHEM 1100 or CHEM 1301 or the former CHEM 1300)] or their equivalents.

ENG 1460 Introduction to Thermal Sciences Cr. Hrs. 3 0.0

Properties of pure substances; first law for closed systems; first law for open systems; second law; examples of power cycles and refrigeration cycles. Prerequisites: [A minimum grade of 60% in Pre-Calculus Mathematics 40S (or a minimum grade of "C" in one of MATH 0401, MATH 1230, MATH 1500, MATH 1501, MATH 1510, MATH 1520, MATH 1690, MSKL 0100, or the former MATH 1680)] and [a minimum grade of 60% in Physics 40S (or a passing grade in PHYS 0900 or PSKL 0100; or a minimum grade of "C" in PHYS 1050 or PHYS 1051)] and [a minimum grade of 60% in Chemistry 40S (or a passing grade in CHEM 0900 or CSKL 0100; or a minimum grade of "C" in CHEM 1100 or CHEM 1301 or the former CHEM 1300)] or their equivalents.

ENG 3000 Engineering Economics Cr. Hrs. 3

0.0

This course offers an introduction to the economic aspects of the engineering discipline. It covers applied economic concepts such as: time value of money, taxation in cash flows, break-even points, inflation of goods, cost/benefit ratios, income and depreciation, and general microeconomic concepts. The focus includes analysis techniques such as: cash flow analysis, cost-based analysis, rate of return analysis, sensitivity analysis, replacement analysis, and risk mitigation. Concepts are introduced in the context of sustainability and project management fundamentals in a professional practice setting. May not be held with CIVL 4050.

### **NET CHANGE IN CREDIT HOURS: 0.0**

Program modifications:

Modifications to the description of the **Music Minor** are outlined below:

### *3.9 Minors in Engineering*

[...]

#### **Music Minor**

The Minor in Music requires 18 credit hours of MUSC courses and students are subject to the regulations set by the Marcel A. Desautels Faculty of Music. Please see SECTION 4.--7- **4.5 Music Minors for students in the Faculty of Engineering, Faculty of Arts and Faculty of Science** under the Marcel A. Desautels Faculty of Music section.

[...]

## Biosystems Engineering

### Deletion:

BIOE 4700 Alternative Building Design Cr. Hrs. 4 -4.0

### **NET CHANGE IN CREDIT HOURS: -4.0**

### Modification:

BIOE 4412 Design of Light-Frame Building Systems Cr. Hrs. 4 0.0

(Lab required) Light-frame buildings as a structural and environmental system; structural loads in building systems; energy (heat), moisture and air contaminants in building systems; built-environment for building occupants. Lab activities provide students with an opportunity to construct small-scale structures. Students will be introduced to alternative building systems. May not be held with CIVL 4024. Prerequisites: BIOE 2110 and BIOE 3590.

### Program modifications:

Modifications to the following programs are outlined on the next 5 pages:

- **Bachelor of Science in Engineering (Biosystems) (core)**
- **Bachelor of Science in Engineering (Biosystems), Biomedical Specialization**
- **Bachelor of Science in Engineering (Biosystems), Bioresource Specialization**
- **Bachelor of Science in Engineering (Biosystems), Environmental Specialization**

### 4.4.1 Biosystems Engineering Degree Program

#### Preliminary Engineering Program

Common to all engineering programs (see Section 4.2 for details).

#### Program Core Courses

Note: Students are encouraged to consult the department for eight- and ten-term program models. Students are strongly encouraged to follow the model programs when possible, as timetabling and course offerings are based on these program models.

Course No.		Credit Hours
BIOE 2110	Transport Phenomenon	3
BIOE 2480	Impact of Engineering on the Environment	3
BIOE 2590	Biology for Engineers	3
BIOE 2790	Fluid Mechanics	4
BIOE 2800	Solid Mechanics	4
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 3590	Mechanics of Materials in Biosystems	4
BIOE 3900	Biosystems Engineering Design 2	4
BIOE 4240	Graduation Project	3
BIOE 4900	Biosystems Engineering Design 3	4
BIOE 4950	Biosystems Engineering Design 4	4
CHEM 1310	University Chemistry 1	3
ENG 2022	Engineering CAD Technologies for Biosystems	3
ENG 3000	Engineering Economics	3
MATH 2130	Engineering Mathematical Analysis 1	3
MATH 2132	Engineering Mathematical Analysis 2	3
M BIO 1220 or M BIO 1010	Essentials of Microbiology  Microbiology 1	3  3
MECH 2150	Mechanical Engineering Modelling and Numerical Methods	4
MECH 3482	Kinematics and Dynamics	4
STAT 2220	Contemporary Statistics for Engineers	3
<b>Two Science Electives (see list below)</b>		<b>6</b>
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 (ENG 3020 or ANTH 2430)		3
Two Complementary Studies Electives		6
Three Biosystems Engineering Design Electives (see list below)		12
Two Free Electives		6-8
<b>Total credit hours for graduation</b>		<b>150 to 153 152</b>

Please note the combination of BIOL 1020 (Biology 1: Principles and Themes) and BIOL 1030 (Biology 2: Biological Diversity, Function and Interactions) can be used in place of BIOE 2590 (Biology for Engineers).

#### 4.4.2 Science Electives

Course No.		Credit Hours
AGEC 2370	Principles of Ecology (or the equivalent BIOL 2300)	3
ANSC 3530	The Animal and its Environment	3
BIOL 1410	The Anatomy of the Human Body	3
BIOL 1412	Physiology of the Human Body	3
PLNT 2510	Fundamentals of Horticulture	3
SOIL 4060	Physical Properties of Soil	3

#### 4.4.2 4.4.3 Biosystems Engineering Design Electives

Course No.		Credit Hours
BIOE 4390	Unit Operations 1	4
BIOE 4412	Design of Light-Frame Building Systems	4
BIOE 4414	Imaging and Spectroscopy for Biosystems	4
BIOE 4420	Crop Preservation	4
BIOE 4440	Bioprocessing for Biorefining	4
BIOE 4460	Air Pollution Assessment and Management	4
BIOE 4560	Structural Design in Wood	4
BIOE 4590	Management of By-Products from Animal Production	4
BIOE 4600	Design of Water Management Systems	4
BIOE 4610	Design of Assistive Technology Devices	4
BIOE 4620	Remediation Engineering	4
BIOE 4640	Bioengineering Applications in Medicine	4
BIOE 4700	Alternative Building Design	4

Design elective courses offered vary from year to year. Courses offered in the current year are listed on the online timetables on the department website.

#### 4.4.3 4.4.4 Complementary Studies Electives

Complementary studies electives are required to give the engineering student exposure to topics outside the fields of science and engineering. Many university courses fulfill the complementary studies requirement:

- Any course at the 1000-level or above from the faculties of Arts or Management;
- Any course at the 1000-level or above from the Department of Agribusiness and Agricultural Economics;
- Any course listed in Group C of our 3 specializations

*ARTS 1100 Introduction to University* may not be used for credit in the Price Faculty of Engineering. Other university courses, which do not cover topics of science or engineering, may also be acceptable. Please consult with the department head (or his/her designate) for approval of such courses. If you are planning to complete a specialization, please take note that there are specific courses to be used as complementary studies electives.

#### Free Electives

Any university course at the 1000-level or above can be used as a free elective. However, *ARTS 1100 Introduction to University* may not be used for credit in the Price Faculty of Engineering. Students are permitted to take additional design electives or engineering courses from other departments to fulfill free elective requirements. If you are planning to complete a specialization, please take note that there are specific courses to be used as free electives.

#### 4.4.4. 4.4.5 Specializations in Biosystems Engineering

##### **Specializations in Biosystems Engineering**

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).

##### **Biomedical Specialization**

The biomedical specialization provides engineers with knowledge of human anatomy and physiology to enhance the understanding of the role to be played by engineers in specific areas within biomedical engineering such as rehabilitation engineering, clinical engineering, medical imaging, and orthopaedics.

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
BIOE 4650	Textiles in Healthcare and Medical Applications

##### Group C: Complementary Studies Electives (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	Indigenous Medicine and Health
KPER 1200	Physical Activity, Health and Wellness
PHIL 2740	Ethics and Biomedicine (or PHIL 2741 Éthique et biomédecine)

##### Group D: Free Electives (choose 2 from the list)

(Note: additional courses from Group C can be used to fulfill Group D electives.)

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
KPER 2330	Biomechanics
KIN 4330	Advanced Biomechanics
MECH 4322	Design of Biomechanical Devices
<del>MECH 4360</del>	<del>Biomaterials for Medical Applications</del>
<b>MECH 4832</b>	<b>Biomaterials in Biomedical Engineering</b>
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

Challenges remain in the production of food and renewable resources for a world of ever-increasing population. The bioresource specialization provides the educational background to enable engineers to devise strategies and technologies for producing food, fibre, bio-based products, and renewable energy efficiently and sustainably.

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 **two** courses)

**ANSC 3530 The Animal and Its Environment or PLNT 2510 Fundamentals of Horticulture**

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 4390 Unit Operations 1

BIOE 4412 Design of Light-Frame Building Systems

BIOE 4420 Crop Preservation

BIOE 4440 Bioprocessing for Biorefining

**BIOE 4560 Structural Design in Wood**

BIOE 4590 Management of By-Products from Animal Production

BIOE 4600 Design of Water Management Systems

Group C: Complementary Studies Electives (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 1600 Introduction to Agrifood Systems

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

There are numerous environmental issues faced by society. The environmental specialization provides engineers with the knowledge to predict environmental impacts due to human developments and to solve problems associated with the environment (soil contamination, pollution of rivers and lakes, air pollution, wastewater treatment).

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)

**AGEC 2370 Principles of Ecology OR BIOL 2300 Principles of Ecology**

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)

<b>BIOE 4412</b>	<b>Design of Light-Frame Building Systems</b>
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 Electives (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 2810	Environmental Critical Thinking and Scientific Research
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.

### **Agribusiness Minor**

A minor in agribusiness is available to Biosystems Engineering students. The minimum requirement is 18 credit hours consisting of ECON 1010 Introduction to Microeconomic Principles (3 credit hours), ECON 1020 Introduction to Macroeconomic Principles (3 credit hours), ABIZ 1000 Introduction to Agribusiness (3 credit hours), ABIZ 2510 Introduction to Agricultural and Food Marketing (3 credit hours), ABIZ 2520 Introduction to Management Sciences (3 credit hours) and at least three additional credit hours from the Department of Agribusiness and Agricultural Economics (students must meet all prerequisite requirements). A maximum of 3 courses (9 credit hours) of courses used for the minor may also be used to fulfill course requirements in Biosystems Engineering.

### **Admission to Medicine**

The Bachelor of Science degree in Biosystems Engineering provides the background to meet eligibility requirements for admission into the Max Rady College of Medicine at the University of Manitoba. Students planning to apply for entrance to Medicine after completing the B.Sc. in Biosystems Engineering are advised to consult with the Max Rady College of Medicine for admission requirements.

### **Co-operative Education Program in Biosystems Engineering**

Please refer to *SECTION 5: Co-operative Education and Industrial Internship Programs*

## Civil Engineering

Modification:

CIVL 3690 Environmental Engineering Analysis Cr. Hrs. 4 0.0  
(Lab required) Introduction to environmental engineering analysis concepts, basic water and wastewater quality testing. Water pollution and water quality in rivers and lakes. Design principles used for design of unit operations and processes applied in water and/or wastewater treatment. Prerequisites: [(CHEM 1110 and CHEM 1126) or CHEM 1311 or the former CHEM 1310], [ENG 2030 or ENG 2040 (or the former ENG 2010)], [STAT 2220 or (STAT 1000 and STAT 2000)].

**NET CHANGE IN CREDIT HOURS: 0.0**

Program modifications:

Modifications to the programs listed below are outlined on the next page:

- **Bachelor of Science in Engineering (Civil)**
- **Bachelor of Science in Engineering (Civil), Environmental Option**

**ACADEMIC CALENDAR CONTENT**  
**Civil Engineering Program – changes requested for September, 2021**

Civil Engineering Program and Environmental Engineering Option  
Common Core Program

Course No.		Credit Hours
CHEM 1310	University 1 Chemistry: Introduction to Physical Chemistry	3
<b>CHEM 1110</b>	<b>Introduction to Chemistry 2: Interaction, Reactivity and Chemical Properties*</b>	<b>3</b>
<b>CHEM 1126</b>	<b>Introduction to Chemical Techniques for Engineering 2*</b>	<b>1.5</b>
CIVL 2770	Civil Engineering Materials	5
CIVL 2780	Civil Engineering Systems	4
CIVL 2790	Fluid Mechanics	4
CIVL 2800	Solid Mechanics 1	4
CIVL 2830	Graphics for Civil Engineers	2
CIVL 2840	Civil Engineering Geomatics	3
CIVL 3590	Numerical Methods for Engineers	4
CIVL 3690	Environmental Engineering Analysis	4
CIVL 3700	Environmental Engineering Design	4
CIVL 3730	Geotechnical Materials and Analysis	4
CIVL 3740	Hydraulics	4
CIVL 3750	Hydrology	4
CIVL 3760	Structural Analysis	4
CIVL 3770	Structural Design 1	4
CIVL 3790	Transportation Engineering	4
CIVL 4220	Geotechnical Design	4
CIVL 4380	Infrastructure Engineering and Construction Management	4
CIVL 4390	Structural Design 2	4
CIVL 4400	Transportation Engineering 2	4
CIVL 4590	Design Project	6
ENG 2030 or ENG 2040	Engineering Communication: Strategies for the Profession Engineering Communication: Strategies, Practice and Design	3 3
ENG 3000	Engineering Economics	3
ENG 3020	Technology, Society and the Future	3
GEOL 1340	The Dynamic Earth	3
MATH 2130	Engineering Mathematical Analysis	3
MATH 2132	Engineering Mathematical Analysis 2	3
STAT 2220	Introduction to Probability and Statistics	3
<b>* The former CHEM 1310 may be used in lieu of the combination of CHEM 1110 and CHEM 1126.</b>		

## Electrical and Computer Engineering

### Deletions:

ECE 4140 Power Transmission Lines; Field Effects and Insulation Coordination Cr. Hrs. 4	-4.0
ECE 4200 Electric Filter Design Cr. Hrs. 4	-4.0

### **NET CHANGE IN CREDIT HOURS: -8.0**

### Modifications:

ECE 4530 Parallel Processing Cr. Hrs. 4	0.0
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(Lab required) This course provides an overview of parallel processing (classification of parallel processing architectures and other select topics), parallel programming strategies (embarrassingly parallel partitioning, divide-and-conquer, and other select topics), applied design and implementation of parallel software solutions (including distributed computing, shared memory computing, and GPGPU computing), and evaluation of parallel performance (time and memory complexity, speedup, efficiency, Amdahl's law, Gustafson's law).  
Prerequisites: (COMP 2140 and ECE 3790) or (ECE 2240 and ECE 3730).

### Program modifications:

Modifications to the following programs are set out on the next 5 pages:

- **Bachelor of Science in Engineering (Computer)**
  - **Computer Networks and Communications Focus Area**
  - **Embedded Systems Focus Area**

## 4.8.1 Computer Engineering Degree Program

The program in Computer Engineering has a core-plus-elective structure. The core includes fundamental professional courses focused on digital hardware, digital systems design, software engineering, algorithms, electronics, and communications, as well as developing a necessary foundation in mathematics, computer programming, electric circuits, the physical sciences, and thermodynamics. At the conclusion of the program, a graduate will have acquired both the knowledge and experience necessary to design and engineer practical custom digital hardware and software systems to solve real-world problems. To support that outcome, the final year includes a significant, industrially relevant, capstone group design project as a core requirement, with the remaining program based on electives. A certain level of specialization is possible through the selection of elective courses offered in the final year. In addition, the Department offers recognized Focus Areas in Computer Networks and Communications, Embedded Systems, and Software Engineering, and Biomedical as described in Section 4.8.3.

The student's program must include six credit hours of complementary studies electives. Courses in engineering economics, technical writing, and ecology, technology and society are compulsory.

Students are encouraged to consult with the department for model four-year and five-year programs. Students are strongly encouraged to follow the model programs when possible, as timetabling and course offerings are based on these.

### Preliminary Engineering Program

All degree programs within the Price Faculty of Engineering consist of a common first-year known as the *Preliminary Engineering Program*. For information on the preliminary program, please refer to Section 4.2.

### Computer Engineering Departmental Program

Course No.		Credit Hours
ANTH 2430	Ecology, Technology and Society	3
CHEM 1300	University 1 Chemistry: Structure and Modelling in Chemistry	3
<b>CHEM 1100</b>	<b>Introduction to Chemistry 1: Atomic and Molecular Structure and Energetics</b>	<b>3</b>
<b>CHEM 1122</b>	<b>Introduction to Chemical Techniques for Engineering 1</b>	<b>1.5</b>
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
ENG 3000	Engineering Economics	3
MATH 1210	Techniques of Classical and Linear Algebra	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

ECE 2160	Electronics 2E	5
ECE 2220	Digital Logic Systems	5
ECE 2262	Electric Circuits	4
ECE 3610	Microprocessor Systems	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 (see Note 1)	6

Plus 1 course from the list of Written English Courses for Engineering Students.

Plus 1 Complementary Studies Elective.

Plus 2 Natural Science Electives from the approved list.

Plus 5 Technical Electives from the approved list.

\*\* 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 Price Faculty of Engineering.

### **Total credits for Graduation**

**152-157 153.5 – 158.5**

### **Computer Engineering Technical Electives (5 required) (see Note-3 Notes 3 and 4)**

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 from the list of Approved Electrical Engineering Electives.

#### **Computer Engineering Electives**

ECE 3750	Systems Engineering Principles 2	4
ECE 3770	Digital Systems Design 2	4
ECE 4180	Introduction to Robotics	4
ECE 4250	Digital Communications	4
ECE 4420	Digital Control	4
ECE 4440	Computer Vision	4
ECE 4450	Applied Computational Intelligence	4
ECE 4520	Simulation and Modelling	4
ECE 4530	Parallel Processing	4
ECE 4540	Wireless Networks	4
ECE 4560	Modern Computing Systems	4
ECE 4740	Digital System Implementation	4
ECE 4850	Topics in Electrical and Computer Engineering 1 (see Note 6 5)	4
ECE 4860	Topics in Electrical and Computer Engineering 2 (see Note 6 5)	4
ECE 4870	Topics in Electrical and Computer Engineering 3 (see Note 6 5)	3
ECE 4880	Topics in Electrical and Computer Engineering 4 (see Note 6 5)	3

### Approved Electrical Engineering Electives (maximum of 2) (see Note 3)

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

### Approved Computer Science Electives

COMP 2150	Object Orientation	3
COMP 2160	Programming Practices	3
COMP 3010	Distributed Computing	3
COMP 3020	Human-Computer Interaction 1	3
COMP 3190	Introduction to Artificial Intelligence	3
COMP 3290	Introduction to Compiler Construction	3
COMP 3350	Software Engineering 1	3
COMP 3380	Database Concepts and Usage	3
COMP 3490	Computer Graphics 1	3
COMP 4020	Human-Computer Interaction 2	3
<del>COMP 4140</del>	<del>Introduction to Cryptography and Cryptosystems</del>	<del>3</del>
COMP 4190	Artificial Intelligence	3
COMP 4200	Expert Systems	3
COMP 4350	Software Engineering 2	3
COMP 4360	Machine Learning	3
COMP 4380	Database Implementation	3
COMP 4430	Operating Systems 2	3
COMP 4490	Computer Graphics 2	3
COMP 4580	Computer Security	3
COMP 4710	Introduction to Data Mining	3

### Natural Science Electives for Computer Engineering

The Computer Engineering program requires students to complete two (2) Natural Science Electives as part of their program selected from a Department approved list. These courses may be taken anytime during the student's program. One course must be selected from *Group A*. The second may be selected from either *Group A* or *Group B*.

### Approved Natural Science Electives – Group A (1 required)

CHEM 1310	University 1 Chemistry: An Introduction to Physical Chemistry	3
PHYS 2600	Electromagnetic Field Theory	3
PHYS 3630	Electro- and Magnetostatic Theory	3

### Approved Natural Science Electives – Group B

ASTR 1810	Introduction to Astronomy: The Magnificent Universe	3
ASTR 3180	Stars	3
BIOL 1020	Biology 1: Principles and Themes	3
BIOL 1300	Economic Plants	3
BIOL 1410	Anatomy of the Human Body	3
<b>CHEM 1110</b>	<b>Introduction to Chemistry 2: Interaction, Reactivity, and Chemical Properties</b>	<b>3</b>
CHEM 1320	University 1 Chemistry: An Introduction to Organic Chemistry	3
<b>CHEM 1130</b>	<b>Introduction to Organic Chemistry</b>	<b>3</b>
ENTM 2050	Introduction to Entomology	3
GEOL 1340	The Dynamic Earth	3
MBIO 1220	Essentials of Microbiology	3
PHYS 2260	Optics	3
PHYS 2386	Introduction to Quantum Mechanics and Special Relativity	3
<b>PHYS 2600</b>	<b>Electromagnetic Field Theory</b>	<b>3</b>
PHYS 2650	Classical Mechanics 1	3
PHYS 3220	Medical Physics and Physiological Measurements	3
<b>PHYS 3630</b>	<b>Electro- and Magnetostatic Theory</b>	<b>3</b>

#### NOTES:

1. Course continues through both terms with credit given upon completion.
2. The complementary studies elective can be any course at the 1000 level or above from either the faculties of Arts or Management. However, *ARTS 1110 Introduction to University* may not be used for credit in the Price Faculty of Engineering.
3. The Department of Electrical and Computer Engineering does not guarantee that all elective courses will be offered every session or that it will be possible to fit courses into all of the many possible timetable combinations of students taking the programs. The term in which an elective course is offered is specified each year in ~~the online timetables~~ **Aurora and** on the Department website. There may be a maximum limit on the number of students allowed to take an elective in a particular session. Similarly, there may be a minimum limit and if registration is below the minimum, the elective will be cancelled for the session, and those registered will be required to transfer to another elective before the ~~deadline date for course changes~~ **registration revision deadline**.
4. Students are urged to discuss their program of courses with members of the instructional staff before the end of their third year to obtain advice concerning the best choice of electives for their needs.
5. ~~The natural science elective course is to be chosen from a list of courses approved by the Department and available on the Department website.~~
- 6 5 Requires permission of the Department.

# Proposed Changes to the Computer Engineering Focus Areas

## **COMPUTER NETWORKS AND COMMUNICATIONS FOCUS AREA**

### **Requirements:**

To complete the Computer Networks and Communications Focus the prescribed course must be taken. Three (3) of the seven Computer Networks and Communications Technical Elective courses must also be taken. To complete the program requirements, two (2) additional courses must be selected from the technical elective courses listed in the Computer Engineering Standard Program.

### **Prescribed Computer Networks and Communications Course** (required)

**ECE 4260** Communication Systems

### **Computer Networks and Communications Technical Elective Courses** (3 required)

**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**

### **Requirements:**

To complete the Embedded Systems Focus the prescribed course must be taken. Three (3) of the nine Embedded Systems Technical Elective courses must also be taken. To complete the program requirements, two (2) additional courses must be selected from the technical elective courses listed in the Computer Engineering Standard Program.

### **Prescribed Embedded Systems Course** (required)

**ECE 4150** Control Systems

### **Embedded Systems Technical Elective Courses** (3 required)

**ECE 3770** Digital Systems Design 2

**ECE 4180** Introduction to Robotics

**ECE 4440** Computer Vision

**ECE 4560** Modern Computing Systems

**ECE 4610** Biomedical Instrumentation and Signal Processing

**ECE 4740** Digital System Implementation

**COMP 3020** Human-Computer Interaction 1

~~**COMP 4140** Introduction to Cryptography and Cryptosystems~~

**COMP 4580** Computer Security

Modifications to the following programs are set out on the next 5 pages:

- **Bachelor of Science in Engineering (Electrical)**
  - **Power and Energy Systems Focus Area**

## 4.8.2 Electrical Engineering Degree Program

The program in Electrical Engineering has a core-plus-elective structure. The core develops the necessary base in mathematics, the physical sciences, dynamics, thermodynamics, electric fields and circuits, and fundamental professional courses focused on energy conversion and transmission, electronics, materials and devices, communications, and control systems. At the conclusion of the program, a graduate will have acquired both the knowledge and experience necessary to design and engineer practical electrical and electronic systems to solve real-world problems. To support that outcome, the final year includes a significant, industrially relevant, capstone group design project, in addition to control systems, and communication systems as core requirements, with the remaining program based on electives. A certain level of specialization is possible through the selection of elective courses offered in the final year. In addition, the Department offers recognized Focus Areas in Power and Energy Systems, Communication Devices, Engineering Physics, and Biomedical, as described in Section 4.8.4.

The student's program must include six credit hours of complementary studies electives. Courses in engineering economics, technical writing, and ecology, technology and society are compulsory.

Students are encouraged to consult with the department for model four-year and five-year programs. Students are strongly encouraged to follow the model programs when possible, as timetabling and course offerings are based on these.

### Preliminary Engineering Program

All degree programs within the Price Faculty of Engineering consist of a common first-year known as the *Preliminary Engineering Program*. For information on the preliminary program, please refer to Section 4.2.

### Electrical Engineering Departmental Program

Course No.		Credit Hours
ANTH 2430	Ecology, Technology and Society	3
CHEM 1300	University 1 Chemistry: Structure and Modelling in Chemistry	3
<b>CHEM 1100</b>	<b>Introduction to Chemistry 1: Atomic and Molecular Structure and Energetics</b>	<b>3</b>
<b>CHEM 1122</b>	<b>Introduction to Chemical Techniques for Engineering 1</b>	<b>1.5</b>
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
ENG 2030	Engineering Communication: Strategies for the Profession	3
or		
ENG 2040	Engineering Communication: Strategies, Practice, and Design	3
ENG 3000	Engineering Economics	3
MATH 1210	Techniques of Classical and Linear Algebra	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 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

ECE 2160	Electronics 2E	5
ECE 2220	Digital Logic Systems	5
ECE 2240	Numerical Methods for Electrical Engineers	4
ECE 2262	Electric Circuits	4
ECE 3540	Advanced Circuit Analysis and Design	4
ECE 3580	Foundations of Electromagnetics	4
ECE 3590	Electromagnetic Theory	4
ECE 3600	Physical Electronics	4
ECE 3610	Microprocessor Systems	4
ECE 3670	Electronics 3E	4
ECE 3720	Electric Power and Machines	4
ECE 3730	Principles of Embedded Systems Design	4
ECE 3780	Signal Processing 1	4
ECE 4150	Control Systems	4
ECE 4260	Communication Systems	4
ECE 4600	Group Design Project (see Note 1)	6

Plus 1 course from the list of Written English Courses for Engineering Students

Plus 1 Complementary Studies Elective.

Plus 1 Natural Science Electives from the approved list.

Plus 7 Technical Electives from the approved list.

\*\* 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 Price Faculty of Engineering.

### **Total credits for Graduation**

**~~158-163~~ 159.5 – 164.5**

### **Electrical Engineering Technical Electives (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 3650	Electric Machines	5
ECE 3700	Telecommunication Networks Engineering	4
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	5
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 4430	Design of RF Devices and Wireless Systems	4
ECE 4440	Computer Vision	4
ECE 4450	Applied Computational Intelligence	4
ECE 4520	Simulation and Modelling	4
ECE 4530	Parallel Processing	4
ECE 4540	Wireless Networks	4
ECE 4560	Modern Computing Systems	4
ECE 4580	Optoelectronics	4
ECE 4610	Biomedical Instrumentation and Signal Processing	4
ECE 4740	Digital System Implementation	4
ECE 4850	Topics in Electrical and Computer Engineering 1 <b>(see Note 6)</b>	4
ECE 4860	Topics in Electrical and Computer Engineering 2 <b>(see Note 6)</b>	4
ECE 4870	Topics in Electrical and Computer Engineering 3 <b>(see Note 6)</b>	3
ECE 4880	Topics in Electrical and Computer Engineering 4 <b>(see Note 6)</b>	3
COMP 1020	Computer Science 2	3
COMP 2140	Data Structures and Algorithms	3
COMP 3190	Introduction to Artificial Intelligence	3
COMP 4360	Machine Learning	3
MATH 3120	Applied Discrete Mathematics	3
MATH 3460	Partial Differential Equations	3
PHYS 2260	Optics	3
PHYS 3220	Medical Physics and Physiological Measurement	3
PHYS 4590	Advanced Optics	3
PHYS 4646	Electro- and Magnetodynamics and Special Relativity	3

### Natural Science Electives for Electrical Engineering

The Electrical Engineering program requires students to complete an elective course in natural science selected from a **the following** Department approved list. This list is updated periodically to reflect changes in course offerings and is available on the Department website and as follows:

ASTR 1810	Introduction to Astronomy: The Magnificent Universe	3
ASTR 3180	Stars	3
BIOL 1020	Biology 1: Principles and Themes	3
BIOL 1300	Economic Plants	3
BIOL 1410	Anatomy of the Human Body	3
CHEM 1310	University 1 Chemistry: An Introduction to Physical Chemistry	3
<b>CHEM 1110</b>	<b>Introduction to Chemistry 2: Interaction, Reactivity, and Chemical Properties</b>	<b>3</b>
CHEM 1320	University 1 Chemistry: An Introduction to Organic Chemistry	3
<b>CHEM 1130</b>	<b>Introduction to Organic Chemistry</b>	<b>3</b>
ENTM 2050	Introduction to Entomology	3
GEOL 1340	The Dynamic Earth	3
MBIO 1220	Essentials of Microbiology	3
PHYS 2260	Optics	3
PHYS 2386	Introduction to Quantum Mechanics and Special Relativity	3
PHYS 2650	Classical Mechanics 1	3
PHYS 3220	Medical Physics and Physiological Measurements	3

**NOTES:**

1. Course continues through both terms with credit given upon completion.
2. The complementary studies elective can be any course at the 1000 level or above from either the faculties of Arts or Management. However, *ARTS 1110* (formerly 099.111) *Introduction to University* may not be used for credit in the Price Faculty of Engineering.
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~~ **Aurora and** 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~~ **registration revision deadline**.
5. Students are urged to discuss their program of courses with members of the instructional staff before the end of their third year to obtain advice concerning the best choice of electives for their needs.
6. ~~The natural science elective course is to be chosen from a list of courses approved by the Department and available on the Department website.~~
- 7 **6** Requires permission of the Department.
8. ~~Students who do not complete ECE 3730 are required to have taken both ECE 3710 and ECE 4240.~~
9. ~~Students must complete one Qualified Engineering Design technical elective. Please see: [http://umanitoba.ca/ece/curr\\_students/undergraduate.html](http://umanitoba.ca/ece/curr_students/undergraduate.html)~~

## Electrical Engineering Focus Areas

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 (4) prescribed courses must be taken. One (1) of the three Power and Energy Systems Technical Elective courses must also be taken. To complete the program requirements, two (2) additional courses must be selected from the elective courses listed in the Electrical Engineering Standard Program.

#### **PRESCRIBED POWER AND ENERGY SYSTEMS COURSES:** (All are required)

**ECE 3650** Electric Machines\*

**ECE 4300** Electrical Energy Systems 1

**ECE 4370** Power Electronics

One (1) 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

\* **NOTE:** *ECE 3650 Electric Machines* is a prerequisite for other courses in this Focus Area. It is recommended that students complete the course *prior to their final year*.

Faculty of Kinesiology and Recreation Management

Program modifications:

Modifications to the following programs are set out on the next 3 pages:

- **Bachelor of Kinesiology**
- **Bachelor of Kinesiology (Athletic Therapy)**
- **Bachelor of Recreation Management and Community Development**

SECTION D – ACADEMIC CALENDAR CONTENT

(changes highlighted in yellow with deletions in strikethrough and additions in bold)

YEAR 1: 30 Credit Hours		
Course No.		Cr.Hrs.
<u>BIOL 1410</u>	Anatomy of the Human Body	3
<u>BIOL 1412</u>	Physiology of the Human Body	3
<u>KPER 1200</u>	Physical Activity, Health and Wellness	3
<u>KPER 1500</u>	Foundations of Physical Education and Kinesiology	3
<u>PSYC 1200</u>	Introduction to Psychology	6
<u>STAT 1000 / STAT 1150</u>	Basic Statistical Analysis 1 <b>or</b> Introduction to Statistics and Computing	3
	Faculty of Science Courses from List A*	6
	Elective	3

\*List A: List of Faculty of Science Electives

ASTR 1810 Introduction to Astronomy: The Magnificent Universe (3)

~~ASTR 1830 Life in the Universe (3)~~

BIOL 1020 Biology1: Principles and Themes (3)

BIOL 1030 Biology 2: Biological Diversity and Interactions (3)

**CHEM 1120 Introduction to Chemical Techniques (3)**

~~CHEM 1300 University 1 Chemistry: Structure and Modelling in Chemistry (3)~~

~~CHEM 1310 University 1 Chemistry: An Introduction to Physical Chemistry (3)~~

~~CHEM 1320 University 1 Chemistry: An Introduction to Organic Chemistry (3)~~

COMP 1010 Introductory Computer Science (or equivalent) (3)

COMP 1020 Introductory Computer Science 2 (3)

MATH 1240 Elementary Discrete Mathematics (or equivalent) (3)

MATH 1300 Vector Geometry and Linear Algebra (or equivalent) (3)

MATH 1500 Introduction to Calculus (or equivalent) (3)

MATH 1700 Calculus 2 (or equivalent) (3)

MBIO 1010 Microbiology 1 (3)

PHYS 1020 General Physics 1 (or equivalent) (3)

PHYS 1030 General Physics 2 (or equivalent) (3)

STAT 2000 Basic Statistical Analysis 2 (or equivalent) (3)

**SECTION D – ACADEMIC CALENDAR CONTENT**

**Program and Graduation Requirements: Bachelor of Recreation Management and Community Development**

To graduate with a four-year Bachelor of Recreation Management and Community Development degree, a student must have passed the 120 credit hours of the program outlined below and must have achieved a Degree Grade Point Average (DGPA) of 2.00 with a minimum grade of "C" in all faculty-required courses. A maximum of 158 credit hours may be attempted in order to obtain the 120 credit hours required for graduation with the Bachelor of Recreation Management and Community Development degree.

<b>YEAR 1: 30 Credit Hours</b>			
<b>Course No.</b>		<b>Cr.Hrs.</b>	
KPER 1200	Physical Activity, Health and Wellness	3	
KPER 1400	Concepts of Recreation and Leisure	3	
PSYC 1200	Introduction to Psychology	6	
<del>SOC 1200</del>	<del>Introduction to Sociology</del>	<del>6</del>	<del>-6 Cr.Hrs.</del>
<b>SOC 1000</b>	<b>Introduction to Sociology</b>	<b>3</b>	<b>+3 Cr. Hrs.</b>
STAT 1000 / STAT 1150	Basic Statistical Analysis 1 or Introduction to Statistics and Computing	3	
	<b>Electives</b>	<b>9 12</b>	<b>+3 Cr. Hrs.</b>
<b>YEAR 2: 30 Credit Hours</b>			
<b>Course No.</b>		<b>Cr.Hrs.</b>	
KPER 2120	Academic Skills in Kinesiology and Recreation Management	3	
KPER 2170	History of Physical Activity and Leisure	3	
KPER 2200	Planning Principles	3	
KPER 2350	Introduction to Research	3	
REC 2400	Management and Marketing of Leisure Services	3	
	<i>Choose 3 of the following 5:</i>	9	
REC 2100	Introduction to Leisure Travel (3)		
REC 2130	Introduction to Outdoor and Land-Based Recreation (3)		
REC 2150	Introduction to Sport Management (3)		
REC 2170	Introduction to Therapeutic Recreation (3)		
REC 2650	Social Aspects of Aging (3)		
	<b>Electives</b>	<b>6</b>	
<b>YEAR 3: 30 Credit Hours</b>			
<b>Course No.</b>		<b>Cr.Hrs.</b>	
KPER 3100	Inclusive Physical Activity and Leisure	3	
KPER 3460	Sociology of Physical Activity of Leisure	3	
REC 3072	Principles of Community Development	3	
REC 3180	Social Psychology of Leisure	3	
REC 3220	Program Planning and Evaluation	3	
<del>REC 3630</del>	<del>Service and Experiential Learning</del>	<del>3</del>	<del>-3 Cr. Hrs.</del>
<b>KPER 3630</b>	<b>Service and Experiential Learning</b>	<b>3</b>	<b>+3 Cr. Hrs.</b>
REC 3850	Planning of Recreation Areas and Facilities	3	

REC 3/4XXX	Advanced Recreation Elective*	3	
	Electives	6	
<b>YEAR 4: 30 Credit Hours</b>			
<b>Course No.</b>		<b>Cr.Hrs.</b>	
KPER 4020	Philosophy of Physical Activity and Leisure	3	
KPER 4100	Current Issues	3	
Supervised Fieldwork Experience	KPER 4630 (12) <i>or</i> KPER 4632 (6) & KPER 4634 (6)	12	
REC 3/4XXX	Advanced Recreation Elective*	3	
	Electives	6	
<b>Degree Exit Requirement: Current CPR Level C and Emergency or Standard First Aid Certification</b>			

**\*List of Approved Advanced Recreation Electives:**

REC 3090 Sustainable Nature-Based Tourism (3)

REC 3170 Sport and Development in Community (3)

REC 3310 Cultural Tourism (3)

REC 3770 Indigenous Perspectives on Land-Based Education (3)

REC 4060 Person Centred Leisure Education (3)

REC 4072 Advanced Marketing of Leisure Services (3)

REC 4120 Recreational Travel and Tourism (3)

REC 4250 Leisure and Aging (3)

REC 4350 Parks and Protected Areas Planning and Management: Field Studies (6)

REC 4400 The Administration of Special Events (3)

REC 4720 Wilderness Adventures (3)

REC 4770 Indigenous Recreation and Wellbeing (3)

KPER 4000 Special Topics (3)

KPER 4110 The Olympics and the Global Sporting Event (3)

KPER 4310 Physical Activity Counselling (3)

KPER 4320 Sport and the Body (3)

KPER 4340 Sport, Film and Society (3)

PHED 4710 Outdoor Education (3)

## College of Medicine

### Pharmacology and Therapeutics

#### Introduction:

PHAC 3000 Foundations of Pharmacology Cr. Hrs. 3 +3.0

Students will be taught a comprehensive range of basic pharmacology principles that prepare a strong foundation for future studies in pharmacology, toxicology and health sciences. Topics of emphasis include drug classification, nomenclature, administration, absorption, distribution, elimination, toxicity and addiction. There will also be a strong focus on the nature of drug interactions with molecular targets, and the cell signaling events that follow to produce therapeutic and toxic effects. Prerequisite: PHGY 1030 or (BIOL 2410 and B1OL 2420) or permission of course director.

#### **NET CHANGE IN CREDIT HOURS: +3.0**

#### Modifications:

PHAC 4030 Drugs in Human Disease I Cr. Hrs. 3 0.0

This course will teach foundational pathophysiological concepts underlying human disease and integrate them with the therapeutic and adverse effects of important drug groups. Emphasis will be placed on disorders of the autonomic and central nervous systems, and the cardiovascular system. Prerequisite: PHGY 1030 or (BIOL 2410 and BIOL 2420) or permission of course director. PHAC 3000 is also recommended.

PHAC 4040 Drugs in Human Disease II Cr. Hrs. 3 0.0

This course will teach foundational pathophysiological concepts underlying human disease and integrate them with the therapeutic and adverse effects of important drug groups. Emphasis will be placed on endocrine and organ system disorders, allergy and inflammation, infection, and cancer. The course also offers an introduction to basic clinical pharmacology as well as several current specialized topics in pharmacology. Prerequisite: PHGY 1030 or (B1OL 2410 and BIOL 2420) or permission of course director. PHAC 3000 is also recommended.

## Faculty of Music

#### Deletions:

MUSC 1182 Jazz Ensemble 1 Cr. Hrs. 2 -2.0

MUSC 1192 Jazz Rhythm Performance Techniques Cr. Hrs. 2 -2.0

MUSC 2112 Jazz Theory 1 Cr. Hrs. 3 -3.0

MUSC 2182 Jazz Ensemble 2 Cr. Hrs. 2 -2.0

MUSC 2192 Jazz Improvisation 1 Cr. Hrs. 2 -2.0

MUSC 3182 Jazz Ensemble 3 Cr. Hrs. 2 -2.0

MUSC 3192 Jazz Improvisation 2 Cr. Hrs 2 -2.0

MUSC 3272 Jazz Performance Skills Cr. Hrs. 3 -3.0

MUSC 3442 Jazz Pedagogy 1 Cr. Hrs. 3 -3.0

MUSC 4112 Jazz Composition and Arranging 2 Cr. Hrs. 3 -3.0

MUSC 4182 Jazz Ensemble 4 Cr. Hrs. 2 -2.0

MUSC 4192 Jazz Improvisation 3 Cr. Hrs. 2 -2.0

Deletion: (*effective Fall 2022*)

MUSC 4442 Jazz Pedagogy 2 Cr. Hrs. 3 -3.0

Deletion: (*effective Fall 2024*)

MUSC 4562 Jazz Recital 2 Cr. Hrs. 6 -6.0

Introductions:

MUSC 1112 Jazz Theory 1 Cr. Hrs. 3 +3.0

This course is designed to develop fluency in the writing and recognition of the elements of jazz: melodic and harmonic intervals, modes and scales, rhythm and meter, harmonic structure, and the principles of melodic and homophonic design. May not be held with the former MUSC 2112. Prerequisite: MUSC 1110 or consent of the Faculty of Music.

MUSC 1184 Jazz Ensemble Cr. Hrs. 2 +2.0

Participation in jazz ensemble(s) as assigned by the ensemble committee. May not be held with the former MUSC 1182. Course entry is subject to audition for students not enrolled in the Bachelor of Jazz Studies program.

MUSC 1194 Jazz Improvisation 1 Cr. Hrs. 3 +3.0

[The practical application of rhythmic, melodic, and harmonic devices, as well as scales, chords, and](#) substitutions in the context of song forms, song fragments, and repertoire. May not be held with the former MUSC 1192.

MUSC 1386 Jazz Musicianship 1 Cr. Hrs. 2 +2.0

(Lab required) A practical approach to the cultivation of critical aural perception, specifically, to develop the student's sight-singing, transcription, and keyboard skills within a jazz context. For Music students only. May not be held with MUSC 1384.

MUSC 1388 Jazz Musicianship 2 Cr. Hrs. 2 +2.0

(Lab required) A practical approach to the cultivation of critical aural perception, specifically, to develop the student's sight-singing, transcription, and keyboard skills within a jazz context. A continuation of MUSC 1386. For Music students only. May not be held with MUSC 1394. Prerequisite: MUSC 1386 or consent of the Faculty of Music.

MUSC 2184 Jazz Ensemble Cr. Hrs. 2 +2.0

Participation in jazz ensemble(s) as assigned by the ensemble committee. May not be held with the former MUSC 2182. Course entry is subject to audition for students not enrolled in the Bachelor of Jazz Studies program. Prerequisite: MUSC 1184 or the former MUSC 1182.

MUSC 2194 Jazz Improvisation 2 Cr. Hrs. 3 +3.0

A continuation of MUSC 1194 Jazz Improvisation 1. The practical application of rhythmic, melodic, and harmonic devices, as well as scales, chords, and substitutions in the context of song forms, song fragments, and repertoire. May not be held with the former MUSC 2192. Prerequisite: MUSC 1194 or the former MUSC 1192 or consent of the Faculty of Music.

MUSC 2386 Jazz Musicianship 3 Cr. Hrs. 2 +2.0

(Lab required) A practical approach to the cultivation of critical aural perception, specifically, to develop the student's sight-singing, transcription, and keyboard skills within a jazz context. A continuation of MUSC 1388. For Music students only. May not be held with MUSC 2384. Prerequisite: MUSC 1388 or consent of the Faculty of Music.

- MUSC 2388 Jazz Musicianship 4 Cr. Hrs. 2 +2.0  
 (Lab required) A practical approach to the cultivation of critical aural perception, specifically, to develop the student's sight-singing, transcription, and keyboard skills within a jazz context. A continuation of MUSC 2386. For Music students only. May not be held with MUSC 2394. Prerequisite: MUSC 2386 or consent of the Faculty of Music.
- MUSC 3126 Jazz Composition and Arranging 2 Cr. Hrs. 3 +3.0  
 A continuation of MUSC 3112. The student will write for larger ensembles, including jazz orchestra. Course will culminate in a performance of student compositions and arrangements. May not be held with the former MUSC 4112. Prerequisite: MUSC 3112 or consent of the Faculty of Music.
- MUSC 3184 Jazz Ensemble Cr. Hrs. 2 +2.0  
 Participation in jazz ensemble(s) as assigned by the ensemble committee. May not be held with the former MUSC 3182. Course entry is subject to audition for students not enrolled in the Bachelor of Jazz Studies program. Prerequisite: MUSC 2184 or the former MUSC 2182.
- MUSC 3194 Jazz Improvisation 3 Cr. Hrs. 3 +3.0  
 A continuation of MUSC 2194 Jazz Improvisation 2. The practical application of rhythmic, melodic, and harmonic devices, as well as scales, chords, and substitutions in the context of song forms, song fragments, and repertoire. May not be held with the former MUSC 3192. Prerequisite: MUSC 2194 or the former MUSC 2192 or consent of the Faculty of Music.
- MUSC 4184 Jazz Ensemble Cr. Hrs. 2 +2.0  
 Participation in jazz ensemble(s) as assigned by the ensemble committee. May not be held with the former MUSC 4182. Course entry is subject to audition for students not enrolled in the Bachelor of Jazz Studies program. Prerequisite: MUSC 3184 or the former MUSC 3182.
- MUSC 4194 Jazz Improvisation 4 Cr. Hrs. 3 +3.0  
 A continuation of MUSC 3194 Jazz Improvisation 3. The practical application of rhythmic, melodic, and harmonic devices, as well as scales, chords, and substitutions in the context of song forms, song fragments, and repertoire. May not be held with the former MUSC 4192. Prerequisite: MUSC 3194 or the former MUSC 3192 or consent of the Faculty of Music.
- MUSC 4452 Jazz Pedagogy Cr. Hrs. 3 +3.0  
 An introduction to the fundamentals of pedagogy within a jazz-specific context. May not be held with the former MUSC 3442 or the former MUSC 4442. Prerequisite: MUSC 3194 or the former MUSC 3192 or consent of the Faculty of Music.
- MUSC 4564 Jazz Recital 2 Cr. Hrs. 3 +3.0  
 Preparation and performance of a public graduation recital. The program must be approved by the applied instructor and the jury members. For Music students only. May not be held with the former MUSC 4562. Prerequisites: MUSC 2082, MUSC 2122, MUSC 2388, and MUSC 3554 or consent of the Faculty of Music.

**NET CHANGE IN CREDIT HOURS: +3.0**

Modifications:

MUSC 1190 Ensemble Cr. Hrs. 2 0.0  
Participation in a Faculty of Music Ensemble other than the one designated in MUSC 1180 or MUSC 1184 (placement to be determined by the Ensemble Committee).

MUSC 1384 Musicianship 1 Cr. Hrs. 2 0.0  
(Lab required) A practical approach to the cultivation of critical aural perception, specifically, to develop the student's sight-singing, transcription and keyboard skills. May not be held with MUSC 1380 or MUSC 1386. For Music students only.

MUSC 1394 Musicianship 2 Cr. Hrs. 2 0.0  
(Lab required) A continuation of MUSC 1384. May not be held with MUSC 1388 or the former MUSC 1390. For Music students only. Prerequisite: MUSC 1384 or consent of the Faculty of Music.

MUSC 2122 Jazz Theory 2 Cr. Hrs. 3 0.0  
A continuation of Jazz Theory 1. New topics will include transcription analysis, transposition of lead sheets, modal and substitute harmony. Prerequisite: MUSC 1112 or the former MUSC 2112 or consent of the Faculty of Music.

MUSC 2190 Ensemble Cr. Hrs. 2 0.0  
Participation in a Faculty of Music Ensemble other than the one designated in MUSC 2180 or MUSC 2184 (placement to be determined by the Ensemble Committee). Prerequisite: MUSC 1190 or consent of the Faculty of Music.

MUSC 2384 Musicianship 3 Cr. Hrs. 2 0.0  
(Lab required) A continuation of MUSC 1394. May not be held with MUSC 2380 or MUSC 2386. For Music students only. Prerequisite: MUSC 1394 or consent of the Faculty of Music.

MUSC 2394 Musicianship 4 Cr. Hrs. 2 0.0  
(Lab required) A continuation of MUSC 2384. May not be held with MUSC 2388 or MUSC 2390. For Music students only. Prerequisite: MUSC 2384 or consent of the Faculty of Music.

MUSC 3190 Ensemble Cr. Hrs. 2 0.0  
Participation in a Faculty of Music Ensemble other than the one designated in MUSC 3180 or MUSC 3184 (placement to be determined by the Ensemble Committee). Prerequisite: MUSC 2190 or consent of the Faculty of Music.

MUSC 3554 Jazz Recital 1 Cr. Hrs. 3 0.0  
Preparation and performance of a public recital. The program must be approved by the applied instructor and jury members. Prerequisites: MUSC 1014, MUSC 1112, MUSC 1388, and MUSC 2400 or consent of the Faculty of Music. For Music students only.

MUSC 4190 Ensemble Cr. Hrs. 2 0.0  
Participation in a Faculty of Music Ensemble other than the one designated in MUSC 4180 or MUSC 4184 (placement to be determined by the Ensemble Committee). Prerequisite: MUSC 3190 or consent of the Faculty of Music.

Program modifications:

Modifications to the following programs are outlined on the next 11 pages:

- **Bachelor of Jazz Studies**
- **Bachelor of Music**
- **Bachelor of Music (Music Education)**

**(c) PROGRAM MODIFICATION FORM – SECTION D ATTACHMENT 1:  
ACADEMIC CALENDAR CONTENT - PROGRAM DESCRIPTION AND REVISIONS**

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**Section:** 3.3  
**Title:** Ensembles

**Changes:**

- Additions are incorporated in bolded, underlined text
- Deletions are indicated via strikethrough text

The Faculty offers a wide variety of opportunities for participation in ensembles such as the Women's Choir, Concert Choir, University Concert Band, University Singers, University Symphony Orchestra, University Wind Ensemble, University Jazz Orchestra, \***Small** Jazz Ensembles, \***University Jazz Vocal Ensemble**, Opera Theatre, Chamber Ensembles, Percussion Ensemble, Musical Theatre, XIE (eXperimental Improv Ensemble), and other wind, string and keyboard combinations. Bachelor of Music **and Bachelor of Jazz Studies** students are required to participate in two ensembles each year for four years. ~~Bachelor of Jazz Studies students are required to participate in one ensemble each year for four years.~~ The Ensemble Committee determines placement in credit ensembles; such participation will normally be in ensembles directly relevant to the student's major practical study area. Students from other faculties and nonuniversity musicians are welcome to participate as space and instrumental balance allow, but all participation is at the discretion of the conductor or coach of the ensemble. Some ensembles are offered for credit in other faculties.

*\*These additions are not part of the program modification being presented. Rather, these are additional ensembles that have been added over the years which do not have designated course numbers, as they all fall under umbrella Ensemble courses and are not individual courses themselves.*

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**(c) PROGRAM MODIFICATION FORM - SECTION D ATTACHMENT 2:  
CURRENT AND REVISED PROGRAM CHARTS**

**YEAR ONE**

CURRENT PROGRAM		
Course Number	Course Title	Credit Hours
MUSC 1004	Intro to Music in History 1	3
MUSC 1014	Intro to Music in History 2	3
MUSC 1110	Music Theory 1	3
<del>MUSC 1120</del>	<del>Music Theory 2</del>	<del>3</del>
<del>MUSC 1182</del>	<del>Jazz Ensemble 1</del>	<del>2</del>
<del>MUSC 1192</del>	<del>Jazz Rhythm Performance Techniques</del>	<del>2</del>
<del>MUSC 1384</del>	<del>Musicianship 1</del>	<del>2</del>
<del>MUSC 1394</del>	<del>Musicianship 2</del>	<del>2</del>
MUSC 1400	Major Practical Study	6
MUSC 3230	Acoustics of Music	3
	Written English Requirement	3
<b>TOTAL CREDIT HOURS</b>		<b>32</b>

**ACTION**

Same  
Same  
Same  
Replaced with (moved from Year Two):  
Renamed and renumbered as:  
Added Cr.Hrs. and renamed/numbered as:  
Replaced with new:  
Replaced with new:  
Same  
Same  
Relocated to Year Two  
Added from Bachelor of Music program

REVISED PROGRAM		
Course Number	Course Title	Credit Hours
MUSC 1004	Intro to Music in History 1	3
MUSC 1014	Intro to Music in History 2	3
MUSC 1110	Music Theory 1	3
<b>MUSC 1112</b>	<b>Jazz Theory 1</b>	<b>3</b>
<b>MUSC 1184</b>	<b>Jazz Ensemble</b>	<b>2</b>
<b>MUSC 1194</b>	<b>Jazz Improvisation 1</b>	<b>3</b>
<b>MUSC 1386</b>	<b>Jazz Musicianship 1</b>	<b>2</b>
<b>MUSC 1388</b>	<b>Jazz Musicianship 2</b>	<b>2</b>
MUSC 1400	Major Practical Study	6
MUSC 3230	Acoustics of Music	3
<b>MUSC 1190</b>	<b>Ensemble</b>	<b>2</b>
<b>TOTAL CREDIT HOURS</b>		<b>32</b>

**YEAR TWO**

CURRENT PROGRAM		
Course Number	Course Title	Credit Hours
MUSC 2072	Jazz History 1	3
MUSC 2082	Jazz History 2	3
<del>MUSC 2112</del>	<del>Jazz Theory 1</del>	<del>3</del>
MUSC 2122	Jazz Theory 2	3
<del>MUSC 2182</del>	<del>Jazz Ensemble 2</del>	<del>2</del>
<del>MUSC 2192</del>	<del>Jazz Improvisation 1</del>	<del>2</del>
<del>MUSC 2384</del>	<del>Musicianship 3</del>	<del>2</del>
<del>MUSC 2394</del>	<del>Musicianship 4</del>	<del>2</del>
MUSC 2400	Major Practical Study	6
	Non-Music Elective	3
	<del>Non-Music Elective</del>	<del>3</del>
<b>TOTAL CREDIT HOURS</b>		<b>32</b>

**ACTION**

Same  
Same  
Relocated to Year One  
Same  
Renamed and renumbered as:  
Added Cr.Hrs. and renamed/numbered as:  
Replaced with new:  
Replaced with new:  
Same  
Same  
Relocated to Year Four  
Added from Bachelor of Music program  
Relocated from Year One

REVISED PROGRAM		
Course Number	Course Title	Credit Hours
MUSC 2072	Jazz History 1	3
MUSC 2082	Jazz History 2	3
MUSC 2122	Jazz Theory 2	3
<b>MUSC 2184</b>	<b>Jazz Ensemble</b>	<b>2</b>
<b>MUSC 2194</b>	<b>Jazz Improvisation 2</b>	<b>3</b>
<b>MUSC 2386</b>	<b>Jazz Musicianship 3</b>	<b>2</b>
<b>MUSC 2388</b>	<b>Jazz Musicianship 4</b>	<b>2</b>
MUSC 2400	Major Practical Study	6
	Non-Music Elective	3
<b>MUSC 2190</b>	<b>Ensemble</b>	<b>2</b>
	Written English Requirement	3
<b>TOTAL CREDIT HOURS</b>		<b>32</b>

**(c) PROGRAM MODIFICATION FORM - SECTION D ATTACHMENT 2  
CURRENT AND REVISED PROGRAM CHARTS**

**YEAR THREE**

CURRENT PROGRAM		
Course Number	Course Title	Credit Hours
MUSC 3112	Jazz Composition and Arranging 1	3
<del>MUSC 3182</del>	<del>Jazz Ensemble 3</del>	<del>2</del>
<del>MUSC 3192</del>	<del>Jazz Improvisation 2</del>	<del>2</del>
<del>MUSC 3272</del>	<del>Jazz Performance Skills</del>	<del>3</del>
<del>MUSC 3442</del>	<del>Jazz Pedagogy 1</del>	<del>3</del>
MUSC 3470	Major Practical Study	6
MUSC 3554	Jazz Recital 1	3
	Music Elective	3
	Non-Music Electives	6
<b>TOTAL CREDIT HOURS</b>		<b>31</b>

**ACTION**

Same  
Renamed and renumbered as:  
Added Cr.Hrs. and renamed/numbered as:  
Deleted  
Deleted  
Same  
Same  
Same  
Same  
Added from Bachelor of Music program  
Relocated from Year Four

REVISED PROGRAM		
Course Number	Course Title	Credit Hours
MUSC 3112	Jazz Composition and Arranging 1	3
<b>MUSC 3184</b>	<b>Jazz Ensemble</b>	<b>2</b>
<b>MUSC 3194</b>	<b>Jazz Improvisation 3</b>	<b>3</b>
MUSC 3470	Major Practical Study	6
MUSC 3554	Jazz Recital 1	3
	Music Elective	3
	Non-Music Electives	6
<b>MUSC 3190</b>	<b>Ensemble</b>	<b>2</b>
<b>MUSC 3126</b>	<b>Jazz Composition and Arranging 2</b>	<b>3</b>
<b>TOTAL CREDIT HOURS</b>		<b>31</b>

**YEAR FOUR**

CURRENT PROGRAM		
Course Number	Course Title	Credit Hours
<del>MUSC 4112</del>	<del>Jazz Composition and Arranging 2</del>	<del>3</del>
<del>MUSC 4182</del>	<del>Jazz Ensemble 4</del>	<del>2</del>
<del>MUSC 4192</del>	<del>Jazz Improvisation 3</del>	<del>2</del>
<del>MUSC 4442</del>	<del>Jazz Pedagogy 2</del>	<del>3</del>
MUSC 4470	Major Practical Study	6
<del>MUSC 4562</del>	<del>Jazz Recital 2</del>	<del>6</del>
	Music Elective	3
	Non-Music Electives	6
<b>TOTAL CREDIT HOURS</b>		<b>31</b>

**ACTION**

Relocated to Year Three  
Renamed and renumbered as:  
Added Cr.Hrs. and renamed/numbered as:  
Renamed and renumbered as:  
Same  
Reduced credit hours and renumbered:  
Same  
Same  
Relocated from Year Two  
Added from Bachelor of Music program

REVISED PROGRAM		
Course Number	Course Title	Credit Hours
<b>MUSC 4184</b>	<b>Jazz Ensemble</b>	<b>2</b>
<b>MUSC 4194</b>	<b>Jazz Improvisation 4</b>	<b>3</b>
<b>MUSC 4452</b>	<b>Jazz Pedagogy</b>	<b>3</b>
MUSC 4470	Major Practical Study	6
<b>MUSC 4564</b>	<b>Jazz Recital 2</b>	<b>3</b>
	Music Elective	3
	Non-Music Electives	6
	<b>Non-Music Elective</b>	<b>3</b>
<b>MUSC 4190</b>	<b>Ensemble</b>	<b>2</b>
<b>TOTAL CREDIT HOURS</b>		<b>31</b>

**PROGRAM MODIFICATION FORM - SECTION D ATTACHMENT 3**

**(c) PROGRAM CHART FOR ACADEMIC CALENDAR**

**Year One**

<b>Bachelor of Jazz Studies</b>		
MUSC 1004	Intro to Music in History 1	3
MUSC 1014	Intro to Music in History 2	3
MUSC 1110	Music Theory 1	3
MUSC 1112	Jazz Theory 1	3
MUSC 1184	Jazz Ensemble	2
MUSC 1190	Ensemble	2
MUSC 1194	Jazz Improvisation 1	3
MUSC 1386	Jazz Musicianship 1	2
MUSC 1388	Jazz Musicianship 2	2
MUSC 1400	Major Practical Study	6
*MUSC 3230	Acoustics of Music	3
<b>TOTAL CREDIT HOURS</b>		<b>32</b>

\* a 3 credit hour MATH 1xxx or STAT 1xxx may be taken in place of MUSC 3230, Acoustics of Music

**Year Two**

<b>Bachelor of Jazz Studies</b>		
MUSC 2072	Jazz History 1	3
MUSC 2082	Jazz History 2	3
MUSC 2122	Jazz Theory 2	3
MUSC 2184	Jazz Ensemble	2
MUSC 2190	Ensemble	2
MUSC 2194	Jazz Improvisation 2	3
MUSC 2386	Jazz Musicianship 3	2
MUSC 2388	Jazz Musicianship 4	2
MUSC 2400	Major Practical Study	6
	Non-Music Elective	3
	**Written English Requirement	3
<b>TOTAL CREDIT HOURS</b>		<b>32</b>

\*\* any 3 credit hour course that meets the written English requirement; consult with an advisor before making a selection

**Year Three**

<b>Bachelor of Jazz Studies</b>		
MUSC 3112	Jazz Composition & Arranging 1	3
MUSC 3126	Jazz Composition & Arranging 2	3
MUSC 3184	Jazz Ensemble	2
MUSC 3190	Ensemble	2
MUSC 3194	Jazz Improvisation 3	3
MUSC 3470	Major Practical Study	6
MUSC 3554	Jazz Recital 1	3
	Music Elective	3
	Non-Music Electives	6
<b>TOTAL CREDIT HOURS</b>		<b>31</b>

**NOTE:** A grade of at least "B" in MUSC 3554 is required for graduation with a Bachelor of Jazz Studies

**Year Four**

<b>Bachelor of Jazz Studies</b>		
MUSC 4184	Jazz Ensemble	2
MUSC 4190	Ensemble	2
MUSC 4194	Jazz Improvisation 4	3
MUSC 4452	Jazz Pedagogy	3
MUSC 4470	Major Practical Study	6
MUSC 4564	Jazz Recital 2	3
	Music Elective	3
	Non-Music Electives	9
<b>TOTAL CREDIT HOURS</b>		<b>31</b>

**NOTE:** A grade of at least "B" in MUSC 4564 is required for graduation with a Bachelor of Jazz Studies

## (d) TRANSITION PLAN

### OVERVIEW

The modified program that is being introduced is designed so that students can transfer to it at the start of any year of their program and still graduate with the necessary requirements and the same number of credit hours. Should students choose to continue with the current program, we have a pathway prepared that allows them to do so which introduces equivalent and mutually exclusive courses, as well as the option for additional music electives in place of some of the courses scheduled for deletion.

Please find Tables 4 through 7 as the final pages of this transition plan, which provide a clear visual path of the options for students at every entry point. Details regarding those pathways can be found after Table 3 below.

**TABLE 1: COURSE INTRODUCTIONS AND MODIFICATIONS - FIRST SEMESTER OFFERED**

Code and No.	Course Title	Semester	Year	Spanned	Type
MUSC 1112	Jazz Theory 1	Fall	2021		New
MUSC 1184	Jazz Ensemble	Fall	2021	√	New
MUSC 2122	Jazz Theory 2	Winter	2022		Modified
MUSC 2184	Jazz Ensemble	Fall	2021	√	New
MUSC 3184	Jazz Ensemble	Fall	2021	√	New
MUSC 4184	Jazz Ensemble	Fall	2021	√	New
MUSC 1194	Jazz Improvisation 1	Fall	2021	√	New
MUSC 2194	Jazz Improvisation 2	Fall	2021	√	New
MUSC 3194	Jazz Improvisation 3	Fall	2021	√	New
MUSC 4194	Jazz Improvisation 4	Fall	2021	√	New
MUSC 1384	Musicianship 1	Fall	2021		Modified
MUSC 1394	Musicianship 2	Winter	2022		Modified
MUSC 2384	Musicianship 3	Fall	2021		Modified
MUSC 2394	Musicianship 4	Winter	2022		Modified
MUSC 1386	Jazz Musicianship 1	Fall	2021		New
MUSC 1388	Jazz Musicianship 2	Winter	2022		New
MUSC 2386	Jazz Musicianship 3	Fall	2021		New
MUSC 2388	Jazz Musicianship 4	Winter	2022		New
MUSC 1190	Ensemble	Fall	2021	√	Modified
MUSC 2190	Ensemble	Fall	2021	√	Modified
MUSC 3190	Ensemble	Fall	2021	√	Modified
MUSC 4190	Ensemble	Fall	2021	√	Modified
MUSC 3126	Jazz Composition and Arranging 2	Winter	2022		New
MUSC 4452	Jazz Pedagogy	Winter	2022		New
MUSC 3554	Jazz Recital 1	Fall	2021	√	Modified
MUSC 4564	Jazz Recital 2	Fall	2021	√	New

**TABLE 2: COURSE DELETIONS – LAST SEMESTER OFFERED**

Code and No.	Course Title	Semester	Year	Spanned
MUSC 1182	Jazz Ensemble 1	Fall	2020	√
MUSC 2182	Jazz Ensemble 2	Fall	2020	√
MUSC 3182	Jazz Ensemble 3	Fall	2020	√
MUSC 4182	Jazz Ensemble 4	Fall	2020	√
MUSC 1192	Jazz Rhythm Performance Techniques	Fall	2020	√
MUSC 2192	Jazz Improvisation 1	Fall	2020	√
MUSC 3192	Jazz Improvisation 2	Fall	2020	√
MUSC 4192	Jazz Improvisation 3	Fall	2020	√
MUSC 2112	Jazz Theory 1	Fall	2020	
MUSC 3272	Jazz Performance Skills	Fall	2020	√
MUSC 3442	Jazz Pedagogy 1	Fall	2020	
MUSC 4442	Jazz Pedagogy 2	Fall	2021	
MUSC 4112	Jazz Composition and Arranging 2	Winter	2021	
MUSC 4562	Jazz Recital 2	Fall	2024	√

**TABLE 3: EQUIVALENT AND MUTUALLY EXCLUSIVE COURSES**

E = Equivalent

ME = Mutually Exclusive

Code and No.	Course Title (Current)		Code and No.	Course Title (New)
MUSC 1182	Jazz Ensemble 1	E	MUSC 1184	Jazz Ensemble 1
MUSC 2182	Jazz Ensemble 2	E	MUSC 2184	Jazz Ensemble 2
MUSC 3182	Jazz Ensemble 3	E	MUSC 3184	Jazz Ensemble 3
MUSC 4182	Jazz Ensemble 4	E	MUSC 4184	Jazz Ensemble 4
MUSC 1192	Jazz Rhythm Performance Techniques	ME	MUSC 1194	Jazz Improvisation 1
MUSC 2192	Jazz Improvisation 1	ME	MUSC 2194	Jazz Improvisation 2
MUSC 3192	Jazz Improvisation 2	ME	MUSC 3194	Jazz Improvisation 3
MUSC 4192	Jazz Improvisation 3	ME	MUSC 4194	Jazz Improvisation 4
MUSC 1384	Musicianship 1	E	MUSC 1386	Jazz Musicianship 1
MUSC 1394	Musicianship 2	E	MUSC 1388	Jazz Musicianship 2
MUSC 2384	Musicianship 3	E	MUSC 2386	Jazz Musicianship 3
MUSC 2394	Musicianship 4	E	MUSC 2388	Jazz Musicianship 4
MUSC 2112	Jazz Theory 1	ME	MUSC 1112	Jazz Theory 1
MUSC 3442	Jazz Pedagogy 1	ME	MUSC 4452	Jazz Pedagogy
MUSC 4442	Jazz Pedagogy 2	E	MUSC 4452	Jazz Pedagogy
MUSC 4112	Jazz Composition and Arranging 2	ME	MUSC 3126	Jazz Composition and Arranging 2
MUSC 4562	Jazz Recital 2	ME	MUSC 4564	Jazz Recital 2

#### **TABLE 4: YEAR ONE**

Please find Table 4 as the first of four additional tables attached following the written portion of this transition plan.

All students who have completed Year One prior to the implementation of the modified program will have completed the same series of courses in their first year (as seen in Table 4) regardless of the pathway they choose to continue with moving forward.

#### **TABLE 5: YEAR TWO**

Please find Table 5 as the second of four additional tables attached following the written portion of this transition plan.

Students entering Year Two at the time of the implementation of the modified program will have the option to continue with the current program or switch to the modified program.

Students choosing to continue with the CURRENT PROGRAM will be taking:

- MUSC 1112 Jazz Theory 1 in lieu of MUSC 2112 Jazz Theory 1. These courses are mutually exclusive.
- MUSC 2184 Jazz Ensemble in lieu of MUSC 2182 Jazz Ensemble 2. These courses are equivalent.
- MUSC 2194 Jazz Improvisation 2 in lieu of MUSC 2192 Jazz Improvisation 1. These courses are mutually exclusive.
- MUSC 2386 Jazz Musicianship 3 in lieu of MUSC 2384 Musicianship 3. These courses are equivalent.
- MUSC 2388 Jazz Musicianship 4 in lieu of MUSC 2394 Musicianship 4. These courses are equivalent.

Otherwise, all courses in the current program will remain as listed.

Students choosing to transition to the MODIFIED PROGRAM will be taking:

- \*MUSC 1112 Jazz Theory 1 in the first semester and MUSC 2112 Jazz Theory 2 in the second semester. While MUSC 1112 is technically a Year One course in the modified program, students coming from Year One of the current program will not yet have taken this course. MUSC 1112 will therefore be offered in both Fall 2021 (for students entering Year Two of the modified program) as well as Winter 2022 (for students entering Year One of the modified program).
- \*\*Students will not be taking their Written English Requirement in Year Two if they are entering the modified program at Year Two, as they will already have completed their Written English Requirement in Year One.

Otherwise, all courses in the modified program will remain as listed.

## **TABLE 6: YEAR THREE**

Please find Table 6 as the third of four additional tables attached following the written portion of this transition plan.

Students entering Year Three at the time of the implementation of the modified program will have the option to continue with the current program or switch to the modified program.

### Students choosing to continue with the CURRENT PROGRAM will be taking:

- MUSC 3184 Jazz Ensemble in lieu of MUSC 3182 Jazz Ensemble 2. These courses are equivalent.
- MUSC 3194 Jazz Improvisation 3 in lieu of MUSC 3192 Jazz Improvisation 2. These courses are mutually exclusive.
- A music elective in lieu of MUSC 3272 Jazz Performance Skills, as it has been determined that students will obtain the information from this course through multiple other courses, but should replace this course with additional music-specific content to compensate for the missing credit hours.
- A music elective in lieu of MUSC 3442 Jazz Pedagogy 1. MUSC 4452 Jazz Pedagogy, which students will take in the following year, has been deemed mutually exclusive with MUSC 3442 Jazz Pedagogy 1. However, as MUSC 4452 Jazz Pedagogy (from the modified program) is equivalent to MUSC 4442 Jazz Pedagogy 2 (from the current program), MUSC 4452 Jazz Pedagogy will act as a replacement course in the students' fourth year. Therefore, in lieu of MUSC 3442 Jazz Pedagogy 1, students will replace this course with additional music-specific content to compensate for the missing credit hours.

Otherwise, all courses in the current program will remain as listed.

### Students choosing to transition to the MODIFIED PROGRAM will be taking:

- All courses as listed in Year Three of the modified program.

## **TABLE 7: YEAR FOUR**

Please find Table 7 as the fourth and final of four additional tables attached following the written portion of this transition plan.

Students entering Year Four at the time of the implementation of the modified program will have the option to continue with the current program or switch to the modified program.

### Students choosing to continue with the CURRENT PROGRAM will be taking:

- MUSC 3126 Jazz Composition and Arranging 2 in lieu of MUSC 4112 Jazz Composition and Arranging 2. These courses are mutually exclusive.
- MUSC 4184 Jazz Ensemble in lieu of MUSC 4182 Jazz Ensemble 4. These courses are equivalent.
- MUSC 4194 Jazz Improvisation 4 in lieu of MUSC 4192 Jazz Improvisation 3. These courses are mutually exclusive.

- \*MUSC 4442 Jazz Pedagogy 2. While MUSC 4442 has been deemed equivalent to MUSC 4452 Jazz Pedagogy, students continuing on the current program at the time of the modified program's implementation will have already taken MUSC 3442 Jazz Pedagogy 1 – a course deemed mutually exclusive with MUSC 4452 Jazz Pedagogy. Therefore, MUSC 4442 Jazz Pedagogy 2 will be offered one final time in the Fall semester of 2021 to ensure that students who took MUSC 3442 Jazz Pedagogy 1 can complete the courses as initially laid out.
- \*\*Students who choose to stay in the current program and are entering Year Two or Year Three of their studies at the time of the modified program's implementation will take the subsequent Year Three (where applicable) and Year Four as laid out in Table 6 and Table 7 with one exception: Upon entering Year Four, students in this situation will take MUSC 4452 Jazz Pedagogy in lieu of MUSC 4442 Jazz Pedagogy 2, as the courses are equivalent and these students will not have taken the mutually exclusive MUSC 3442 Jazz Pedagogy 1 in Year Three.

Students choosing to transition to the MODIFIED PROGRAM will be taking:

- All courses as listed in Year Four of the modified program.
- \*Students transitioning into the Modified Program upon completion of Year Two or Three of the Current Program (as outlined) will have completed 12 credit hours of non-music electives by the time they enter Year Four of the Modified Program. As students are only required to complete 18 credit hours of non-music electives throughout their degree, they will substitute 3 credit hours of music electives for 3 credit hours of non- music electives. Therefore, they will take 6 credit hours of music electives and 6 credit hours of non-music electives in Year Four.

(d) TRANSITION PLAN

TABLE 4: YEAR ONE

CURRENT PROGRAM*		
Course Number	Course Title	Cr.Hrs.
MUSC 1004	Intro to Music in History 1	3
MUSC 1014	Intro to Music in History 2	3
MUSC 1110	Music Theory 1	3
MUSC 1120	Music Theory 2	3
MUSC 1182	Jazz Ensemble 1	2
MUSC 1192	Jazz Rhythm Performance Techniques	2
MUSC 1384	Musicianship 1	2
MUSC 1394	Musicianship 2	2
MUSC 1400	Major Practical Study	6
MUSC 3230	Acoustics of Music	3
	Written English Requirement	3
<b>TOTAL CREDIT HOURS</b>		<b>32</b>

*\*As the transition plan only applies to students entering years two through four, all students under the purview of the transition plan will have completed Year One of the Current Program, regardless of which path they choose moving forward.*

TABLE 5: YEAR TWO

CURRENT PROGRAM		
Course Number	Course Title	Cr.Hrs.
MUSC 2072	Jazz History 1	3
MUSC 2082	Jazz History 2	3
MUSC 2112	Jazz Theory 1	3
MUSC 2122	Jazz Theory 2	3
MUSC 2182	Jazz Ensemble 2	2
MUSC 2192	Jazz Improvisation 1	2
MUSC 2384	Musicianship 3	2
MUSC 2394	Musicianship 4	2
MUSC 2400	Major Practical Study	6
	Non-Music Elective(s)	6
<b>TOTAL CREDIT HOURS</b>		<b>32</b>

STUDENTS CONTINUING WITH THE CURRENT PROGRAM		
Course Number	Course Title	Cr.Hrs.
MUSC 2072	Jazz History 1	3
MUSC 2082	Jazz History 2	3
ME MUSC 1112	Jazz Theory 1	3
MUSC 2122	Jazz Theory 2	3
E MUSC 2184	Jazz Ensemble	2
ME MUSC 2194	Jazz Improvisation 2	3
E MUSC 2386	Jazz Musicianship 3	2
E MUSC 2388	Jazz Musicianship 4	2
MUSC 2400	Major Practical Study	6
	Non-Music Elective(s)	6
<b>TOTAL CREDIT HOURS</b>		<b>33</b>

STUDENTS CHOOSING THE MODIFIED PROGRAM		
Course Number	Course Title	Cr.Hrs.
MUSC 2072	Jazz History 1	3
MUSC 2082	Jazz History 2	3
MUSC 1112	*Jazz Theory 1	3
MUSC 2122	Jazz Theory 2	3
MUSC 2184	Jazz Ensemble	2
MUSC 2194	Jazz Improvisation 2	3
MUSC 2386	Jazz Musicianship 3	2
MUSC 2388	Jazz Musicianship 4	2
MUSC 2400	Major Practical Study	6
	Non-Music Elective	3
MUSC 2190	Ensemble	2
	**Written English Requirement	
<b>TOTAL CREDIT HOURS</b>		<b>32</b>

\*MUSC 1112 Jazz Theory 1 (formerly MUSC 2112) will be offered in Fall 2021 to accommodate second-year students who will not have received this course in their first year.  
 \*\*Students will have already completed their Written English Requirement in their first year.

E = Equivalent  
 ME = Mutually Exclusive

(d) TRANSITION PLAN

TABLE 6: YEAR THREE

CURRENT PROGRAM		
Course Number	Course Title	Cr.Hrs.
MUSC 3112	Jazz Composition and Arranging 1	3
MUSC 3182	Jazz Ensemble 3	2
MUSC 3192	Jazz Improvisation 2	2
MUSC 3272	Jazz Performance Skills	3
MUSC 3442	Jazz Pedagogy 1	3
MUSC 3470	Major Practical Study	6
MUSC 3554	Jazz Recital 1	3
	Music Elective	3
	Non-Music Electives	6
<b>TOTAL CREDIT HOURS</b>		<b>31</b>

E  
ME

STUDENTS CONTINUING WITH THE CURRENT PROGRAM		
Course Number	Course Title	Cr.Hrs.
MUSC 3112	Jazz Composition and Arranging 1	3
MUSC 3184	Jazz Ensemble	2
MUSC 3194	Jazz Improvisation 3	3
MUSC #####	Music Elective	3
MUSC #####	Music Elective	3
MUSC 3470	Major Practical Study	6
MUSC 3554	Jazz Recital 1	3
	Music Elective	3
	Non-Music Electives	6
<b>TOTAL CREDIT HOURS</b>		<b>32</b>

STUDENTS CHOOSING THE MODIFIED PROGRAM		
Course Number	Course Title	Cr.Hrs.
MUSC 3112	Jazz Composition and Arranging 1	3
MUSC 3184	Jazz Ensemble	2
MUSC 3194	Jazz Improvisation 3	3
MUSC 3470	Major Practical Study	6
MUSC 3554	Jazz Recital 1	3
	Music Elective	3
	Non-Music Electives	6
MUSC 3190	Ensemble	2
MUSC 3126	Jazz Composition and Arranging 2	3
<b>TOTAL CREDIT HOURS</b>		<b>31</b>

TABLE 7: YEAR FOUR

CURRENT PROGRAM		
Course Number	Course Title	Cr.Hrs.
MUSC 4112	Jazz Composition and Arranging 2	3
MUSC 4182	Jazz Ensemble 4	2
MUSC 4192	Jazz Improvisation 3	2
MUSC 4442	Jazz Pedagogy 2	3
MUSC 4470	Major Practical Study	6
MUSC 4562	Jazz Recital 2	6
	Music Elective	3
	Non-Music Electives	6
<b>TOTAL CREDIT HOURS</b>		<b>31</b>

ME  
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E

STUDENTS CONTINUING WITH THE CURRENT PROGRAM		
Course Number	Course Title	Cr.Hrs.
MUSC 3126	Jazz Composition and Arranging 2	3
MUSC 4184	Jazz Ensemble	2
MUSC 4194	Jazz Improvisation 4	3
MUSC 4442 or 4452	*Jazz Pedagogy 2 or **Jazz Pedagogy	3
MUSC 4470	Major Practical Study	6
MUSC 4562	Jazz Recital 2	6
	Music Elective	3
	Non-Music Electives	6
<b>TOTAL CREDIT HOURS</b>		<b>32</b>

STUDENTS CHOOSING THE MODIFIED PROGRAM		
Course Number	Course Title	Cr.Hrs.
MUSC 4184	Jazz Ensemble	2
MUSC 4194	Jazz Improvisation 4	3
MUSC 4452	Jazz Pedagogy	3
MUSC 4470	Major Practical Study	6
MUSC 4564	Jazz Recital 2	3
	Music Elective*	3
	Non-Music Electives*	9
MUSC 4190	Ensemble	2
<b>TOTAL CREDIT HOURS</b>		<b>31</b>

\*Students who choose to continue with the Current Program from Year Three to Year Four and have previously taken MUSC Jazz Pedagogy 1 would take MUSC 4442 Jazz Pedagogy 2, which would be available in Fall 2021 only.

\*\*Students who choose to continue with the Current Program from Year Two will have taken a Music Elective in lieu of MUSC 3442 Jazz Pedagogy 1 and therefore will take MUSC 4452 Jazz Pedagogy in Year Four.

\*Students transitioning into the Modified Program upon completion of Year Two or Three of the Current Program (as outlined) will have completed 12 credit hours of non-music electives by the time they enter Year Four of the Modified Program. As students are only required to complete 18 credit hours of non-music electives throughout their degree, they will substitute 3 credit hours of music electives for 3 credit hours of non-music electives. Therefore, they will take 6 credit hours of music electives and 6 credit hours of non-music electives in Year Four.

E = Equivalent  
ME = Mutually Exclusive

Program modifications:

Modifications to the following programs are outlined on the next 3 pages:

- **Bachelor of Music**
- **Bachelor of Music (Music Education)**

**SECTION D ATTACHMENT - BACHELOR OF MUSIC  
CURRENT AND REVISED PROGRAM CHARTS**

*No changes are required to the program description for the Bachelor of Music as a result of these changes.*

CURRENT MUSIC THEORY ELECTIVE LIST	
Course Number	Course Title
MUSC 2412	Jazz Theory 1
MUSC 2122	Jazz Theory 2
MUSC 3150	Orchestration
MUSC 3650	Electroacoustic Music
MUSC 3992	Advanced Counterpoint
MUSC 4330	Advanced Analysis
MUSC 3820 or MUSC 3830	Topics Courses

REVISED MUSIC THEORY ELECTIVE LIST	
Course Number	Course Title
<b>MUSC 1112</b>	<b>Jazz Theory 1</b>
MUSC 2122	Jazz Theory 2
MUSC 3150	Orchestration
MUSC 3650	Electroacoustic Music
MUSC 3992	Advanced Counterpoint
MUSC 4330	Advanced Analysis
MUSC 3820 or MUSC 3830	Topics Courses

CURRENT THIRD & FOURTH YEAR MUSIC ELECTIVES		
Course Number	Course Title	Credit Hours
MUSC 2072	Jazz History 1	3
MUSC 2082	Jazz History 2	3
MUSC 2100	Introduction to Music Teaching and Learning	3
MUSC 2110	Music Theory 3	3
<del>MUSC 2412</del>	<del>Jazz Theory 1</del>	<del>3</del>
MUSC 2120	Music Theory 4	3
MUSC 2122	Jazz Theory 2	3
MUSC 2460	Conducting	3
MUSC 3050	Research Methods (History Concentration requirement)	3
<del>MUSC 3054</del>	<del>Medieval Music History</del>	<del>3</del>
MUSC 3064	Baroque Music History	3
MUSC 3074	Classical Music History	3
MUSC 3084	Romantic Music History	3
MUSC 3090	Introduction to Musicology	3
MUSC 3100	Opera Repertoire	3
MUSC 3012	Composition, Technology, and Improvisation for Music Educators	3
MUSC 3104	History of Opera 1: From Monteverdi to Mozart	3
MUSC 3114	History of Opera 2: From Mozart to the Modern Era	3
MUSC 3150	Orchestration (Composition Concentration requirement)	3
MUSC 3200	Orff Schulwerk 1 (Summer Term)	6
MUSC 3210	Orff Schulwerk 2 (Summer Term)	6
MUSC 3220	Kodaly Music Education (Summer Term)	6
MUSC 3222	Kodaly Music Education 2 (Summer Term)	6
MUSC 3230	Acoustics of Music (fulfills University "M" requirement)	3
MUSC 3270	Performance Skills	3
MUSC 3360	Topics in Music Education	3
MUSC 3380	From Rock to Rap and Beyond: A History of Popular Music in the Later 20th Century	3
MUSC 3390	From Ragtime to Rock'n'Roll: A History of Popular Music in the 20th Century	3
MUSC 3404	From New Wave to Rave: A History of Popular Music in the Late 20th Century	3
MUSC 3480	Minor Practical Study	3
MUSC 3620	Independent Study 1	3
MUSC 3650	Electroacoustic Music	3
MUSC 3690	Percussion Techniques	3
MUSC 3730	Early Music Development	3
MUSC 3772	Vocal Pedagogy for Choirs	3
MUSC 3780	Woodwind Techniques	3
MUSC 3790	Brass Techniques	3
MUSC 3800	String Techniques	3
MUSC 3820	Topics in Music	3
MUSC 3830	Topics in Music	3
MUSC 3840	Topics in Music	3
MUSC 3850	Topics in Music	3

REVISED THIRD & FOURTH YEAR MUSIC ELECTIVES		
Course Number	Course Title	Credit Hours
MUSC 2072	Jazz History 1	3
MUSC 2082	Jazz History 2	3
MUSC 2100	Introduction to Music Teaching and Learning	3
MUSC 2110	Music Theory 3	3
<b>MUSC 1112</b>	<b>Jazz Theory 1</b>	<b>3</b>
MUSC 2120	Music Theory 4	3
MUSC 2122	Jazz Theory 2	3
MUSC 2460	Conducting	3
MUSC 3050	Research Methods (History Concentration requirement)	3
<b>MUSC 3034</b>	<b>Medieval Music History</b>	<b>3</b>
MUSC 3064	Baroque Music History	3
MUSC 3074	Classical Music History	3
MUSC 3084	Romantic Music History	3
MUSC 3090	Introduction to Musicology	3
MUSC 3100	Opera Repertoire	3
MUSC 3012	Composition, Technology, and Improvisation for Music Educators	3
MUSC 3104	History of Opera 1: From Monteverdi to Mozart	3
MUSC 3114	History of Opera 2: From Mozart to the Modern Era	3
MUSC 3150	Orchestration (Composition Concentration requirement)	3
MUSC 3200	Orff Schulwerk 1 (Summer Term)	6
MUSC 3210	Orff Schulwerk 2 (Summer Term)	6
MUSC 3220	Kodaly Music Education (Summer Term)	6
MUSC 3222	Kodaly Music Education 2 (Summer Term)	6
MUSC 3230	Acoustics of Music (fulfills University "M" requirement)	3
MUSC 3270	Performance Skills	3
MUSC 3360	Topics in Music Education	3
MUSC 3380	From Rock to Rap and Beyond: A History of Popular Music in the Later 20th Century	3
MUSC 3390	From Ragtime to Rock'n'Roll: A History of Popular Music in the 20th Century	3
MUSC 3404	From New Wave to Rave: A History of Popular Music in the Late 20th Century	3
MUSC 3480	Minor Practical Study	3
MUSC 3620	Independent Study 1	3
MUSC 3650	Electroacoustic Music	3
MUSC 3690	Percussion Techniques	3
MUSC 3730	Early Music Development	3
MUSC 3772	Vocal Pedagogy for Choirs	3
MUSC 3780	Woodwind Techniques	3
MUSC 3790	Brass Techniques	3
MUSC 3800	String Techniques	3
MUSC 3820	Topics in Music	3
MUSC 3830	Topics in Music	3
MUSC 3840	Topics in Music	3
MUSC 3850	Topics in Music	3

MUSC 3884	Introduction to Jazz for Music Educators	3
MUSC 3894	Guitar Techniques	3
MUSC 3964	History of Western Art Music After 1900	3
MUSC 3974	Music Theory After 1900	3
MUSC 4010	French Diction and Repertoire	3
MUSC 4020	Italian Diction and Repertoire	3
MUSC 4030	German Diction and Repertoire	3
MUSC 4130	History of Women in Music	3
MUSC 4140	History of Canadian Music	3
MUSC 4156	Choral Literature and Programming	3
MUSC 4212	Orff Schulwerk 3 (Summer Term)	6
MUSC 4224	Kodaly 3 (Summer Term)	6
MUSC 4330	Advanced Analysis	3
MUSC 4360	Wind Repertoire	3
MUSC 4370	Wind Conducting Techniques	3
MUSC 4380	Piano Repertoire (Required for Piano Performance Majors)	3
MUSC 4390	Piano Chamber Music Literature Seminar	3
MUSC 4430	Pedagogy and Repertoire	3
MUSC 4440	Vocal Pedagogy (Required for Voice Majors in Performance and General Concentrations)	3
MUSC 4480	Minor Practical Study	3
MUSC 4490	Piano Pedagogy (Required for Piano and Organ Majors in Performance and General Concentrations)	3
MUSC 4520	Coaching Skills	3
MUSC 4530	Operatic Piano	3
MUSC 4630	20th to 21st Century Piano Repertoire	3
MUSC 4650	Interactive Computer Music	3
MUSC 4660	Computer Assisted Composition	3
MUSC 4752	Elementary and Middle Years Choral Methods	3
MUSC 4762	Senior Years and Community Choral Methods	3
MUSC 4772	Instrumental Music Methods 1	3
MUSC 4782	Instrumental Music Methods 2	3
MUSC 4896	Cultural Perspectives for Music Educations	3

MUSC 3884	Introduction to Jazz for Music Educators	3
MUSC 3894	Guitar Techniques	3
MUSC 3964	History of Western Art Music After 1900	3
MUSC 3974	Music Theory After 1900	3
MUSC 4010	French Diction and Repertoire	3
MUSC 4020	Italian Diction and Repertoire	3
MUSC 4030	German Diction and Repertoire	3
MUSC 4130	History of Women in Music	3
MUSC 4140	History of Canadian Music	3
MUSC 4156	Choral Literature and Programming	3
MUSC 4212	Orff Schulwerk 3 (Summer Term)	6
MUSC 4224	Kodaly 3 (Summer Term)	6
MUSC 4330	Advanced Analysis	3
MUSC 4360	Wind Repertoire	3
MUSC 4370	Wind Conducting Techniques	3
MUSC 4380	Piano Repertoire (Required for Piano Performance Majors)	3
MUSC 4390	Piano Chamber Music Literature Seminar	3
MUSC 4430	Pedagogy and Repertoire	3
MUSC 4440	Vocal Pedagogy (Required for Voice Majors in Performance and General Concentrations)	3
MUSC 4480	Minor Practical Study	3
MUSC 4490	Piano Pedagogy (Required for Piano and Organ Majors in Performance and General Concentrations)	3
MUSC 4520	Coaching Skills	3
MUSC 4530	Operatic Piano	3
MUSC 4630	20th to 21st Century Piano Repertoire	3
MUSC 4650	Interactive Computer Music	3
MUSC 4660	Computer Assisted Composition	3
MUSC 4752	Elementary and Middle Years Choral Methods	3
MUSC 4762	Senior Years and Community Choral Methods	3
MUSC 4772	Instrumental Music Methods 1	3
MUSC 4782	Instrumental Music Methods 2	3
MUSC 4896	Cultural Perspectives for Music Educations	3

**SECTION D ATTACHMENT - BACHELOR OF MUSIC (MUSIC EDUCATION)  
CURRENT AND REVISED PROGRAM CHARTS**

*No changes are required to the program description for the Bachelor of Music (Music Education) as a result of these changes.*

**GUITAR/STRINGS CONCENTRATION (WITH "W" OR "MATH" REQUIREMENT AS TEACHABLE MINOR)**

CURRENT YEAR FOUR PATH		
MUSC 3730	Early Music Development	3
MUSC 3884 or <del>MUSC 4442</del>	Introduction to Jazz for Music Educators  Jazz Pedagogy	3
MUSC 4470, or MUSC 4160, and MUSC XXXX	Major Practical Study  Major Practical Study Music Elective	6 3 3
MUSC 4180	Ensemble	2
MUSC 4190	Ensemble	2
MUSC 4752 or MUSC 4762 or MUSC 4772 or MUSC 4782	Elementary and Middle Years Choral Methods Senior Years and Community Choral Methods Instrumental Music Methods 1 Instrumental Music Methods 2	3 3 3 3
MUSC 4894, or MUSC XXXX	Advanced Guitar Techniques Music Elective	3 3
MUSC 4896	Cultural Perspectives for Music Educators	3
	Music Elective	3
	Teachable Minor	3
	<b>Total Credit Hours</b>	<b>31</b>
	<b>Total Degree Credit Hours</b>	<b>132</b>

REVISED YEAR FOUR PATH		
MUSC 3730	Early Music Development	3
MUSC 3884 or <b>MUSC 4452</b>	Introduction to Jazz for Music Educators  Jazz Pedagogy	3
MUSC 4470, or MUSC 4160, and MUSC XXXX	Major Practical Study  Major Practical Study Music Elective	6 3 3
MUSC 4180	Ensemble	2
MUSC 4190	Ensemble	2
MUSC 4752 or MUSC 4762 or MUSC 4772 or MUSC 4782	Elementary and Middle Years Choral Methods Senior Years and Community Choral Methods Instrumental Music Methods 1 Instrumental Music Methods 2	3 3 3 3
MUSC 4894, or MUSC XXXX	Advanced Guitar Techniques Music Elective	3 3
MUSC 4896	Cultural Perspectives for Music Educators	3
	Music Elective	3
	Teachable Minor	3
	<b>Total Credit Hours</b>	<b>31</b>
	<b>Total Degree Credit Hours</b>	<b>132</b>

Faculty of Science

Program modification:

Modifications to the **Bachelor of Science (General)** are outlined on the next 2 pages.

## B.Sc. General Academic Regulations<sup>1</sup>

A student must complete 90 credit hours with passing grades ("D" or better) in each course. Please note higher grades are usually required for prerequisite purposes. See course descriptions for details. A student must obtain a minimum grade point average of 2.00 on the 90 credit hours which constitute the degree to qualify for the degree of Bachelor of Science (General).

Students may not exceed 36 credit hours of failures.

**Introductory Level Science courses (24 credit hours):** Students must select 6 credit hours from each of 3 areas listed below (18 credit hours) in Group A. Additionally, students must select 6 credit hours from any courses listed in Group A and/or Group B.

**NOTE:** No more than 6 credit hours may be selected from any single subject area for use toward the 24 credit hours of introductory course requirements.

### Group A:

Astronomy: ASTR 1810 and ASTR 1830

Biology: BIOL 1020 and BIOL 1030

Chemistry: ~~CHEM 1300 and CHEM 1310~~ **6 credit hours from CHEM 1100, CHEM 1110 or CHEM 1120 (or CHEM 1122 and CHEM 1126)<sup>1</sup>**

Computer Science: COMP 1010 (or COMP 1012<sup>2</sup>) and COMP 1020

Mathematics: six credit hours chosen from:

- MATH 1200<sup>1,3</sup>
- 3 credit hours from ~~MATH 1210<sup>1</sup>~~-MATH 1220<sup>1,3</sup> or MATH 1300<sup>1,3</sup> (or equivalent) **(or MATH 1210<sup>3</sup>)**,
- 3 credit hours from MATH 1230 or MATH 1500 (or equivalent),
- 3 credit hours from MATH 1232 or MATH 1700 (or equivalent),
- MATH 1240

Microbiology: MBIO 1010 and MBIO 2020

Physics: PHYS 1020 or PHYS 1050; and PHYS 1030 or PHYS 1070

Statistics: STAT 1000<sup>4,5</sup> (or STAT 2220<sup>3,4</sup>) and STAT 2000<sup>4,5</sup> or STAT 1150<sup>4,5</sup> and STAT 2150<sup>4,5</sup>

### Group B:

BIOL 1410, FORS 2000.

Notes:

**1. CHEM 1122 and CHEM 1126 are intended for Engineering students and may not be held for credit with CHEM 1120.**

~~1. MATH 1210 is intended for Engineering students and may not be held for credit with MATH 1200, MATH 1220 or MATH 1300.~~

2. COMP 1012 is intended for Engineering students and may not be held for credit with COMP 1010.

**3. MATH 1210 is intended for Engineering students and may not be held for credit with MATH 1200, MATH 1220 or MATH 1300.**

~~3-4.~~ STAT 2220 is intended for Engineering students and may not to be held for credit with STAT 1000 or STAT 1150.

~~4-5.~~ It is recommended that students intending to complete their advanced level Science subjects in Statistics or Mathematics choose STAT 1150 and STAT 2150, rather than STAT 1000 and STAT 2000. STAT 1000 and STAT 2000 may not be held for credit with STAT 1150.

**Advanced Level Science Courses (36 credit hours):** Effective for students entering Science September 2008 or later<sup>2</sup>, to satisfy the advanced level requirements of the 3-year General Degree program, eighteen (18) credit hours at the 2000, 3000, and (or) 4000 level must be chosen from each of **two** of the following Science departments: Biological Sciences, Chemistry, Computer Science, Mathematics, Microbiology, Physics and Astronomy, and (or) Statistics.

Of the 36 credit hours (total) from the advanced areas of study, at least 6 credit hours must be chosen from 3000 or 4000 level courses. Students should note prerequisite requirements for upper level courses when planning their program. Appropriate courses and combinations of courses are detailed in each departmental section. Substitute courses from a department may be taken by obtaining written authorization from the chosen department.

**Other Faculty Courses (12 credit hours):** a minimum of 12 credit hours must be taken from outside the Faculty of Science, of which at least six credit hours must be from the Faculty of Arts. A maximum of 30 credit hours may be taken from outside the Faculty of Science for use in the General Degree program.

**Elective Courses (18 credit hours):** 18 credit hours of the B.Sc. General Degree are open electives.

**Biological Sciences Option:** Students may elect to choose all 36 credit hours of advanced level course requirements from the Department of Biological Sciences provided they follow the specified course selections prescribed in the Biological Sciences Focus Chart - B.Sc. General.

**Chemistry Option:** Students may elect to choose a specific set of introductory courses, plus all 36 credit hours of the advanced level course requirements from the Department of Chemistry provided they follow the specified course selections (introductory and advanced levels) prescribed in Chemistry Focus Chart - B.Sc. General.

**NOTES:**

1. Students having difficulty with the interpretation of these regulations or the way in which they are applied, are urged to contact a Science Academic Advisor in the general office. Students are responsible for their own degree progress and completion.

2. Students admitted to the Faculty of Science prior to September 2008 should consult with a Science Academic Advisor about degree requirements.

## Biochemistry

Program modifications:

Modifications to the following programs are outlined on the next 9 pages

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

## 4.2 Biochemistry

### 4.2.1 Program Information

#### Biochemistry Honours Degree Requirements

To enter the joint Honours program in Biochemistry, a student must have completed at least 24 credit hours with a minimum DGPA of 3.00 and also obtained a minimum grade of "B" in CHEM 1110 and a minimum grade of "C+" in CHEM 1120 and BIOL 1020, CHEM 1100, BIOL 1030, PHYS ~~1020~~-1050 (or PHYS ~~1050~~ 1020), PHYS ~~1030~~ (or PHYS ~~1070~~); MATH 1500, and MATH ~~1700~~ STAT 1150 (or STAT 1000), and 6 credit hours from the Faculty of Arts, including a course that satisfies the "W" requirement are required courses in the program and students are strongly encouraged to complete them in first year.

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

To graduate with the Biochemistry Joint Honours degree, a student must achieve a minimum DGPA of 3.00 and obtain a minimum grade of "C" on the courses that make up the 120 credit hours of the degree.

#### Chemistry and Microbiology ~~Option~~ Optional Courses for Biochemistry Honours Students:

Chemistry: CHEM 2290, CHEM 2300, CHEM 2600, CHEM 3100, CHEM 3120 (2), CHEM 3300, CHEM 3320 (2), CHEM 3360, CHEM 3370, CHEM 3390, CHEM 3400, CHEM 3490, CHEM 3500, CHEM 3520 (2), CHEM 3580, CHEM 3590, CHEM 3600, CHEM 3620 (2), CHEM 3820 (2), CHEM 3840, CHEM 4100, CHEM 4110, CHEM 4130, CHEM 4150, CHEM 4170, CHEM 4360, CHEM 4370, CHEM 4570, CHEM 4580, CHEM 4590, CHEM 4610 (6), CHEM 4620, CHEM 4640, CHEM 4650, CHEM 4670, CHEM 4680, CHEM 4690, CHEM 4800, CHEM 4802, CHEM 4804.

Microbiology: MBIO 3000, MBIO 3010, MBIO 3030, MBIO 3280, MBIO 3430, MBIO 3450, MBIO 3460, MBIO 3470, MBIO 3600, MBIO 4020, MBIO 4030, MBIO 4032, MBIO 4410, MBIO 4440, MBIO 4480, MBIO 4520, MBIO 4540, MBIO 4570, MBIO 4580, MBIO 4602, MBIO 4612, MBIO 4670 (or MBIO 4672).

~~Option~~ Optional courses no longer offered that may be used if taken prior to their deletion: CHEM 2260, CHEM 2290, CHEM 2400, CHEM 2470, CHEM 3260, CHEM 3360, CHEM 3370, CHEM 3380, CHEM 3390, CHEM 3400, CHEM 3490, CHEM 3580, CHEM 3590, CHEM 4600, CHEM 4640, CHEM 4650, CHEM 4690, MBIO 2280, MBIO 3440, MBIO 3480, MBIO 4010, MBIO 4320, MBIO 4470, MBIO 4510, and MBIO 4570, MBIO 4580, MBIO 4600, MBIO 4610. NOTE: Several of these courses may not be held with current course offerings found on the above ~~option~~ optional course lists. Please refer to the calendar course descriptions for more information about specific course restrictions.

Other options may be considered and approved by the program advisor.

#### Biochemistry Four-Year Major Degree Requirements

To enter the joint four-year Major program, a student must have completed a minimum of 24 credit hours with a minimum DGPA of 2.00, and also obtained a minimum grade of "C+" in CHEM ~~1340~~ 1110, and a minimum grade of "C" in CHEM 1120 and BIOL 1020, CHEM 1100, BIOL 1030, PHYS ~~1020~~-1050 (or PHYS ~~1050~~ 1020), PHYS ~~1030~~ (or PHYS ~~1070~~); MATH 1500, and MATH ~~1700~~ STAT 1150 (or STAT 1000), and 6 credit hours from the Faculty of Arts, including a course that satisfies the "W" requirement are required courses in the program and students are strongly encouraged to complete these courses in first year.

To continue in the Bachelor of Science Major degree program, students must maintain a minimum DGPA of 2.00.

To graduate with the Bachelor of Science Major in Biochemistry, a student must complete 120 credit hours or more, with minimum grades of "C" on all Major Program Specific courses (see below), passing grades ("D" or better) on the remaining courses, and a minimum DGPA of 2.00.

#### Major Program-Specific Courses:

Chemistry: CHEM 2100, CHEM 2110, CHEM 2122, CHEM 2210, CHEM 2220, CHEM 2260, (CHEM 2280), CHEM 2360 (MBIO 2360), CHEM 2370 (MBIO 2370), CHEM 2400 (CHEM 2380), CHEM 2470, CHEM 2510, CHEM 2520 (2), CHEM 2700 (MBIO 2700), CHEM 2710 (MBIO 2710), CHEM 2720 (MBIO 2720), CHEM 3570, CHEM 3700, CHEM 3760 (4), CHEM 4630 and whichever one of CHEM 4360, CHEM 4370 and CHEM 4620 is selected.

Microbiology: MBIO 1010, MBIO 2020, MBIO 3410, and whichever one of BIOL 2520, MBIO 3450, MBIO 3460, or MBIO 4540 or MBIO 4612 is selected.

Students in this program should note the following:

Students must satisfy any course prerequisites and co-requisites for courses selected. Care should be taken to select courses in their proper sequence, e.g. CHEM 2370 (or MBIO 2370) CHEM 2710 (MBIO 2710) and MBIO 2020 should be taken in Year 2 as they are prerequisite to a number of subsequent required or optional courses.

Normally 4000 level courses are available only to students in their fourth year. MBIO 4530 and MBIO 4670 are not available to Major students.

Students are encouraged to elect other courses pertinent to the study of biochemistry although this is not required for completion of the degree. The departments of Microbiology and Chemistry will be glad to suggest such supplementary courses upon request.

Students who may wish to transfer to the Honours program in Biochemistry following Year 2 should be sure to complete all courses recommended in Year 2 (see the chart below).

### **Honours and Major Co-operative Options**

A co-operative education option is available for both Major and Honours students. Students should refer to [Section 3.5](#) of this chapter for further information on the Co-op programs.

#### **Honours Co-op**

The course, grade requirements and minimum DGPA requirement for entry and continuation in the Co-operative Option are the same as that for regular Honours program.

Students are required to complete the first and second year requirements of the program and MBIO 3410 before beginning their first co-op work term.

#### **Major Co-op**

The course and minimum grade requirements for entry and continuation in the Co-operative Option are the same as those required for the regular Major program. However, the entry and continuation DGPA requirement is set at a minimum of 2.5.

Students are encouraged, but not required, to take 15 credit hours in each academic term in the third and subsequent years. Students are required to complete the first- and second-year requirements of the program and MBIO 3410 before beginning their first co-op work term.

Current Program Chart:

4.2.2 Biochemistry Programs (offered Jointly by the Departments of Chemistry and Microbiology)			
YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>JOINT HONOURS 120 CREDIT HOURS</b>			
CHEM 1300, CHEM 1310 BIOL 1020, BIOL 1030  PHYS 1050 (or PHYS 1020), PHYS 1070 (or PHYS 1030)  MATH 1500 <sup>1</sup> , MATH 1700 <sup>1</sup>	CHEM 2210, CHEM 2220, CHEM 2260 <sup>4</sup> , CHEM 2360, CHEM 2370, CHEM 2400, CHEM 2470 MBIO 1010 <sup>5</sup> , MBIO 2020	CHEM 3570 MBIO 3410, MBIO 3450, MBIO 3460	CHEM 4360, CHEM 4620, CHEM 4630, (CHEM 4710 (6) or MBIO 4530 (6)) 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 <sup>2</sup>  3 credit hours chosen from COMP, MATH, or STAT <sup>3</sup>		18 credit hours selected from the list of Microbiology and Chemistry optional courses (listed above). 12 credit hours selected from the Faculty of Science <sup>3</sup>	
30 Hours	30 Hours	30 Hours	30 Hours
<b>JOINT HONOURS CO-OPERATIVE OPTION<sup>6</sup> 120 CREDIT HOURS</b>			
CHEM 1300, CHEM 1310 BIOL 1020, BIOL 1030  PHYS 1050 (or PHYS 1020), PHYS 1070 (or PHYS 1030)  MATH 1500 <sup>1</sup> , MATH 1700 <sup>1</sup>	CHEM 2210, CHEM 2220, CHEM 2260 <sup>4</sup> , CHEM 2360, CHEM 2370, CHEM 2400, CHEM 2470 MBIO 1010 <sup>5</sup> , 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 <sup>2</sup>  3 credit hours chosen from COMP, MATH, or STAT <sup>3</sup>		24 credit hours selected from the list of Microbiology and Chemistry Optional courses listed above. 12 credit hours selected from the Faculty of Science <sup>3</sup>	
		<b>Co-op Requirements:</b> SCI 3980, SCI 3990, SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)	
30 Hours	30 Hours	30 Hours	30 Hours
<b>JOINT FOUR YEAR MAJOR (Including Co-operative Option)<sup>6,7</sup> 120 CREDIT HOURS</b>			
CHEM 1300, CHEM 1310 BIOL 1020, BIOL 1030  PHYS 1050 (or PHYS 1020), PHYS 1070 (or PHYS 1030)  MATH 1500 <sup>1</sup> , MATH 1700 <sup>1</sup>	CHEM 2210, CHEM 2220, CHEM 2260 <sup>4</sup> , CHEM 2360, CHEM 2370, CHEM 2400, CHEM 2470 MBIO 1010 <sup>5</sup> , MBIO 2020	CHEM 3570 MBIO 3410  One of: MBIO 3450, MBIO 3460, MBIO 4540	CHEM 4630 One of: CHEM 4620, CHEM 4360, CHEM 4370
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 <sup>2</sup>  3 credit hours chosen from COMP, MATH, or STAT <sup>3</sup>		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 <sup>3</sup>	
		<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990, SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)	
<b>NOTES:</b>			
<sup>1</sup> 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.			
<sup>2</sup> 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.			
<sup>3</sup> MATH 1010, MATH 1020, the former MATH 1190, the former COMP 1260, the former COMP 1270, COMP 1500 and COMP 1600 may not be chosen to satisfy this requirement			
<sup>4</sup> The former CHEM 2280 may be used in lieu of CHEM 2260.			

<sup>5</sup> M BIO 1010 can be taken in Year 1 after BIOL 1020.

<sup>6</sup> IMPORTANT: Students in the co-operative programs must ensure that they are able to satisfy the prerequisites for all 3000 and 4000 level courses they plan to take.

<sup>7</sup> 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.  
(The number 6 in brackets indicates a six credit hour course.)

**Revised Program Chart:**

<b>4.2.2 Biochemistry Programs (offered Jointly by the Departments of Chemistry and Microbiology)</b>			
YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>JOINT HONOURS 120 CREDIT HOURS</b>			
CHEM 1100, CHEM 1110 (B), CHEM 1120 <sup>1</sup> (C+), BIOL 1020 (C+), BIOL 1030 PHYS 1050 (or PHYS 1020) MATH 1500 <sup>2</sup> STAT 1150 (or STAT 1000)	CHEM 2100, CHEM 2110, CHEM 2122, CHEM 2510, CHEM 2520 (2) CHEM 2700, CHEM 2710, CHEM 2720 MBIO 1010 <sup>4</sup> , MBIO 2020	BIOL 2520, CHEM 3700, CHEM 3760 (4) MBIO 3410	CHEM 4630, (CHEM 4710 (6) or MBIO 4530 (6))
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 <sup>3</sup>		18 credit hours selected from the list of Microbiology and Chemistry optional courses (listed above). Of these 18 credit hours, at least 6 hours must be 4000 level courses.  12 credit hours selected from the Faculty of Science <sup>5</sup> .	
30 Hours	29 Hours	31Hours	30 Hours
<b>JOINT HONOURS CO-OPERATIVE OPTION<sup>6</sup> 120 CREDIT HOURS</b>			
CHEM 1100, CHEM 1110 (B), CHEM 1120 <sup>1</sup> (C+), BIOL 1020 (C+), BIOL 1030 PHYS 1050 (or PHYS 1020) MATH 1500 <sup>2</sup> STAT 1150 (or STAT 1000)	CHEM 2100, CHEM 2110, CHEM 2122, CHEM 2510, CHEM 2520 (2), CHEM 2700, CHEM 2710, CHEM 2720 MBIO 1010 <sup>4</sup> , MBIO 2020	BIOL 2520, CHEM 3700, CHEM 3760 (4) MBIO 3410	CHEM 4630
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 <sup>3</sup>		24 credit hours selected from the list of Chemistry and Microbiology Optional courses listed above. Of these 24 credit hours, at least 12 hours must be 4000 level courses.  12 credit hours selected from the Faculty of Science <sup>5</sup> .	
		<b>Co-op Requirements:</b> SCI 3980, SCI 3990, SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected).	
30 Hours	29 Hours	31Hours	30 Hours
<b>JOINT FOUR YEAR MAJOR (Including Co-operative Option)<sup>6,7</sup> 120 CREDIT HOURS</b>			
CHEM 1100, CHEM 1110(C+), CHEM 1120 <sup>1</sup> (C), BIOL 1020(C), BIOL 1030 PHYS 1050 (or PHYS 1020) MATH 1500 <sup>2</sup> STAT 1150 (or STAT 1000)	CHEM 2100, CHEM 2110, CHEM 2122, CHEM 2510, CHEM 2520 (2), CHEM 2700, CHEM 2710, CHEM 2720 MBIO 1010 <sup>4</sup> , MBIO 2020	CHEM 3700, CHEM 3760 (4) MBIO 3410	CHEM 4630
		One of: BIOL 2520, MBIO 3450, MBIO 3460, MBIO 4540, MBIO 4612  One of: CHEM 4360, CHEM 4620	

<p>In Year 1 or Year 2 the following must be completed:</p> <p>6 credit hours from the Faculty of Arts including the University Written English "W" requirement<sup>3</sup>.</p>	<p>21 credit hours of Chemistry and Microbiology (minimum 6 credit hours from each dept.). Of these 21 credit hours, at least 12 hours must be 4000 level courses.</p> <p>21 credit hours of electives<sup>5</sup>.</p> <p><b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990, SCI 4980, and SCI 4990 (if a 4<sup>th</sup> work term is selected).</p>
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**NOTES:**

<sup>1</sup> CHEM 1126 may be used in lieu of CHEM 1120.

<sup>2</sup> MATH 1230 or MATH 1510 or MATH 1520 or MATH 1690 may be taken in place of MATH 1500.

<sup>3</sup> 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.

<sup>4</sup> MBIO 1010 can be taken in Year 1 after BIOL 1020.

<sup>5</sup> MATH 1010, MATH 1020, the former MATH 1190, the former COMP 1260, the former COMP 1270, COMP 1500 and COMP 1600 may not be chosen to satisfy this requirement.

<sup>6</sup> IMPORTANT: Students in the co-operative programs must ensure that they are able to satisfy the prerequisites for all 3000 and 4000 level courses they plan to take.

<sup>7</sup> 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.

(The numbers 2, 4, and 6 in brackets indicate two, four and six credit-hour courses, respectively. All other courses are 3 credit hours.)

## IX. Transition Plan:

The programs will be introduced in the Fall 2021. New students joining Biochemistry programs on or after that date will be expected to adopt the new courses and program requirements and will be advised well in advance about the changes to the programs through direct communication.

Students in the current Biochemistry programs will be asked to speak with an advisor in the Chemistry or Microbiology Departments to help them decide whether to proceed under the old program requirements or the new program requirements. The Departments have committed to exercise great flexibility with the students choosing to finish their degrees under the old program requirements as the course offerings will have changed significantly. We have carefully considered how the students with credit in the old course numbers can move into the new courses. New courses have been proposed in a way to include both the deleted course numbers and the new course numbers, as part of the “May Not Hold With” information and the prerequisite structures of the courses. This will allow students and staff to easily recognize equivalent courses, and enable students to register with ease, even if they are using old course numbers. All students will be required to complete a minimum of 120 credit hours to complete their programs. Transition plans have been devised so that this should happen with ease. Note that students transitioning from the old to the new programs after year-2 will need to take one 2 ch Option course to satisfy the 120 ch requirement otherwise they will accumulate 121 ch.

The following table was created to assist departmental and Faculty of Science advisors determine equivalencies between the old and new courses. Shading indicates groupings of courses for equivalency purposes. Joint CHEM/MBIO courses are only listed with their CHEM designation for clarity.

<b>Completed course in current curriculum</b>	<b>Will satisfy the program requirement of following course(s) in the new curriculum</b>	<b>Comments</b>
CHEM 1300	CHEM 1100	
CHEM 1310	CHEM 1110, CHEM 1120	By completing CHEM 1310, lab equivalency from CHEM 1300+1310 is transferred to CHEM 1120.
CHEM 2210	CHEM 2100	
CHEM 2220	CHEM 2110, CHEM 2122	By completing CHEM 2220, lab equivalency from CHEM 2210+2220 is transferred to CHEM 2122.
CHEM 2260	CHEM 2600	
CHEM 2290	CHEM 3600, CHEM 3620 (2)	By completing CHEM 2290, lab equivalency from CHEM 2260+2290 is transferred to CHEM 3620.
CHEM 2360	CHEM 2700	

CHEM 2370	CHEM 2710, CHEM 2720	By completing CHEM 2370, lab equivalency from CHEM 2360+2370 is transferred to CHEM 2720.
CHEM 2400	CHEM 2300	
CHEM 3400	CHEM 3300, CHEM 3320 (2)	By completing CHEM 3400, lab equivalency from CHEM 2400+3400 is transferred to CHEM 3320.
CHEM 2470	CHEM 2510, CHEM 2520 (2)	By completing CHEM 2470, lab equivalency from CHEM 2470 is transferred to CHEM 2520.
MBIO 3030	MBIO 3032	
MBIO 3280	MBIO 3282	
MBIO 3470	MBIO 3472	
CHEM 3360	CHEM 4130	
CHEM 3370	CHEM 4150	
CHEM 3390	CHEM 3100	
CHEM 3490	CHEM 4170	
CHEM 3570	CHEM 3700	
CHEM 3580	CHEM 3120 (2) or 3 cr. hr. of CHEM 4690	
CHEM 3590	CHEM 3500, CHEM 3520	
CHEM 3260	CHEM 4110	
CHEM 4690	CHEM 3120 (2) or 3 cr. hr. of CHEM 3580	
MBIO 4020	MBIO 4010	
MBIO 4602	MBIO 4600	
MBIO 4612	MBIO 4610	

### Biochemistry Program Transition Charts:

In addition, we present specific transition plans below for students who have already completed their year-1 or year-2 requirements in the current degree programs. No chart is presented for students who have completed their year-3 requirements because the required courses to complete their degree under the current regulations will remain available. Programs for students who have completed only parts of year-1 or year-2 will be determined using course equivalencies as indicated in the table above. In the charts below, courses in ***bold italic font*** are from the current course offerings that will not be available, or required, when the new programs take effect in September 2021. Note that students transitioning from the old to the new programs after year-2 will need to take one 2 ch course to satisfy the 120 ch requirement otherwise they will accumulate 121 ch.

### Honours Biochemistry Transition After Year 1 Program Chart:

4.2.2 Biochemistry Programs (offered Jointly by the Departments of Chemistry and Microbiology)			
YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>JOINT HONOURS 120 CREDIT HOURS</b>			
<b>CHEM 1300, CHEM 1310,</b> BIOL 1020, BIOL 1030  PHYS 1050 (or PHYS 1020), <b>PHYS 1070 (or PHYS 1030)</b>  MATH 1500, <b>MATH 1700'</b>	CHEM 2100, CHEM 2110, CHEM 2122, CHEM 2510, CHEM 2520 (2) CHEM 2700, CHEM 2710, CHEM 2720  MBIO 1010 <sup>3</sup> , MBIO 2020	BIOL 2520, CHEM 3700, CHEM 3760 (4)	CHEM 4630, (CHEM 4710 (6) or MBIO 4530 (6))
		MBIO 3410	
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 <sup>2</sup>		18 credit hours selected from the list of Microbiology and Chemistry optional courses (listed above). 12 credit hours selected from the Faculty of Science <sup>4</sup>	
30 Hours	29 Hours	31Hours	30 Hours

### Honours Biochemistry Transition After Year 2 Program Chart

4.2.2 Biochemistry Programs (offered Jointly by the Departments of Chemistry and Microbiology)			
YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>JOINT HONOURS 120 CREDIT HOURS</b>			
<b>CHEM 1300, CHEM 1310,</b> BIOL 1020, BIOL 1030  PHYS 1050 (or PHYS 1020), <b>PHYS 1070 (or PHYS 1030)</b>  MATH 1500, <b>MATH 1700'</b>	<b>CHEM 2210, CHEM 2220, CHEM 2260, CHEM 2360, CHEM 2370, CHEM 2400, CHEM 2470,</b>  MBIO 1010 <sup>3</sup> , MBIO 2020	BIOL 2520, CHEM 3700, CHEM 3760 (4)	CHEM 4630, (CHEM 4710 (6) or MBIO 4530 (6))
		MBIO 3410	
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 <sup>2</sup>  3 credit hours chosen from COMP, MATH, or STAT <sup>4</sup>		17 credit hours selected from the list of Microbiology and Chemistry optional courses (listed above).  12 credit hours selected from the Faculty of Science <sup>4</sup>	
30 Hours	30 Hours	30 Hours	30 Hours

## Major Biochemistry Transition After Year 1 Program Chart

JOINT FOUR YEAR MAJOR (Including Co-operative Option) <sup>5,6</sup> 120 CREDIT HOURS			
<i>CHEM 1300, CHEM 1310,</i> BIOL 1020, BIOL 1030	CHEM 2100, CHEM 2110, CHEM 2122, CHEM 2510, CHEM 2520 (2), CHEM 2700, CHEM 2710, CHEM 2720	CHEM 3700, CHEM 3760 (4) MBIO 3410	CHEM 4630
PHYS 1050 (or PHYS 1020), <i>PHYS 1070 (or PHYS 1030)</i>	MBIO 1010 <sup>3</sup> , MBIO 2020	One of: BIOL 2520, MBIO 3450, MBIO 3460, MBIO 4540, MBIO 4612 One of: CHEM 4360, CHEM 4620	
MATH 1500, <i>MATH 1700</i> <sup>1</sup>			
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 <sup>2</sup>		21 credit hours of Chemistry and Microbiology (minimum 6 credit hours from each dept.). Of these 21 credit hours, at least 12 hours must be 4000 level courses.	
		21 credit hours of electives <sup>4</sup>	
		<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990, SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)	
30 Hours	29 Hours	31 Hours	30 Hours

## Major Biochemistry Transition After Year 2 Program Chart

JOINT FOUR YEAR MAJOR (Including Co-operative Option) <sup>5,6</sup> 120 CREDIT HOURS			
<i>CHEM 1300, CHEM 1310,</i> BIOL 1020, BIOL 1030	<i>CHEM 2210, CHEM 2220, CHEM 2260, CHEM 2360, CHEM 2370, CHEM 2400, CHEM 2470,</i>	CHEM 3700, CHEM 3760 (4) MBIO 3410	CHEM 4630
PHYS 1050 (or PHYS 1020), <i>PHYS 1070 (or PHYS 1030)</i>	MBIO 1010 <sup>3</sup> , MBIO 2020	One of: BIOL 2520, MBIO 3450, MBIO 3460, MBIO 4540, MBIO 4612 One of: CHEM 4360, CHEM 4620	
MATH 1500, <i>MATH 1700</i> <sup>1</sup>			
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 <sup>2</sup>		21 credit hours of Chemistry and Microbiology (minimum 6 credit hours from each dept.). Of these 21 credit hours, at least 12 hours must be 4000 level courses.	
6 credit hours from the Faculty of Arts including the University Written English "W" requirement <sup>2</sup>		20 credit hours of electives <sup>4</sup>	
3 credit hours chosen from COMP, MATH, or STAT <sup>4</sup>		<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990, SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)	

### NOTES:

<sup>1</sup> MATH 1230 or MATH 1510 or MATH 1520 or MATH 1690 may be taken in place of MATH 1500.

<sup>2</sup> 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.

<sup>3</sup> MBIO 1010 can be taken in Year 1 after BIOL 1020.

<sup>4</sup> MATH 1010, MATH 1020, the former MATH 1190, the former COMP 1260, the former COMP 1270, COMP 1500 and COMP 1600 may not be chosen to satisfy this requirement.

<sup>5</sup> IMPORTANT: Students in the co-operative programs must ensure that they are able to satisfy the prerequisites for all 3000 and 4000 level courses they plan to take.

<sup>6</sup> 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.

(The numbers 2, 4, and 6 in brackets indicate two, four and six credit-hour courses, respectively.)

## Biological Sciences

### Introductions:

BIOL 2890 Special Topics in Biology Cr. Hrs. 3 +3.0

Biology encompasses a broad array of ideas and special topic areas. In this course, students can pursue a specific topic in detail through lectures, seminars and research projects. Normally taken by declared Honours and Major students in Biological Sciences. This course can be completed as a topics course multiple times under different titles. Prerequisite: consent of department.

BIOL 2892 Special Topics in Biology with Laboratory Cr. Hrs. 3 +3.0

(Lab required) Biology encompasses a broad array of ideas and special topic areas. In this course, students can pursue a specific topic in detail through lectures, laboratories, seminars and research projects. Normally taken by declared Honours and Major students in Biological Sciences. This course can be completed as a topics course multiple times under different titles. Prerequisite: consent of department.

BIOL 4892 Special Topics in Biology with Laboratory Cr. Hrs. 3 +3.0

(Lab required) Biology encompasses a broad array of ideas and special topic areas. In this course, students can pursue a specific topic in detail through lectures, laboratories, seminars and research projects. Restricted to third and fourth year Honours and Major students in Biological Sciences. Space permitting students in other programs will be permitted to register. This course can be completed as a topics course multiple times under different titles. Prerequisite: consent of department.

### **NET CHANGE IN CREDIT HOURS: +9.0**

### Modifications:

BIOL 2300 Principles of Ecology Cr. Hrs. 3 0.0

(Lab required) Principles of ecology at the individual, population, community, and ecosystems levels. This course is the normal prerequisite to other courses in ecology. May not be held with BIOL 2301, BIOL 2390, or AGECE 2370. Prerequisite: BIOL 1030 or BIOL 1031. Prerequisite or concurrent requirement: one of STAT 1150, STAT 1000, or STAT 1001.

BIOL 2380 Introductory Toxicology Cr. Hrs. 3 0.0

A survey of general principles underlying the effects of toxic substances on biological systems, including consideration of the history, scope and applications of toxicology, the mechanisms of toxic action, and some major types of toxicants. This course is also taught in Environmental Science as ENVR 2180 and in Agriculture as AGRI 2180. May not be held with BIOL 2381, the former BIOL 2382, ENVR 2180, ENVR 2190, AGRI 2180 or AGRI 2190. Prerequisites: [BIOL 1030 or BIOL 1031] and [(CHEM 1100 and one of CHEM 1110, CHEM 1120, CHEM 1126, or CHEM 1130) or (one of CHEM 1311, the former CHEM 1310, or the former CHEM 1320)].

BIOL 3250 Lichens and Bryophytes Cr. Hrs. 3 0.0

(Lab required) The biology, evolution, and ecology of lichens and bryophytes. Emphasis is placed on the role of lichens and bryophytes in the ecosystem, gene flow, animal interactions, co-evolution, secondary compounds, and species identification. May not be held with the former BIOL 3240 or the former BIOL 4246. Prerequisite: BIOL 2240 or BIOL 2260 or BIOL 2261.

- BIOL 3270 Introductory Parasitology Cr. Hrs. 3 0.0  
(Lab required) General course covering major parasitic phyla: namely, Protozoa, Platyhelminthes, Aschelminthes, Acanthocephala, and Arthropoda. Emphasis will be on principles of parasitology. Prerequisite: BIOL 2200 or BIOL 2201; or consent of department.
- BIOL 3312 Community Ecology Cr. Hrs. 3 0.0  
Lectures and laboratories emphasizing the structure and function of terrestrial biotic communities with emphasis upon selected Manitoba situations. Prerequisite: [one of BIOL 2300, BIOL 2301, or AGECE 2370] and [one of STAT 1150, STAT 1000, STAT 1001, or AGRI 2400]; or consent of department.
- BIOL 3314 Field Ecology Cr. Hrs. 3 0.0  
Lectures and field exercises examine problems, techniques, and assumptions involved in measuring parameters of biological populations, communities, and environmental variables. The bulk of this course will be delivered during a field trip to a site determined by the instructor. Prerequisites: [one of BIOL 2300, BIOL 2301, or AGECE 2370] and [one of STAT 1150, STAT 2000, or STAT 2001]; or consent of department
- BIOL 3318 Boreal Ecology Cr. Hrs. 3 0.0  
A survey of ecological factors in the formation, evolution, and survival of northern biota. Prerequisites: [one of BIOL 2300, BIOL 2301, or AGECE 2370] and [one of STAT 1150, STAT 1000, or STAT 1001]; or consent of department.
- BIOL 3350 Data Analysis in Ecology Cr. Hrs. 3 0.0  
This course will consider methods of collection and analysis of ecological data, emphasizing experimental design of ecological studies, sampling, analysis of ecological data sets, and presentation techniques. May not be held with the former BIOL 4320. Prerequisites: [one of BIOL 2300, BIOL 2301, or AGECE 2370] and [one of STAT 1150, STAT 2000, or STAT 2001]; or consent of department.
- BIOL 3360 Animal Behaviour Cr. Hrs. 3 0.0  
An introduction to the study of animal behaviour, including mechanisms and evolutionary explanations of behaviour, as well as current ideas in animal behaviour. Topics include the genetic, physiological aspects of behaviour, and introductions to key topics in behavioural ecology. Prerequisites: [one of BIOL 2300, BIOL 2301, or AGECE 2370] and [one of STAT 1150, STAT 1000, or STAT 1001] and [one of BIOL 2200, BIOL 2201, BIOL 2210, or BIOL 2231]; or consent of department.
- BIOL 3370 Limnology Cr. Hrs. 3 0.0  
(Lab required) Lectures and laboratories providing an introduction to the physics, chemistry and biology of lakes. Prerequisite: [one of BIOL 2300, BIOL 2301, or AGECE 2370] and [one of STAT 1150, STAT 1000, or STAT 1001]; or consent of department.
- BIOL 3372 Wetland Ecology Cr. Hrs. 3 0.0  
Lectures and field exercises examine the biotic (algae, macrophytes, invertebrates, and vertebrates) and abiotic (hydrology, nutrient cycling) properties of Manitoba's wetlands. Various wetland types, including prairie potholes, peatlands, and coastal marshes will be considered in lectures and field work. The course is offered in Summer Session. Prerequisites: [one of BIOL 2300, BIOL 2301, or AGECE 2370] and [one of STAT 1150, STAT 1000, or STAT 1001]; or consent of department.

- BIOL 3400 Plant Physiology Cr. Hrs. 3 0.0  
 (Lab required) An integrative view of major physiological processes in plants, spanning the biochemical, cellular, tissue, organ and whole plant levels of organization. The focus will be on photosynthesis, respiration, plant water relations, plant mineral nutrition, and the role of hormonal and extrinsic factors in the regulation of plant growth. This course is taught together with PLNT 3400. Students may not hold credit for both BIOL 3400 and PLNT 3400. May not be held with the former BIOL 3450 or the former PLNT 3500. Prerequisites: BIOL 2242; and [(CHEM 2700 or MBIO 2700) and CHEM 2720], or [(CHEM 2730 or MBIO 2730) and CHEM 2740], or [one of the former CHEM 2360, CHEM 2361, the former CHEM 2770, the former MBIO 2360, MBIO 2361, or the former MBIO 2770]; or consent of the department.
- BIOL 3500 Genetics 2 Cr. Hrs. 3 0.0  
 (Lab required) The course complements Genetics I (BIOL 2500, BIOL 2501) and deals with various aspects of linkage and crossing over, gene function, allelism, mutation and repair, the use of bacteria and viruses as genetic tools, basics of developmental genetics and extra-nuclear inheritance. May not be held with BIOL 3501. Prerequisites: [one of BIOL 2500, BIOL 2501, or PLNT 2520]; and one of [(CHEM 2710 or MBIO 2710) and CHEM 2720] or [CHEM 2740 and (CHEM 2750 or MBIO 2750)], or [one of the former CHEM 2370, CHEM 2371, the former MBIO 2370, MBIO 2371, the former CHEM 2780, or the former MBIO 2780]; or consent of department.
- BIOL 3600 Biological Diversity and Sustainability Cr. Hrs. 3 0.0  
 Anthropogenic drivers of change of many components of biological diversity; the resulting impacts on ecosystem capacity to provide on-going goods and services that are essential constituents of well-being and ultimately sustainability. Prerequisites: [one of BIOL 2300, BIOL 2301, or AGECE 2370] and [one of STAT 1000, STAT 1001, or STAT 1150].
- BIOL 4218 Biology of Mammals Cr. Hrs. 3 0.0  
 (Lab required) Structure, classification, evolution, life histories, biogeography and ecology of mammals, including conservation. Techniques of studying mammals. Identification of the mammals of Manitoba. Typically offered alternating years. Prerequisites: [BIOL 2210 or BIOL 2231]; and [one of BIOL 2300, BIOL 2301 or AGECE 2370] and [one of STAT 1150, STAT 1000, or STAT 1001]; or consent of department.
- BIOL 4374 Aquatic Botany Cr. Hrs. 3 0.0  
 This course examines the relationship between algae, fungi and macrophytes, and the physical, chemical and biological properties of the aquatic environment. Specific adaptations to life in water, and patterns of distribution and succession in rivers, lakes and wetlands will be covered. Prerequisites: [one of BIOL 2300, BIOL 2301, or AGECE 2370] and [one of STAT 1150, STAT 1000, or STAT 1001]; or consent of department.
- BIOL 4400 Revegetation of Disturbed Lands Cr. Hrs. 3 0.0  
 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: [one of BIOL 3400, PLNT 3400, the former BIOL 3450, or the former PLNT 3500]; and [one of BIOL 2300, BIOL 2301, or AGECE 2370] and [one of STAT 1150, STAT 1000, or STAT 1001]; or consent of department.

Program modifications:

Modifications to the following programs are described on the next 14 pages:

- **Bachelor of Science (General) with a focus in Biological Sciences**
- **Bachelor of Science (Honours) in Biological Sciences**
- **Bachelor of Science (Honours) in Biological Sciences, Co-operative Option**
- **Bachelor of Science (Major) in Biological Science**
- **Bachelor of Science (Major) in Biological Sciences, Co-operative Option**
  - **including the following Themes, for both Honours and Major programs:**
    - **Cell, Molecular and Biology Theme**
    - **Ecology and Environmental Biology Theme**
    - **Environmental and Integrative Physiology Theme**
    - **Evolution and Biodiversity Theme**
    - **Integrative Biology**

#### 4.3.2 B. Sc. Honours: Biological Sciences

The Honours program is designed for students planning a professional career in Biological Sciences at the graduate level. Such students are strongly advised to enter the Honours program at the beginning of second year.

Appropriate courses will be arranged in consultation with the Theme Advisor who may be contacted through the Biological Sciences Office (212 Biological Sciences Building). Students must select a specific theme area of study as part of their Biological Sciences program. See the information below outlining the different theme areas offered by the Department of Biological Sciences.

**To enter** the Biological Sciences Honours program a student must have completed at least 24 credit hours with a minimum DGPA of 3.00, and obtained a minimum grade of "B" in BIOL 1030. **CHEM 1100, CHEM 1110 (if required for theme), CHEM 1120, CHEM 1300, CHEM 1310**, STAT 1150 or 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.

**To continue** in the Biological Sciences Honours program, students must maintain a minimum DGPA 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 achieve a minimum DGPA of 3.00, and obtain a minimum grade of "C" on the courses that make up the 120 credit hours of the degree.

#### 4.3.3 B.Sc. (Major): Biological Sciences

The four-year Major program is also designed for students planning a professional career in the Biological Sciences, but who may not be considering graduate training. It will provide intensive training in all areas of Biology comparable to that of the Honours program, but has less demanding performance requirements. Additionally, students may complete the Major degree requirements on a part-time basis if they so choose. Students who so wish, and have appropriate standing and course selection, may transfer to the Honours program at any time up to the commencement of Year 4.

Appropriate courses will be arranged in consultation with the Theme Advisor who may be contacted through the Biological Sciences Office, 212 Biological Sciences Building. Students must select a specific theme area of study as part of their Biological Sciences program. See the information below outlining the different theme areas offered by the Department of Biological Sciences.

Course BIOL 4100 is not available to students in this program.

**To enter** the Biological Sciences four-year Major program a student must have completed a minimum of 24 credit hours with a minimum DGPA of 2.00, and obtained a minimum grade of "C+" in BIOL 1030. **CHEM 1100, CHEM 1110 (if required for theme), CHEM 1120, CHEM 1300, CHEM 1310**, STAT 1150 or STAT 1000, and the 3 credit hours of specified Mathematics or Physics are program requirements and students are strongly encouraged to complete these courses in first year.

**To continue** in the Bachelor of Science Major degree, a student must maintain a minimum DGPA of 2.00.

**To graduate** with the Bachelor of Science (Major) in Biological Sciences, a student must obtain a minimum DGPA of 2.00 and a minimum grade of "C" or better in all required courses and required option courses.

#### 4.3.4 Honours and Major Co-operative Options

A co-operative education option is available for both Major and Honours students. Students should refer to [Section 3.5](#) of this chapter for further information on the Co-op programs.

##### Honours Co-op

The course, grade requirements and minimum DGPA requirement for entry and continuation in the Co-operative Option are the same as that for regular Honours program.

Before starting the first co-op work term, the following prerequisite courses must be completed: BIOL 1020, BIOL 1030, **CHEM 1100, CHEM 1120, CHEM 1300, CHEM 1310**, STAT 1150 or STAT 1000, 3 credit hours of specified Mathematics or Physics, BIOL 2300, BIOL 2500, BIOL 2520 and BIOL 3100. In addition, students must complete **9–12** credit hours from program core courses as follows: ~~students must select one course from Group A (BIOL 2200, BIOL 2210), plus one course from Group B (BIOL 2240, BIOL 2242, BIOL 2260, BIOL 2262), plus one additional course from~~ **outlined in the specific theme charts.** ~~either Group A or Group B.~~

##### Major Co-op

The course and minimum grade requirements for entry and continuation in the Co-operative Option are the same as those required for the regular Major program. However, the entry and continuation DGPA requirement is set at a minimum of 2.5.

Before starting the first co-op work term, the following prerequisite courses must be completed: BIOL 1020, BIOL 1030, **CHEM 1100, CHEM 1120**, ~~CHEM 1300, CHEM 1310~~, STAT 1150 or STAT 1000, 3 credit hours of specified Mathematics or Physics, BIOL 2300, BIOL 2500, and BIOL 2520. In addition, students must complete ~~9~~**12** credit hours from program core courses as follows: ~~students must select one course from Group A (BIOL 2200, BIOL 2210), plus one course from Group B (BIOL 2240, BIOL 2242, BIOL 2260, BIOL 2262), plus one additional course from~~ **outlined in the specific theme charts. either Group A or Group B.**

#### **4.3.5 Biological Sciences Theme Areas**

**I. Cell, Molecular and Developmental Biology:** Students in the Department of Biological Sciences with an interest in the exciting field of cell and developmental biology can select the Cell, Molecular, and Developmental Biology theme for focus. This theme will provide students a selection of courses that highlight fundamental principles and many important advances in this rapidly growing area of contemporary biology. Students can concentrate on aspects that deal with the molecular structures and processes of cellular life and their roles in the function, reproduction, and development of living organisms. The theme is structured such that students can choose from a broad range of disciplines, including biochemistry, molecular biology, morphology, genetics, cell biology, and developmental biology. The organisms under study in this theme are equally diverse, ranging from microbes through to invertebrates, vertebrates, plants, and fungi. The Department collaborates with many other life sciences departments and this theme allows student to develop a highly flexible course portfolio that includes courses from the Departments of Biological Sciences, Chemistry, Microbiology, or Plant Science.

**Specific courses required for the Cell, Molecular, and Developmental Biology Theme in addition to the core course requirements:** BIOL 3542; Plus **CHEM 1110**; ~~a minimum of 6~~ **9** credit hours of Biochemistry: (CHEM 2700 or MBIO 2700), (CHEM 2710 or MBIO 2710), and CHEM 2720 (the CHEM 2710 or MBIO 2710 prerequisite of CHEM 2100 can be used to fulfill the additional course from the list in the program chart); or (CHEM 2730 or MBIO 2730), CHEM 2740, and (CHEM 2750 or MBIO 2750). ~~CHEM 2770 (MBIO 2770) and CHEM 2780 (MBIO 2780); or CHEM 2210 and CHEM 2360 (MBIO 2360) and CHEM 2370 (MBIO 2370).~~ **Students are strongly recommended to complete the biochemistry requirements in their second year.**

**II. Ecology and Environmental Biology:** Ecology is the study of interactions between organisms and their environment, both in natural settings and human-influenced habitats. In our society ecology and environmental biology provides a scientific link to the living world. Ecologists study the lives of many organisms including animals, plants, fungi, protists, and bacteria. Interactions among these organisms are investigated at many scales ranging from the microscopic to the global. At the individual level, ecology investigates the impact of environmental factors on organisms through their physiology and behaviour. Ultimately, ecologists link these factors to survival and reproduction in variable environments. At the population level, ecology examines the causes of fluctuations in numbers and changes in distribution of a single species. This work is often the focus of agencies concerned with exploitation, extinction, and rehabilitation of both commercially and esthetically important species. At the community and ecosystem level, ecology considers many coexisting species. It examines the interactions between species within the communities (competition, predation, parasitism, mutualism, etc.) as well as broader investigations of community structure and composition. Ultimately, the skills developed within this theme prepare students for future careers in academia, government agencies, private consulting companies, or NGOs whose mandates encompass ecological and environmental concerns.

**Specific courses required for the Ecology and Environmental Biology Theme in addition to the core course requirements:** BIOL 3310, BIOL 3312, BIOL 3314, STAT 2150 or STAT 2000.

**III. Environmental and Integrative Physiology:** The Environmental and Integrative Physiology theme will be of interest to a wide array of students interested in pursuing employment opportunities in the Environmental, Consulting, Pharmaceutical, Healthcare, and Professional job markets. Based on the suggested courses and sub themes within this program students will be able to graduate with an all inclusive degree or specialize in particular disciplines ranging from molecular physiology to whole organism physiology and eco/environmental physiology, a subject area that is at the interface between ecology and physiology. Students will be exposed to modern research techniques in lab classes and will be taught by instructors and faculty with active research programs within the Department of Biological Sciences.

**Specific courses required for the Environmental and Integrative Physiology Theme in addition to the core course requirements:** CHEM 1110; 9 6 credit hours of Biochemistry: (CHEM 2700 or MBIQ 2700), (CHEM 2710 or MBIQ 2710), and CHEM 2720; or (CHEM 2730 or MBIQ 2730), CHEM 2740, and (CHEM 2750 or MBIQ 2750). CHEM 2770 (MBIQ 2770) and CHEM 2780 (MBIQ 2780); or CHEM 2210 and CHEM 2360 (MBIQ 2360) and CHEM 2370 (MBIQ 2370); Plus: two **additional courses from** of the following **courses list** (one of which is already required in the four-year Biological Sciences Degree programs): BIOL 3470, BIOL 3472, BIOL 3400 (the former BIOL 3450), BIOL 3452.

**IV. Evolution and Biodiversity:** Evolution is broadly defined as “descent with modification” and is the process that generates the earth’s biodiversity. The theory of evolution provides a unifying framework for biology because all organisms are descended from a common ancestor. As a result, evolutionary principles permeate research and teaching throughout biology.

Evolutionary biology addresses two overarching questions. (1) What was the history of life? (2) What processes account for adaptation and diversification? Systematics reconstructs the history of life by studying relationships among species, and involves comparisons of physical appearance, development, biochemistry, genetics, behaviour, ecology and biogeography. Evolutionary Genetics investigates how processes such as natural selection, mutation, and migration interact to cause evolutionary change within populations. Evolutionary history, genetics, and ecological context are required to fully understand the evolution of traits, for example body size, wing shape or leaf structure. Thus, evolution integrates knowledge from a wide spectrum of sub-disciplines within biology.

Evolutionary biology has wide-ranging practical applications. Principles of evolution are required to understand: the evolution of pathogens such as HIV and avian influenza; domestication of wild species and consequences of genetic modifications; the identification of natural products; long-term responses to environmental change; and human biology. Courses from this theme will prepare students for academia, medicine, and government agencies or NGO’s that emphasize the cataloguing and conservation of biological diversity.

**Specific courses required for the Evolution and Biodiversity Theme in addition to the core course requirements:**

**STAT 2150 or STAT 2000 List A:** One of the following **Evolutionary Processes courses:** BIOL 3360, BIOL 4300, BIOL 4362, BIOL 4510. **List B:** One of the following **Biodiversity courses:** BIOL 3200, BIOL 3242, BIOL 3250, BIOL 3270, BIOL 4212, BIOL 4214, BIOL 4216, BIOL 4218.

**V. Integrative Biology:** The Integrative Biology theme will be of interest to students planning to pursue careers in the various biology sub disciplines and who wish an undergraduate degree that is “interdisciplinary” within the life science departments that cuts across the traditional boundaries. This program will suit students who are interested in the “after degree” program in Education or who are intending to apply to a professional program (e.g. Medicine, Dentistry, Pharmacy, Medical Rehabilitation) and who would like a broad background in the Life Sciences. With the appropriate choice of Biological Science courses, it would be possible to indicate the Integrative Biology theme along with a second theme from the department.

**Specific courses required for the Integrative Biology Theme in addition to the core course requirements:** CHEM 1110; MBIQ 1010; 6 credit hours from (CHEM 2700 or MBIQ 2700), (CHEM 2710 or MBIQ 2710), and CHEM 2720; or 6 credit hours from (CHEM 2730 or MBIQ 2730), CHEM 2740, or (CHEM 2750 or MBIQ 2750); All five of the following: BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242, MBIQ 1010; One of the following: **12 credit hours of second-year program courses including BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242, BIOL 2260, BIOL 2262, BIOL 2420, and BIOL 2600 as outlined in the chart;** BIOL 3400 (the former BIOL 3450), BIOL 3470 or BIOL 3472; Plus: 24 credit hours in Biological Sciences (3000/4000 level courses) and 6 credit hours in Microbiology (3000/4000 level courses).

#### **4.3.6 B.Sc. General Degree: Biological Sciences**

Courses taken as part of a General degree program provide an introduction to the major fields of study in the Biological Sciences. ~~Commencing in Fall Term 2009, students will~~ **Students** have two options for the General Degree under the Department of Biological Sciences.

**Option A:** 18 credit hours of 2000, 3000, and (or) 4000 level Biological Sciences courses (subject to the Faculty requirement that of the 36 credit hours in the two chosen advanced level Science areas, at least 6 credit hours must be at the 3000/4000 level);

**Option B:** Students may choose 36 credit hours from the Biological Sciences provided they select the following courses: each of BIOL 2300<sup>1</sup>, BIOL 2500, BIOL 2520; ~~two one~~ **two** of BIOL 2200, ~~or~~ BIOL 2210, ~~one~~ **one** of BIOL 2240, BIOL 2242, BIOL 2260, ~~or~~ BIOL 2262, **or BIOL 2420**; plus 21 additional credit hours (2000 level or higher) from the Biological Sciences including at least a minimum of 6 credit hours at the 3000 or 4000 level.

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.

**NOTE:**

<sup>1</sup> BIOL 2300 has a prerequisite or concurrent requirement of STAT 1150 or STAT 1000. Students planning this option should consider taking STAT 1150 or STAT 1000 as part of their Introductory Science requirement.

**4.3.7.1 Biological Sciences Program Charts**

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS: Cell, Molecular and Developmental Biology Theme (incl. Co-op)<sup>1</sup> 120 CREDIT HOURS</b> (Courses listed in chart below and electives)			
BIOL 1020, BIOL 1030 CHEM 1300, CHEM 1310  <b><u>CHEM 1100, CHEM 1110, and CHEM 1120<sup>2</sup></u></b>  STAT 1150 <sup>3</sup> or STAT 1000 <sup>3</sup>	BIOL 2300, BIOL 2500, BIOL 2520 Choose one course from each of:  <b><u>Either:</u></b>  <b><u>[(CHEM 2700 or MBIO 2700), (CHEM 2710 or MBIO 2710), and CHEM 2720<sup>5</sup>];</u></b>  <b><u>or</u></b>  <b><u>[(CHEM 2730 or MBIO 2730), (CHEM 2750 or MBIO 2750), and CHEM 2740<sup>5</sup>].</u></b>  Group A: BIOL 2200; <b><u>or</u></b> BIOL 2210  Group B: <b><u>One of</u></b> BIOL 2240, BIOL 2242, BIOL 2260, <b><u>or</u></b> BIOL 2262  <b><u>One additional course from BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242, BIOL 2260, BIOL 2262, BIOL 2420, BIOL 2600, CHEM 2100<sup>5</sup></u></b>  One additional course from either Group A or Group B  Either both of CHEM 2770 and CHEM 2780; or all three of CHEM 2210, CHEM 2360, and CHEM 2370 (theme courses)	BIOL 3100, BIOL 3300  BIOL 3542 <sup>6</sup> (theme course)  Choose one of the following:  <b><u>One of</u></b> BIOL 3400, BIOL 3470, <b><u>or</u></b> BIOL 3472	BIOL 4100 (6)
		30 credit hours of 3000 or 4000 level Biology courses <sup>9</sup> (courses from outside Biology may be approved by the theme advisor) Enough elective credit hours required to total 120 credit hours for the program  <b><u>12 credit hours of electives</u></b>	
In Year 1 or Year 2 the following must be completed:		<b>Co-op Requirements (if selected):</b>	<b>Co-op Requirements (if selected):</b>

3 credit hours of Mathematics or Physics chosen from: MATH 1240 <sup>+4</sup> , MATH 1300 <sup>+4</sup> , MATH 1500 <sup>+4</sup> , PHYS 1020 or PHYS 1050	SCI 3980, SCI 3990	SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)
6 credit hours from the Faculty of Arts, including a required "W" course		
<b>6 credit hours of electives</b>		
30 Hours	30 Hours	30 Hours

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>FOUR YEAR MAJOR: Cell, Molecular and Developmental Biology Theme (incl. Co-op)<sup>1,2</sup> 120 CREDIT HOURS</b> (Courses listed in chart below and electives)			
BIOL 1020, BIOL 1030 CHEM 1300, CHEM 1310  <b><u>CHEM 1100, CHEM 1110, and CHEM 1120<sup>2</sup></u></b>  STAT 1150 <sup>3</sup> or STAT 1000 <sup>3</sup>	BIOL 2300, BIOL 2500, BIOL 2520  Choose one course from each of:  <b><u>Either:</u></b>  <b><u>[(CHEM 2700 or MBIO 2700), (CHEM 2710 or MBIO 2710), and CHEM 2720<sup>5</sup>];</u></b>  <b><u>or</u></b>  <b><u>[(CHEM 2730 or MBIO 2730), (CHEM 2750 or MBIO 2750), and CHEM 2740<sup>5</sup>].</u></b>  Group A: BIOL 2200, <b><u>or</u></b> BIOL 2210  Group B: <b><u>One of</u></b> BIOL 2240, BIOL 2242, BIOL 2260, <b><u>or</u></b> BIOL 2262  <b><u>One additional course from BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242, BIOL 2260, BIOL 2262, BIOL 2420, BIOL 2600, CHEM 2100<sup>5</sup></u></b>  One additional course from either Group A or Group B  Either both of CHEM 2770 and CHEM 2780; or all three of CHEM 2210, CHEM 2360, and CHEM 2370 (theme courses)	BIOL 3300  BIOL 3542 <sup>4,6</sup> (theme course)  Choose one of the following:  <b><u>One of</u></b> BIOL 3400, BIOL 3470, <b><u>or</u></b> BIOL 3472  30 credit hours of 3000 or 4000 level Biology courses <sup>9</sup> <sup>7</sup> (courses from outside Biology may be approved by the theme advisor)  Enough elective credit hours required to total 120 credit hours for the program  <b><u>21 credit hours of electives</u></b>	
In Year 1 or Year 2 the following must be completed: 3 credit hours of Mathematics or Physics chosen from: MATH 1240 <sup>+4</sup> , MATH 1300 <sup>+4</sup> , MATH 1500 <sup>+4</sup> , PHYS 1020 or PHYS 1050  6 credit hours from the Faculty of Arts, including a required "W" course		<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990	<b>Co-op Requirements (if selected):</b> SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)

<b>6 credit hours of electives</b>			
30 Hours	30 Hours	30 Hours	30 Hours

**NOTES:**

<sup>21</sup> IMPORTANT: The programs need not be completed in the manner prescribed in the chart above. The charts indicate one possible arrangement of the 120 credit hours that make up the degree and are meant to be a guide around which students can plan their programs with a view to satisfying the prerequisites of the required courses. These 120 credit hours are a combination of the courses outlined in the charts above and elective courses chosen by the student in consultation with the program advisors.

<sup>2</sup> **The former courses CHEM 1300 and CHEM 1310 may be used in place of CHEM 1100, CHEM 1110, and CHEM 1120. CHEM 1122 and CHEM 1126 may be used in lieu of CHEM 1120.**

<sup>3</sup> **STAT 1150 is recommended over STAT 1000.**

<sup>4</sup> MATH 1230, MATH 1510, MATH 1520, or MATH 1690 may be taken in place of MATH 1500; MATH 1220 or MATH 1310 may be taken in place of MATH 1300; MATH 1200 may be used in place of MATH 1240.

<sup>5</sup> **Students are strongly recommended to complete their biochemistry requirements in their second year. The former courses CHEM 2360 (MBIO 2360) and CHEM 2370 (MBIO 2370) may be used in place of CHEM 2700 (MBIO 2700), CHEM 2710 (MBIO 2710), and CHEM 2720. The former courses CHEM 2770 (MBIO 2770) and CHEM 2780 (MBIO 2780) may be used in place of CHEM 2730 (MBIO 2730), CHEM 2740, and CHEM 2750 (MBIO 2750). If the choice of Biochemistry courses includes the requirement of CHEM 2100, CHEM 2100 can be used as the additional course listed above. The former CHEM 2210 may be used in place of CHEM 2100.**

<sup>6</sup> **The former BIOL 2540 may be used in place of BIOL 3542.**

<sup>3,7</sup> Courses from other departments or faculties may be acceptable for use towards the 30 credit hours of 3000/4000 level Biological Sciences courses required in the Honours and Major Degree programs. Please consult with the department **theme advisor** for permission to use alternate courses.

<sup>4</sup> The former BIOL 2540 may be used in place of BIOL 3542.

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

**4.3.7.2 Biological Sciences – Program Charts**

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS: Ecology and Environmental Biology Theme (incl. Co-operative Option)<sup>1</sup> 120 CREDIT HOURS</b>			
BIOL 1020, BIOL 1030 CHEM 1300, CHEM 1310  <b>CHEM 1100, CHEM 1120<sup>2</sup></b>  STAT 1150 <sup>3</sup> and STAT 2150 <sup>4</sup> (strongly recommended) or STAT 1000 <sup>3</sup> and STAT 2000 (theme course)	BIOL 2300, BIOL 2500, BIOL 2520  Group A: BIOL 2200, <b>or</b> BIOL 2210  Group B: <b>One of</b> BIOL 2240, BIOL 2242, BIOL 2260, <b>or</b> BIOL 2262  <b>One additional course from BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242, BIOL 2260, BIOL 2262, BIOL 2600</b>  One additional course from either Group A or Group B  <b>STAT 2150<sup>3,4</sup> or STAT 2000<sup>3</sup></b>	BIOL 3100, BIOL 3300  BIOL 3310, BIOL 3312, BIOL 3314 <sup>4,5</sup> (theme courses)  Choose one of the following:  <b>One of</b> BIOL 3400, BIOL 3470, <b>or</b> BIOL 3472  21 credit hours of 3000 or 4000 level Biology courses <sup>3</sup> <sup>6</sup> (courses from outside Biology may be approved by the theme advisor)  15 credit hours of electives	BIOL 4100 (6)

In Year 1 or Year 2 the following must be completed: 3 credit hours of Mathematics or Physics chosen from: MATH 1240 <sup>+4</sup> , MATH 1300 <sup>+4</sup> , MATH 1500 <sup>+4</sup> , PHYS 1020 or PHYS 1050  6 credit hours from the Faculty of Arts, including a required "W" course  15 credit hours of electives	<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990	<b>Co-op Requirements (if selected):</b> SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)
30 Hours	30 Hours	30 Hours

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>FOUR YEAR MAJOR: Ecology and Environmental Biology Theme (incl. Co-op)<sup>21</sup> 120 CREDIT HOURS</b> (Courses listed in chart below and electives)			
BIOL 1020, BIOL 1030 <del>CHEM 1300, CHEM 1310</del>  <b><u>CHEM 1100, CHEM 1120<sup>2</sup></u></b>  STAT 1150 <sup>3</sup> and STAT 2150 <sup>3</sup> (strongly recommended) or STAT 1000 <sup>3</sup> and STAT 2000 (theme course)	BIOL 2300, BIOL 2500, BIOL 2520  Group A: BIOL 2200, <b>or</b> BIOL 2210  Group B: <b>One of</b> BIOL 2240, BIOL 2242, BIOL 2260, <b>or</b> BIOL 2262  <b><u>One additional course from BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242, BIOL 2260, BIOL 2262, BIOL 2600</u></b>  One additional course from either Group A or Group B  <b><u>STAT 2150<sup>3,4</sup> or STAT 2000<sup>3</sup></u></b>	BIOL 3300 BIOL 3310, BIOL 3312, BIOL 3314 <sup>+5</sup> (theme courses)  <del>Choose one of the following:</del> <b><u>One of</u></b> BIOL 3400, BIOL 3470, <b>or</b> BIOL 3472  21 credit hours of 3000 or 4000 level Biology courses <sup>3</sup> <sup>6</sup> (courses from outside Biology may be approved by the theme advisor) <del>Enough elective credit hours required to total 120 credit hours for the program</del>  <b><u>24 credit hours of electives</u></b>	
In Year 1 or Year 2 the following must be completed: 3 credit hours of Mathematics or Physics chosen from: MATH 1240 <sup>+4</sup> , MATH 1300 <sup>+4</sup> , MATH 1500 <sup>+4</sup> , PHYS 1020 or PHYS 1050  6 credit hours from the Faculty of Arts, including a required "W" course  <b><u>15 credit hours of electives</u></b>		<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990	<b>Co-op Requirements (if selected):</b> SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)
30 Hours	30 Hours	30 Hours	30 Hours

**NOTES:**

<sup>12</sup> IMPORTANT: The programs need not be completed in the manner prescribed in the chart above. The charts indicate one possible arrangement of the 120 credit hours that make up the degree and are meant to be a guide around which students can plan their programs with a view to satisfying the prerequisites of the required courses. These 120 credit hours are a combination of the courses outlined in the charts above and elective courses chosen by the student in consultation with the program advisors.

<sup>2</sup> **The former courses CHEM 1300 and CHEM 1310 may be used in place of CHEM 1100 and CHEM 1120. CHEM 1122 and CHEM 1126 may be used in lieu of CHEM 1120.**

<sup>3</sup> **STAT 1150 is strongly recommended over STAT 1000; and STAT 2150 is strongly recommended over STAT 2000.**

<sup>±4</sup> MATH 1230, MATH 1510, MATH 1520, or MATH 1690 may be taken in place of MATH 1500; MATH 1220 or MATH 1310 may be taken in place of MATH 1300; MATH 1200 may be used in place of MATH 1240. Note that STAT 2150 has a prerequisite of one of MATH 1230, MATH 1500, MATH 1510, or MATH 1690.

<sup>45</sup> With departmental approval, other Field Ecology courses may be used in place of BIOL 3314. **A list of possible courses can be found on the Departmental Website.**

<sup>36</sup> Courses from other departments or faculties may be acceptable for use towards the 21 credit hours of 3000/4000 level Biological Sciences courses required in the Honours and Major Degree programs. Please consult with the department **theme advisor** for permission to use alternate courses.

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

#### 4.3.7.3 Biological Sciences – Program Charts

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS: Environmental and Integrative Physiology Theme (incl. Co-op)<sup>1</sup></b>			120 CREDIT HOURS (Courses listed chart below and electives)
BIOL 1020, BIOL 1030 CHEM 1300, CHEM 1310  <b><u>CHEM 1100, CHEM 1110, and CHEM 1120<sup>2</sup></u></b>  STAT 1150 <sup>3</sup> or STAT 1000 <sup>3</sup>	BIOL 2300, BIOL 2500, BIOL 2520  Group A: BIOL 2200, or BIOL 2210  Group B: <b><u>One of</u></b> BIOL 2240, BIOL 2242, BIOL 2260, or BIOL 2262  <b><u>One additional course from BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242, BIOL 2260, BIOL 2262, BIOL 2420, BIOL 2600</u></b>  Plus one additional course from either Group A or Group B  <b><u>[(CHEM 2700 or MBIO 2700), (CHEM 2710 or MBIO 2710), and CHEM 2720<sup>5</sup>]</u></b>  <b><u>or</u></b>  <b><u>[(CHEM 2730 or MBIO 2730), (CHEM 2750 or MBIO 2750), and CHEM 2740<sup>5</sup>]</u></b>  Either both of CHEM 2770 and CHEM 2780; or all three of CHEM 2210, CHEM 2360, and CHEM 2370 (theme courses)	BIOL 3100, BIOL 3300  Choose one <b><u>Three</u></b> of the following: BIOL 3400, <b><u>BIOL 3452</u></b> , BIOL 3470, or BIOL 3472  Choose two of the following:  BIOL 3470, BIOL 3472, BIOL 3400 (if not already taken), or BIOL 3452 (theme courses)	BIOL 4100 (6)
		24 credit hours of 3000 or 4000 level Biology courses <sup>3,6</sup> (courses from outside Biology may be approved by the theme advisor) Enough elective credit hours required to total 120 credit hours for the program  <b><u>15 credit hours of electives</u></b>	
In Year 1 or Year 2 the following must be completed: 3 credit hours of Mathematics or Physics chosen from: MATH 1240 <sup>±4</sup> , MATH 1300 <sup>±4</sup> , MATH 1500 <sup>±4</sup> , PHYS 1020 or PHYS 1050  6 credit hours from the Faculty of Arts, including a required "W" course		<b><u>Co-op Requirements (if selected):</u></b> SCI 3980, SCI 3990	<b><u>Co-op Requirements (if selected):</u></b> SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)

<b>3-6 credit hours of electives<sup>5</sup></b>			
30 Hours	30 Hours	30 Hours	30 Hours

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>FOUR YEAR MAJOR: Environmental and Integrative Physiology Theme (incl. Co-op)<sup>12</sup> 120 CREDIT HOURS</b> (Courses listed in chart below and electives)			
BIOL 1020, BIOL 1030 CHEM 1300, CHEM 1310  <b><u>CHEM 1100, CHEM 1110, and CHEM 1120<sup>2</sup></u></b>  STAT 1150 <sup>3</sup> or STAT 1000 <sup>3</sup>	BIOL 2300, BIOL 2500, BIOL 2520  Group A: BIOL 2200, <b>or</b> BIOL 2210  Group B: <b>One of</b> BIOL 2240, BIOL 2242, BIOL 2260, <b>or</b> BIOL 2262  <b><u>One additional course from BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242, BIOL 2260, BIOL 2262, BIOL 2420, BIOL 2600</u></b>  Plus one additional course from either Group A or Group B  <b><u>[(CHEM 2700 or MBIO 2700), (CHEM 2710 or MBIO 2710), and CHEM 2720<sup>5</sup>];</u></b>  <b>or</b>  <b><u>[(CHEM 2730 or MBIO 2730), (CHEM 2750 or MBIO 2750), and CHEM 2740<sup>5</sup>].</u></b>  Either both of CHEM 2770 and CHEM 2780; or all three of CHEM 2210, CHEM 2360, and CHEM 2370 (theme courses)	BIOL 3300  Choose one <b>Three</b> of the following: BIOL 3400, <b>BIOL 3452</b> , BIOL 3470, <b>or</b> BIOL 3472  Choose two of the following:  BIOL 3470, BIOL 3472, BIOL 3400 (if not already taken); or BIOL 3452 (theme courses)  24 credit hours of 3000 or 4000 level Biology courses <sup>3</sup> <sup>6</sup> (courses from outside Biology may be approved by the theme advisor)  Enough elective credit hours required to total 120 credit hours for the program  <b><u>24 credit hours of electives</u></b>	
In Year 1 or Year 2 the following must be completed: 3 credit hours of Mathematics or Physics chosen from: MATH 1240 <sup>4</sup> , MATH 1300 <sup>4</sup> , MATH 1500 <sup>4</sup> , PHYS 1020 or PHYS 1050  6 credit hours from the Faculty of Arts, including a required "W" course  <b><u>3-6 credit hours of electives<sup>5</sup></u></b>	<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990	<b>Co-op Requirements (if selected):</b> SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)	
30 Hours	30 Hours	30 Hours	30 Hours

**NOTES:**

<sup>12</sup> IMPORTANT: The programs need not be completed in the manner prescribed in the chart above. The charts indicate one possible arrangement of the 120 credit hours that make up the degree and are meant to be a guide around which students can plan their programs with a view to satisfying the prerequisites of the

required courses. These 120 credit hours are a combination of the courses outlined in the charts above and elective courses chosen by the student in consultation with the program advisors.

**<sup>2</sup> The former courses CHEM 1300 and CHEM 1310 may be used in place of CHEM 1100, CHEM 1110, and CHEM 1120. CHEM 1122 and CHEM 1126 may be used in lieu of CHEM 1120.**

**<sup>3</sup> STAT 1150 is recommended over STAT 1000.**

**<sup>4</sup> MATH 1230, MATH 1510, MATH 1520, or MATH 1690 may be taken in place of MATH 1500; MATH 1220 or MATH 1310 may be taken in place of MATH 1300; MATH 1200 may be used in place of MATH 1240.**

**<sup>5</sup> The former courses CHEM 2360 (MBIO 2360) and CHEM 2370 (MBIO 2370) may be used in place of CHEM 2700 (MBIO 2700), CHEM 2710 (MBIO 2710), and CHEM 2720. The former courses CHEM 2770 (MBIO 2770) and CHEM 2780 (MBIO 2780) may be used in place of CHEM 2730 (MBIO 2730), CHEM 2740, and CHEM 2750 (MBIO 2750). Number of credit hours of electives depends on the choice of Biochemistry courses and the inclusion of CHEM 2100 (or the former CHEM 2210).**

**<sup>3-6</sup> Courses from other departments or faculties may be acceptable for use towards the 24 credit hours of 3000/4000 level Biological Sciences courses required in the Honours and Major Degree programs. Please consult with the department **theme advisor** for permission to use alternate courses.**

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

#### 4.3.7.4 Biological Sciences Program Charts

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS: Evolution and Biodiversity Theme (incl. Co-operative Option)<sup>1</sup> 120 CREDIT HOURS</b>			
BIOL 1020, BIOL 1030 CHEM 1300, CHEM 1310  <b><u>CHEM 1100, CHEM 1120<sup>2</sup></u></b>  STAT 1150 <sup>3</sup> or STAT 1000 <sup>3</sup>	BIOL 2300, BIOL 2500, BIOL 2520  Group A: BIOL 2200, <b>or</b> BIOL 2210  Group B: <b>One of</b> BIOL 2240, BIOL 2242, BIOL 2260, <b>or</b> BIOL 2262  <b>One additional course from BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242, BIOL 2260, BIOL 2262</b>  One additional course from either Group A or Group B  <b>STAT 2150<sup>3,4</sup> or STAT 2000<sup>3</sup></b>	BIOL 3100, BIOL 3300  Choose one of the following:  <b>One of</b> BIOL 3400, BIOL 3470, <b>or</b> BIOL 3472   <b>One of BIOL 3360, BIOL 4300, BIOL 4362, or BIOL 4510</b>  <b>One of BIOL 3200, BIOL 3242, BIOL 3250, BIOL 3270, BIOL 4212, BIOL 4214, BIOL 4216, or BIOL 4218</b>  3 credit hours chosen from the Evolutionary Processes List (A) above 3 credit hours chosen from the Biodiversity course List (B) above  24 credit hours of 3000 or 4000 level Biology courses <sup>3</sup> <sup>5</sup> (courses from outside Biology may be approved by the theme advisor)  15 credit hours of electives	BIOL 4100 (6)
In Year 1 or Year 2 the following must be completed: 3 credit hours of Mathematics or Physics chosen from: MATH 1240 <sup>4</sup> , MATH 1300 <sup>4</sup> , MATH 1500 <sup>4</sup> , PHYS 1020 or PHYS 1050  6 credit hours from the Faculty of Arts, including a required "W" course  <del>48</del> <b>15</b> credit hours of electives		<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990	<b>Co-op Requirements (if selected):</b> SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)
30 Hours	30 Hours	30 Hours	30 Hours

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>FOUR YEAR MAJOR: Evolution and Biodiversity Theme (incl. Co-op)<sup>1,2</sup> 120 CREDIT HOURS</b> (Courses listed in chart below and electives)			
BIOL 1020, BIOL 1030 CHEM 1300, CHEM 1310 <b>CHEM 1100, CHEM 1120<sup>2</sup></b> STAT 1150 <sup>3</sup> or STAT 1000 <sup>3</sup>	BIOL 2300, BIOL 2500, BIOL 2520 Group A: BIOL 2200, <b>or</b> BIOL 2210 Group B: <b>One of</b> BIOL 2240, BIOL 2242, BIOL 2260, <b>or</b> BIOL 2262 <b>One additional course from BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242, BIOL 2260, BIOL 2262</b> Plus one additional course from either Group A or Group B <b>STAT 2150<sup>3, 4</sup> or STAT 2000<sup>3</sup></b>	BIOL 3300 Choose one of the following: <b>One of BIOL 3360, BIOL 4300, BIOL 4362, or BIOL 4510</b> <b>One of BIOL 3200, BIOL 3242, BIOL 3250, BIOL 3270, BIOL 4212, BIOL 4214, BIOL 4216, or BIOL 4218</b> <b>One of</b> BIOL 3400, BIOL 3470, <b>or</b> BIOL 3472 3 credit hours chosen from the Evolutionary Processes List (A) above 3 credit hours chosen from the Biodiversity course List (B) above 24 credit hours of 3000 or 4000 level Biology courses <sup>3, 5</sup> (courses from outside Biology may be approved by the theme advisor) Enough elective credit hours required to total 120 credit hours for the program <b>24 credit hours of electives</b>	
In Year 1 or Year 2 the following must be completed: 3 credit hours of Mathematics or Physics chosen from: MATH 1240 <sup>1,4</sup> , MATH 1300 <sup>1,4</sup> , MATH 1500 <sup>1,4</sup> , PHYS 1020 or PHYS 1050 6 credit hours from the Faculty of Arts, including a required "W" course <b>15 credit hours of electives</b>		<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990	<b>Co-op Requirements (if selected):</b> SCI 4980, and SCI 4990 (if a 4th work term is selected)
30 Hours	30 Hours	30 Hours	30 Hours

**NOTES:**

<sup>1,2</sup> IMPORTANT: The programs need not be completed in the manner prescribed in the chart above. The charts indicate one possible arrangement of the 120 credit hours that make up the degree and are meant to be a guide around which students can plan their programs with a view to satisfying the prerequisites of the required courses. These 120 credit hours are a combination of the courses outlined in the charts above and elective courses chosen by the student in consultation with the program advisors.

<sup>2</sup> **The former courses CHEM 1300 and CHEM 1310 may be used in place of CHEM 1100 and CHEM 1120. CHEM 1122 and CHEM 1126 may be used in lieu of CHEM 1120.**

<sup>3</sup> **STAT 1150 is strongly recommended over STAT 1000; and STAT 2150 is strongly recommended over STAT 2000.**

<sup>1,4</sup> MATH 1230, MATH 1510, MATH 1520, or MATH 1690 may be taken in place of MATH 1500; MATH 1220 or MATH 1310 may be taken in place of MATH 1300; MATH 1200 may be used in place of MATH 1240. **Note that STAT 2150 has a prerequisite of one of MATH 1230, MATH 1500, MATH 1510, or MATH 1690.**

<sup>3,5</sup> Courses from other departments or faculties may be acceptable for use towards the 24 credit hours of 3000/4000 level Biological Sciences courses required in the Honours and Major Degree programs. Please consult with the department **theme advisor** for permission to use alternate courses.

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

#### 4.3.7.5 Biological Sciences – Program Charts

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS: Integrative Biology Theme (incl. Co-operative Option)<sup>1</sup> 120 CREDIT HOURS</b>			
BIOL 1020, BIOL 1030 CHEM 1300, CHEM 1310  <b><u>CHEM 1100, CHEM 1110, and CHEM 1120<sup>2</sup></u></b>  <b><u>MBIO 1010</u></b>  STAT 1150 <sup>3</sup> or STAT 1000 <sup>3</sup>	BIOL 2300, BIOL 2500, BIOL 2520  Required Theme courses:  <b>Three of</b> BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242  <del>MBIO 1010</del>  <b>One additional course from BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242, BIOL 2260, BIOL 2262, BIOL 2420, BIOL 2600</b>  <b>Two of: [(CHEM 2700 or MBIO 2700), (CHEM 2710 or MBIO 2710), and CHEM 2720<sup>5</sup>];</b>  <b>or</b>  <b>Two of: [(CHEM 2730 or MBIO 2730), (CHEM 2750 or MBIO 2750), and CHEM 2740<sup>5</sup>].</b>  Either both of CHEM 2770 and CHEM 2780; or all three of CHEM 2210, CHEM 2360, and CHEM 2370 (theme courses)	BIOL 3100, BIOL 3300  Choose one of the following:  <b>One of</b> BIOL 3400, BIOL 3470, <b>or</b> BIOL 3472  24 credit hours of 3000 or 4000 level Biological Sciences courses <sup>3,6</sup> 6 credit hours of 3000 or 4000 level Microbiology courses <sup>7</sup>  Enough elective credit hours required to total 120 credit hours for the program  <b>15 credit hours of electives</b>	BIOL 4100 (6)
In Year 1 or Year 2 the following must be completed: 3 credit hours of Mathematics or Physics chosen from: MATH 1240 <sup>4</sup> , MATH 1300 <sup>4</sup> , MATH 1500 <sup>4</sup> , PHYS 1020 or PHYS 1050  6 credit hours from the Faculty of Arts, including a required "W" course  <del>12</del> <b>0 - 3 credit hours of electives<sup>5</sup></b>		<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990	<b>Co-op Requirements (if selected):</b> SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)
30 Hours	30 Hours	30 Hours	30 Hours

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>FOUR YEAR MAJOR: Integrative Biology Theme (incl. Co-op)<sup>1,2</sup> 120 CREDIT HOURS</b> (Courses listed in chart below and electives)			
BIOL 1020, BIOL 1030 CHEM 1300, CHEM 1310  <b><u>CHEM 1100, CHEM 1110, and CHEM 1120<sup>2</sup></u></b>  <b><u>MBIO 1010</u></b>  STAT 1150 <sup>3</sup> or STAT 1000 <sup>3</sup>	BIOL 2300, BIOL 2500, BIOL 2520  Required Theme courses:  <b>Three of</b> BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242  <del>MBIO 1010</del>	BIOL 3300  Choose one of the following:  <b>One of</b> BIOL 3400, BIOL 3470, <b>or</b> BIOL 3472  24 credit hours of 3000 or 4000 level Biology courses <sup>3,6</sup> 6 credit hours of 3000 or 4000 level Microbiology courses <sup>7</sup>	

	<p><b><u>One additional course from BIOL 2200, BIOL 2210, BIOL 2240, BIOL 2242, BIOL 2260, BIOL 2262, BIOL 2420, BIOL 2600</u></b></p> <p>Plus one additional course from either Group A or Group B</p> <p><b><u>Two of: [(CHEM 2700 or MBIO 2700), (CHEM 2710 or MBIO 2710), and CHEM 2720<sup>5</sup>];</u></b></p> <p><b><u>or</u></b></p> <p><b><u>Two of: [(CHEM 2730 or MBIO 2730), (CHEM 2750 or MBIO 2750), and CHEM 2740<sup>5</sup>].</u></b></p> <p>Either both of CHEM 2770 and CHEM 2780; or all three of CHEM 2210, CHEM 2360, and CHEM 2370 (theme courses)</p>	<p>Enough elective credit hours required to total 120 credit hours for the program</p> <p><b><u>24 credit hours of electives</u></b></p>	
<p>In Year 1 or Year 2 the following must be completed: 3 credit hours of Mathematics or Physics chosen from: MATH 1240<sup>±4</sup>, MATH 1300<sup>±4</sup>, MATH 1500<sup>±4</sup>, PHYS 1020 or PHYS 1050</p> <p>6 credit hours from the Faculty of Arts, including a required "W" course</p> <p><b><u>0 - 3 credit hours of electives<sup>5</sup></u></b></p>		<p><b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990</p>	<p><b>Co-op Requirements (if selected):</b> SCI 4980, and SCI 4990 (if a 4<sup>th</sup> work term is selected)</p>
30 Hours	30 Hours	30 Hours	30 Hours

**NOTES:**

<sup>1±2</sup> IMPORTANT: The programs need not be completed in the manner prescribed in the chart above. The charts indicate one possible arrangement of the 120 credit hours that make up the degree and are meant to be a guide around which students can plan their programs with a view to satisfying the prerequisites of the required courses. These 120 credit hours are a combination of the courses outlined in the charts above and elective courses chosen by the student in consultation with the program advisors.

<sup>2</sup> **The former courses CHEM 1300 and CHEM 1310 may be used in place of CHEM 1100, CHEM 1110, and CHEM 1120. CHEM 1122 and CHEM 1126 may be used in lieu of CHEM 1120.**

<sup>3</sup> **STAT 1150 is recommended over STAT 1000.**

<sup>±4</sup> MATH 1230, MATH 1510, MATH 1520, or MATH 1690 may be taken in place of MATH 1500; MATH 1220 or MATH 1310 may be taken in place of MATH 1300; MATH 1200 may be used in place of MATH 1240.

<sup>5</sup> **The former courses CHEM 2360 (MBIO 2360) and CHEM 2370 (MBIO 2370) may be used in place of CHEM 2700 (MBIO 2700), CHEM 2710 (MBIO 2710), and CHEM 2720. The former courses CHEM 2770 (MBIO 2770) and CHEM 2780 (MBIO 2780) may be used in place of CHEM 2730 (MBIO 2730), CHEM 2740, and CHEM 2750 (MBIO 2750). Number of credit hours of electives depends on the choice of Biochemistry courses and the inclusion of CHEM 2100 (or the former CHEM 2210).**

<sup>6</sup> Courses from other departments or faculties may be acceptable for use towards the 24 credit hours of 3000/4000 level Biological Sciences courses required in the Honours and Major Degree programs. Please consult with the department **theme advisor** for permission to use alternate courses.

**7 Many MBIO courses have specific biochemistry requirements. Students are advised to plan ahead to take all required courses. If a student takes more than 6 credit hours of biochemistry, they will count as electives.**

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

#### 4.3.7.6 Biological Sciences – Program Charts

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>THREE YEAR GENERAL 90 CREDIT HOURS</b>			
BIOL 1020, BIOL 1030	18 credit hours of 2000, 3000, and (or) 4000 level Biological Sciences courses (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.); or Students may choose all 36 credit hours of advanced level courses from the Department of Biological Sciences as long as courses are selected following the provisions outlined below: Each of BIOL 2300 <sup>1</sup> , BIOL 2500, BIOL 2520; <del>two</del> <b>one</b> of BIOL 2200, <del>or</del> BIOL 2210, <del>or</del> <b>one</b> of BIOL 2240, BIOL 2242, BIOL 2260, <del>or</del> BIOL 2262, <b>or BIOL 2420</b> ; plus 21 additional credit hours from the Biological Sciences including at least 6 credit hours at the 3000 or 4000 level.		
<b>MINOR</b>			
BIOL 1020, BIOL 1030	12 credit hours of 2000, 3000, and/or 4000 level Biology courses.		

#### NOTES:

<sup>1</sup> BIOL 2300 has STAT 1150 or STAT 1000 as a prerequisite or concurrent requirement. Students in this program may want to consider selecting STAT 1150 or STAT 1000 as part of their Introductory Science requirement. See Section 3.2 for more information.

## Chemistry

### Deletion:

CHEM 4700 Advanced Biochemistry Laboratory Cr. Hrs. 3 -3.0

### Introduction:

CHEM 3760 Advanced Methods for the Biochemistry Laboratory Cr. Hrs. 4 +4.0

A laboratory-focused course introducing students to advanced methods in the purification, structural and functional analysis of important biomolecules. Registration is restricted to students in a B.Sc. Honours or Major program in Biochemistry. Space permitting, students in B.Sc. Honours or Major programs in Chemistry or Microbiology may register with permission from the course instructor. May not be held with the former CHEM 4700. Prerequisites: [(one of CHEM 2710 or M BIO 2710) and CHEM 2720] or one of the former CHEM 2370, CHEM 2371, the former M BIO 2370, M BIO 2371.

**NET CHANGE IN CREDIT HOURS: +1.0**

## Computer Science

### Modifications:

COMP 4140 Introduction to Cryptography and Cryptosystems Cr. Hrs. 3 0.0

Description and analysis of cryptographic methods used in the authentication and protection of data. Classical cryptosystems and cryptoanalysis, the Advanced Data Encryption Standard (ADES) and Publickey cryptosystems. Prerequisite: one of COMP 3170, MATH 2170, or the former MATH 2500.

COMP 4620 Professional Practice in Computer Science Cr. Hrs. 3 0.0

Background and rationale to view Computer Science in a professional context. Examination of professional ethics, intellectual property, and privacy considerations important to Computer Scientists. May not be held with the former COMP 3620. This course is restricted to students in a Computer Science Major, Honours, or Joint Honours program. Prerequisite: 6 credit hours of COMP courses at the 3000 or 4000 level.

**NET CHANGE IN CREDIT HOURS: 0.0**

Program modifications:

Modifications to the following programs are described on the next 2 pages:

- **Bachelor of Science (Major) in Computer Science**
- **Bachelor of Science (Major) in Computer Science, Co-operative Option**
- **Bachelor of Computer Science (Honours)**
- **Bachelor of Computer Science (Honours), Co-operative Option**

## 4.6 Department of Computer Science

### 4.6.1 Program Information

Computer technology continues to advance and computer applications are found in all fields and disciplines. As new applications proliferate, opportunities for careers in computing will continue to be strong. Both the Major and the Honours programs offer a co-op option so students may combine education with paid employment experience. The co-operative (co-op) option in Computer Science is well established with the first class graduating in October 1983.

~~The Computer Science Honours and Major programs, including the Co-op programs, and the Software Engineering area of specialization, are accredited by the Computer Science Accreditation Council.~~

#### Honours

The Honours program in Computer Science at the University of Manitoba was the first Honours program in Canada to be given professional accreditation by the Canadian Information Processing Society. The program provides an opportunity to study the subject in greater depth than the other programs in Computer Science and leads to an Honours Bachelor of Computer Science degree (B.C.Sc.). In addition, this program gives professional preparation for careers in areas such as software engineering, system design or project management.

**To enter** the Honours program in Computer Science, a student must have completed at least 24 credit hours with a minimum DGPA of 3.00, and also obtained a minimum grade of "B" in COMP 1020, "C+" in both MATH 1220 (or MATH 1300) and MATH 1230 (or MATH 1500) (or their equivalents) and "C" in MATH 1700 (or equivalents).

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

**To graduate** from the Computer Science Honours program students must achieve a minimum DGPA of 3.00 and obtain a minimum grade of "C" on the courses that make up the 120 credit hours of the degree.

Outside of computer science and mathematics courses, students are encouraged to select courses such that their programs include at least 15 credit hours of study in science, engineering, or business, and at least 9 credit hours of study in the humanities or social sciences.

#### Four Year Major

**To enter** the Major Degree program in Computer Science, a student must have completed at least 24 credit hours with a minimum DGPA of 2.00, and also obtained a minimum grade of "C+" in COMP 1020, "C+" in both MATH 1300 and MATH 1500 (or their equivalents) and "C" in MATH 1700 (or equivalents).

**To continue** in the Major program a student must maintain a minimum DGPA of 2.00.

**To graduate** with the Computer Science Major degree, a student must present a minimum grade of "C+" in: MATH 1300 (or equivalent), MATH 1500 (or equivalent), and a minimum grade of "C" in MATH 1240, MATH 1700 (or equivalent), (STAT 1000 or STAT 1150), COMP 2080, COMP 2140, COMP 2150, COMP 2160, COMP 2280, COMP 3350, COMP 3370, COMP 3430, COMP 4620 and in each of the 18 credit hours of 3000 and 4000 level Computer Science courses that apply to the Computer Science component of their degree program. Additionally, students must achieve a minimum DGPA of 2.00.

This program is suitable for those students interested in combining a fairly extensive program in Computer Science with broad coverage of another subject or subjects of their choice (Science or non-Science). The program offers greater scheduling flexibility, more relaxed entrance requirements, and a wider range for the inclusion of electives from other disciplines than the Honours program, but it is not considered to offer the same professional training as the Honours program. Admission to graduate programs may be conditional upon completion of additional courses. Students intending to proceed to a master's degree from the four year Major program should consult with the department at the beginning of their second year of undergraduate study and in each subsequent year.

The student will be able to transfer to the Honours program, provided that departmental and faculty requirements for the Honours program are satisfied.

Outside of computer science and mathematics courses, students are encouraged to select courses such that their programs include at least 15 credit hours of study in science, engineering, or business, and at least nine (9) credit hours of study in the humanities or social sciences. In addition to the faculty maximum, students may be allowed to take up to an additional 12 credit hours of courses outside of the Faculty of Science, with departmental permission. The permission would typically be granted if a student is completing a minor outside of Science and may have completed a variety of electives outside the Faculty prior to declaring a minor in one department.

#### Honours and Major Co-operative Options

A co-operative education option is available for both Major and Honours students. Students should refer to [Section 3.5](#) of this chapter for further information on the Co-op programs.

#### Honours Co-op

The course, grade requirements and minimum DGPA requirement for entry and continuation in the Co-operative Option are the same as that for regular Honours program.

Students are required to complete all the first and second year courses in the program chart before their first co-op work term.

**Major Co-op**

The course and minimum grade requirements for entry and continuation in the Co-operative Option are the same as those required for the regular Major program. However, the entry and continuation DGPA requirement is set at a minimum of 2.5.

Students are required to complete all the first and second year courses in the program chart before their first co-op work term.

**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 Computer Science, students must select a minimum of 18 credit hours from the 2000, 3000, and (or) 4000 level courses offered by the department (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.)

<p><b>Area Specializations</b></p> <p>Students who declare an area of specialization and who obtain a grade of "C" or better in the required courses will receive a notation on their transcript. Students may obtain such a notation for more than one area.</p> <p><b>Theoretical Computer Science</b></p> <p>Requires: COMP 3170, COMP 3030, and COMP 4420; and two of COMP 4340, 4140, and/or COMP 4610.</p> <p><b>Networks and Security</b></p> <p>Requires: COMP 4140, COMP 4300, and COMP 4580.</p> <p><b>Artificial Intelligence</b></p> <p>Requires: COMP 3190; and two of COMP 4180, COMP 4190, COMP 4200, and/or COMP 4360.</p>	<p><b>Human-Computer Interaction and Computer Graphics</b></p> <p>Requires: COMP 3020, and COMP 3490; one of COMP 4020 or COMP 4480.</p> <p><b>Databases</b></p> <p>Requires: COMP 3380 and COMP 4380; and one of COMP 4710 or COMP 4740.</p> <p><b>Software Engineering</b></p> <p>Requires: COMP 3010, COMP 3020, COMP 3040, COMP 3380, COMP 4060, COMP 4360 and COMP 4620.</p> <p><b>Computer Systems</b></p> <p>Requires: One of COMP 3010, or COMP 3280; and two of COMP 4430, COMP 4560, COMP 4510, and/or COMP 4680.</p> <p><b>Web-Based Systems</b></p> <p>Requires: COMP 3010, COMP 3020, COMP 3380, COMP 4360, COMP 4580.</p>
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## Genetics

Program modifications:

Modifications to the following programs are set out on the next 3 pages:

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

## 4.7 Genetics Program

### 4.7.1 Program Information

The Faculty of Science offers an interdisciplinary program leading to a B.Sc. (Honours) degree or B.Sc. Major in Genetics. Genetics is the science of heredity dealing with the mechanisms of inheritance and has generated concepts basic to modern biology. Three areas are represented in this program: classical genetics, population genetics, and molecular genetics. Courses from Arts, Agricultural and Food Sciences, and Medicine are included in this program.

### Genetics Entry, Continuation, and Graduation Requirements

#### Honours

**To enter** the Honours program in Genetics, a student must have completed at least 24 credit hours with a minimum DGPA of 3.00, and also obtained a minimum grade of "B" in BIOL 1030, and a minimum grade of "C+" in CHEM **1110** 4340. **CHEM 1120, STAT 1150 or 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.

\* Students interested in studying Genetics should note that Grade 12 mathematics and chemistry are prerequisite to CHEM **1100** 4300. Effective 2009-2010, students will also require Biology 40S (or equivalent) and any Grade 12 mathematics course (or equivalent) for entry to BIOL 1020 (the required prerequisite for BIOL 1030).

**To continue** in the Genetics Honours program, students must maintain a minimum DGPA 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 DGPA and achieve a minimum grade of "C" on all courses that make up the 120 credit hours of the degree.

#### Major

**To enter** the Major Degree program in Genetics, a student must have completed at least 24 credit hours with a minimum DGPA of 2.00, and also obtained a minimum grade of "C+" in BIOL 1030 and CHEM **1110** 4340. **CHEM 1120, STAT 1150 or 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.

\* Students interested in studying Genetics should note that Grade 12 mathematics and chemistry are prerequisite to CHEM **1100** 4300. Effective 2009-2010, students will also require Biology 40S (or equivalent) and any Grade 12 mathematics course (or equivalent) for entry to BIOL 1020 (the required prerequisite for BIOL 1030).

**To continue** in the Genetics Major Degree program, students must maintain a minimum DGPA of 2.00.

**To graduate** with the Bachelor of Science (Major) in Genetics, a student must obtain passing grades on all courses, obtain a minimum DGPA of 2.00, and a minimum grade of C in all required and optional courses that contribute to the Major.

### Honours and Major Co-operative Options

A co-operative education option is available for both Major and Honours students. Students should refer to [Section 3.5](#) of this chapter for further information on the Co-op programs.

#### Honours Co-op

The course, grade requirements and minimum DGPA requirement for entry and continuation in the Co-operative Option are the same as that for regular Honours program.

Students are required to complete the first and second year requirements of the program and MBIO 3410 before beginning their first co-op work term.

#### Major Co-op

The course and minimum grade requirements for entry and continuation in the Co-operative Option are the same as those required for the regular Major program. However, the entry and continuation DGPA requirement is set at a minimum of 2.5.

Students are required to complete the first and second year requirements of the program and MBIO 3410 before beginning their first co-op work term.

### 4.7.2 Genetics Program Charts

4.7.2 Genetics			
YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS 120 CREDIT HOURS</b>			
CHEM <b>1100</b> 4300, CHEM <b>1110</b> 4340, <b>CHEM 1120</b> <sup>1</sup> BIOL 1020, BIOL 1030 STAT 1000 or STAT 1150	BIOL 2500, BIOL 2520 <b>CHEM 2100</b> 2240, CHEM 2220, CHEM <b>2700</b> 2360 (MBIO <b>2700</b> 2360), CHEM <b>2710</b>	BIOL 3500 MBIO 3410 PLNT 3140	

<b>STAT 1150<sup>2</sup> or STAT 1000<sup>2</sup></b> MATH 1500 <sup>+3</sup> One of: MATH 1200 <sup>+3</sup> , MATH 1300 <sup>+3</sup> , or MATH 1700 <sup>+3</sup>	2370 (MBIO 2710 2370), CHEM 2720 MBIO 1010, MBIO 2020 STAT 2000 or STAT 2150 <b>STAT 2150<sup>2</sup> or STAT 2000<sup>2</sup></b>	BGEN 3022, BGEN 3024 BGEN 4010 3-4 (6) or MBIO 4530 3-4 (6) One of: ANTH 2240, ANTH 2560, ANTH 2860, or ANTH 2890 <b>33 36</b> credit hours from list of optional courses (a minimum of 12 of these credit hours must be 4000 level) <b>3 credit hours of electives</b>
<b>In Year 1 or Year 2:</b> 3 credit hours from the Faculty of Arts 3 credit hour "W" course -2 <b>6 3</b> credit hours of electives		
30 Hours	30 Hours	30 Hours
<b>HONOURS Co-operative Option 120 CREDIT HOURS</b>		
CHEM 1100 1300, CHEM 1110 1310, CHEM 1120 <sup>1</sup> BIOL 1020, BIOL 1030 STAT 1000 or STAT 1150 <b>STAT 1150<sup>2</sup> or STAT 1000<sup>2</sup></b> MATH 1500 <sup>+3</sup> One of: MATH 1200 <sup>+3</sup> , MATH 1300 <sup>+3</sup> , or MATH 1700 <sup>+3</sup>	BIOL 2500, BIOL 2520 CHEM 2100 2210, CHEM 2220, CHEM 2700 2360 (MBIO 2700 2360), CHEM 2710 2370 (MBIO 2710 2370), CHEM 2720 MBIO 1010, MBIO 2020 STAT 2000 or STAT 2150 <b>STAT 2150<sup>2</sup> or STAT 2000<sup>2</sup></b>	BIOL 3500 MBIO 3410 PLNT 3140 BGEN 3022, BGEN 3024 One of: ANTH 2240, ANTH 2560, ANTH 2860, or ANTH 2890 <b>39 42</b> credit hours from list of optional courses (a minimum of 18 of these credit hours must be 4000 level) <b>3 credit hours of electives</b>
<b>In Year 1 or Year 2:</b> 3 credit hours from the Faculty of Arts 3 credit hour "W" course -2 <b>6 3</b> credit hours of electives		<b>Co-op Requirements<sup>3,4,5</sup> (if selected):</b> SCI 3980, SCI 3990, SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)
30 Hours	30 Hours	30 Hours
<b>FOUR YEAR MAJOR (Including Co-operative Option if selected) 120 CREDIT HOURS</b>		
CHEM 1100 1300, CHEM 1110 1310, CHEM 1120 <sup>1</sup> BIOL 1020, BIOL 1030 STAT 1000 or STAT 1150 <b>STAT 1150<sup>2</sup> or STAT 1000<sup>2</sup></b> MATH 1500 <sup>+3</sup> One of: MATH 1200 <sup>+3</sup> , MATH 1300 <sup>+3</sup> , or MATH 1700 <sup>+3</sup>	BIOL 2500, BIOL 2520 CHEM 2100 2210, CHEM 2220, CHEM 2700 2360 (MBIO 2700 2360), CHEM 2710 2370 (MBIO 2710 2370), CHEM 2720 MBIO 1010, MBIO 2020 STAT 2000 or STAT 2150 <b>STAT 2150<sup>2</sup> or STAT 2000<sup>2</sup></b>	BIOL 3500 MBIO 3410 PLNT 3140 BGEN 3022, BGEN 3024 One of: ANTH 2240, ANTH 2560, ANTH 2860, or ANTH 2890 <b>30 33</b> credit hours from list of optional courses (a minimum of 15 of these credit hours must be 4000 level) <b>9 12</b> credit hours of approved elective courses
<b>In Year 1 or Year 2:</b> 3 credit hours from the Faculty of Arts 3 credit hour "W" course 2 <b>6 3</b> credit hours of electives		<b>Co-op Requirements<sup>3,4,5</sup> (if selected):</b> SCI 3980, SCI 3990, SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)

**NOTES:**

<sup>+</sup>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.

<sup>1</sup>**CHEM 1126 may be used in lieu of CHEM 1120.**

<sup>2</sup>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.

**<sup>2</sup>STAT 1150 is recommended over STAT 1000; STAT 2150 is recommended over STAT 2000.**

**<sup>3</sup>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.**

<sup>4</sup>BGEN 4010 or MBIO 4530 are required courses for students in the Genetics Honours, but are not available to students in the Co-operative Option, and require department consent for students in the Genetics Major.

<sup>4</sup> <sup>5</sup>Students in the Co-operative Option are advised to ensure that they are able to satisfy the prerequisites for all 3000 and 4000 level courses they plan to take.

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

**The optional courses are:**

*Biochemistry and Medical Genetics:* BGEN 4010<sup>1</sup> (6)

*Biological Sciences:* BIOL 2410, BIOL 2420, BIOL 3290, BIOL 3300, BIOL 3400 (or PLNT 3400), BIOL 3542, BIOL 3560, BIOL 4500, BIOL 4510, BIOL 4540, BIOL 4542, BIOL 4560, BIOL 4650

*Chemistry:* **CHEM 2110, CHEM 2120, CHEM 2600 (or the former CHEM 2260), CHEM 3600 (or the former CHEM 2290), CHEM 2260 (or the former CHEM 2280), CHEM 2290, CHEM 4360, CHEM 4370, CHEM 4620, CHEM 4630**

*Microbiology:* MBIO 2420, MBIO 3000, MBIO 3010, MBIO **3032 (or the former MBIO 3030)**, MBIO 3430, MBIO 3450, MBIO 3460, MBIO 4020 (or the former MBIO 4010), MBIO 4410, MBIO 4530<sup>1</sup> (6), MBIO 4540, MBIO 4670 (or the former MBIO 4570), MBIO 4672, MBIO 4602 (or the former MBIO 4600), MBIO 4612 (or the former MBIO 4610)

*Computer Science:* COMP 1010, COMP 1020, COMP 1500, COMP 1600

*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 3400 (or BIOL 3400), PLNT 3520, PLNT 4330, PLNT 4610

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

The Honours Co-op program must contain a minimum of 18 credit hours of 4000 level courses as options in Years 3 and 4.

Other suitable optional courses may be arranged through consultation with the Genetics program committee.

**NOTES:**

<sup>1</sup> 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 selected 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.

## Mathematics

### Modifications:

MATH 2040 Curves and Surfaces Cr. Hrs. 3 0.0

(Lab required) Curves and surfaces in the plane and space. Intrinsic geometry of curves and surfaces: Serret Frenet frames, first and second fundamental forms, curvature and the Gauss map. Geodesics and parallel transport. Theorema Egregium and Gauss-Bonnet theorems. Prerequisites: [one of MATH 1232, MATH 1690, MATH 1700 (B), MATH 1701 (B), or MATH 1710 (B)] and [one of MATH 1220, MATH 1210 (B), MATH 1211 (B), MATH 1300 (C+), or MATH 1301 (C+)] or consent of instructor. Pre- or corequisite: one of MATH 2150, MATH 2151, MATH 2720, or MATH 2721.

MATH 2070 Graph Theory 1 Cr. Hrs. 3 0.0

(Lab required) Introduction to graphs, digraphs, and multigraphs. Topics include trees, cycles and circuits, planarity, basic graph algorithms, and applications of graph theory to social and physical sciences. May not be held with MATH 2071 or the former MATH 2400 or COMP 4340. Prerequisites: [MATH 1240 or MATH 1241] and [one of MATH 1220, MATH 1210 (B), MATH 1211 (B), MATH 1300 (C+), or MATH 1301 (C+)].

MATH 2080 Introduction to Analysis Cr. Hrs. 3 0.0

(Lab required) The course is intended for students in mathematically rich disciplines. Fundamental properties of the real number system as a complete ordered field, Archimedean property, existence of square roots, density of rational numbers, uncountability of real numbers. Sequences, subsequences, limit theorems, monotonicity, Bolzano-Weierstrass theorem, Cauchy sequences. Rigorous treatment of limits and continuity of functions of one and several variables. Uniform continuity. Applications. May not be held with MATH 2081 or the former MATH 2202. Prerequisites: [one of MATH 1232, MATH 1690, MATH 1700 (B), MATH 1701 (B), or MATH 1710 (B)] and [one of MATH 1220, MATH 1210 (B), MATH 1211 (B) MATH 1300 (C+), MATH 1301 (C+)] and [MATH 1240 or MATH 1241].

MATH 2090 Linear Algebra 2 Cr. Hrs. 3 0.0

(Lab required) The course is intended for students in mathematically rich disciplines. Abstract vector spaces, linear transformations, bases and coordinatization, matrix representations, orthogonalization, diagonalization, principal axis theorem. May not be held with MATH 2091, the former MATH 2300, the former MATH 2301, the former MATH 2350, or the former MATH 2352. Prerequisite: one of MATH 1220, MATH 1210 (B), MATH 1211 (B), MATH 1300 (C+), or MATH 1301 (C+).

MATH 2130 Engineering Mathematical Analysis 1 Cr. Hrs. 3 0.0

(Lab required) Multivariable differential and integral calculus up to and including multiple integrals in cylindrical and spherical coordinates. This course is intended for students in Engineering and Geophysics programs. May not be held for credit with MATH 2150, MATH 2151, MATH 2720, MATH 2721, the former MATH 2110, or the former MATH 2750. Prerequisites: (MATH 1210 or MATH 1211) and (one of MATH 1232, MATH 1690, MATH 1700, MATH 1701, or MATH 1710).

MATH 2132 Engineering Mathematical Analysis 2 Cr. Hrs. 3 0.0

(Lab required) Infinite series, Taylor and Maclaurin Series; ordinary differential equations including Laplace transforms. This course is intended for students in Engineering and

Geophysics programs. May not be held for credit with the former MATH 2100, the former MATH 2730, the former MATH 2731, the former MATH 2800, or the former MATH 2801. Prerequisites: (MATH 1210 or MATH 1211) and (one of MATH 1232, MATH 1690, MATH 1700, MATH 1701, or MATH 1710).

MATH 2160 Numerical Analysis 1 Cr. Hrs. 3 0.0  
(Lab required) Elementary techniques of numerical solution of mathematical problems: solution of equations, linear systems of equations, nonlinear equations; finite and divided differences, interpolation; numerical differentiation and integration. May not be held with MATH 2120, MATH 2161, the former MATH 2600, or the former MATH 2601. Prerequisites: [one of MATH 1232, MATH 1690, MATH 1700 (B), MATH 1701 (B), or MATH 1710 (B)] and [one of MATH 1220, MATH 1210 (B), MATH 1211 (B), MATH 1300 (C+), or MATH 1301 (C+)].

MATH 2720 Multivariable Calculus Cr. Hrs 3 0.0  
(Lab required) Calculus of several variables. This course is intended for students in one of the following programs: Actuarial Mathematics, Data Science, Statistics (Honours or Majors), Physics (Honours or Majors) Geophysics (Honours or Majors), and Physical Geography. May not be held with MATH 2130, MATH 2150, MATH 2151, MATH 2721, the former MATH 2110, or the former MATH 2750. Prerequisites: (one of MATH 1220, MATH 1210 (B), MATH 1211 (B), MATH 1300, MATH 1301, or MATH 1310) and (one of MATH 1232, MATH 1690, MATH 1700, MATH 1701, or MATH 1710).

MATH 3132 Engineering Mathematical Analysis 3 Cr. Hrs. 3 0.0  
(Lab required) Vector integral calculus; series of Ordinary differential equations; Fourier series and Partial differential equations. This course is intended for students in Engineering and Geophysics programs. May not be held with former MATH 3100, the former MATH 3740, or the former MATH 3800. Prerequisites: MATH 2130 and MATH 2132.

**NET CHANGE IN CREDIT HOURS: 0.0**

Program modifications:

Modifications to the following programs are outlined on the next 12 pages:

- **Bachelor of Science (Honours) in Mathematics**
- **Bachelor of Science (Honours) in Mathematics, Co-operative Option**
- **Bachelor of Science (Double Honours) in Mathematics**
- **Bachelor of Science (Double Honours) in Mathematics, Co-operative Option**
- **Bachelor of Science (Major) in Mathematics**
- **Bachelor of Science (Major) in Mathematics, Co-operative Option**
- **Bachelor of Science (General) with a focus in Mathematics**
- **Minor in Mathematics**
  
- **Bachelor of Science (Major) in Applied Mathematics with Computer Science Option**
- **Bachelor of Science (Major) in Applied Mathematics with Computer Science Option, Co-operative Option**
- **Bachelor of Science (Major) in Applied Mathematics with Economics Option**
- **Bachelor of Science (Major) in Applied Mathematics with Economics Option, Co-operative Option**
- **Bachelor of Science (Major) in Applied Mathematics with Statistics Option**
- **Bachelor of Science (Major) in Applied Mathematics with Statistics Option, Co-operative Option**
  
- **Bachelor of Science (Joint Honours) in Computer Science and Mathematics**
- **Bachelor of Science (Joint Honours) in Computer Science and Mathematics, Co-operative Option**
- **Bachelor of Science (Joint Honours) in Mathematics and Economics**
- **Bachelor of Science (Joint Honours) in Mathematics and Physics and Astronomy**
- **Bachelor of Science (Joint Honours) in Mathematics and Physics and Astronomy, Co-operative Option**
- **Bachelor of Science (Joint Honours) in Statistics and Mathematics**
- **Bachelor of Science (Joint Honours) in Statistics and Mathematics, Co-operative Option**

## 4.9.2.1 Mathematics Honours Program Chart

### 4.9.2.1 Mathematics Honours Program Chart

#### 4.9.2.1 Mathematics

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>MATHEMATICS HONOURS</b> (including Co-operative Option) 120 CREDIT HOURS			
MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> , MATH 1240	MATH 2020, MATH 2080, MATH 2090, MATH 2150, MATH 2180  6 credit hours from the following list:  MATH 2030, MATH 2040, MATH 2070, MATH 2160 <sup>2</sup> , MATH 2170	36 credit hours 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:  <b>Applied and Computational Mathematics Concentration:</b>  MATH 3420, MATH 3460, MATH 4370; and additional 9 credit hours to be chosen from:  MATH 3322, MATH 3330, MATH 4280, MATH 4320 <sup>3</sup> , MATH 4330 <sup>3</sup> , MATH 4380 <sup>3</sup> , MATH 4390 <sup>3</sup> , MATH 4440, MATH 4460 <sup>3</sup>  <b>Pure Mathematics Concentration:</b>  MATH 3322, one of (MATH 3410 <sup>3</sup> or MATH 3480 <sup>3</sup> ), MATH 4260, and one of (MATH 4300 <sup>3</sup> or MATH 4340 <sup>3</sup> or MATH 4360 <sup>3</sup> );  and an additional 6 credit hours to be chosen from: MATH 3360, MATH 4240 <sup>3</sup> , MATH 4270, MATH 4280, MATH 4290, MATH 4450, MATH 4470 <sup>3</sup>	
STAT 1150 <sup>1</sup> , COMP 1010 <sup>1</sup>			
The following must be completed in Year 1 or Year 2:		12 credit hours of Mathematics courses from: MATH 2030, MATH 2070, MATH 2160, MATH 2170 (if not taken as a required 2nd year elective) and all Year 3 and 4 mathematics courses	
6 credit hours from the Faculty of Arts, which should include the required "W" course.			
15 credit hours of electives		12 credit hours of approved (not necessarily mathematics) electives  <b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990, and SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)	
30 Hours	30 Hours	30 Hours	30 Hours

#### NOTES:

<sup>1</sup> 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 1210 (A)** or 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. With permission from the department, students may be able to substitute STAT 1000 and STAT 2000 in place of STAT 1150. COMP 1012 may be used in lieu of COMP 1010.

<sup>2</sup> Department strongly recommends choosing MATH 2160 as one of the electives in Year 2.

<sup>3</sup> 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.

## 4.9.2.2 Mathematics Double Honours Program Chart

### 4.9.2.2 Mathematics Double Honours Program Chart

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>MATHEMATICS HONOURS DOUBLE</b> (including Co-operative Option) MINIMUM 120 CREDIT HOURS (comprising courses listed in chart below, and the required courses from the other department)			
MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> , MATH 1240	MATH 2020, MATH 2080, MATH 2090, MATH 2150, MATH 2180	MATH 3320, MATH 3340, MATH 3390, MATH 3440, MATH 3470, MATH 3472	15 credit hours from: MATH 2030, MATH 2070, MATH 2160, MATH 2170 (if not taken as a required 2nd year elective); and all Year 3 and 4 mathematics courses of which at least 9 credit hours must be 4000 level.
STAT 1150 <sup>1</sup>	6 credit hours from the following list:		
COMP 1010 <sup>1</sup>	MATH 2030, MATH 2040, MATH 2070, MATH 2160, MATH 2170	<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990, and SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)	
Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course			

#### NOTES:

<sup>1</sup> 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 1210 (A)** or 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. With permission of the department, students may be able to substitute STAT 1000 and STAT 2000 in place of STAT 1150. COMP 1012 may be used in lieu of COMP 1010.

## 4.9.2.3 Mathematics Major Program Chart

### 4.9.2.3 Mathematics Four Year Major Program Chart

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>MATHEMATICS FOUR YEAR MAJOR (including Co-operative Option) 120 CREDIT HOURS</b>			
MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> , MATH 1240	MATH 2020, MATH 2080, MATH 2090, MATH 2150, MATH 2180  6 credit hours from the following:  MATH 2030, MATH 2040, MATH 2070, MATH 2160, MATH 2170	A total of 48 credit hours from MATH 2030, MATH 2070, MATH 2160, MATH 2170 and any 3000/4000 level Mathematics courses, which must include:  MATH 2030 (if not already taken as Year 2 elective), MATH 2160 (if not already taken as Year 2 elective), MATH 3320, MATH 3340, MATH 3360, MATH 3390, MATH 3440, MATH 3460	
STAT 1150 <sup>1</sup> , COMP 1010 <sup>1</sup>		12 credit hours of approved electives	
15 credit hours of approved electives		<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990, and SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)	
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.			

#### NOTES:

<sup>1</sup> 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 1210 (B)** or MATH 1300 (**B**) (**C+**) in place of MATH 1220, MATH 1500 (B) or MATH 1510 (B) in place of MATH 1230, MATH 1700 (B) or MATH 1710 (B) in place of MATH 1232, MATH 1690 (C+) in place of MATH 1230 and MATH 1232. With permission from the department, students may be able to substitute STAT 1000 and STAT 2000 in place of STAT 1150. COMP 1012 may be used in lieu of COMP 1010.

## 4.9.2.7 Mathematics General Degree and Minor Requirements

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>THREE YEAR GENERAL 90 CREDIT HOURS</b>			
MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> , MATH 1240	18 credit hours of 2000, 3000, and (or) 4000 level Mathematics courses (subject to the Faculty requirement that of the 36 credit hours to be completed in the two advanced level Science areas, at least 6 credit hours must be at the 3000/4000 level).		
<b>MINOR</b>			
MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> , plus a minimum of 9 credit hours from MATH 1240 <sup>1</sup> and (or) 2000 and (or) 3000 level Mathematics courses.			

### NOTES:

<sup>1</sup> MATH 1500 or MATH 1510 may be taken in place of MATH 1230; **MATH 1210 (B)** or MATH 1300 may be taken in place of MATH 1220; MATH 1700 or MATH 1710 may be taken in place of MATH 1232. MATH 1200 may be taken in place of MATH 1240, but these courses are not equivalent. i.e. students should note that MATH 1240 is a prerequisite to some 2nd year mathematics courses of which MATH 1200 is not a prerequisite.

## 4.9.2.4 Applied Mathematics with Computer Science Option Program Chart

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>APPLIED MATHEMATICS FOUR YEAR MAJOR with COMPUTER SCIENCE OPTION</b> (including Co-operative Option) 120 CREDIT HOURS			
MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> , MATH 1240	MATH 2080, MATH 2090, MATH 2150, MATH 2160, MATH 2180	MATH 2070, MATH 3340, MATH 3420, MATH 3440, MATH 3460, MATH 3470, MATH 3610	
COMP 1010 <sup>1</sup> , COMP 1020	COMP 2140		
6 credit hours from the Faculty of Arts, which should include the required "W" course	STAT 1150 <sup>1</sup> and STAT 2150		
6 credit hours of approved electives	9 credit hours chosen from:  MATH 2030, MATH 2040, MATH 2170, or any 3000/4000 level MATH course  One of the following patterns (9 credit hours):  <b>Graphics:</b> COMP 2190, COMP 3490, COMP 4490  <b>Software:</b> COMP 2150, COMP 2160; and one of: COMP 3380, COMP 3440 or COMP 3020  <b>Theoretical Computer Science:</b> COMP 2080, and two of: COMP 3030, COMP 3170, COMP 3820 or COMP 4420  <b>Hardware:</b> COMP 2160, COMP 2280; and one of: COMP 3370 or COMP 3430  <b>Artificial Intelligence:</b> COMP 3190; and two of: COMP 4180, COMP 4190, COMP 4200, COMP 4360		
	27 credit hours of electives taken during years 2, 3 and 4		
	<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990, and SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)		

### NOTES:

<sup>1</sup> 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 1210 (B)** or MATH 1300 (B) **(C+)** in place of MATH 1220, MATH 1500 (B) or MATH 1510 (B) in place of MATH 1230, MATH 1700 (B) or MATH 1710 (B) in place of MATH 1232, MATH 1690 (C+) in place of MATH 1230 and MATH 1232. STAT 1000 (C) and STAT 2000 (B) in place of STAT 1150. COMP 1012 may be used in lieu of COMP 1010.

## 4.9.2.5 Applied Mathematics with Economics Option Program Chart

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>APPLIED MATHEMATICS FOUR YEAR MAJOR with ECONOMICS OPTION (including Co-operative Option) 120 CREDIT HOURS</b>			
MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> , MATH 1240	MATH 2080, MATH 2090, MATH 2150, MATH 2160, MATH 2180	MATH 2070, MATH 3340, MATH 3420, MATH 3440, MATH 3460, MATH 3470, MATH 3610, MATH 4370	
ECON 1010 and ECON 1020 (or ECON 1210 and ECON 1220)			
9 credit hours of electives	STAT 1150 <sup>1</sup> , STAT 2150  COMP 1010 <sup>1</sup>  ECON 2030, ECON 3030  <b>6 credit hours from:</b>  MATH 2030, MATH 2040, MATH 2170, or any 3000/4000 level MATH course  <b>6 credit hours from:</b>  ECON 2010, ECON 2020, ECON 3010 and ECON 3020  24 credit hours of approved electives taken during years 2, 3 and 4		
3 credit hour "W" course must be taken in Year 1 or Year 2	<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990, and SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)		

### NOTES:

<sup>1</sup> 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 1210 (B) or MATH 1300 (B) (C+)** in place of MATH 1220, MATH 1500 (B) or MATH 1510 (B) in place of MATH 1230, MATH 1700 (B) or MATH 1710 (B) in place of MATH 1232, MATH 1690 (C+) in place of MATH 1230 and MATH 1232. STAT 1000 (C) and STAT 2000 (B) in place of STAT 1150. COMP 1012 may be used in place of COMP 1010.

## 4.9.2.6 Applied Mathematics with Statistics Option Program Chart

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>APPLIED MATHEMATICS FOUR YEAR MAJOR with STATISTICS OPTION (including Co-operative Option) 120 CREDIT HOURS</b>			
MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> , MATH 1240	MATH 2080, MATH 2090, MATH 2150, MATH 2160, MATH 2180	MATH 2070, MATH 3340, MATH 3420, MATH 3440, MATH 3460, MATH 3470, MATH 3610	STAT 2800, STAT 3100, STAT 3450
STAT 1150 <sup>1</sup>	STAT 2150, STAT 2400		
6 credit hours from the Faculty of Arts, which should include the required "W" course	COMP 1010 <sup>1</sup>		
	9 credit hours from:  MATH 2030, MATH 2040, MATH 2170, or any 3000/4000 level MATH course  9 credit hours of 3000 or 4000 level Statistics courses		
9 credit hours of electives	18 credit hours of approved electives taken during years 2, 3 and 4		
		<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990, and SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)	

### NOTES:

<sup>1</sup> 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 1210 (B) or MATH 1300 (B)-(C+)** in place of MATH 1220, MATH 1500 (B) or MATH 1510 (B) in place of MATH 1230, MATH 1700 (B) or MATH 1710 (B) in place of MATH 1232, MATH 1690 (C+) in place of MATH 1230 and MATH 1232. STAT 1000 (C) and STAT 2000 (B) in place of STAT 1150. COMP 1012 may be used in place of COMP 1010.

**4.6.3 Computer Science - Mathematics Joint Honours Program (including Co-op if selected)**

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

**Honours Requirements**

To enter the Joint Honours Computer Science-Mathematics program, the student must have a minimum grade of "B" in each of COMP 1020, either MATH 1232 or MATH 1690 (or a minimum grade of "A" in MATH 1700), and have satisfied the Faculty of Science requirements for entry to the honours program. It is recommended that STAT 2150 be completed in Year 1 as an elective. To continue in, and graduate from the program, the student must meet the Faculty of Science requirements for continuation and graduation from the Honours or Honours Co-op program.

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>JOINT HONOURS (Including Co-operative Option if selected) 120 CREDIT HOURS</b>			
COMP 1010 and COMP 1020 (B) MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> , MATH 1240 STAT 1150 <sup>1</sup> 6 credit hours from the Faculty of Arts, which should include the required 3 credit hour "W" course 3 credit hours of electives	COMP 2080, COMP 2140, COMP 2160, COMP 2280 MATH 2020, MATH 2080, MATH 2090, MATH 2150, MATH 2180 3 credit hours of electives  <b>Co-op Requirements (if selected):</b> SCI 3980 <sup>2</sup>	COMP 3030, COMP 3170, COMP 3370, COMP 3430 15 credit hours of 3000 or 4000 level Computer Science courses, of which at least 6 credit hours must be 4000 level  MATH 2030, MATH 2160, MATH 3320, MATH 3440, MATH 3470, MATH 3472 9 credit hours from MATH 2070, MATH 2170, any 3000 or 4000 level Mathematics courses, of which at least 3 credit hours must be 4000 level 6 credit hours of electives  <b>Co-op Requirements (if selected):</b> SCI 3990 <sup>2</sup>	<b>Co-op Requirements (if selected):</b> SCI 4980 <sup>2</sup> , and SCI 4990 <sup>2</sup> (if a 4 <sup>th</sup> work term is selected)
30 Hours	30 Hours	30 Hours	30 Hours

**NOTES:**

<sup>1</sup> 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 1210 (A)** or 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. With permission from the department, students may be able to substitute STAT 1000 and STAT 2000 in place of STAT 1150.

<sup>2</sup> When chosen, the Co-operative Option work terms (SCI 3980, SCI 3990, SCI 4980, and SCI 4990 (if selected)) will normally be completed during the Summer Terms following years 2, 3, and 4 respectively.

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

## 4.9.2.9 Mathematics – Economics Joint Honours Program

### 4.9.2.9 Mathematics – Economics Joint Honours Program

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

To enter the Joint Honours Mathematics - Economics program, the student must have a minimum grade of "B" in: ECON 1010 and ECON 1020 (or ECON 1210 and ECON 1220), either MATH 1232 or MATH 1690 (or a minimum grade of "A" in MATH 1700) and have satisfied the Faculty of Science requirements for entry to the honours program.

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>JOINT HONOURS 120 CREDIT HOURS</b>			
Both ECON 1010, ECON 1020, or both ECON 1210 and ECON 1220	ECON 2010, ECON 2020	ECON 3010, ECON 3020, ECON 3040 <sup>3</sup>	
MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> , MATH 1240	MATH 2020, MATH 2080, MATH 2090, MATH 2150, MATH 2180	MATH 2030, MATH 2160, MATH 3320, MATH 3340, MATH 3440, MATH 3470. MATH 3472	
STAT 1150 <sup>1,2</sup>		24 credit hours of approved Economics courses <sup>3</sup>	
COMP 1010 <sup>2</sup>		3 credit hours from MATH 3420, MATH 3460, MATH 3610, MATH 4370, or any Mathematics course at the 4000 level.	
6 credit hours of electives, including the required "W" course.	9 credit hours of approved electives	3 credit hours of Mathematics courses at the 3000 or 4000 level.	
30 Hours	30 Hours	30 Hours	30 Hours

#### NOTES:

<sup>1</sup> 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 1210 (A) or 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. With permission from the department, students may be able to substitute STAT 1000 and STAT 2000 in place of STAT 1150.

<sup>2</sup> Some courses may be taken in a different year than indicated; STAT 1150, COMP 1010, ECON 3040 may be taken in Year 2. The normal prerequisite for ECON 3040 is ECON 2040 (or the former ECON 3170), which will be waived for students in this program who have completed Year 1.

<sup>3</sup> Of the 24 credit hours in electives in Economics in Years 3 and 4, no more than 6 credit hours may be at the 2000 level or below and at least 6 credit hours must be at the 4000 level. Students are encouraged to take ECON 4010, ECON 4020 and ECON 4040.

**4.9.2.8 Mathematics – Physics and Astronomy Joint Honours Program (including Co-operative Option if selected)**

**Honours Requirements (including Co-operative Option)**

**To enter** the Joint Honours Mathematics – Physics Honours program the student must have a minimum grade of “B” in: MATH 1232 or MATH 1690 (or a minimum grade of “A” in MATH 1700), PHYS 1050 (or “B+” in PHYS 1020) and PHYS 1070 (or “B+” in PHYS 1030).

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

**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<sup>6</sup>, and a minimum grade of “C” on all remaining courses that contribute to the 120 credit hours of the degree.

YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>JOINT HONOURS 120 CREDIT HOURS</b>			
MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> (B), MATH 1240 PHYS 1050 (B) (or PHYS 1020 (B+)) <sup>2</sup> and PHYS 1070 (B) (or PHYS 1030 (B+)) STAT 1150 <sup>7</sup> COMP 1012 6 credit hours from the Faculty of Arts, which should include the required “W” course <sup>4</sup>	PHYS 2260 or PHYS 2610, PHYS 2386, PHYS 2600, PHYS 2650 <sup>3</sup> 3 credit hours of Physics MATH 2020, MATH 2080, MATH 2090, MATH 2150, MATH 2180	MATH 3340, MATH 3440, MATH 3460, MATH 3470, MATH 3472 PHYS 3670 <sup>3</sup> , PHYS 3650 <sup>3,5</sup> , PHYS 3630 <sup>3</sup> , PHYS 3386 <sup>3</sup> 3 credit hours from 3000 and 4000 level Physics Honours courses	MATH 3320, MATH 3322, 3 credit hours of 4000 level Math PHYS 3430 (6), PHYS 4680 <sup>5</sup> 6 credit hours from the Department of Mathematics or the Department of Physics & Astronomy: MATH 2030, MATH 2070, MATH 2160, MATH 2170, or any 3000 or 4000 level Mathematics or Physics courses 6 credit hours of electives
<b>Co-op Requirements (if selected):</b> SCI 3980, SCI 3990, SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)			
30 Hours	30 Hours	30 Hours	30 Hours

**NOTES:**

<sup>1</sup> 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 1210 (A) or** 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. With permission from the department, students may be able to substitute STAT 1000 and STAT 2000 in place of STAT 1150.

<sup>2</sup> Students are advised to take PHYS 1050 and PHYS 1070.

<sup>3</sup> The corequisite or prerequisite of PHYS 2496 is waived for students in this program. It is recommended that students audit PHYS 2496 in second year and PHYS 3496 in third year.

<sup>4</sup> 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.

<sup>5</sup> The pre-or corequisite of PHYS 3496 is waived for students in this program. It is recommended that students audit PHYS 2496 in second year and PHYS 3496 in third year.

<sup>6</sup> The Honours Program Specific courses consists of all the Physics and Astronomy courses listed in the program chart, with the exception of PHYS 1020, PHYS 1050, PHYS 1030 and PHYS 1070.

<sup>7</sup> Students may take STAT 1000 and STAT 2000 in lieu of STAT 1150.

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

**4.13.5 Statistics - Mathematics Joint Honours Program (including Co-operative Option if selected)**

The departments of Statistics and Mathematics offer a joint Honours program for students wishing in depth study in Statistics and Mathematics. A Co-op Option is available.			
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 2150, 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" on all remaining courses that contribute to the 120 credit hours of the degree.			
YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>JOINT HONOURS 120 CREDIT HOURS</b> (comprising courses listed in chart below, and electives)			
MATH 1220 <sup>1</sup> , MATH 1230 <sup>1</sup> , MATH 1232 <sup>1</sup> (B), MATH 1240	STAT 2400, STAT 2800 MATH 2020, MATH 2080, MATH 2090, MATH 2150, MATH 2160, MATH 2180	STAT 3030, STAT 3100, STAT 3150, STAT 3450	STAT 4100
The following courses must be taken in Year 1 or Year 2: STAT 1150 <sup>1</sup> , STAT 2150 (B)		MATH 2030, MATH 3320, MATH 3322, MATH 3340, MATH 3470, MATH 3472, MATH 3440, MATH 3460	
COMP 1010		3 credit hours from MATH 2070, MATH 2170 and any 3000/4000 level Mathematics courses	
6 credit hours from the Faculty of Arts, which should include the required "W" course		3 credit hours from any 4000 level Mathematics courses	
9 credit hours of approved electives		6 credit hours from any 4000 level Statistics courses	
		9 credit hours of approved electives	
		<b>Co-op Requirements (If selected):</b> SCI 3980, SCI 3990, SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)	
30 Hours	30 Hours	30 Hours	30 Hours
<b>NOTES:</b>			
<sup>1</sup> Students are strongly advised to take MATH 1220, MATH 1230, MATH 1232. The following substitutions are allowed (but not advised), provided the grades indicated in brackets are achieved: <b>MATH 1210 (A)</b> or MATH 1300 (A) in place of MATH 1220; MATH 1500 (A) or MATH 1510 (A) in place of MATH 1230; MATH 1700 (A) in place of MATH 1232; MATH 1690 (B) in place of MATH 1230 and MATH 1232; STAT 1000 and STAT 2000 (B) in place of STAT 1150.			
(Letters in brackets indicate minimum prerequisite standing for further study.)			

## Microbiology

### Deletions:

MBIO 3030 Microbiology III Cr. Hrs. 3	-3.0
MBIO 3280 Microbial Communities Cr. Hrs. 3	-3.0
MBIO 3470 Microbial Systematics Cr. Hrs. 3	-3.0

### Introductions:

MBIO 3032 Microbiology III: Physiology and Metabolism Cr. Hrs. 3	+3.0
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The course will include an introduction to microbial growth and genomics approaches used for the analysis of microbial metabolism. Using these tools, the physiology of microbial cell walls, transport, and motility, as well as microbial metabolism as related to ATP production, respiration, fermentation and carbon fixation will be discussed. May not be held with the former MBIO 3030, or MBIO 3031. Prerequisites: [MBIO 2020 or MBIO 2021] and [one of MBIO 2710, the former MBIO 2370, MBIO 2371, CHEM 2710, the former CHEM 2370, or CHEM 2371].

MBIO 3282 Microbial Communities Cr. Hrs. 3	+3.0
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This course will examine microbial communities, which will be discussed in terms of their composition, physiological adaptations and their effects on their abiotic and biological surroundings. Topics will include nutrient cycling, biodegradation and adaptation to extreme environments, and the applications arising from these microbial functions. Methods for quantitation of microbial biomass and biological activity will be discussed. May not be held with the former MBIO 2280 or the former MBIO 3280. Prerequisites: [MBIO 1010 or MBIO 1011] and [one of CHEM 1110, the former CHEM 1310, or CHEM 1311]. MBIO 2020, MBIO 2021, or MBIO 1410 are recommended prerequisites.

MBIO 3472 Microbial Systematics Cr. Hrs. 3	+3.0
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Characterization and classification of the major group of micro-organisms. Bases for divisions and the relatedness among organisms will be studied. May not be held with the former MBIO 3470. Prerequisites: [one of MBIO 3032, the former MBIO 3030, or MBIO 3031] and [one of MBIO 2710, the former MBIO 2370, MBIO 2371, CHEM 2710, the former CHEM 2370, or CHEM 2371].

MBIO 3700 Experimental Microbiology Laboratory Cr. Hrs. 3	+3.0
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This laboratory course will introduce students to the morphological and physiological study of microorganisms. Students will reinforce their basic laboratory skills while carrying out discovery-based experiments involving microscopy, antibiotic susceptibility testing, bacterial enumeration, physiology and identification. May not be held with the former MBIO 3030 or MBIO 3031. Prerequisites: MBIO 3032; and [(MBIO 2700 or CHEM 2700) and CHEM 2720] or [one or the former MBIO 2370, MBIO 2371, the former CHEM 2370, or CHEM 2371].

**NET CHANGE IN CREDIT HOURS: +3.0**

Modifications:

MBIO 1010 Microbiology I Cr. Hrs. 3 0.0  
(Lab required) Topics will include the definition and history of microbiology, concepts of practical microbiology, prokaryotic cell structure, prokaryotic specialization in gene expression and transfer of genetic information, the role of microbes in environments including the human body, and applications of microbiology to food production and biotechnology. May not be held with MBIO 1011. Prerequisites: [BIOL 1020 or BIOL 1021] and [one of CHEM 1100, the former CHEM 1300, or CHEM 1301].

MBIO 2020 Microbiology II Cr. Hrs. 3 0.0  
(Lab required) Topics will include bacterial growth, chromosome replication, the specifics of transcription and translation and their application to the regulation of microbial gene expression. Families of bacterial and animal viruses, their modes of reproduction and pathogenicity will be discussed. Mutation and gene transfer in bacteria will be introduced. May not be held with MBIO 2021. Prerequisites: [MBIO 1010 or MBIO 1011] and [(CHEM 1110 and (CHEM 1120 or CHEM 1126)) or (the former CHEM 1310 or CHEM 1311 or the former CHEM 1320)].

MBIO 2230 Introductory Biogeochemistry Cr. Hrs. 3 0.0  
The roles and interactions of biological, chemical and geological reactions in determining the composition of the environment. Microorganisms as major agents of biogeochemical change and their roles in the element cycles will be especially emphasized. Prerequisites: [one of CHEM 1110, the former CHEM 1310, or CHEM 1311] and [one of MBIO 1010, MBIO 1011, BIOL 1030, or BIOL 1031].

MBIO 2420 Introductory Virology Cr. Hrs. 3 0.0  
An introduction to the general principles of eukaryotic virology, with emphasis on animal virus systems. These principles will be reinforced and expanded to deal with specific viruses that cause acute and chronic infections in humans. Topics to be discussed include the molecular structure of viruses; the basic multiplication strategies of the major virus families; mechanisms of host immune evasion and viral latency, persistence, and oncology. Prerequisites: (MBIO 1010 or MBIO 1011) and (BIOL 2520 or BIOL 2521).

MBIO 3000 Applied Biological Safety Cr. Hrs. 3 0.0  
A comprehensive overview of applied biological safety in research and industrial environments and the disease-causing features of relevant infectious agents and considerations for their containment. Prerequisites: [MBIO 1010 or MBIO 1011] and [one of CHEM 1110, CHEM 1130, the former CHEM 1310, or CHEM 1311, or the former CHEM 1320]; or permission of instructor.

MBIO 3410 Molecular Biology Cr. Hrs. 3 0.0  
A rigorous treatment of the foundations of modern day molecular biology as it pertains to molecular disease, gene and cell manipulation, and cellular controls. May not be held with MBIO 3411. Prerequisites: [one of MBIO 2700, CHEM 2700, MBIO 2730, CHEM 2730, the former MBIO 2360, MBIO 2361, the former CHEM 2360, CHEM 2361, the former MBIO 2770, or the former CHEM 2770] and [one of MBIO 2020, MBIO 2021, BIOL 2520, BIOL 2521, BIOL 2500, BIOL 2501, or PLNT 2520].

MBIO 3430 Molecular Evolution Cr. Hrs. 3 0.0  
An analysis starting with prebiotic evolution, progressing through the elaboration of macromolecules and examining their adaptation to their function as cellular components.

Proteins, carbohydrates, and nucleic acids as structural, catalytic, and genetic elements in evolution of living systems. Prerequisite: one of MBI0 2020, MBI0 2021, MBI0 2710, the former MBI0 2370, MBI0 2371, CHEM 2710, the former CHEM 2370, CHEM 2371, MBI0 2750, the former MBI0 2780, CHEM 2750, the former CHEM 2780, BIOL 2500, BIOL 2501, PLNT 2520, BIOL 2520, or BIOL 2521.

MBIO 3450 Regulation of Biochemical Processes Cr. Hrs. 3 0.0  
Mechanisms of regulation of enzyme activity, including allostery, control of selected biosynthetic and degradative pathways and regulation of gene expression. May not be held with MBI0 3451. Prerequisites: [MBIO 2020 or MBI0 2021] and [one of MBI0 2710, the former MBI0 2370, MBI0 2371, CHEM 2710, the former CHEM 2370, or CHEM 2371; or consent of the department.

MBIO 3460 Membrane and Cellular Biochemistry Cr. Hrs. 3 0.0  
(Lab required) Isolation, fractionation, structure and function of cellular membranes and subcellular components. The central role of these elements in the biochemistry of cellular processes will be stressed. May not be held with MBI0 3461. Prerequisites: [(MBIO 2710 or CHEM 2710) and CHEM 2720] or [one of the former MBI0 2370, MBI0 2371, the former CHEM 2370, or CHEM 2371].

MBIO 3600 Molecular Microbiology Techniques Cr. Hrs. 3 0.0  
A laboratory-based course, intended to teach the fundamental techniques required to work in a modern molecular microbiology laboratory. Students will develop a thorough understanding of the theory underpinning the techniques introduced in this course, laboratory skills in current molecular microbiology techniques, and application of techniques to investigate scientific questions, such as the identification of unknowns. Learning outcomes include development of technical skills, competency in following protocols, presentation of results and scientific writing. May not be held with the former MBI0 4600, MBI0 4601, or MBI0 4030 when titled Advanced Microbial Genetics Lab. Prerequisites: [MBIO 3410 or MBI0 3411]; and [(MBIO 2710 or CHEM 2710) and CHEM 2720] or [one of the former MBI0 2370, MBI0 2371, the former CHEM 2370, or CHEM 2371].

MBIO 4020 Immunology Cr. Hrs. 3 0.0  
Topics will include antigens, antibodies, antigen-antibody reactions, immunogenetics, regulation of immune reactions, complement, hypersensitivities, autoimmunity, immunodeficiencies, transplantation and tumour immunology. May not be held with the former MBI0 4010, the former MBI0 4011, or MBI0 4021. Prerequisite: one of MBI0 3010, MBI0 3011, MBI0 3410 (B), or MBI0 3411 (B).

MBIO 4410 Virology Cr. Hrs. 3 0.0  
A comprehensive examination of fundamental properties of viruses, virus taxonomy, and the different ways in which viruses replicate. The ways viruses cause disease and experimental methods used in virology also will be examined. May not be held with MBI0 4411. Prerequisites: [MBIO 3010 or MBI0 3011] and [MBIO 3410 or MBI0 3411] and [one of MBI0 2710, the former MBI0 2370, MBI0 2371, CHEM 2710, the former CHEM 2370, or CHEM 2371].

MBIO 4440 Systems Microbiology: from Genomes to Life Cr.Hrs. 3 0.0  
(Lab required) The purpose of this course is to use knowledge of the components of the bacterial cell to synthesize an understanding of the growth of microbes and their adaptation to their environments. The most recent research tools and systems biology approaches will be

discussed. May not be held with the former MBIO 3440. Prerequisites: [one of MBIO 3700, the former MBIO 3030, or MBIO 3031] and [one of MBIO 2710, the former MBIO 2370, MBIO 2371, CHEM 2710, the former CHEM 2370, or CHEM 2371].

MBIO 4480 Microbes in our Environment Cr. Hrs. 3 0.0  
(Lab required) A course investigating the diversity of roles microbes play in our immediate environment, and how they affect it. Environments to be examined may include the human body, waste treatment facilities and extreme environments. Molecular tools to study the community structure and roles of individual organisms will also be discussed. May not be held with the former MBIO 3480 or the former MBIO 4320. Prerequisites: [one of MBIO 3700, the former MBIO 3030, or MBIO 3031] and [one of MBIO 2710, the former MBIO 2370, MBIO 2371, CHEM 2710, the former CHEM 2370, or CHEM 2371].

MBIO 4520 Industrial Bioprocesses Cr. Hrs. 3 0.0  
(Lab required) Bioprocesses for a range of commercially important healthcare and industrial products including antibiotics, vaccines, steroids, therapeutic recombinant proteins, monoclonal antibodies, and ethanol will be discussed. Other topics will include bioreactor design, metabolic engineering, applied genetic engineering and animal cell technology. This course may not be held for credit with the former MBIO 4510. Prerequisites: [one of MBIO 3700, the former MBIO 3030, or MBIO 3031, ~~MBIO 2100, or MBIO 2101~~] and [one of MBIO 2710, the former MBIO 2370, MBIO 2371, CHEM 2710, the former CHEM 2370, or CHEM 2371].

MBIO 4540 Biological Energy Transduction Cr. Hrs. 3 0.0  
Biochemistry of biological processes involving interconversion of different forms of energy such as oxidative phosphorylation, membrane transport and contractile processes. May not be held with MBIO 4541. Prerequisite: one of MBIO 2710, the former MBIO 2370, MBIO 2371, CHEM 2710, the former CHEM 2370, or CHEM 2371. MBIO 3032, the former MBIO 3030, or MBIO 3031 is recommended as a prerequisite to this course.

MBIO 4602 Molecular Genetics of Prokaryotes Cr. Hrs. 3 0.0  
A detailed examination of genetic mechanisms of replication, expression, mutability, repair and transposition of DNA in bacteria and their viruses, and their applications in recombinant DNA technology. The contribution of these genetic mechanisms to virulence in bacterial pathogens will also be examined. May not be held with the former MBIO 4600 or MBIO 4601. Prerequisites: [MBIO 3410 or MBIO 3411] and [MBIO 2020 or MBIO 2021] and [one of MBIO 2700, the former MBIO 2360, MBIO 2361, MBIO 2730, the former MBIO 2770, CHEM 2700, the former CHEM 2360, CHEM 2361, CHEM 2730, the former CHEM 2770].

MBIO 4612 Molecular Genetics of Eukaryotes Cr. Hrs. 3 0.0  
A comprehensive study dealing with replication and expression of DNA, genome structure, and the involvement of genes in diseases such as cancer. May not be held with the former MBIO 4610. Prerequisites: [MBIO 3410 or MBIO 3411] and [one of MBIO 2710, the former MBIO 2370, MBIO 2371, CHEM 2710, the former CHEM 2370, or CHEM 2371]. BIOL 2500 or BIOL 2501 is recommended.

MBIO 4672 Applied Molecular Biology Cr. Hrs. 3  
The overall objective of this course is to introduce and describe the current molecular techniques and their application to biological problems. These include, but are not limited to, basic gene cloning, mutagenesis and over-expression. May not be held with the former MBIO 4570, MBIO 4670, the former MBIO 4580, MBIO 4581. Prerequisites: [MBIO 3410 or MBIO

3411] and [one of MBIO 2710, the former MBIO 2370, MBIO 2371, CHEM 2710, the former CHEM 2370 or CHEM 2371].

Program modifications:

Modifications to the following programs are outlined on the next 5 pages:

- **Bachelor of Science (Honours) in Microbiology**
- **Bachelor of Science (Honours) in Microbiology, Co-operative Option**
- **Bachelor of Science (Major) in Microbiology**
- **Bachelor of Science (Major) in Microbiology, Co-operative Option**
- **Bachelor of Science (General) with a focus in Microbiology**
- **Minor in Microbiology**

## 4.10 Department of Microbiology

### 4.10.1 Program Information

Microbiology is the study of microorganisms such as bacteria, viruses, fungi, protozoa, and algae, and their interactions with the environment. It is also an area of study that plays a pivotal role in understanding other life science disciplines, such as medicine, agriculture, ecology, and pharmacy. Molecular and systems microbiology are part of the program, which spans applied, environmental and medical microbiology. The departments of Microbiology and Chemistry offer joint Honours programs (including Co-op) and joint Four Year Major programs (including Co-op) in biochemistry and biotechnology\* (See Sections 4.2 and 4.4).

(\*As of Fall 2018, admission to the Biotechnology programs has been temporarily suspended. For further information, see the Faculty of Science office.)

### Microbiology Prerequisite Information

Students are advised to take courses in the year suggested in the charts below; otherwise difficulties may arise with timetabling and prerequisite requirements. Students are responsible for all prerequisites and corequisites of the courses required or selected in all programs below. Since Chemistry courses form an integral part of all Microbiology programs, students should note that Grade 12 mathematics and chemistry are prerequisite to CHEM-1300 **CHEM 1100**. Students will also require Biology 40S (or equivalent) and any Grade 12 mathematics course (or equivalent) for entry to BIOL 1020 (the prerequisite for BIOL 1030 and **MBIO 1010**).

### Honours Requirements and Options

**To enter** the Honours program in Microbiology, a student must have completed at least 24 credit hours with a minimum DGPA of 3.00, and also obtained a minimum grade of "B" in MBIO 1010, and a minimum grade of "C+" in CHEM-1300 **CHEM 1110**, **CHEM 1120**, BIOL 1020, BIOL 1030, **STAT 1150 (or STAT 1000)**, STAT-1000 (or STAT-1150) and the 3 credit hours of specified Mathematics or Physics are program requirements and students are strongly encouraged to complete these courses in first year.

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

**To graduate** from the Microbiology Honours program students must achieve a minimum DGPA of 3.00 and obtain a minimum grade of "C" on the courses that make up the 120 credit hours of the degree.

Students who wish to elect CHEM-2260 **CHEM 2600**, CHEM-2290 **CHEM 3600** or CHEM-2470 **CHEM 2510** as options should note the prerequisites in making a choice of mathematics courses.

CHEM-2210 **CHEM 2100** must be taken before MBIO-2370 (CHEM-2370) **MBIO 2710 (CHEM 2710)**. Courses MBIO-2360 and CHEM-2360 (**MBIO 2700 and CHEM 2700**) and (MBIO-2370 and CHEM-2370) (**MBIO 2710 and CHEM 2710**) are the same and credit cannot be held for both. Microbiology students will normally register in MBIO-2360 **MBIO 2700** and MBIO-2370 **MBIO 2710**, but CHEM-2360 **CHEM 2700** and CHEM-2370 **CHEM 2710** will be regarded as equivalents.

By careful choice of electives, programs may be selected giving emphasis to various areas of Microbiology, e.g., Biochemistry and Molecular Biology or Environmental and Ecological Microbiology. In choosing optional courses, students should be aware of any prerequisite requirements.

### Four Year Major

**To enter** the Major Degree program in Microbiology, a student must have completed at least 24 credit hours with a minimum DGPA of 2.00, and also obtained a minimum grade of "C+" in MBIO 1010, and CHEM-1340 in **CHEM 1110**, **CHEM 1120**, BIOL 1020, BIOL 1030, STAT 1150 (or STAT 1000) **STAT 1000 (or STAT 1150)** 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.

\* Students interested in studying Microbiology should note that Grade 12 mathematics and chemistry are prerequisite to CHEM 1300 **CHEM 1100**. Students will also require Biology 40S (or equivalent) and any Grade 12 mathematics course (or equivalent) for entry to BIOL 1020 (the prerequisite for BIOL 1030 and **MBIO 1010**).

**To continue** in the Microbiology Major Degree, students must maintain a minimum DGPA of 2.00.

**To graduate** from, the 4-year Major degree program in Microbiology, students are required to obtain a minimum DGPA of 2.00.

Potential entrants to this program should also note the following:

Students who wish to elect CHEM-2260 **CHEM 2600**, CHEM-2290 **CHEM 3600** or CHEM-2470 **CHEM 2510** as options should note the prerequisites in making a choice of mathematics courses.

CHEM-2210 **CHEM 2100** must be taken before MBIO-2370 (CHEM-2370) **MBIO 2710 (CHEM 2710)**. Courses MBIO-2360 and CHEM-2360 (**MBIO 2700 and CHEM 2700**) and (MBIO-2370 and CHEM-2370) (**MBIO 2710 and CHEM 2710**) are the same and credit cannot be held for both. Microbiology students will normally register in MBIO-2360 **MBIO 2700** and MBIO-2370 **MBIO 2710**, but CHEM-2360 **CHEM 2700** and CHEM-2370 **CHEM 2710** will be regarded as equivalents in the four year Major program.

Students must note course and grade prerequisites when selecting 3000 and 4000 level Microbiology courses.

Microbiology MBIO 4530 is not available in this program without special permission.

By careful choice of electives, programs may be selected giving emphasis to various areas of Microbiology, e.g., Biochemistry and Molecular Biology or Environmental and Ecological Microbiology. In choosing optional courses, students should be aware of any prerequisite requirements.

The listed requirements are minimum requirements. Students are reminded that should they wish to take further courses in Microbiology, they are at liberty to do so within the degree regulations.

### **Honours and Major Co-operative Options**

A co-operative education option is available for both Major and Honours students. Students should refer to [Section 3.5](#) of this chapter for further information on the Co-op programs.

#### **Honours Co-op**

The course, grade requirements and minimum DGPA requirement for entry and continuation in the Co-operative Option are the same as that for regular Honours program.

Before beginning their first co-op work term, students are required to complete the first and second year requirements of the program, in addition to MBIO 2370 (CHEM 2370) **MBIO 2710 (CHEM 2710) and CHEM 2720**, MBIO 3010 and MBIO 3410.

#### **Major Co-op**

The course and minimum grade requirements for entry and continuation in the Co-operative Option are the same as those required for the regular Major program. However, the entry and continuation DGPA requirement is set at a minimum of 2.5.

Before beginning their first co-op work term, students are required to complete the first and second year requirements of the program, in addition to MBIO 2370 (CHEM 2370) **MBIO 2710 (CHEM 2710) and CHEM 2720**, MBIO 3010 and MBIO 3410.

#### **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 Microbiology, students must take a minimum of 18 credit hours of Microbiology courses as prescribed in the chart below (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.).

Students wishing to elect courses in Microbiology in fulfilment of the requirements for the B.Sc. (General) degree should note the following:

- Students must obtain a grade of "C" or better in the following: MBIO 1010, BIOL 1020, BIOL 1030, CHEM 1300 and CHEM 1340 **CHEM 1100, CHEM 1110 and CHEM 1120.**
- Students are encouraged to elect additional Microbiology courses above the required minimum.
- Microbiology MBIO 2770 **MBIO 2730** and MBIO 2780 **MBIO 2750** (CHEM 2770 **CHEM 2730** and CHEM 2780 **CHEM 2750**) are not available in this program.

#### **Minor**

Students must complete MBIO 1010, CHEM 1300, CHEM 1340, **CHEM 1100, CHEM 1110, CHEM 1120**, BIOL 1020, BIOL 1030, plus 12 credit hours of Microbiology courses at the 2000 and (or) 3000 level.

#### **Biochemistry and Biotechnology\* Programs**

The Department of Microbiology, in conjunction with the Department of Chemistry, offers Joint Honours programs, Joint Honours Co-operative Option programs, Joint four year Major programs and Joint four year Major Co-operative Option programs in Biochemistry and Biotechnology.\* See Sections 4.2 Biochemistry Program and 4.4 Biotechnology Program\* for full details.

(\*As of Fall 2018, admission to the Biotechnology programs has been temporarily suspended. For further information, see the Faculty of Science office.)

#### 4.10.2 Microbiology Program Charts

4.10.2 Microbiology			
YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS<sup>6</sup> 120 CREDIT HOURS</b>			
MBIO 1010 <sup>5,2</sup> BIOL 1020, BIOL 1030 CHEM 1300, CHEM 1310 <u>CHEM 1100, CHEM 1110,</u> <u>CHEM 1120<sup>3</sup></u>	MBIO 2020, MBIO 2360 <u>MBIO 2700</u> (CHEM 2360 <u>CHEM 2700</u> ), MBIO 2370 <u>MBIO 2710</u> (CHEM <u>2710<sup>6</sup></u> , (CHEM 2370), <u>CHEM 2720</u> BIOL 2500, BIOL 2520 CHEM 2210 <u>CHEM</u> <u>2100</u> , CHEM 2220	MBIO 3010, MBIO 3030, <u>MBIO 3032</u> , MBIO 3280, MBIO 3410, MBIO 3470, MBIO 3600, <u>MBIO 3700</u>	MBIO 4020, MBIO 4440, MBIO 4480, MBIO 4530 (6) One of: MBIO 4602, MBIO 4612 or MBIO 4672
<b>In Year 1 or Year 2 the following must be completed:</b> 3 credit hours of Mathematics or Physics chosen from: MATH 1240 <sup>4</sup> , MATH 1300 <sup>4</sup> , MATH 1500 <sup>4</sup> , PHYS 1020 or PHYS 1050 STAT 1150 <sup>5</sup> or STAT 1000 <sup>5</sup> 6 credit hours from the Faculty of Arts, which should include the required "W" course 6 credit hours of electives 3 credit hours of Microbiology courses		18 credit hours of Microbiology courses including 3 credit hours at the 4000 level 6 credit hours chosen from Microbiology courses or from the option list (see below) <b>24 credit hours of Microbiology courses including (a single            course may meet more than one of these requirements):</b> <ul style="list-style-type: none"> <li>• <u>One course from each of lists A, B, C, D, and E (see            below)<sup>7</sup>:</u></li> <li>• <u>12 credit hours at the 4000-level;</u></li> <li>• <u>3 credit hour course with a laboratory or tutorial            (list F)<sup>7</sup>.</u></li> </ul> <b>12 credit hours from the options list</b> <b>3 credit hours of electives</b>	
30 Hours	30 Hours	30 Hours	30 Hours
<b>HONOURS CO-OPERATIVE OPTION<sup>6,1,8</sup> 120 CREDIT HOURS</b>			
MBIO 1010 <sup>5,2</sup> BIOL 1020, BIOL 1030 CHEM 1300, CHEM 1310 <u>CHEM 1100, CHEM 1110,</u> <u>CHEM 1120<sup>3</sup></u>	MBIO 2020, MBIO 2360 <u>MBIO</u> <u>2700</u> (CHEM 2360 <u>CHEM</u> <u>2700</u> ), MBIO 2370 <u>MBIO 2710</u> (CHEM 2370 <u>CHEM 2710<sup>6</sup></u> , <u>CHEM 2720</u> BIOL 2500, BIOL 2520 CHEM 2210 <u>CHEM</u> <u>2100</u> , CHEM 2220	MBIO 3010 <sup>8</sup> , MBIO 3030, <u>MBIO 3032</u> , MBIO 3280, MBIO 3410 <sup>8</sup> , MBIO 3470, MBIO 3600, <u>MBIO 3700</u>	MBIO 4020, MBIO 4440, MBIO 4480 One of: MBIO 4602, MBIO 4612 or MBIO 4672
<b>In Year 1 or Year 2 the following must be completed:</b> 3 credit hours of Mathematics or Physics chosen from: MATH 1240 <sup>4</sup> , MATH 1300 <sup>4</sup> , MATH 1500 <sup>4</sup> , PHYS 1020 or PHYS 1050 STAT 1150 <sup>5</sup> or STAT 1000 <sup>5</sup> 6 credit hours from the Faculty of Arts, which should include the required "W" course 6 credit hours of electives 3 credit hours chosen from Microbiology courses <sup>3</sup> or from the option list (see below)		24 credit hours of Microbiology courses including 3 credit hours at the 4000 level 6 credit hours chosen from Microbiology courses or from the option list (see below) <b>27 credit hours of Microbiology courses including (a single            course may meet more than one of these requirements):</b> <ul style="list-style-type: none"> <li>• <u>One course from each of lists A, B, C, D, and E (see            below)<sup>7</sup>:</u></li> <li>• <u>15 credit hours at the 4000-level;</u></li> <li>• <u>3 credit hour course with a laboratory or tutorial            (list F)<sup>7</sup>.</u></li> </ul> <b>15 credit hours from the options list</b> <b>3 credit hours of electives</b>	
<b>Co-op Requirements:</b>			

		SCI 3980, SCI 3990, SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)
30 Hours	30 Hours	30 Hours
<b>FOUR YEAR MAJOR (Including Co-op)</b> <sup>4,6,7 1.8.9</sup> 120 CREDIT HOURS		
MBIO 1010 <sup>2</sup> BIOL 1020, BIOL 1030  CHEM 1300, CHEM 1340  <b>CHEM 1100, CHEM 1110, CHEM 1120<sup>3</sup></b>	MBIO 2020, MBIO 2360 <b>MBIO 2700</b> (CHEM-2360 <b>CHEM 2700</b> ), MBIO-2370 <b>MBIO 2710</b> (CHEM-2370 <b>CHEM 2710</b> ) <sup>6</sup> , CHEM 2720  BIOL 2500, BIOL 2520  CHEM 2210 <b>CHEM 2100</b> , CHEM-2220	MBIO 3010 <sup>8</sup> , MBIO-3030 <b>MBIO 3032</b> , MBIO 3410 <sup>8</sup> , MBIO 3600, <b>MBIO 3700</b>
<b>In Year 1 or Year 2 the following must be completed:</b> 3 credit hours of Mathematics or Physics chosen from: MATH 1240 <sup>4</sup> , MATH 1300 <sup>4</sup> , MATH 1500 <sup>4</sup> , PHYS 1020 or PHYS 1050  STAT 1150 <sup>5</sup> or STAT 1000 <sup>5</sup>  6 credit hours from the Faculty of Arts, which should include the required "W" course  12 <u>9</u> credit hours of electives	24 credit hours of Microbiology courses including 15 credit hours at the 4000 level  9 credit hours of Microbiology courses <sup>2 10</sup> or courses chosen from the option list (see below)  12 credit hours of electives  <b>Co-op Requirements (if selected)<sup>8</sup>:</b> SCI 3980, SCI 3990, SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)	
<b>THREE YEAR GENERAL</b> 90 CREDIT HOURS		
<b>MBIO 1010</b> <b>BIOL 1020, BIOL 1030</b> <b>CHEM 1100, CHEM 1110,</b> <b>CHEM 1120<sup>3</sup></b>	18 credit hours of 2000, 3000, and (or) 4000 level Microbiology courses (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)	
<b>MINOR</b>		
MBIO 1010 (C)  CHEM 1300, CHEM 1340 (C)  <b>CHEM 1100 CHEM 1110, CHEM 1120<sup>3</sup> (C)</b>  BIOL 1020 (C), BIOL 1030 (C)	12 credit hours of Microbiology at the 2000 and (or) 3000 level	
<b>BIOCHEMISTRY – Joint Microbiology and Chemistry Programs:</b> See Section 4.2 Biochemistry		
<b>BIOTECHNOLOGY* – Joint Microbiology and Chemistry Programs:</b> See Section 4.4 Biotechnology		
*As of Fall 2018, admission to the Biotechnology programs has been temporarily suspended. For further information, see the Faculty of Science office.		
<b>NOTES:</b>		
<sup>1</sup> <b>MBIO 1220 and MBIO 1410 cannot be used to satisfy course requirements in a Major or Honours program.</b>		
<sup>2</sup> <b>MBIO 1010 may be completed in either year 1 or year 2. It is recommended that it be completed in first year.</b>		
<sup>3</sup> <b>CHEM 1126 may be taken in place of CHEM 1120.</b>		
<sup>4</sup> <sup>4</sup> MATH 1220 or MATH 1310 may be taken in place of MATH 1300; MATH 1230, MATH 1510, MATH 1520 or MATH 1690 may be taken in place of MATH 1500. MATH 1200 may be used in place of MATH 1240.		
<sup>2</sup> MBIO 4530 may be selected only by special permission.		
<sup>5</sup> <b>STAT 1150 is recommended over STAT 1000.</b>		
<sup>9</sup> <sup>8</sup> It is strongly recommended that <b>MBIO 2710 (or CHEM 2710) and CHEM 2720</b> MBIO-2370 (CHEM-2370) be completed prior to year 3 as it is the <b>they are</b> prerequisite to many upper level MBIO courses.		
<sup>7</sup> <b>List A: MBIO 2230, MBIO 3282, MBIO 3472, MBIO 4480, MBIO 4520</b>		
<b>List B: MBIO 2420, MBIO 3000, MBIO 4020, MBIO 4410, MBIO 4520</b>		

**List C: MBIO 3430, MBIO 4440, MBIO 4700**

**List D: MBIO 4602, MBIO 4612, MBIO 4672**

**List E: MBIO 3450, MBIO 3460, MBIO 4540**

**List F: MBIO 3460, MBIO 4440, MBIO 4480, MBIO 4520**

<sup>7, 8</sup> Students in the Co-operative Option must complete MBIO 3010 and MBIO 3410 before their first employment term.

<sup>4, 9</sup> **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.

<sup>10</sup> **MBIO 4530 may be selected only by special permission.**

<sup>5</sup> MBIO 1010 may be completed in either year 1 or year 2. It is recommended that it be completed in first year.

<sup>6</sup> MBIO 1220 and MBIO 1410 cannot be used to satisfy course requirements in a Major or Honours program.

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

**Option List for All Microbiology Programs:**

Agroecology: AGEC 2370

*Biological Sciences:*

BIOL 2242, BIOL 2260, BIOL 2261, BIOL 2300, BIOL 2301, BIOL 2380, BIOL 2381, BIOL 2410, BIOL 2411, BIOL 2420, BIOL 2421, BIOL 3260, BIOL 3290, BIOL 3291, BIOL 3330, BIOL 3370, BIOL 3400, BIOL 3450, BIOL 3452, BIOL 3460, BIOL 3462, BIOL 3470, BIOL 3472, BIOL 3500, BIOL 3501, BIOL 3542, BIOL 3560, BIOL 3561, BIOL 4242, BIOL 4244, BIOL 4246, BIOL 4430, BIOL 4480, BIOL 4540, BIOL 4542, BIOL 4544 (BIOL 3540), BIOL 4554, BIOL 4556, BIOL 4560

*Chemistry:*

**CHEM 2110, CHEM 2122, CHEM 2260, CHEM 2600 (CHEM 2260, CHEM 2280), CHEM 3600 (CHEM 2290), CHEM 2300 (CHEM 2400, CHEM 2380), CHEM 2510 (CHEM 2470), CHEM 3100 (CHEM 3390), CHEM 3500 (CHEM 3590), CHEM 3700 (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 or STAT 2150

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

## Statistics

### Deletion:

STAT 4600 Topics in Statistics Cr. Hrs. 3 -3.0

### Introductions:

STAT 4900 Advanced Topics in Statistics Cr. Hrs. 3 +3.0

Topics of current interest in Statistics that will vary with the needs and interests of students and faculty. This course can be completed as a topics course multiple times under different titles.

Prerequisite: consent of Department.

STAT 4910 Advanced Topics in Statistics Cr. Hrs. 3 +3.0

(Lab required) Topics of current interest in Statistics that will vary with the needs and interests of students and faculty. This course can be completed as a topics course multiple times under different titles. Prerequisite: consent of Department.

STAT 4950 Honours Thesis in Statistics Cr. Hrs. 6 +6.0

The student will conduct a research project chosen in consultation with a Statistics faculty member, acting as an advisor, and the Department Head (or designate). The student will present the project, the results and conclusions in both a written format (i.e. the thesis) and an oral format (i.e. an oral presentation to be held upon completion of the thesis). Both data oriented and theoretical topics are acceptable. This course will normally be taken in a student's final year. This course is restricted to students in the Honours or Joint Honours degree programs in Statistics. Prerequisite: consent of Department.

## **NET CHANGE IN CREDIT HOURS: +9.0**

### Modifications:

STAT 2150 Statistics and Computing Cr. Hrs. 3 0.0

(Lab required) This course is recommended for students in mathematically rich disciplines, including Statistics, Mathematics, Actuarial Science, Computer Science, and related interdisciplinary programs. Topics to be covered include: exploratory data analysis and visualization, graphical methods, random number generation, random variables, simple statistical models and computing, Monte Carlo methods, large sample and simulation-based inference, statistical software packages. Prerequisites: [one of STAT 1150, STAT 2000 (B), STAT 2001 (B), or STAT 2220] and [one of MATH 1230, MATH 1500, MATH 1501, MATH 1510, MATH 1520, or MATH 1690].

STAT 2300 Principles of Data Collection Cr. Hrs. 3 0.0

Introduction to the basic principles and foundational aspects of data collection with a focus on the design and basic analysis of observational and experimental studies. Important issues like randomization, blocking and confounding, sampling, stratification, response bias and nonresponse will be covered. May not be held with the former STAT 3480. Prerequisite: one of STAT 1150, STAT 2000, STAT 2001, or STAT 2220.

STAT 2400 Introduction to Probability 1 Cr. Hrs. 3 0.0  
(Lab required) Basic probability, discrete and continuous random variables, important families of distributions, functions of a random variable, expectation and variance, introduction to joint distributions. This course is not available to students who have previously obtained credit for STAT 3500. Prerequisites: [one of STAT 1150, STAT 2000 (B), STAT 2001 (B), or STAT 2220] and [one of MATH 1232, MATH 1690, MATH 1700 (B), MATH 1701 (B), MATH 1710 (B)].

STAT 3000 Applied Linear Statistical Models Cr. Hrs. 3 0.0  
Applied linear regression, analysis of variance for designed experiments and related topics. This course is not for use in the Honours or Major degree programs in Statistics. May not be held with STAT 3450, the former STAT 3120, or the former STAT 3470. Prerequisite: one of STAT 1150, STAT 2000, STAT 2001, or STAT 2220. 0.0

STAT 3170 Statistical Quality Control Cr. Hrs. 3  
Techniques for quality improvement through the use of statistical process control. Topics will include acceptance sampling, Pareto diagrams, control charts, measurements of process capability and process performance. Prerequisite: one of STAT 1150, STAT 2000, STAT 2001, or STAT 2220. 0.0

STAT 3380 Introduction to Nonparametric Statistics Cr. Hrs. 3  
Parametric versus nonparametric inference, inference using ranks and order statistics, contingency tables, goodness-of-fit tests, applications in the social and physical sciences. Prerequisite: one of STAT 1150, STAT 2000, STAT 2001, or STAT 2220.

Program modifications:

Modifications to the following programs are set out on the next 4 pages:

- **Bachelor of Science (Honours) in Statistics**
- **Bachelor of Science (Honours) in Statistics, Co-operative Option**
- **Bachelor of Science (Major) in Statistics**
- **Bachelor of Science (Major) in Statistics, Co-operative Option**
- **Bachelor of Science (General) with a focus in Statistics**

## 4.13.1 Program Information

### 4.13.1 Program Information

Statistics is a discipline grounded in mathematics that has practical applications in many other areas. Statistics is an analytical discipline that helps other disciplines carry out research projects and studies that involve measurement, comparison, and interpretation. Statistics is a useful ancillary subject to other sciences, the social sciences, and many of the professional programs. The department offers joint programs with Computer Science, Mathematics, Economics and Actuarial Mathematics.

#### Honours Requirements

**To enter** the Honours program in Statistics, a student must have completed at least 24 credit hours with a minimum DGPA of 3.00, and also obtained a minimum grade of "B" in STAT 2150.

STAT 1150, MATH 1220, MATH 1230, MATH 1232 and MATH 1240 are all requirements of the Statistics Honours degree program and students are strongly encouraged to take these courses in Year 1.

**To continue** in the Statistics Honours program, students must maintain a minimum DGPA 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 achieve a minimum DGPA of 3.00 and minimum grade of "C" in each course that contributes to the 120 credit hours of the degree.

#### Four Year Major Requirements

**To enter** the Major Degree program in Statistics, a student must have completed at least 24 credit hours with a minimum DGPA of 2.00, and also obtained a minimum grade of "C+" in STAT 2150.

STAT 1150, MATH 1220, MATH 1230, MATH 1232 and MATH 1240 are all requirements of the Statistics Major degree program and students are strongly encouraged to take these courses in Year 1.

**To continue** in the four year Major program a student must maintain a minimum DGPA of 2.00.

**To graduate** from the four year Major program a student must obtain a minimum DGPA of 2.00, and a minimum grade of "C" in the Major Program Specific courses, which include all program required courses (see program chart) and optional courses selected from lists C, D and E.

#### Honours and Major Co-operative Options

A co-operative education option is available for both Major and Honours students. Students should refer to Section 3.5 of this chapter for further information on the Co-op programs.

#### Honours Co-op

The course, grade requirements and minimum DGPA requirement for entry and continuation in the Co-operative Option are the same as that for regular Honours program.

Students are required to complete the first and second year requirements of the program; and STAT 2300 and STAT 3450 before beginning their first co-op work term.

### Major Co-op

The course and minimum grade requirements for entry and continuation in the Co-operative Option are the same as those required for the regular Major program. However, the entry and continuation DGPA requirement is set at a minimum of 2.5.

Students are required to complete the first and second year requirements of the program; and STAT 2300 and STAT 3450 before beginning their first co-op work term.

### Optional Courses for Honours and Major Programs

The following lists of options are used in the Honours and Major programs.

List A: Statistics options for the Honours program

STAT 3170, STAT 3380, STAT 3490, STAT 3550, STAT 4150, STAT 4170, STAT 4250, STAT 4520, STAT 4530, ~~STAT 4600~~, STAT 4630, STAT 4700, STAT 4900, STAT 4910, STAT 4950

List B: Mathematics options for the Honours program

MATH 2030, MATH 2070, MATH 2090, MATH 2160, MATH 2180, MATH 2740, MATH 3330, MATH 3340, MATH 3360, MATH 3440, MATH 3460, MATH 3470, MATH 3490, MATH 3610, MATH 4370, MATH 4390

List C: Computer Science options for the Honours and Major programs

COMP 2080, COMP 2140, COMP 3170, COMP 3190, COMP 3380, COMP 3820, COMP 4190, COMP 4360, COMP 4380, COMP 4420, COMP 4710

List D: Statistics options for the Major program

~~STAT 3030, STAT 4100 and all options in List A~~

STAT 3030, STAT 3170, STAT 3380, STAT 3490, STAT 3550, STAT 4100, STAT 4150, STAT 4170, STAT 4250, STAT 4520, STAT 4530, STAT 4630, STAT 4700, STAT 4900, STAT 4910

List E: Mathematics options for the Major program

MATH 2080 and all options in List B

### 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, or 4000 level courses from each of **two** Science areas. To satisfy the requirement in the area of Statistics, students must take a minimum of 18 credit hours of 2000, 3000 and (or) 4000 level Statistics courses. STAT 2000 and STAT 2150 cannot be used towards this requirement.

## 4.13.2 Statistics Program Charts

### 4.13.2 Statistics Program Charts

4.13.2 Statistics			
YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS<sup>1</sup> (Including Co-operative Option) 120 CREDIT HOURS</b> (comprising courses listed in chart below, and electives)			
STAT 1150 <sup>2</sup>  MATH 1220 <sup>2</sup> , MATH 1230 <sup>2</sup> , MATH 1232 <sup>2</sup> , MATH 1240	STAT 2400, STAT 2800  MATH 2080, MATH 2150 <sup>2</sup>	STAT 3030, STAT 3100, STAT 3150, STAT 3450, STAT 3690	STAT 4100
<b>The following courses must be taken in Year 1 or Year 2:</b>		24 credit hours from the list of Statistics options for the Honours program (List A above), with at least 15 credit hours at the 4000 level	
COMP 1010, COMP 1020		6 credit hours from the lists of Statistics, Mathematics and Computer Science options for the Honours program (Lists A, B and C above)	
STAT 2150 (B), STAT 2300		12 credit hours of elective courses <sup>3</sup>	
6 credit hours from the Faculty of Arts, which should include the required "W" course		<b>Co-op Requirements (if selected):</b>	
6 credit hours from the lists of Mathematics and Computer Science options (Lists B and C above)		SCI 3980, SCI 3990, and SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)	
9 credit hours of elective courses <sup>3</sup>			
30 Hours	30 Hours	30 Hours	30 Hours
<b>HONOURS DOUBLE MINIMUM 120 CREDIT HOURS</b> By arrangement with the departments concerned			
<b>FOUR YEAR MAJOR<sup>1</sup> (Including Co-operative Option) 120 CREDIT HOURS</b> (comprising courses listed in chart below, and electives)			
STAT 1150 <sup>2</sup>  MATH 1220 <sup>2</sup> , MATH 1230 <sup>2</sup> , MATH 1232 <sup>2</sup> , MATH 1240	STAT 2400, STAT 2800  MATH 2720	STAT 3100, STAT 3150, STAT 3450, STAT 3690	
<b>The following courses must be taken in Year 1 or Year 2:</b>		24 credit hours from the list of Statistics options for the Major program (List D above), with at least 15 credit hours at the 4000 level	
COMP 1010, COMP 1020		9 credit hours from the lists of Computer Science, Statistics and Mathematics options for the Major program <u>program</u> (Lists C, D and E above)	
STAT 2150 (C+), STAT 2300		15 credit hours of elective courses <sup>3</sup>	
6 credit hours from the Faculty of Arts, which should include the required "W" course		<b>Co-op Requirements (if selected):</b>	
6 credit hours from the lists of Computer Science and Mathematics options for the Major program (Lists C and E above)		SCI 3980, SCI 3990, and SCI 4980, and SCI 4990 (if a 4 <sup>th</sup> work term is selected)	
12 credit hours of elective courses <sup>3</sup>			
30 Hours	30 Hours	30 Hours	30 Hours

<b>THREE YEAR GENERAL 90 CREDIT HOURS</b>	
STAT 1150 <sup>2</sup> , STAT 2150	STAT 2400, <del>STAT-2800</del>
12 <u>15</u> additional credit hours of 2000, 3000, and (or) 4000 level Statistics courses <sup>4</sup>	
<b>MINOR: OPTION 1</b>	
STAT 1000, STAT 2000	STAT 3000
9 additional credit hours of 2000, 3000, or 4000 level Statistics courses <sup>5</sup>	
<b>MINOR: OPTION 2</b>	
STAT 1150, STAT 2150	12 additional credit hours of 2000, 3000, or 4000 level Statistics courses <sup>4</sup>

**NOTES:**

<sup>1</sup> IMPORTANT: The four year Honours and Major programs need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program.

<sup>2</sup> The following substitutes are allowed: MATH 1300 (B) in place of MATH 1220, MATH 1500 (B) or MATH 1510 (B) in place of MATH 1230, MATH 1700 (B) or MATH 1710 (B) in place of MATH 1232, MATH 1690 in place of MATH 1230 and MATH 1232; MATH 2720 in place of MATH 2150; STAT 1000 and STAT 2000 (B) in place of STAT 1150.

<sup>3</sup> Although not required, students are encouraged to select some of their electives from traditional fields of application in Statistics such as Biological Sciences, Microbiology, Actuarial Mathematics, Economics, Psychology, or Sociology.

<sup>4</sup> STAT 2000 and STAT 2150 cannot be counted towards this requirement.

<sup>5</sup> STAT 2000 cannot be counted toward this requirement.

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

# MEMO

REGISTRAR'S OFFICE

Room 400 UMSU University Centre

PH: 474-9425



University  
of Manitoba

**Date:** November 4, 2020

**Memo To:** Senate

**From:** Neil Marnoch, Registrar

A handwritten signature in black ink, appearing to read "Neil Marnoch".

**Re:** **Revision to the 2021 Summer Term Academic Schedule  
College of Nursing**

---

Please consider the changes below to the 2021 Summer Term Academic Schedule with respect to changes related to the College of Nursing.

Current

**Nursing**

Year 4 NURS 4580 Senior Practicum May 10, 2021

Proposed

**Nursing**

Year 4 NURS 4580 Senior Practicum May 10, 2021

Graduate level Nurse Practitioner Program courses commence April 26, 2021

Rationale

This earlier start time allows for sufficient time for students in their final clinical consolidation course, NURS 7330, to acquire 400 clinical practice hours (a requirement established by the College of Registered Nurses of Manitoba). The main reason for the earlier start is centered around limited preceptor availability during the summer months.

Comments of the Senate Executive Committee:

The Senate Executive Committee endorses the Report to Senate.

## **REPORT OF THE SENATE COMMITTEE ON AWARDS**

### **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 revised offers of awards that comply with the Student Awards Policy.

### **Observations**

At its meeting of October 22, 2020, the Senate Committee on Awards approved 4 new offers and 6 revised offers as set out in the *Report of the Senate Committee on Awards (October 22, 2020)*.

### **Recommendations**

On behalf of Senate, the Senate Committee on Awards recommends that the Board of Governors approve 4 new offers and 6 revised offers as set out in the *Report of the Senate Committee on Awards (October 22, 2020)*. These award decisions comply with the Student Awards Policy.

Respectfully submitted,

Dr Jared Carlberg

Chair, Senate Committee on Awards

## SENATE COMMITTEE ON AWARDS

October 22, 2020

### 1. NEW OFFERS

#### **Donald and Elaine Triggs Bursary**

Donald Triggs (B.S.A.[Hons]/'66) and Elaine Triggs (B.H.Ec [Hons]/'66) established an endowment fund at the University of Manitoba with a gift of \$1,000,000 in 2020. The purpose of the fund is to provide financial support to students enrolled at the University of Manitoba. Each year, beginning in 2021-2022, the available annual income from the fund will be used to offer one new bursary and up to three renewable bursaries of equal value to undergraduate students who:

- (1) are enrolled full-time (minimum 60% course load) in their first year of study in University 1 or any faculty, college, or school with a Direct Entry option;
- (2) have demonstrated past and present leadership and community involvement; and
- (3) of those students who meet the criteria (1) through (3), have demonstrated the highest financial need on the standard University of Manitoba bursary application form.

Students will be required to outline how they meet criterion (3) on the supplemental bursary application form.

The renewable bursaries will be offered in the subsequent year of study for up to a maximum of three years, provided that the students:

- (i) are enrolled full-time (minimum 60% course load) in any faculty, college, or school at the University of Manitoba;
- (ii) have achieved a minimum degree grade point average of 3.0; and
- (iii) have demonstrated high financial need on the standard University of Manitoba bursary application form.

If a recipient does not continue to meet the renewal criteria above, a new recipient who meets the renewal criteria in the same year in which the previous recipient no longer qualifies will be selected. Only four students may hold this award in any given year.

The Director of Financial Aid and Awards (or designate) will name the selection committee for this award.

This agreement may be amended by the mutual consent of the donor (or designate) and the University of Manitoba. All such amendments shall be in writing. In the absence of the donor (or designate), and providing all reasonable efforts have been made to consult, 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.

#### **Dr. Forough Khadem Scholarship**

A fund has been established at the University of Manitoba with gifts from family, friends and colleagues to honour the life, spirit and work of Dr. Forough Khadem, who came to Canada from Iran to pursue her PhD in Immunology at the University of Manitoba. Dr. Khadem was a passenger on Flight PS752 when it crashed in Tehran on January 8, 2020, leaving no survivors. The purpose of the scholarship will be to recognize an outstanding international female graduate student at either the Master's or Doctoral level who demonstrates leadership and a desire to have an impact on the world through science, and who

embodies a pioneering spirit. Each year, beginning in 2021-2022, the available annual income from the fund will be used to offer one scholarship to a graduate student who:

- (1) is an international student who identifies as female;
- (2) is enrolled full-time in their second year or higher in a thesis-based Master's or Doctoral program offered by the Faculty of Graduate Studies;
- (3) has achieved a minimum grade point average of 3.5 based on the last 60 credit hours (or equivalent) of study;
- (4) has demonstrated leadership and a desire to have an impact on the world through science, and embodies a pioneering spirit; and
- (5) whose primary advisor is a faculty member of the Rady Faculty of Health Sciences.

In order to demonstrate how they meet criterion (4), candidates will be required to submit the following:

- (a) a *curriculum vitae*;
- (b) a statement (maximum 500 words) describing their current research; and
- (c) a reference letter from the student's current advisor (maximum 500 words).

The Vice-Provost (Graduate Education) and Dean of the Faculty of Graduate Studies (or designate) will ask the Dean of the Rady Faculty of Health Sciences (or designate) to name the selection committee for this award, which will include a donor representative from Dr. Khadem's family.

This agreement may be amended by the mutual consent of the donor (or designate) and the University of Manitoba. All such amendments shall be in writing. In the absence of the donor (or designate), and providing all reasonable efforts have been made to consult, 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.

### **Randy Minuk Memorial Bursary**

In memory of Randy Minuk, his wife, Linda Minuk, established an endowment fund at the University of Manitoba with a gift of \$10,000 in 2014. The Manitoba Scholarship and Bursary Initiative made a contribution to the fund. The purpose of the fund is to support students in the Faculty of Law at the University of Manitoba who have an interest in criminal law. Each year, beginning in 2020-2021, the available annual income from the fund will be used to offer one bursary to an undergraduate student who:

- (1) is enrolled full-time (minimum 60% course load) in the third year of study in the Juris Doctor program in the Faculty of Law;
- (2) has achieved a minimum degree grade point average of 2.5;
- (3) has completed, or is currently registered in, at least two courses related to criminal law in the Faculty of Law; and
- (4) has demonstrated financial need on the standard University of Manitoba bursary application form.

The Dean of the Faculty of Law (or designate) will name the selection committee for this award.

This agreement may be amended by the mutual consent of the donor (or designate) and the University of Manitoba. All such amendments shall be in writing. In the absence of the donor (or designate), and providing all reasonable efforts have been made to consult, 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.

### **Randy Minuk Prize in Criminal Law**

In memory of Randy Minuk, his wife, Linda Minuk, established an endowment fund at the University of Manitoba with a gift of \$10,000 in 2014. The Manitoba Scholarship and Bursary Initiative made a contribution to the fund. The purpose of the fund is to reward the academic achievement of students in the Faculty of Law at the University of Manitoba who have an interest in criminal law. Each year, beginning in the 2020-21 academic year, the available annual income from the fund will be used to offer one prize to an undergraduate student who:

- (1) was enrolled full-time (minimum 80% course load) in the Juris Doctor program in the Faculty of Law in the year in which the award was tenable;
- (2) has achieved a minimum degree grade point average of 3.0; and
- (3) has achieved the highest standing in Intensive Criminal Law (currently numbered LAW 3532).

Ties are to be broken using the following criteria, in priority order: (i) the Degree Grade Point Average, calculated to the fourth decimal place; (ii) the higher proportion of A+ and A grades in a total program; (iii) the highest number of credit hours completed in the degree program; (iv) the greater proportion of senior- or advanced-level courses in the total program.

The Dean of the Faculty of Law (or designate) will name the selection committee for this award.

This agreement may be amended by the mutual consent of the donor (or designate) and the University of Manitoba. All such amendments shall be in writing. In the absence of the donor (or designate), and providing all reasonable efforts have been made to consult, 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**

### **Dr. D. McDougall Memorial Scholarship**

The following amendments were made to the terms of reference for the **Dr. D. McDougall Memorial Scholarship**:

- The preamble was revised to:  
*The College of Pharmacists of Manitoba (formerly called the Manitoba Pharmaceutical Association) has established a fund at the University of Manitoba to support students in the College of Pharmacy. This award fund was established in memory of the late Dr. D. McDougall, Director of the School of Pharmacy from 1939-59. Each year, the available annual income will be used to offer one scholarship to an undergraduate student who:*
- The numbered criteria were revised to:
  - (1) *is enrolled full-time (minimum 80% course load) in the second year of study in the Pharm. D. program in the College of Pharmacy;*
  - (2) *has achieved a minimum degree grade point average of 3.5; and*
  - (3) *has achieved high standing in the Fundamentals of Pharmaceutics (currently numbered PHRM 1310).*
- The following tie-breaking paragraph was added:  
*Ties are to be broken using the following criteria, in priority sequence: (i) the Degree Grade Point Average, calculated to the fourth decimal place; (ii) the higher proportion of A+ and A*

*grades in a total program; (iii) the highest number of credit hours completed in the degree program; (iv) the greater proportion of senior- or advanced-level courses in the total program*

- The selection committee paragraph was revised to:

*The selection committee will be the College of Pharmacy Professional Program Awards Committee.*

- The standard Board of Governors statement was added.

### **Frank and Kally Kennedy Memorial Award**

The following amendments were made to the terms of reference for the **Frank and Kally Kennedy Memorial Award**:

- The preamble was revised to:

*An endowment fund for Bison Sports athletes at the University of Manitoba was established through a \$70,000 bequest gift from Mrs. Kathleen Kennedy in 2002. The fund honours Mrs. Kennedy and her husband, Dr. Frank Kennedy, both former faculty members in the Faculty of Physical Education and Recreation Studies.*

*A minimum of two scholarships will be offered annually to Bison student athletes who are participating in interuniversity sport at the University of Manitoba. The awards will be offered each year according to the following cycle: Men's Volleyball, Women's Volleyball, Men's Basketball, Women's Basketball, Men's Ice Hockey, Women's Ice Hockey, Men's Swimming, Women's Swimming, Men's Track & Field, Women's Track & Field, Football, and Women's Soccer.*

*Each year, the available annual income from the fund will be used to offer scholarships of equal value to undergraduate students who:*

- The numbered criteria were revised to:

*(1) are eligible to compete in U Sports and are members of a Bison sports team;*

*(2) are enrolled full-time, as defined by U Sports, in University 1 or any faculty, college, or school at the University of Manitoba;*

*(3) have achieved:*

*(a) as entering students, a minimum average of 80% on those high school courses used for admission to the University, or*

*(b) as continuing students, a minimum degree grade point average of 2.0; and*

*(4) in the opinion of the selection committee, have demonstrated athletic ability and active leadership in the designated sport.*

- The following paragraph was added:

*The selection committee will have the discretion to determine the number and value of bursaries offered each year as outlined above, based on the available annual income.*

- The selection committee paragraph was revised to:

*Director of Athletics and Recreation (or designate) will name the selection committee for this award which will include the Head Coach of the team receiving the award.*

- The standard Board of Governors and U Sports statements were updated.

### **Henry Engbrecht Graduate Fellowship**

The following amendments were made to the terms of reference for the **Henry Engbrecht Graduate Fellowship**:

- The preamble was revised to:  
*Friends, colleagues, and former students of Professor Henry Engbrecht established an endowment fund at the University of Manitoba in 2007 to recruit top graduate students in choral conducting to the Desautels Faculty of Music. The Manitoba Scholarship and Bursary Initiative made a contribution to this fund. The award celebrates Professor Engbrecht's dedication to choral music at the University and in the Manitoba community at large. Professor Engbrecht retired from the University in 2006 after 28 years as Director of Choral Studies. Each year, the available annual income from the fund will be used to offer one or more fellowships to students who:*
- The numbered criteria were revised to:
  - (1) *are enrolled full-time in the Master of Music (Conducting) program in the Desautels Faculty of Music;*
  - (2) *have achieved a minimum degree grade point average of 3.5 based on the last 60 credit hours (or equivalent) of study;*
  - (3) *have demonstrated experience in choral conducting; and*
  - (4) *have, in the opinion of the selection committee, demonstrated excellence in choral conducting.*
- The following paragraph was added:  
*The selection committee will have the discretion to determine the number and value of bursaries offered each year as outlined above, based on the available annual income.*
- The selection committee paragraph was revised to:  
*The selection committee will be named by the Dean of the Desautels Faculty of Music (or designate) and will include the Director of Choral Studies.*
- The standard Board of Governors statement was updated.

### **Peter L. Coultry Memorial Prize**

The following amendments were made to the terms of reference for the **Peter L. Coultry Memorial Prize**:

- The preamble was revised to:  
*In memory of Peter L. Coultry, (B.A. [Manitoba] '56), who lost his life in an automobile accident in January of 1964, friends and relatives established an endowment fund at the University of Manitoba with a gift of \$1,000 in 1965. Each year, the available annual income from the fund will be used to offer one prize to an undergraduate student who:*
- The numbered criteria were revised to:
  - (1) *was enrolled full-time (minimum 80% course load) in any year of study in any faculty, college, or school at the University of Manitoba in the year in which the award was tenable;*
  - (2) *has achieved a minimum degree grade point average of 3.5; and*
  - (3) *in the opinion of the selection committee, has written the most outstanding essay on a novel in any course offered by the Department of English, Theatre, Film & Media.*

- The following paragraphs were added:

*Preference will be given to students who have written an essay on a novel in a course beyond the 1000-level that is focused on the study of the novel.*

*In the event that there is no eligible candidate, the prize will not be offered and the available annual income will be reinvested into the fund.*

- The selection committee paragraph was revised to:

*The Head of the Department of English, Theatre, Film & Media (or designate) will name the selection committee for this award.*

- The standard Board of Governors statement was updated.

### **Stewart G. Wilcox Award**

The following amendments were made to the terms of reference for the **Stewart G. Wilcox Award**:

- The preamble was revised to:

*The College of Pharmacists of Manitoba (formerly called the Manitoba Pharmaceutical Association) established a fund at the University of Manitoba to support students in the College of Pharmacy. A contribution has been made to this fund by the Manitoba Scholarship and Bursary Initiative. This award fund honours Mr. Stewart Wilcox, who served as the Registrar of the College for sixteen years. Mr. Wilcox was a sessional lecturer and taught jurisprudence in the College of Pharmacy, and the fund will provide an award to students who have excelled academically in this area. Each year, the available annual income will be used to offer one scholarship to an undergraduate student who:*

- The numbered criteria were revised to:

*(1) is enrolled full-time (minimum 80% course load) in their third year of study in any undergraduate degree program in the College of Pharmacy;*

*(2) has achieved a minimum degree grade point average of 3.5; and*

*(3) has achieved high standing in the Pharmacy Law course (currently numbered PHMD 2008).*

- The following tie-breaking paragraph was added:

*Ties are to be broken using the following criteria, in priority sequence: (i) the Degree Grade Point Average, calculated to the second decimal place and (ii) the higher proportion of A+ and A grades in a total program.*

### **Ted McLachlan Community Engagement Scholarship**

The following amendments were made to the terms of reference for the **Ted McLachlan Community Engagement Scholarship**:

- The preamble was revised to:

*In honour of Professor Ted McLachlan's long-standing commitment to community engagement through his teaching, research and service in the field of Landscape Architecture, his colleagues, friends, graduates and students established an endowment fund at the University of Manitoba with an initial gift of \$20,000 in 2015. The Manitoba Scholarship and Bursary Initiative has made a contribution to the fund. The purpose of the fund is to reward graduate students who are committed to volunteerism and community engagement while pursuing studies in the Master of*

*Landscape Architecture in the Faculty of Architecture. Each year, beginning in 2018-2019, the available annual income from the fund will be used to offer one scholarship to a graduate student who:*

- The numbered criteria were revised to:
  - (1) is enrolled full-time or part-time in the Faculty of Graduate Studies in the first year of study in the Master of Landscape Architecture program at the University of Manitoba;*
  - (2) has achieved a minimum grade point average of 3.3 based on the last 60 credit hours (or equivalent) of study; and*
  - (3) has, in the opinion of the selection committee, demonstrated a strong commitment to volunteerism and community engagement outside of the University of Manitoba.*
- The following paragraph was added:

*If, in any year, there are no eligible candidates who meet all of the above criteria, the scholarship can be awarded to a student who is enrolled full-time or part-time in the Faculty of Graduate Studies in any year of study in the Master of Landscape Architecture program, and who meets criteria (2) and (3). If there are no eligible students enrolled full-time or part-time in the Faculty of Graduate Studies in any year of study in the Master of Landscape Architecture program who meet criteria (2) and (3), the scholarship may go to a student who is enrolled full-time or part-time in the Faculty of Graduate Studies in any year of study in the Master of Landscape Architecture program who meets criterion (2) and has shown a strong commitment to volunteerism and community engagement at the University of Manitoba.*
- The standard Board of Governors statement was updated.



**University  
of Manitoba** | Office of the President

Office of the President  
Room 202 Administration Bldg.  
University of Manitoba  
Winnipeg, MB  
Canada R3T 2N2  
T: 204-474-9345  
F: 204-261-1318  
president@umanitoba.ca

**DATE:** November 4, 2020

**TO:** Jeff Leclerc  
University Secretary

**FROM:** Michael Benarroch, Ph.D.  
President and Vice-Chancellor *M. Benarroch*

**RE:** Increase to Admission Targets, Bachelor of Nursing Program

---

I attach recommendations from Dr. Todd Mondor, Deputy Provost (Academic Planning and Programs) for a proposed change to the admission target for the Bachelor of Nursing Program.

Under the Admission Targets Policy and Procedure, the President approves changes to, and the introduction of, enrolment limits following consultation and discussion with the relevant Dean or Director, Senate, and the Board of Governors, subject to the provisions of the provincial Program of Study Regulations.

Accordingly, please place this item on the agenda for the November 18, 2020 Senate Executive Committee meeting and the December 2, 2020 Senate meeting.

**Cc:** Dr. Janice Ristock, Provost and Vice-President (Academic)  
Dr. Todd Mondor, Deputy Provost (Academic Planning and Programs)  
Dr. Shannon Coyston, Associate University Secretary (Senate)  
Ms. Cassandra Davidson, Academic Programs Specialist



**University  
of Manitoba**

Office of Provost and Vice-President (Academic)

208 Administration Building  
Winnipeg, Manitoba  
Canada R3T 2N2  
Telephone (204) 480-1408  
Fax (204) 275-1160

**Date:** November 4, 2020

**To:** Dr. Michael Benarroch, President and Vice-Chancellor

**From:** Dr. Todd Mondor, Deputy Provost (Academic Planning and Programs)

**Re:** Request for Increase to Admission Targets, Bachelor of Nursing Program

---

Under the Admission Targets Policy and Procedure and at the request of the College of Nursing, I am requesting that you consider an increase to the admission target in the Bachelor of Nursing (BN) program from 240 seats to 280 seats per year.

As detailed in the attached proposal, the College is requesting that 40 seats previously reported under UCN be incorporated into the UM targets. The request is in response to a recent review of the delivery of the BN program to UCN and the resulting shift in admission policy and procedures, approved by Senate in June 2020. There is no net gain of seats with this change and there is no increase to the total number of students admitted to the program.

As you are aware, the Admissions Targets Policy and Procedure provides the President with the authority to approve changes to admission targets to a program following consultation with the Dean/Director, Senate, and the Board of Governors.

Please provide your advice concerning this matter to the Office of the University Secretary by Friday, November 6<sup>th</sup>, 2020, so that, if supported, the request may receive timely consideration by Senate and the Board of Governors.

Cc.: Dr. Janice Ristock, Provost and Vice-President (Academic)  
Ms. Laurie Schnarr, Vice-Provost (Students)  
Dr. Brian Postl, Dean, Rady Faculty of Health Sciences & Vice-Provost (Health Sciences)  
Dr. Netha Dyck, Dean, College of Nursing  
Mr. Jeff Leclerc, University Secretary  
Mr. Jeff Adams, Director, Enrolment Services  
Ms. Cassandra Davidson, Academic Programs Specialist

**MEMORANDUM**

Date: October 21, 2020

To: Dr. Todd Mondor, Deputy Provost (Academic Planning and Programs)

Copy: Jeff Adams, Executive Director, Enrolment Services  
Cassandra Davidson, Academic Programs Specialist, Office of the Provost and Vice-President (Academic)

From: Dr. Netha Dyck, Chair, College of Nursing College Council

**Re: Admission Targets**

---

Please find enclosed a completed *Significant Modification to a Program of Study* form.

In June 2020, the Senate approved a change in the admission process to the Bachelor of Nursing program to include a new category for the Collaborative University College of the North (UCN) Cohort, starting with the September 2021 intake of students. With the inclusion of the Collaborative UCN Cohort, the admission target for the Bachelor of Nursing program will increase from 240 students to 280 students.

The University of Manitoba current seat capacity is 240 students per academic year. These students are admitted in two intakes: 120 students in the Fall and 120 students in the Winter.

The University College of the North current seat capacity is 40 students per academic year. These students are admitted to two sites: 20 students in Thompson and 20 students in The Pas.

This revised admission target does not change the total number of admitted students (280 students), but rather combines the seat capacity of the program and situates it within the University of Manitoba.

This form was reviewed at the College of Nursing College Council meeting on September 30, 2020 and the recommendation was made to forward for approval.

Sincerely,



Dean, College of Nursing

Encl.

**SIGNIFICANT MODIFICATION TO A PROGRAM OF STUDY**

Under The Advanced Education Administration Act

Universities and colleges requesting approval for a **significant modification** to a program of study from Education and Training must apply using this application form. This form reflects the requirements set out in the Programs of Study Regulation (MR 134/2015) under The Advanced Education Administration Act.

**UM INTERNAL REQUIREMENTS**
**University**  
 of **Manitoba**

1. Please complete the application below and submit one (1) electronic copy (.pdf format) each to the Vice-Provost (Integrated Planning & Academic Programs) and the Office of the University Secretary, (where indicated) along with the following supplemental documentation:
  - a. A cover letter justifying and summarizing the rationale behind the request for a significant modification.
  - b. Letters of support from internal and/or external stakeholders that were consulted as part of this proposal, if applicable.
2. Note that internal approval of the proposed modification will vary depending on the type of modification (see SECTION C). Please work with the Provost's Office and the Office of the University Secretary in advance, in identifying the appropriate procedures and approval processes. In general, please note the following for each type of modification:
  - a. **CHANGE OF SITE** – may require Senate approval if the site requires modifications to admission and/or program requirements (e.g. new admission category).
  - b. **CHANGE TO SEAT CAPACITY** – please refer to the Admission Targets Policy and Procedures ([http://umanitoba.ca/admin/governance/governing\\_documents/academic/admission\\_targets.html](http://umanitoba.ca/admin/governance/governing_documents/academic/admission_targets.html)). Changes may also require Senate approval if there are modifications to admission and/or program requirements.
  - c. **CHANGE TO TIME-TO-COMPLETION** – any addition to or reduction of hours to program requirements, requires Senate approval. For undergraduate programs, please refer to SCCC Guidelines found at - <http://umanitoba.ca/admin/governance/forms/index.html>. For graduate programs, please contact FGS for approval process.
  - d. **CHANGE TO APPROVED DELIVERY MODEL** – please notify the Provost's Office of any significant changes to course or program delivery method.
  - e. **CHANGE TO STATUS OF JOINT PROGRAM** – depending on the significance of the changes resulting from the proposal, this will either require Senate approval as a program modification or will require the introduction of a new program. Please contact the Provost's Office with more details on how becoming a joint program or ceasing a joint program will impact the program.
  - f. **CHANGE TO CREDENTIAL**
  - g. **CHANGES TO CAPITAL OR OPERATING RESOURCES REQUIRED -**
3. Please direct questions to Cassandra Davidson, Academic Programs Specialist, Office of the Provost and Vice-President (Academic) at [Cassandra.Davidson@umanitoba.ca](mailto:Cassandra.Davidson@umanitoba.ca) or 204.474.7847.

**SECTION A – PROPOSAL DETAILS**

Institution: **University of Manitoba**

Applicable faculties/department with responsibility for the program:  
Rady Faculty of Health Sciences / College of Nursing

If program is a joint program, list all participating institutions and the roles of each in delivering the proposed program:

The Bachelor of Nursing Program (BN Program) is not a joint program; it is a University of Manitoba (UM) program delivered in Winnipeg and in collaboration with University College of the North (UCN) for the delivery of the BN Program to the cohort of UM students located in Thompson and The Pas (identified throughout this document as the 'Collaborative UCN Cohort').

Program name: Bachelor of Nursing Program

Credential awarded: Bachelor of Nursing

Funding request: N/A

*Office Use Only*

One-time funding: \_\_\_\_\_

On-going funding: \_\_\_\_\_

Proposed start date: 2021-09-01

List any critical issues that may impact the start date of the program: Assuming there are no issues with approval timelines, there are no critical issues expected to impact the start date.

Institutional Program Code(s) (PSIS reporting number):

## SECTION B – PROGRAM DESCRIPTION AND DELIVERY

### **B-1 Provide a general description of the significantly modified program and its objectives:** *(Include intended purpose, curriculum design, and highlight distinctive attributes)*

In 1996, as diploma nursing education programs began to close, the Ministers of Health and Education for the province announced a new approach to nursing education: the Manitoba Nursing Education Strategy (MNES). The goal of the strategy was to consolidate nursing education in the province and move to a Bachelor of Nursing degree as entry to practice for registered nurses.

The UM Faculty of Nursing was at the centre of the MNES strategy in 1998. Partnerships were formed between the UM and Brandon University, Red River Community College, and Keewatin Community College for the delivery of the UM Bachelor of Nursing Program in urban, rural, and northern settings. The partnership formed between UM and Keewatin Community College resulted in the delivery of the UM BN Program in The Pas and Thompson, with the first courses offered in fall of 1998. For a number of years, the UM Faculty of Nursing was responsible for delivering the fourth year of the Bachelor of Nursing Program to students in The Pas and Thompson. Keewatin Community College became the University College of the North in July of 2004. UM Faculty of Nursing's history with collaborative programs dates back to 1991 with a partnership with the Health Sciences Centre School of Nursing (1991-1995), as well as with the St. Boniface General Hospital School of Nursing (1992-1995).

With the introduction of a new BN Program curriculum in 2015, the teaching responsibilities changed and a new legal agreement between UM and UCN was drafted in 2018 but not signed. During the process of drafting the new agreement, it was identified that, other than a letter of notification to Senate, the structure of the program delivery in The Pas and Thompson had not been approved by Senate.

A proposal outlining the structure and delivery of the program to the Collaborative UCN Cohort, including a revised admissions process, was approved by Senate on June 24<sup>th</sup>, 2020. The legal agreement was drafted in conjunction with the Senate Proposal and is ready for signature.

The BN Program is structured as a four-year program, with University 1 being the first year. An integrated approach is utilized in the delivery of the BN Program to the Collaborative UCN Cohort, whereby the same curriculum is used for all three program sites. This includes collaboration to develop and employ a consistent curriculum across all sites (with some modifications based on context, client populations, or access to clinical sites). The Senate approved proposal outlined the new admission process which included the creation of a new admission category for the UM BN Program's UCN Cohort for the September 2021 intake of students. With the implementation of this new admission category, the admission requirements will be the same for all applicants, including the Collaborative UCN Cohort. As well, starting with the September 2021, the University of Manitoba will be responsible for receiving and processing applications for all students applying to the BN Program.

This requires a change in the admission target at the University of Manitoba to incorporate the BN Program seats into the University of Manitoba process for admissions. No net increase in seat capacity is being requested across these two institutions, rather this requested modification will combine the seat capacity and situate it within the University of Manitoba.

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### **B-2 Describe how this program serves and advances the academic, cultural, social and economic needs and interests of students and the province:**

The UM BN Program is the largest entry level nursing program in Manitoba, contributing significantly to healthcare human resources in Manitoba. The partnership with UCN allows the University of Manitoba to

support the education of future nurses and address the gaps in nursing human resources that exist in northern Manitoba. The proposed modification to the admission process will provide a more consistent approach to admissions, registration, and progression for all students in the BN Program.

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**B-3 Describe the existing and anticipated post-secondary learning needs of students in Manitoba that this program addresses and responds to:**

The partnership with UCN reduces the barriers to nursing education for students located in northern Manitoba by providing access to nursing education without relocating.

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**B-4 Will the program be available for part-time study?**

No changes are being made to the current practices for part-time study in the BN Program and therefore there will be no impact on availability for part-time study.

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**B-5 Is there a cooperative education, work placement, internship or practicum component?**

The BN Program contains a clinical course in each term of Years 2, 3, & 4 in order for students to complete the College of Registered Nurses of Manitoba requirement of 1000 hours of clinical practice. Following the successful completion of Year 4 Term 2 of the BN Program, all students complete 450 hours in a final practicum placement at a clinical site. Students in the Collaborative UCN Cohort generally complete these clinical practice hours and final practicum hours at clinical sites within the Northern Regional Health Authority.

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**SECTION C – MODIFICATION TYP**

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**C-2 Change to seat capacity**

C-2.1 - List originally approved or currently offered seat capacity and proposed seat capacity.

*UM Internal Note:* seat capacity as defined by your admission target. If you are not aware of the target, please contact Enrolment Services.

Effective September 2021 we will be increasing the admission target for the Bachelor of Nursing Program from 240 students to 280 students.

The University of Manitoba currently offered seat capacity is 240 students / academic year. These students are admitted in two intakes: 120 students in the Fall intake and 120 students in the Winter intake.

The University College of the North currently offered seat capacity is 40 students / academic year. These students are admitted to two sites: 20 students in Thompson and 20 students in The Pas.

In the proposed seat capacity modification the total number of admitted students (280 students) will not change. Rather, the seat capacity will be moved entirely to the University of Manitoba.

C-2.2 - Provide rationale for this change. *(Examples include changes in applications, enrolment and employer demand or alignment with the institution's strategic direction and priorities.)*

UM Internal Note: please ensure to address the following in your response:

- Student demand for places – identify how the current admission levels and the proposed changes compare to the number of qualified applicants to the program.
- Demand for graduates – identify how the current admission levels and the proposed changes reflect market demand for graduates.
- Outline any economic, demographic and/or geographical shifts in the student population that may impact on, or be impacted by, the proposed change.
- Student success – comment on success of current students (progression, time-to-completion, etc.) and graduates of the program (where known).

The collaboration between the UM and UCN provides access to nursing education to students living in northern Manitoba – the proposed changes will allow for this access to continue. It will also provide the students in the Collaborative UCN Cohort with access to the resources available to all students of the University of Manitoba, such as student advocacy. This change will also allow for greater consistency in the administration and delivery of the UM Bachelor of Nursing Program.

#### C-2.3 - Intake Information

C-2.3 (a) - What is the projected enrolment for the first intake?

Projected enrolment for the first intake is 280 Students.

C-2.3 (b) - What is the maximum seat capacity (defined as first-year enrolment capacity)?

The maximum seat capacity will be 280 students / academic year

C-2.3 (c) - What is the anticipated date of maturity?

Effective date is September 2021.

C-2.4 UM Requirement: Address the impact of the proposed change on access to post-secondary education of under-represented groups. Identify any particular demographic experiencing special difficulties either in gaining admission to, or completing the requirements of, the program.

The collaboration between the UM and UCN provides access to nursing education to students living in northern Manitoba – the proposed changes will allow for this access to continue. This change will also allow for the students in the Collaborative UCN Cohort to have access to the resources available to all students of the University of Manitoba, such as student advocacy.

**D-1 Describe how this significant modification aligns with the strategic plans of your institution:**

One of the Strategic Priorities of the College of Nursing is: *Strengthen Learning Environment and Education Program Excellence*. Within this objective, there is a strategic initiative to *Enhance University of Manitoba / University College of the North Partnership*. The changes to the admission process will provide a more consistent approach to admissions, registration, and progression for all students in the BN Program.

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**D-2 Outline the internal approval process (i.e. committees, governing bodies) for approving this significant modification within your institution and indicate any dates of decision.** *(Governing Council, Board of Governors, Board of Regents, Senate, other)*

Decision-Making body: *Senate (consultation only)*

Decision:

Date:

Decision-Making body: *Board of Governors (consultation only)*

Decision:

Date:

Decision-Making body: *President*

Decision:

Date:

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**D-3 Responsibility to consult**

D-3.1 If this program is subject to mandatory review or approval by organizations external to the institution (*such as regulatory bodies, Apprenticeship Manitoba, etc.*), please describe any consultation processes and provide copies of reports or letter from these organizations providing support:

Throughout the history of the partnership, approval of the University of Manitoba BN Program by the regulatory body, the College of Registered Nurses of Manitoba (CRNM), has been a collaborative process with University College of the North, with our most recent approval occurring in 2019 (for a five-year period). No change in the accreditation process is anticipated as a result of the proposed modification.

D-3.2 What agencies, groups, or institutions have been consulted regarding the significant modification of this program?

*UM Internal Note:* the unit is to consult with other academic units to identify how the proposed changes might affect quality, access to, and resources associated with the programs offered by that unit, as well as impact on service teaching by supporting faculties/schools. Outline the consultation process with other units and append letters of support, as appropriate.

The approved Senate proposal was developed in collaboration with University College of the North.

The UM Admissions Office, UM Registrar's Office, the UM Student Awards Office, and the Office of the Vice Provost (Students) were consulted as part of the development of the Senate Proposal, which was approved by Senate on June 24<sup>th</sup>, 2020.

Summary of Consultation Meetings within the University of Manitoba:

UM Registrar's Office – Neil Marnoch, February 27<sup>th</sup>, 2019

UM Enrolment Services – Jeff Adams – March 7<sup>th</sup>, 2019

UM Financial Aid and Awards – Pamela Gareau, March 6<sup>th</sup>, 2019

UM Admissions Office – Erin Stone – March 7<sup>th</sup>, 2019

UM Vice-Provost (Students) – Susan Gottheil, March 11<sup>th</sup> & 20<sup>th</sup>, 2019

D-3.3 How have students and faculty been informed of the intent to modify this program?

Faculty in the College of Nursing at the University of Manitoba were informed of the intent to modify the seat capacity for the BN Program throughout the development and the approval of the Senate Proposal. The Senate Proposal was approved by College Council on April 29, 2020 and approved by Senate on June 24<sup>th</sup>, 2020.

Students in the Collaborative UCN Cohort will see a change in how they apply for admission to the program and in the registration process. Students will be informed of these changes through the UM College of Nursing website as well as the UCN website, through the newly created Admissions Bulletin, and through direct communication with students in pre-nursing at University College of the North.

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**D-4 List any similar programs offered in Manitoba:** *(Provide such information as institution, programs, and credentials offered in addition to any impacts on these programs, explain rationale for duplication.)*

There are BN Programs offered at Red River College, University of Brandon, and Universite' de St. Boniface – none of these programs have collaborative deliveries to a northern cohort.

D-4.1 Describe any specific laddering, articulation and/or credit transfer options for Manitoban students that are anticipated to change as a result of the significant modification of this program:

Students in the BN Program may apply for transfer to any of the alternate delivery sites within the Program as long as they meet minimum requirements outlined in the BN Program regulations.

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**D-5 List any similar programs offered in Canada:** *(Provide such information as institution, programs, and credentials offered in addition to any impacts on these programs, explain rationale for duplication.)*

This collaborative University - College model for the delivery of nursing education is widely utilized across Canada in order to support access to nursing education. Among the many examples are the University of Regina with Saskatchewan Polytechnic; the University of Alberta with Red Deer College, Keyano College Fort McMurray and Grande Prairie Regional College; McMaster University with Mohawk College and Conestoga College; University of Ontario Institute of Technology (UOIT) with Durham College and Georgian College; and the University of New Brunswick with Humber College.

D-5.1 Describe any specific laddering, articulation and/or credit transfer options for Manitoban students that are anticipated to change as a result of the significant modification of this program.

No change to current practices is expected with the proposed modification.

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**D-6 Describe any changes in labour market demands in Manitoba for graduates of this Program as a result of this significant modification:**

*(Provide such information as probable employment destinations or further educational opportunities available to graduates of this new program of study. Attach any formal reports such as those from Associations, Statistics Canada, Sector Councils, Industry or Regulators.)*

No change is expected in labour market demands in Manitoba as a result of the proposed seat capacity modification as the net seat capacity will not change and the location of the seats will not change.

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**D-7 If copies of any internal or peer evaluations with respect to the significant modification of this program of study are being provided with this proposal, please indicated how any issues identified by these evaluations have been addressed and attach any relevant documents as available:**

Not applicable to the proposed modification.

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**D-8 Does this significant modification entail an increase to tuition, or the establishment of or increase to fees that apply to students in this program of study?**

*UM Internal Note:* Comment on potential impact on student access to and affordability of education that may result from the change.

Effective Fall 2021, students in the Collaborative UCN Cohort will be assessed the UM undergraduate tuition fees and other course-related and general student fees. Payment of fees will be made to the UM through accepted payment options.

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**SECTION E – REQUIRED RESOURCES AND FINANCIAL IMPLICATIONS**

**E-1 If one-time or pilot funding is being requested to support the significant modification of this program of study, please identify the amount of funding being requested:**

No additional funding is being requested for the proposed modification.

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**E-2 If ongoing funding is being requested to support the significant modification of this program of study, please identify the amount of funding being requested:**

No additional funding is being requested for the proposed modification.

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**E-3 If new funding is not being requested, how will the significant modifications to the program be funded?** *(Include such information as: where reallocated funding will come from, and the implications of reallocating that funding on other programs/activities of the institution.)*

Both the UM and UCN are accountable for their own budgets and financial resources for the delivery of their components of the UM BN Program. As the proposed modification does not include a net increase in admission seat capacity across both institutions and the location of the seats does not change, no additional funding is being requested.

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**E-4 What are the resource implications to the institution in delivering the significantly modified program of study?**

*(Include such information as; budget, IT, library, laboratory, computer, space, practicum liability insurance, student services, etc)*

*UM Internal Note:* Identify how the proposed changes will impact on the *quality of operations* at both the unit level and institutional level (including impact on other affected units), where applicable. Comment on how units delivering service teaching in the program will be impacted by the proposed change.

There are no resource implications for the proposed modification to the seat capacity of the UM BN Program.

The proposed change will more clearly position the students within the Collaborative UCN Cohort as students of the University of Manitoba. As such, the UM Admissions Office, UM Registrar's Office, UM Student Awards Office, and the Office of the Vice Provost (Students) were consulted as part of the development of the Senate program proposal, which was approved on June 24<sup>th</sup>, 2020. See section D-3.2 for a summary of the consultations meetings.

The proposed modification to the admission process will provide a more consistent approach to admissions, registration, and progression for all students in the BN Program. Students in the Collaborative UCN Cohort will continue to have access to UM Libraries online library resources and will also have access to UM Awards and bursaries and student advocacy services.

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**E-5 Please describe new and existing staffing resources needed to provide this significantly modified program of study.***(Include reallocation of existing faculty, hiring of new faculty, administrative and support services and any other considerations.)*

*UM Internal Note:* Identify how the proposed changes will impact on the *quality of instruction* at both the unit level and institutional level (including impact on other affected units), where applicable. Comment on how units delivering service teaching in the program will be impacted by the proposed change.

Both the UM and UCN are accountable for their own budgets and financial resources for the delivery of their components of the UM BN Program. As the proposed modification does not include an overall net increase in admission seat capacity across both institutions and the location of the seats will not change, no additional staffing resources are needed.

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**E-6 Please describe the effect of the significant modification of this program on existing capital infrastructure and equipment:**

*UM Internal Note:* Identify how the proposed changes will impact on the *quality of operations* at both the unit level and institutional level (including impact on other affected units), where applicable. Comment on how units delivering service teaching in the program will be impacted by the proposed change.

Both the UM College of Nursing and the University College of the North are responsible for the infrastructure and equipment required to deliver the UM BN Program. No changes in practice are expected with the proposed modification.

**SECTION F – SIGNATURES**

*(A second signature section is provided for joint programs only)*

**SUBMITTED BY:**

**President:**

Name:

Signature:

Date:

**Vice-President/Academic:**

Name:

Signature:

Date:

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*For use by joint programs only:*

**President:**

Name:

Signature:

Date:

**Vice-President/Academic:**

Name:

Signature:

Date:

**SUBMIT COMPLETED FORM**

Once completed and signed, please submit this application form to Post-Secondary Education and Labour Market Outcomes at [PSE-LMO@gov.mb.ca](mailto:PSE-LMO@gov.mb.ca) with the following attachments *(double-click to engage check box)*:

- |                          |   |
|--------------------------|---|
| <input type="checkbox"/> | Cover letter  |
| <input type="checkbox"/> | Program of Study Financial Form   |
| <input type="checkbox"/> | Any supporting documentation <i>(reviews, letters of support, etc.)</i> |

**If you have any questions or require further information, please contact:**

Post-Secondary Education and Labour Market Outcomes  
Manitoba Education and Training  
400-800 Portage Avenue Winnipeg MB R3C 0C4  
(204) 945-1833  
[PSE-LMO@gov.mb.ca](mailto:PSE-LMO@gov.mb.ca)

## PRESIDENT'S REPORT: December 2, 2020

### GENERAL

Through the fall, extensive outreach continued via virtual meetings between the President and donors, community leaders, alumni and government partners via virtual meetings to discuss priorities for UM. Some key meetings include Premier Brian Pallister, several provincial Cabinet ministers, the Honourable Jim Carr, Special Representative for the Prairies, Grand Chief Arlen Dumas from the Assembly of Manitoba Chiefs, Sean Barr, Assistant Deputy Minister of Western Diversification (WD) and Kristina Braun, Senior Advisor, Manitoba, Western Canada Growth Strategy, WD, Manitoba Metis Federation President David Chartrand, Mayor Brian Bowman, and Tracey Maconachie, Deputy Minister of Economic Development and Training.

Similarly, outreach took place within the university as well, with the President and Provost and Vice-President (Academic) attending meetings of faculty and college councils. As of the end of November, meetings have taken place with 10 councils and the remainder are scheduled to take place within the next few months.

The University signed on to the Collaborative Procurement Initiative with the Government of Manitoba and other public sector entities to leverage collective buying power. The first three formal categories that the University will be participating in are Office Supplies, Fleet and Freight. The University is currently participating in the Fleet Category, valued at \$800,000 annually, for the University, but is \$121 million annually for the collaborative group, exemplifying the volume buying power potential of a collaborative buying group.

In October, the Manitoba Industry-Academia Partnership (MI-AP) hosted the first AIMday™ Digital Agriculture event virtually. MI-AP is a partnership with Red River College, the University of Winnipeg and Business Council Manitoba, supported by a grant from Western Economic Diversification, to drive industry investment in specific collaboration projects that provide significant economic benefits. The first AIMDay was attended by seventy individuals and is the first step in a process that is expected to lead to joint research projects that will address specific industry needs. The event generated eight new partnerships which companies and scientists are now exploring further to expand the boundaries of knowledge and create economic advantages.

The announcement that the entire province is moving to the critical/red level on the #RestartMB Pandemic Response System, effective Thursday, November 12, resulted in some changes at UM to protect the health and safety of the UM community, while continuing to ensure students' ability to complete their approved in-person activities, and faculty members' ability to conduct essential research. These include instruction that all work that can be done remotely, must be; the wearing of 3-ply, disposable masks on campus for all academic and research activities; a reduction to the maximum number of employees on campus to 20%; the cancellation or postponement of all in-person discretionary activities until at least January 2021; the closure of all UM sport and recreation facilities; and the closure of all but absolutely essential common spaces and lunch spaces.

A drive-up COVID-19 testing site opened on the Fort Garry campus on November 8, 2020, at the Smartpark Event Centre in the UM Smartpark Research and Technology Park. The site is open from 7:00 a.m. to 7:00 p.m. daily.

## ACADEMIC MATTERS

- The Bruce D. Campbell Farm and Food Discovery Centre offered digital resources in celebration of Farm and Food Awareness Week in September. Although on-site visits were limited and have now temporarily ceased, a collection of hands-on activities, recipes, virtual tours, videos and other materials have been compiled to enable at-home learners and anyone interested in agriculture and food educational resources.
- The Faculty of Education recently hosted the first of their virtual lecture in the Dean's Distinguished Lecture Series, which is this academic year focus on Truth and Reconciliation. The first lecture *Institutional Racism and the Implications for Faculties of Education* featured Jerome Cranston, Professor and Dean of Education at the University of Regina and internationally recognized scholar in educational leadership.
- The Stu Clark Centre for Entrepreneurship (SCCE) recently held the first virtual business plan pitch competition. This core entrepreneurial course and pitch competition provides UM students a unique experiential learning opportunity; beginning with idea creation, through pitch development, and concluding with a real-life Dragon's Den format with students pitching in front of an audience (virtual) while fielding tough questions. Forty-nine cross-faculty teams representing 250 students from various faculties including; Agriculture, Arts, Engineering, Fine Arts, Kinesiology, Science and Asper recorded their two-minute virtual pitches. One team would be chosen to compete as a finalist in the live virtual pitch completion.
- As a response to concerns at Canadian business schools related to issues concerning Equity, Diversity and Inclusion (EDI) the Asper School of Business has formed an EDI taskforce, which aims at proactively addressing discrimination. Through the EDI task force, the School endeavors to foster a more inclusive learning environment for every single student that attends and/or interacts with the Asper School of Business. A series of workshops were launched designed to promote equal opportunity practices.
- Two faculty members from the Rady Faculty of Health Sciences have been elected to the Royal Society of Canada (RSC), the nation's most esteemed association of scholars and scientists. Dr. Joan Durrant, Community Health Sciences, was named a Fellow of the RSC. Durrant and Dr. Marcelo Urquia, Community Health Sciences and Canada Research Chair in population health, was elected to the RSC's College of New Scholars, Artists and Scientists.
- Dr. Brent Schacter, professor emeritus, internal medicine, will be inducted as a Fellow of the Canadian Academy of Health Sciences. It is one of the highest honours in the academic community.
- Dr. Verena Menec, Community Health Sciences, has been named a Distinguished Member of the Canadian Association on Gerontology, recognizing her dedication to improving the lives of older Canadians.
- Camerata Nova (a popular Winnipeg choral ensemble that is largely composed of Desautels alumni, professors, and staff) has done a series of remote video recordings, beginning with an Indigenous

take on Iron Maiden's "Run to the Hills." A follow-up article later this year will release their recording of new Indigenous works by Desautels alumnus and composer Andrew Balfour.

- It was recently announced that UM alumnus Henry Bruce Chown [MD/22] is one of six groundbreaking physicians and researchers who were celebrated in a new set of commemorative Canada Post stamps. Dr. Chown, a renowned researcher and UM professor who lived from 1893 to 1986, is internationally recognized for leading the way in eliminating rhesus (Rh) disease, which was once a major cause of newborn deaths.
- Jonathan Rosset, recent Plant Science MSc graduate, and Nikki Hawrylyshen, Food and Human Nutritional Sciences PhD student, were selected to receive the North American Colleges and Teachers of Agriculture (NACTA) Graduate Student Teaching Award of Merit. These awards are given annually to individuals who excel in teaching an agricultural discipline.
- Adam Lakusta, law student, was the winner of the Canadian Bar Association Intellectual Property essay competition. The paper, titled *Reforming Canada's intellectual property laws: The slow path to reconciliation* examines to what extent Canada's intellectual property law protect Indigenous Traditional Knowledge in relation to its international obligations, domestic laws, and compares it with two other nations' examples.

## RESEARCH MATTERS

- At this time, research at the University of Manitoba (UM) is continuing remotely to the extent possible. UM has developed a phased approach to the recovery, cautiously resuming critical research and essential activities on our campuses, while ensuring a strong focus on health and safety. We are currently in Phase 3: September 1 to December 31 (Fall Term). Details on the phased approach for the campus can be found on the webpage COVID-19 UM Recovery: Resources and Updates. Details on the guiding principles, process for requesting access and preventative measures are available in the updated Researcher FAQs section of the COVID-19 webpage.
- Professor Emeritus Dr. Brent Schacter (Internal Medicine) was elected as a Fellow by the Canadian Academy of Health Sciences (CAHS). Schacter is a member of the Department of Medical Oncology and Hematology at CancerCare Manitoba. Induction into the CAHS is considered one of the highest honours within Canada's academic community. Fellows are chosen by their peers based on their demonstrated leadership, creativity, distinctive competencies and commitment to advancing academic health sciences.

Schacter [BSc/65, MD(Hons)/65] has made monumental contributions to the fields of cancer and blood disorder research. Among his many achievements, while he was the Principal Investigator of the Canadian Tumour Repository Network (CTRNet), he launched a certification program that changed operating practices for biobanks—facilities that store biological materials for later research. He developed international quality assurance standards for the evolving field of biobanks that have been adopted around the world, much to the benefit of biomedical research. It was a herculean task

to work with partners around the world, past language barriers, to ensure the rules were unambiguous.

- Dr. Mario Tenuta (Soil Science) has been named the Natural Sciences and Engineering Research Council of Canada (NSERC) Industrial Research Chair in 4R Nutrient Stewardship, with combined funding of \$2,930,000 over five years. The chair is awarded in partnership with NSERC, the Western Grains Research Foundation, Fertilizer Canada and UM.

Tenuta’s research will advance 4R nutrient stewardship, an innovative approach developed with the fertilizer industry, to apply the ‘Right fertilizer at the Right rate, at the Right time and in the Right place,’ to enhance production goals, farm profitability and environmental sustainability.

With the funding from this chair, Tenuta will be at the forefront of nutrient stewardship research and training and will offer guidance in 4R practice implementation to advance Canada as a leader in 4R nutrient stewardship. The knowledge and infrastructure capacity created will enrich industry and research collaborations, to serve as a critical expertise hub to advance Nitrous use efficiency and environmental health.

- The 2020/21 series of online Café Scientifiques kicked off with three topics in October and November: Designing Better Long-Term Care Facilities, Parenting During the Pandemic and Eating the Whole Grains in Canada’s Food Guide. There will be six Cafes beginning in January 2021, one each month until June 2021. To view the recorded sessions or watch them live, visit [umanitoba.ca/cafescientifique](http://umanitoba.ca/cafescientifique).
- The annual Undergraduate Research Poster Competition took place online from October 27 thru 29. Sixty-three undergraduate researchers presented their projects orally in self-recorded Youtube videos, with their poster .pdfs available for viewing. Fifteen students took home 1st, 2nd and 3rd place cash prizes in the five categories of: applied sciences, creative works, health sciences, natural sciences, and social sciences and humanities. The competition is sponsored by the office of the Vice-President (Research and International).
- Four researchers, working with partner organizations, received a total of \$249,601 in grant funding for COVID-19 related research projects:

PI	Sponsor	Title	Awarded
Chesser, Stephanie; Porter, Michelle (Kinesiology and Recreation Management)	SSHRC COVID-19 Partnership Engage Grant	Partnering to explore COVID-19 public messaging and its impact on internalized ageism among older people	\$24,821
Nixon, Kendra (Social Work)	SSHRC COVID-19 Partnership Engage Grant	COVID-19 and the experiences of IPV survivors and service providers	\$24,780
Souleymanov, Rusty (Social Work)	CIHR COVID-19 Mental Health and Substance	Mental health, substance use, and service needs, access, and delivery among two-	\$175,000

	Use Service Needs and Delivery	spirit, gay, bisexual, queer, and other men who have sex with men in Manitoba	
Woodgate, Roberta (Nursing)	SSHRC COVID-19 Partnership Engage Grant	Finding solutions for the challenges faced by young workers in the COVID-19 era	\$25,000

- Thirty-three investigators received a total of \$11,358,110 in grant funding for 63 projects from a variety of sponsors. Those projects receiving more than \$25,000 are:

<b>PI</b>	<b>Sponsor</b>	<b>Title</b>	<b>Awarded</b>
Austin-Smith, Brenda (English, Film, and Theatre)	Canadian Association of University Teachers	True to the spirit: Adaptation, Sound, Frames, Feeling	\$40,333
Ballard, Myrle (Chemistry)	CIHR Project Grant	Ki thagi daba wanawug unji udu kiwangk: Promoting health and mitigating trauma after the flood and permanent displacement of Lake St Martin First Nation community	\$100,000
Bandara, Nandika (Food and Human Nutritional Sciences)	NSERC Discovery Grant	Innovations in protein-lipid conjugation and novel technologies for developing protein-based nanodelivery systems to improve the delivery mechanism, efficacy, and bioavailability of bioactives	\$123,840
Bandara, Nandika (Food and Human Nutritional Sciences)	SSHRC - New Frontiers Research Fund Exploration	Renewable feather keratin based advanced functional materials: nano-reinforced, biomimetically modified keratin polymer blends as wound healing material	\$233,168
Cattani, Douglas (Plant Science)	Mitacs Accelerate	Perennial grain for fall grazing of beef cattle	\$60,000
Chochinov, Harvey (Psychiatry)	Research Manitoba - COVID-19 Rapid Response Grant	Death, dying and dignity in the time of the COVID-19 pandemic	\$235,676
Court, Deborah (Microbiology)	Mitacs Accelerate	Optimization of bacteriophage production for use in treatment and prevention of bacterial diseases in swine	\$60,000
Eltonsy, Sherif (Pharmacy)	Health Sciences Centre Foundation	Antiepileptics safety during pregnancy	\$70,000
Franca, Rodrigo (Restorative Dentistry)	Mitacs Accelerate Entrepreneur	Custom root-analogue dental implant manufactured by direct metal laser forming	\$90,000
Funk, Laura (Sociology)	University of Victoria	Tackling the home care challenge: A mixed methods study of publicly funded home care services in 4 Canadian cities	\$80,000

Jackson, Michael F. (Pharmacology and Therapeutics)	CIHR Project Grant	Interplay of neuroinflammation and synaptic plasticity in neurodegeneration	\$1,158,976
Jones, Meaghan (Biochemistry and Medical Genetics)	CHIRM Operating Grant: New Investigator Grants in Maternal, Reproductive, Child and Youth Health	Epigenetic changes linking prenatal exposure to tobacco or cannabis smoke with asthma risk	\$35,000
Kazem Moussavi, Zahra (Electrical and Computer Engineering)	Mitacs Accelerate Entrepreneur	Fast awake OSA screening and characterization using anthropometric and sound features	\$75,000
Ko, Ji Hyun (Human Anatomy and Cell Science)	Parkinson Society Canada	Stimulating the caudate nucleus to improve cognitive performance in Parkinson's Disease	\$100,000
Leung, Carson (Computer Science)	Mitacs Accelerate	Arctic research foundation UX/UI searchable database	\$45,000
Maghoul, Pooneh (Civil Engineering)	Mitacs Accelerate	Ultrasonic characterization of permafrost using an integrated machine learning poromechanical technique	\$90,000
Maghoul, Pooneh (Civil Engineering)	Mitacs Accelerate	Risk assessment of riverbank stability subjected to construction induced vibrations	\$90,000
Maghoul, Pooneh (Civil Engineering)	Mitacs Accelerate	Advanced coupled geomechanical tool for design and performance analysis of infrastructure affected by frost action	\$180,000
Maghoul, Pooneh (Civil Engineering)	Mitacs Accelerate	An AI-based climate impact assessment framework for infrastructure in northern Canada	\$90,000
McLachlan, Stephane (Environment & Geography)	Mitacs Accelerate Fellowship (COVID-IPDF)	Kitatipithitamak mithwayawin: Indigenous-led countermeasures to Coronavirus (COVID-19) and other pandemics then, now, and into the future	\$180,000
Mezghani, Amine (Electrical and Computer Engineering)	Futurewei Technologies Inc.	Metasurface-based wireless communication	\$76,392
Mishra, Suresh (Internal Medicine)	CIHR Project Grant	Exploring the role of a mitochondrial protein prohibition in leydig cell steroidogenesis	\$508,725
Nickerson, Peter (Internal Medicine)	National Institutes of Health (NIH)	Biomarker guided CNI substitution in kidney transplantation	\$273,306
Ogilvie, Tamra (Biochemistry and Medical Genetics)	CIHR Project Grant	Novel therapeutic targets for group 3 medulloblastoma stem cells	\$1,208,700
Pelka, Peter (Microbiology)	CIHR Project Grant	Molecular mechanisms of adenovirus pathogenicity and host immune evasion	\$849,150

Pelka, Peter (Microbiology)	Mitacs Accelerate	High throughput rapid detection of infectious diseases such as COVID-19.	\$60,000
Pelka, Peter (Microbiology)	Mitacs Accelerate	Broad spectrum CoV therapeutic; rhACE2 Immunoaderin to treat COVID19	\$45,000
Righolt, Christiaan (Community Health Sciences)	CIHR - ICR / Cancer Research Society Partnership - Research Grants	Use of glycogen synthase kinase-3 $\beta$ inhibitors (GSK3Is) and prostate cancer risk and prognosis	\$60,000
Rimmer, Emily (Internal Medicine)	CIHR Project Grant	Therapeutic plasma exchange in septic shock: A pilot study	\$100,000
Saleem, Ayesha (Kinesiology and Recreation Management)	CHRIM - postdoctoral fellowship	Extracellular vesicles in breast milk and the developmental origins of asthma	\$44,100
Schroth, Robert (Preventive Dental Sciences)	CIHR Project Grant	Working together to implement novel, culturally informed early childhood oral health interventions for young First Nations and Metis children in Manitoba	\$1,472,626
Schweizer, Frank (Chemistry)	CIHR Project Grant	Rescuing beta-lactam antibiotic/beta-lactamase inhibitor combinations from resistance against multidrug-resistant Gram-negative bacteria	\$654,075
Shafai, Cyrus (Electrical and Computer Engineering)	Function Four	Smart hive technologies	\$30,019
Shafai, Cyrus (Electrical and Computer Engineering)	Mitacs Accelerate	High throughput Rapid Detection of Infectious Diseases such as COVID-19	\$90,000
Soussi Gounni, Abdelilah (Immunology)	CIHR Project Grant	The impact of epithelial cell derived semaphorin3E on airway remodeling in allergic asthma	\$757,350
St John, Philip (Internal Medicine)	CIHR Project Grant	Characterization of frailty in older men	\$206,550
Stewart, Ronald (Environment & Geography)	University of Saskatchewan	Climate-related precipitation extremes	\$28,000
Tachie, Mark (Mechanical Engineering)	NSERC Alliance Grant	Effects of submergence ratio and under surface roughness on flow separation beneath simulated ice covers	\$25,448
Thompson, Peter (Physiology & Pathophysiology)	CHRIM	Pancreatic Beta cell senescence and extracellular vesicles in Type 1 Diabetes	\$75,000
Urbanowski, Reginald (College of Rehabilitation Sciences)	Research Manitoba	Telepresence robot for people with dementia	\$360,000

Woodgate, Roberta (Nursing)	CIHR Project Grant	Abinoonjees Nikanenim: Delivering mental health services to youth living in Island Lake Anishininew Nations	\$1,296,676
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**ADMINISTRATIVE MATTERS**

- The Office of Sustainability (OOS) has launched the Waste Reduction and Management Survey to ensure that students, staff and faculty can provide feedback on the goals of the Waste Reduction and Management Plan. With the support of the Sustainability Committee and Operations and Maintenance, a list of main goals reflecting current and future work regarding waste was created. A UM Waste Survey is ongoing from November 2 – 20, and collected 186 responses the first day.
- Through the Organics Collection Program, the university has collected 32,167 kilograms of organic waste since June of 2019, equivalent to removing 44,000 kilograms of CO2 from the air; driving 175,709 fewer kilometres; and planting 728 tree seedlings and having them grow for 10 years.
- The University Re-Shop is moving to an online platform that will make surplus furniture and equipment more readily available for departments in need. The online platform will feature pictures, locations and descriptions of the objects available, and reduces the number of new items purchased as a University, the amount of waste being sent to landfill and creates a more efficient use of resources on campus. The online platform is available at [reshop.umanitoba.ca](http://reshop.umanitoba.ca).
- On September 29, 2020, the University’s Board of Governors approved updates to the Respectful Work and Learning Environment (RWLE) and Sexual Violence (SV) Policies, as well as their shared Procedure (the *Disclosures and Complaints Procedure*). This approval confirms the work undertaken by the RWLE & SA Policy Advisory Committee over the past three years, including significant consultation with a large number of community stakeholder groups. Changes to policy include the impacts of intersectionality, the importance of a trauma-informed approach, more detailed information regarding interim measures, and a more robust commitment to informal resolution including mediation or restorative programs. Roll-out and delivery of new educational content regarding policy changes are ongoing.
- In August of 2019, the UM released the *Responding to Sexual Violence, Harassment and Discrimination at the University of Manitoba: A Path Forward Report* (Path Forward Report), which outlined 43 Recommendations on how the University could take action on the prevention, response, and consequences of sexual violence within its community. The UM has committed to implementing all 43 Recommendations. To date, 17 out of the 43 (40%) have been successfully implemented. An additional 10 Recommendations are on track to be implemented by the end of the fiscal year, bringing the implementation rate to 63%. Work is ongoing for the remaining 16 Recommendations, a number which will require significant community and stakeholder consultations.

- On October 15, 2020, the Supreme Court of Canada granted leave to appeal from the Federal Court of Appeal's decision matter to both Access Copyright and York University. The Federal Court of Appeal held that the Access Copyright tariffs set by the Copyright Board were not mandatory, but also that York's Fair Dealing guidelines (which are similar to those used across the Canadian post-secondary sector, including at the University of Manitoba) were not fair. A number of library and educational organizations are expected to seek leave to intervene in this appeal. It will likely be at minimum a year before the Supreme Court hears and renders its decision which will finally determine these issues which have been before the court since 2013.
- Learning & Organizational Development (LOD) launched five new staff development workshops in September and October: Introduction to Human Resources; HR Systems; Hiring & Onboarding; HR Governing Documents; and Retirements & Resignations. Developed in partnership with subject matter experts throughout Human Resources, and offered as part of the new UM Human Resources Essentials Program (UMHREP) certificate, these workshops provide essential knowledge to support staff with human resource responsibilities with 47 employees participating in the program as of September, 2020.

## EXTERNAL RELATIONS

- Communications support around the safe return to campus and virtual learning is ongoing. New information is being actively communicated through the UM COVID website, UM news and social media channels, and using a variety of tools including videos, newsletters, emails, and digital and print signage. A new UM COVID case status page has been added to the UM COVID website, providing regular updates regarding the current status of confirmed COVID-19 cases on UM campuses.
- In the current reporting period, UM students, faculty and staff members have received media coverage in 4,700 print and online stories, and 2,600 broadcast news stories from outlets across the world. Over the last month, a CTV story about UM's work on a vaccine trial reached almost 15 million viewers, and another CTV report about UM researchers working to protect older adults during the pandemic reached almost 11 million readers. UM researchers also earned international press for their study on pregnancy and diabetes that was picked up by a number of outlets including the New York Times.
- Funds raised year-over-year are down approximately 60%. The culmination of the Front and Centre Campaign impacts this as many donors are still in their current pledge, however this is primarily a result of the worldwide impact of the pandemic on fundraising. We are putting plans in place in order to mitigate some of this shortfall and ensure we are continuing to raise funds for essential UM projects.
- We released the first-ever digital only edition of UM Today: The Magazine on September 29 with the announcement of the 2020 Distinguished Alumni Award recipients. The 2020 recipients include:
  - Lifetime Achievement: Dr. Judith Bartlett [MD/87, MSc/04]
  - Professional Achievement: Dr. Gigi Osler [MD/92, BSc(Med)/92]

- Professional Achievement: Chris Couture [BComm(Hons)/83, CA/86]
  - Professional Achievement: Kimberly Prost [LLB/81]
  - Community Service: Doneta Brotchie [BComm9Hons)/73]
  - Community Service: Barb Gamey [ExtEd/90]
  - Community Service: Kimberley Levasseur Puhach [ExtEd/11]
  - Outstanding Young Alumni: Taylor Morriveau [BSc(Hons)/17]
  - Outstanding Young Alumni: Josh Morry [BComm(Hons)/13, JD/16]
- On September 30, the Alumni Association virtual AGM was held with over 160 alumni from around the world in attendance – the highest attendance on record. Guest speakers included Her Honour, the Honourable Janice C. Filmon, the Lieutenant Governor of Manitoba, and President and Vice-Chancellor Michael Benarroch. The meeting was emceed by Alumni Association board chair, Peter Wheatley. Included in the AGM programming was a short, facilitated discussion with six alumni who shared what life has been like in their communities over these past number of months and their favourite UM memories.
  - A scholarship has been established in honour of Dr. Forough Khadem, a UM alumna who died on the Ukraine International Airlines flight PS752 plane crash in January. Her fiancé, Kourosh Doustshenas, and her family made a gift of \$100,000 to honour her memory and celebrate her passion for science and mentorship. The story was also featured in UM Today and attracted high readership and additional giving to the fund. The scholarship fund has almost reached the \$200,000 goal.
  - On October 14, the Fall 2020 Virtual Learning for Life eight-week series was launched. This program is sponsored by our affinity partner, iA Financial and follows the successful Spring 2020 series which attracted more than 1,000 alumni and friends over the nine lectures. Many thanks to the UM faculty who share their research with our alumni community through these sessions.
  - As part of the UM Alumni Book Club sponsored by the Alumni Association and hosted by Chancellor Anne Mahon, we began our third book this month – Gil Adamson’s Ridgerunner – selected by book club members and also shortlisted for the 2020 Scotiabank Giller Prize. More than 600 alumni and friends from around the world have joined the book club.
  - Migration of web content to the newly designed umanitoba.ca continues, targeting an early 2021 completion. Preparations also continue for the UM Intranet launch expected to take place in early 2021.

November 18, 2020

## **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 Cary Miller will be the Speaker for the Executive Committee for the December 2020 meeting of Senate.

#### **2. Senate Assessment Survey**

The Executive Committee discussed a draft Senate Assessment Survey developed by the University Secretary. The comments of the Committee were incorporated in the draft included with item X (1) on the December Senate agenda.

#### **3. Comments of the Executive Committee of Senate**

Other comments of the Executive Committee accompany the report on which they are made.

Respectfully submitted,

Dr. Michael Benarroch, Chair  
Senate Executive Committee

Terms of Reference:

[http://umanitoba.ca/admin/governance/governing\\_documents/governance/sen\\_committees/477.htm](http://umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/477.htm)



**University  
of Manitoba**

Academic Regulations and  
Curriculum Committee

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Telephone +1-204-474-8963  
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Dean.McNeill@umanitoba.ca

# Memo

9 September 2020

**To:** Senate Committee on Admissions (SCADM)  
**From:** Dean McNeill, Chair  
Academic Regulations and Curriculum Committee (ARCC)  
Price Faculty of Engineering  
**Subject:** Changes to the Preliminary Engineering Program and Admissions Regulations

In response to major changes approved by Senate for the Department of Chemistry, the Price Faculty of Engineering is proposing to modify the *Preliminary Engineering Program* to replace the existing course CHEM 1300 with the new course offerings of CHEM 1100 and CHEM 1122, effective Fall 2021. This includes modification of the associated admissions regulations for the departmental degree programs.

In addition, the program modification proposes to remove the six POLS 2xxx courses from the list of *Written English Courses for Engineering Students*, in response to recent changes by the Department of Political Studies to remove the "W" designation from those same courses.

The proposals described above were approved by Faculty Council at its meeting on 8 September 2020.

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

## **Submission template for the Senate Committee on Admissions**

All submissions should contain a covering memo from the faculty, college, or school submitting the proposal. Please include the date the proposal was approved by faculty council and the desired effective date of the regulation.

### Section I – Description of the change

At its May 2020 meeting, Senate approved a major restructuring of courses offered by the Department of Chemistry. These changes will see many existing CHEM courses being deleted in Fall 2021 and replaced by new CHEM course offerings. A major aspect of these changes is to remove embedded laboratories from many CHEM courses, and to instead offer separate, stand-alone laboratory courses to complement lecture courses in the specific topic area.

The *Preliminary Engineering Program* in the Price Faculty of Engineering currently includes *CHEM 1300 University 1 Chemistry: Structure and Modelling in Chemistry* (3) as a required course for all Engineering students. This course will be deleted and replaced by *CHEM 1100 Introductory Chemistry 1: Atomic and Molecular Structure and Energetics* (3), together with the separate laboratory course *CHEM 1122 Introduction to Chemical Techniques for Engineering 1* (1.5). As a result, the Faculty is proposing to modify the *Preliminary Engineering Program* to incorporate these changes.

Our Faculty regulations governing admission into the five departmental undergraduate degree programs, currently ranks students based on the best eight courses from the *Preliminary Engineering Program*. We are proposing to update these regulations as a result of the chemistry course changes described above. To help ensure continued uniformity in the determination of the Adjusted Grade Point Average (AGPA) used for admission decisions, the Faculty is proposing to exclude the laboratory course CHEM 1122 from consideration as part of the AGPA calculation.

The following pages provide the details of these admission regulation changes, which are to take effect for Fall 2021 to coincide with the changes in Chemistry course offerings.

In addition to the chemistry changes, the Department of Political Studies recently submitted changes to remove the Written English designation from a number of their courses. Those changes, approved by Senate in December 2019, include six 2000 level courses which currently appear on the list of *Written English Courses for Engineering Students*, within the *Preliminary Engineering Program*. As a result, the Faculty is proposing to remove those courses from the list.

The faculty is proposing that the changes to the list of *Written English Courses for Engineering Students* be effective for Fall 2021 or earlier if possible.

### Section II - Consultation with other faculties

Over the past two years, the Department of Chemistry consulted widely with other units as a necessary part of the major changes they were proposed to their CHEM course offerings. This included extensive discussions with the Price Faculty of Engineering, resulting in their proposal including the Engineering specific laboratory course CHEM 1122 to complement CHEM 1100. As a result, the Department of Chemistry is aware of the proposed changes to the *Preliminary Engineering Program* and specifically tailored aspects of their changes in anticipation of the attached changes to the *Preliminary Engineering Program*.

As well, the changes in Written English designation made by the Department of Political Studies were submitted to Senate in consultation with the Price Faculty of Engineering. The department noted at that time that the six POLS 2xxx courses would subsequently need to be removed from the list of *Written English Courses for Engineering Students*.

### Section III - Recommendation

Admission to undergraduate programs in the Price Faculty of Engineering is based on an admission GPA calculated on the best eight courses in the *Preliminary Engineering Program*. Effective Fall 2021, the Department of Chemistry is deleting CHEM 1300 (3) and replacing it with the lecture course CHEM 1100 (3) and the laboratory course CHEM 1122 (1.5) (Senate, May 2020). As a result, the Faculty is recommending that the list of *Required Preliminary Year Courses* be modified to remove CHEM 1300 and to add CHEM 1100. The admission GPA would be based on the best eight courses selected from CHEM 1100, COMP 1012, ENG 1430, ENG 1440, ENG 1450, ENG 1460, MATH 1210, MATH 1510, MATH 1710, PHYS 1050, a complementary studies elective, or an approved written English course.

Students in the Price Faculty of Engineering must take one course from the list of *Written English Courses for Engineering Students* as part of their program. This course may be included in the GPA calculation used for admission purposes. The Department of Political Studies has removed the "W" designation from POLS 2302, POLS 2502, POLS 2504, POLS 2602, POLS 2702, and POLS 2802 (Senate, December 2019). As a result, the Faculty recommends that those six courses be removed from the list of *Written English Courses for Engineering Students*.

## Proposed Changes

### 4.2 Preliminary Engineering Program

Campus Address/General Office: E1-284 EITC

Email Address: eng\_info@umanitoba.ca

Telephone: (204) 474 9807

Website: [umanitoba.ca/faculties/engineering](http://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 eight** courses (**excluding CHEM 1122**) to be eligible to apply to one of the five degree granting engineering programs. A student must complete the following list of **12 13** courses **as part of their engineering program** in order to graduate with a BSc degree from any of the **in** 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 Price Faculty of Engineering, as well as all continuing students who have yet to complete this program requirement.

Course No.		Credit Hours
CHEM 1300	University 1 Chemistry: Structure and Modelling in Chemistry	3
<b>CHEM 1100</b>	<b>Introductory Chemistry 1: Atomic and Molecular Structure and Energetics (Note 1)</b>	<b>3</b>
<b>CHEM 1122</b>	<b>Introduction to Chemical Techniques for Engineering 1 (Note 1)</b>	<b>1.5</b>
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
MATH 1210	Techniques of Classical and Linear Algebra (Note 1 2)	3
MATH 1510	Applied Calculus 1 or equivalent (Note 1, 2, 3, and 5)	3
MATH 1710	Applied Calculus 2 or equivalent (Note 2, 3, 4, and 5)	3
PHIL 1290	Critical Thinking (Note 6 4)	3
PHYS 1050	Physics 1: Mechanics	3
	Written English Course (Notes 7 and 8 5 and 6)	3

#### Notes:

**(1) The former CHEM 1300 may be used in lieu of the combination of CHEM 1100 and CHEM 1122.**

(1) **(2)** MATH 1300 is not an acceptable equivalent to MATH 1210.

(2) Students intending to obtain a degree in Engineering are strongly advised to complete MATH 1510 and MATH 1710; however, the substitutions described below are allowed.

(3) MATH 1500 or MATH 1230 may be taken in lieu of MATH 1510

(4) MATH 1700 or MATH 1232 may be taken in lieu of MATH 1710.

(5) The former MATH 1690 may be regarded as fulfilling the requirement for MATH 1510 and MATH 1710.

- (3) Students intending to obtain a degree in Engineering are strongly advised to complete MATH 1510 and MATH 1710. However, MATH 1500 or MATH 1230 may be taken in lieu of MATH 1510; MATH 1700 or MATH 1232 may be taken in lieu of MATH 1710. MATH 1690 fulfills the requirement of both MATH 1510 and MATH 1710.**
- (6) **(4)** PHIL 1290 Critical Thinking is the recommended complementary studies elective. Students may; however, select any course from the Faculties of Arts or Management (Asper School of Business) at the 1000 level or above, to be used for credit in lieu of PHIL 1290. The exception is **except for** ARTS 1110 Introduction to University, which may not be held for credit within the Price Faculty of Engineering.
- (7) **(5)** Course selected from the list of approved Written English Courses for Engineering Students.
- (8) **(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.
- (7) Equivalent courses offered through Université de Saint-Boniface may be used to satisfy program requirements.**

#### 4.2.1 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 completing a course selected from the following list of approved Written English Courses for Engineering Students.

Note that courses transferred from other institutions are evaluated for content, but are not assessed for the written English requirement unless the student explicitly requests such an assessment. Therefore, students wishing to transfer a course from another institution which may be considered equivalent to a course on the list of Written English Courses for Engineering Students should request that the transfer be assessed as meeting the written English requirement. If the assessed course is found not to meet the requirement, the student will be compelled to complete another course from the list.

Course No.		Credit Hours
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 1300	Literature Since 1900	6
ENGL 1340	Introduction to Literary Analysis	3
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
HIST 2XXX*	Any 2000 level HIST course	3 or 6
NATV 2020	The Métis in 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 1502**	Introduction to Political Studies	3
POLS 2302	Introduction to Political Theory	3
POLS 2502	Introduction to World Affairs	3
POLS 2504	Introduction to International Relations	3
POLS 2602	Introduction to Comparative Politics	3
POLS 2702	Introduction to Canadian Politics	3
POLS 2802	Introduction to Indigenous Politics	3
RLGN 1322	Introduction to Eastern Religions	3
RLGN 1324	Introduction to Western Religions	3
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	Hebrew Bible (Tanakh / "Old Testament)	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
* Unallocated credits may not be used.		
** This course requires a laboratory.		

## Proposed Calendar Changes

### *Section 2: Admission to the Price Faculty of Engineering*

[...]

#### Direct admission into the Price Faculty of Engineering from high school:

Applicants may apply directly to the Preliminary Engineering Program from a Manitoba high school (or the equivalent) and must meet the General Entrance and Specific Admission Requirements for the Price Faculty of Engineering. The General Admission Requirement is a Manitoba (or equivalent) high school graduation with five full credits at the grade 12 level. The Specific Admission Requirement is a minimum 80% average over the following four subjects, with no less than 70% in each course: Chemistry 40S, Precalculus Mathematics 40S, Physics 40S, and English 40S. In cases where the number of eligible applicants exceeds the available spaces, applicants will require higher averages than stipulated to be successful in the admissions competition.

This information is on the following web site:

[http://umanitoba.ca/student/admissions/media/direct\\_entry\\_bulletin.pdf](http://umanitoba.ca/student/admissions/media/direct_entry_bulletin.pdf)

#### All other admissions:

**Applicants must complete a** minimum of ~~8 of the 12~~ **eight** courses in the Preliminary Engineering Program, **excluding CHEM 1122 (see Section 4.2)**, each with a minimum grade of “C”, and a minimum Adjusted Grade Point Average (AGPA) of 2.0. In addition, if the total number of credit hours attempted by the student in all courses that apply in the Price Faculty of Engineering meets or exceeds 72, then the ratio of those credit hours passed (from all courses with a grade of “C” or better that are applicable to the student’s potential Engineering program) to total credit hours attempted must be greater than or equal to 75%. Furthermore, if the student has attempted less than 72 credit hours, the total number of failed credit hours (from all courses with a grade of “D” or “F” that are applicable to the student’s potential Engineering program) must not exceed 18 credit hours in order to be eligible to be considered for admission.

Acceptance to Engineering programs is competitive. Courses must be completed within ten years of the application **deadline** date in order to be considered for ~~transfer-credit~~ **admission**.

[...]

### *3.14 Students Applying to an Engineering Program*

Students will be accepted into department programs based on the following criteria. Students who have completed **at least eight 8–12** Preliminary Engineering Program courses, **excluding CHEM 1122**, by May 1st of each academic year will be ranked and admitted on a competitive basis based on the average of the best eight marks in courses in the Preliminary Engineering Program, **excluding CHEM 1122**.

Students applying from programs, faculties, colleges, or other institutions will have all courses or equivalent courses that are required in a particular engineering program transferred in, including failed grades (“D’s” and “F’s”) in those courses. In addition, if the total number of credit hours attempted by the student in all courses that apply in the Price Faculty of Engineering meets or exceeds 72, then the ratio of those credit hours passed (from all courses with a grade of “C” or better that are applicable to the student’s potential Engineering program) to total credit hours attempted must be greater than or equal to 75%. Furthermore, if the student has attempted less than 72 credit hours, the total number of failed credit hours (from all courses with a grade of “D” or “F” that are applicable to the student’s potential Engineering program) must not exceed 18 credit hours in order to be eligible to be considered for admission. Students are advised to consult with the Engineering Undergraduate Student Affairs Office if there is concern as to their standing under this rule.

Direct entry engineering students must submit an application for admission through [umanitoba.ca/applynow](http://umanitoba.ca/applynow) indicating their program(s) of choice. The application fee for direct entry engineering students applying to an engineering program is waived. Students from University 1 and other faculties must apply for admission through [umanitoba.ca/applynow](http://umanitoba.ca/applynow) and will be subject to an application fee.

## **Report of the Senate Committee on Curriculum and Course Changes – Submitted to Senate for Ordinary Debate RE: Preliminary Engineering Program**

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### **Preamble:**

1. The [terms of reference](#) for the Senate Committee on Curriculum and Course Changes (SCCCC) are available on the University Governance website. The SCCC is “to recommend to Senate on the introduction, modification or abolition of undergraduate programs, curricula or courses”.
2. At its meeting on October 9, 2020, the SCCC considered a proposal from the Faculty of Engineering, to modify the curriculum of the Preliminary Engineering Program.
3. The Senate Committee on Admissions (SCADM) also considered the proposal at its meeting on October 27, 2020.
4. Curriculum changes would take effect for the 2021/2022 Academic Year. The revised admission requirements (advanced entry), which would follow from the curriculum changes, would take effect for the Fall 2022 admissions cycle.

### **Observations**

1. The Committee considered a proposal from the Faculty of Engineering to modify the Preliminary Engineering Program. Specifically:
  - following recent changes made by the Department of Chemistry (Senate, May 13, 2020), the former CHEM 1300 – University 1 Chemistry: Structure and Modelling in Chemistry would be removed from the list of required courses;
  - requirements for CHEM 1100 – Introductory Chemistry 1: Atomic and Molecular Structure and Energetics and CHEM 1122 – Introduction to Chemical Techniques for Engineering 1 would be added;
  - a note would be added to the list of Preliminary Engineering Program courses, to communicate that the former CHEM 1300 may be used in lieu of the combination of CHEM 1100 and CHEM 1122;
  - several Political Studies (POLS) courses, which no longer meet the University’s Written English (W) requirement, would be removed from the list of Written English Courses for Engineering Students.

### **Recommendation**

The Senate Committee on Curriculum and Course Changes recommends:

**THAT Senate approve modifications to the curriculum of the Preliminary Engineering Program, Faculty of Engineering, effective September 1, 2021.**

Respectfully submitted,  
Professor Greg Smith, Chair  
Senate Committee on Curriculum and Course Changes

**Report of the Senate Committee on Admissions concerning a proposal from the Price Faculty of Engineering to modify the admission requirements for the Bachelor of Science in Engineering degree program (2020.10.27)**

**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](http://umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/490.htm).
2. The Price Faculty of Engineering is proposing an amendment to the preliminary Engineering year course list; this list contains the courses students can present in order to be eligible for admission. The proposed amendments are being made to reflect some changes that have been made to the list of written English courses.
3. The proposal was approved by the Price Faculty of Engineering Faculty Council on September 8<sup>th</sup>, 2020 and was endorsed by SCADM on October 27<sup>th</sup>, 2020.

**Observations:**

1. Engineering students must take one course from the written English courses for Engineering students list as part of their program. Courses from this list may be included in the GPA calculation used for admission purposes.
2. The Department of Political Studies submitted changes to remove the written English designation from a number of courses; these changes include removing six- 2000 level courses which currently appear on the approved list of written English courses for Engineering students within the preliminary Engineering program.
3. Given the changes from the Department of Political Studies, six-2000 level courses will be removed from English courses for Engineering students list.

**Recommendation:**

The Senate Committee on Admissions recommends that the proposal to modify the admission requirements for the Bachelor of Science in Engineering degree program be approved effective for the Fall 2021 intake.

Respectfully submitted  
Laurie Schnarr, Chair, Senate Committee on Admissions

## **Report of the Senate Committee on Admissions concerning a proposal from the Price Faculty of Engineering to modify the admission requirements for the Bachelor of Science in Engineering degree program (2020.10.27)**

### **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](http://umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/490.htm).
2. The Price Faculty of Engineering is proposing an amendment to the preliminary Engineering year course list; this list contains the courses students can present in order to be eligible for admission. The proposed amendments are being made to reflect changes made to course offerings in the Department of Chemistry.
3. The proposal was approved by the Price Faculty of Engineering Faculty Council on September 8<sup>th</sup>, 2020 and was endorsed by SCADM on October 27<sup>th</sup>, 2020.

### **Observations:**

1. Effective in the Fall of 2021 the Department of Chemistry is making some modifications to its course offerings. One of the changes involves replacing the current CHEM 1300 with a separate lecture course and a separate laboratory course.
2. CHEM 1300 is currently listed as one of the course options on the required preliminary Engineering year course list used for admissions.
3. Given the changes in the Department of Chemistry, the Faculty is proposing the removal of CHEM 1300 from the preliminary Engineering year course list, and the addition of CHEM 1100 to the list.

### **Recommendation:**

The Senate Committee on Admissions recommends that the proposal to modify the admission requirements for the Bachelor of Science in Engineering degree program be approved effective for the Fall 2022 intake.

Respectfully submitted

Laurie Schnarr, Chair, Senate Committee on Admissions



## MEMORANDUM

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**Date:** September 9, 2020  
**To:** Dr. Jeff Leclerc, Office of the University Secretary  
**From:** Nariman Sepheri, Acting Dean, Price Faculty of Engineering  
J.P. Burak, Lead – Partnership, Mobility and Advising for Hybrid and  
International Programs, Price Faculty of Engineering  
**Subject:** Senate Articulation Agreement Proposal  
UCSI College, Kuala Lumpur, Malaysia

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Please find attached the Senate Articulation Agreement Proposal for UCSI College in Kuala Lumpur, Malaysia.

The Price Faculty of Engineering has had a relationship with the UCSI Group since 1992. The present articulation agreement with UCSI University has seen over 200 students transfer from UCSI University since 1992 and is expiring in May 2021.

The UCSI Group prefers that the articulation continue with UCSI College rather than UCSI University and so we are submitting this proposal as required. The Articulation Proposal was presented and approved at a Price Faculty of Engineering Faculty council held on September 8, 2020.

If there are any questions, or additional information required, please feel free to contact us.

Thank you very much.

*Nariman Sepheri*  
Dr. Nariman Sepheri, PhD. P.Eng.

  
JP Burak, M.Sc., P.Eng.

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



University  
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## ARTICULATION AGREEMENTS

**Articulation agreements** are University of Manitoba (UM) Senate approved bilateral or multi-lateral agreements, between the UM and other recognized post-secondary institutions, that define the terms and conditions for consideration of admission and recognition of prior learning within the context of specific programs or credentials. Upon successful admission, students may receive established credit within a program at the UM, which shortens the path to the credential (typically a three-year or four-year degree) that is ultimately sought. Recognition of prior academic achievement may be in the form of UM equivalent course credit, general (unallocated) credit, block credit or advanced standing, reducing the total credit hours required for credential completion. This credit would be based upon either: an earned credential (for example a one-year or two year certificate / diploma) or an approved program of study at the partner institution.

### INSTRUCTIONS

This form should be completed by the UM Program Contact - identified in Question 2 below – and submitted to the relevant Faculty/College/School Council for approval. Following unit approval, please prepare two (2) copies of this proposal for signature and delivery to the Office of the University Secretary and the Deputy Provost (Academic Planning and Programs), respectively, to begin the Senate approval process.

In addition to the Senate proposal document, an *International Articulation Agreement* must be completed for **international articulations** for approval by the Associate Vice President (Partnerships). Please contact the International Centre for further details. Copies of the signed legal agreement must be sent to the Provost's Office prior to program commencement. Note that while the legal agreement cannot proceed until the articulation program has been approved by Senate, it is highly recommended that units begin this process while the proposal is being considered through Senate.

For **renewals** of existing agreements, please include the following supporting documentation:

- A cover letter detailing any changes from the current agreement.
- A benefit analysis report outlining the success of the program to date. Using both quantitative and qualitative measures, the report should address such things as, but not necessarily limited to:
  - number of students and student success rates;
  - other benefits to students; and
  - other benefits to the unit and/or the institution.
- An updated course-mapping form, highlighting any changes from the current agreement.
- For agreements not previously approved by Senate, a copy of the most current agreement.

Please ensure you plan appropriately when developing timelines for any articulation. Mapping of international coursework, legal translations of documents, and approval by the partner institution will add extra time to the approval process. Units should allow for up to 12 months from the first planned Fall intake of students for domestic agreements and at least eighteen months to two years for international agreements.

Please direct questions to Cassandra Davidson in the Provost's Office at [Cassandra.Davidson@umanitoba.ca](mailto:Cassandra.Davidson@umanitoba.ca).



University  
of Manitoba

## SENATE ARTICULATION AGREEMENT PROPOSAL

### A. UM PROGRAM AND PARTNER INFORMATION

1. **Agreement Type:** New  Renewal  Domestic  International

2. **Name and Address of Partner Institution:**

UCSI College  
Lot 12734, Jalan Choo Lip Kung,  
Taman Taynton View, 56000  
Cheras, Kuala Lumpur  
Malaysia

3. **UM Program Contact:**

Name: Jean Paul Burak

Designation: Lead - Partnerships, Mobility and  
Advising for Hybrid and International

Email: [jean.burak@umanitoba.ca](mailto:jean.burak@umanitoba.ca)

Phone: 204-474-8974

Signature: \_\_\_\_\_

Date: 16 October 2020

4. **Name and designation of contact person from partner institution (*include full contact information*):**

Name: Ernie Chitra Dzureen

Designation: Manager, International  
Collaboration Centre

Address: Lot 12734, Jalan Choo Lip Kung, Taman Taynton View, 56000, Cheras, Kuala Lumpur,  
MALAYSIA

Email: [ernie@ucsicollege.edu.my](mailto:ernie@ucsicollege.edu.my)

Phone: +603 9101 8880 (KL)

5. **Name and designation of signing authority for the partner institution (*include full contact information*):**

Name: Assoc. Prof. Dr. Mabel Tan

Designation: President and CEO

Address: Lot 12734, Jalan Choo Lip Kung, Taman Taynton View, 56000, Cheras, Kuala Lumpur,  
MALAYSIA

Email: [mabeltan@ucsicollege.edu.my](mailto:mabeltan@ucsicollege.edu.my)

Phone: +603 9101 8880

### B. PROGRAM PROPOSAL

#### PROGRAM INFORMATION

6. **UM Faculty/College/School:** Price Faculty of Engineering

**UM Department:** Biosystems, Civil, Computer, Electrical and Mechanical Engineering

**UM Program to which advanced entry is sought (*provide program name and credential*).**

B.Sc. Biosystems Engineering, B.Sc. Civil Engineering, B.Sc. Computer Engineering, B.Sc. Electrical Engineering, B.Sc. Mechanical Engineering

**7. Program at Partner Institution from which advanced entry is sought (*provide program name and credential*).**

Students at UCSIC are registered in the American Degree Transfer Program prior to coming to the University of Manitoba. They enroll directly from High School (STPM or A-Levels) or the UCSIC internal Pre-University Science Program. There may be some students transferring from one of the UCSI University's engineering programs (Civil, Mechatronics, Mechanical, Electronics, Electrical and Electronics, and Computer Engineering). The students at UCSIC do not obtain any credential for their studies at UCSIC prior to coming to UM.

**8. Start date (*number of years for which the agreement is proposed to run*).**

Start Date: September 2021    Period (yrs.): renewable every 5 years

**9. Combined duration of the articulation program, in years (e.g. 4 years – UM 2 + Partner 2).**

4 years – Partner 2 yrs + UM 2 yrs.

The Faculty will accept students from UCSIC with a range of preparation – they can transfer to one of the UM engineering programs after completing a minimum of 16 courses of the UCSIC portion of the program (including a minimum of 8 preliminary year courses), and anytime after that up to the maximum number of approved courses.

These students will be admitted to year 3, and will be required to complete all of the remaining course and credit hour requirements of their particular degree at UM in order to graduate with a UM B.Sc. in Engineering Degree.

Courses that make up the UCSIC portion of the program can be found on the course mapping form.

**10. If applicable, will students be able to participate in a co-op option in the program?**    Y     N     NA

**11. Detail any costs accrued to the UM arising from this proposal. Costs should include any resources required to support the program and any tuition and/or fee implications, including application fees.**

*A letter from the budget Dean detailing how any costs will be met must accompany the completed proposal, and funding requests for consider by the Senate Planning and Priorities Committee (SPPC) must be submitted on the SPPC Program Proposal Budget Form (<http://umanitoba.ca/admin/governance/forms/index.html> under Other Forms).*

The Faculty presently has the resources in place operating the present Articulation program with UCSIU and these same resources will continue to be used once the UCSIU articulation transpires and the UCSIC articulation commences. No new funding is requested for this articulation.

**12. Outline any additional interactions planned in relation to the agreement. For example, formal interactions with the faculty and staff at the partner institution; development of joint curriculum between institutions, etc. Please describe.**

As part of the program interactions, the UM Coordinator will be making annual visits to UCSIC in Malaysia for the purposes of:

- meeting with the counterpart co-ordinator for training and review of the program and address any difficulties that may have arisen in the year or changes needed in the program or operations of the program
- reviewing student progress and student specific matters;
- reviewing courses being taught and exchange course information;
- meeting with senior administration on program development, successes and areas of improvement;
- meeting with instructors to review progress and address any course-specific matters. Conduct training if required;
- meeting with students studying in the program to answer questions and give guidance for studying at UM;
- presenting the program and introducing UM to prospective students;
- strategizing on marketing activities and initiatives;

## STUDENT SELECTION AND SUPPORT

### 13. Number of students to be admitted at each intake.

Expected No. 10      Maximum No. 10

### 14. Is advanced entry limited to graduates of the partner institution program? Y N

### 15. Provide details of the requirements for advanced entry (include a detailed mapping of the partner program's coursework requirements to the UM program on the Articulation Course Mapping Form). Append all applicable course syllabi.

Courses from UCSIC have been evaluated and the list of equivalent courses can be found on the Course Mapping form. A course mapping form by program is also included.

### 16. Describe the entry pathway for admission and selection for articulation at UM. Include information on admission requirements, including minimum GPA requirements and English language requirements, should they fall outside the standard UM requirements. *International agreements should identify and address the role of a UM faculty member (or representative) in the student selection process.*

The UM coordinator will be working with the UCSIC coordinator throughout the students' time at UCSIC to ensure that they are academically prepared for their further studies at UM. In order to commence their application to UM, the UCSIC student must:

1. Have completed a minimum of 16 courses of the UCSIC portion of the program (including a minimum of 8 preliminary year courses) at the time of application. Preliminary year courses are identified on the Course Mapping Form;
2. Present a grade of C or higher in all sixteen (16) courses.
3. Have a minimum adjusted grade point average (AGPA) of 3.0 on a 4.5 scale on the UM calculation for all courses taken at UCSIC that are applicable to the UM engineering program being applied for. Only courses graded C or higher will be used in the AGPA calculation. If a course has been repeated, then the highest grade will be used in the calculation.
4. Must not exceed 18 credit hours of courses graded "D" or "F" that are applicable to the student's potential engineering program at the University of Manitoba.

5. Satisfy all the UM admission requirements including the English Language proficiency requirements (as outlined in the latest UM General Calendar and/or listed on-line at <https://umanitoba.ca/student/admissions/international/english/index.html> ).

Having met the above criteria, the students will be provided the link to the on-line application portal. UCSIC students may apply to start their studies in September, January or May with application deadlines a minimum three months prior to the start of their studies at UM. As there is a maximum of 10 spaces available each year, January and May intakes will only be offered if space is available.

Up to 10 qualifying UCSIC students may be admitted to the Price Faculty of Engineering per year. The maximum for an individual engineering program will generally be four, but the Faculty reserves the right to modify the distribution of the numbers by program as the situation warrants at the time of admission.

In cases where the number of eligible applicants exceeds the available spaces for the term applied to, applicants will be ranked from highest AGPA to lowest to fill the remaining spaces.

**17. Outline any recruitment strategies associated with the proposed program. Include information on efforts by both the UM and partner institution where applicable.**

UCSIC will be doing local and International Marketing through advertisements, school visits and Education Fairs; brochures are prepared for the program; local Open Days at UCSIC will highlight the program and the UCSIC coordinator will participate in the Open Days and local fairs; UCSIC has a marketing division that will include marketing of this program in their activities.

The UM Coordinator will participate in Open Days when available during the annual visits, as well as school visits and presentation during this time; and will assist in the preparation, review and editing of any advertisements prepared by UCSIC, following UM policies/guidelines.

**18. What types of student support will the UM be required to provide to students participating in this program? This could include such things as orientation, advisory services, accommodation, language courses, etc.**

The Faculty, through the responsibilities of the Lead – Partnership, Mobility and Advising for Hybrid and International Programs, will be providing arrival, advising, cultural orientation and academic support for the students at UM, as well as advice during studies and guidance during any appeals. Student support will also include networking with any orientation and support programs held for International students through the International Centre, or other units at UM.

Primary program academic support is provided by the respective department advisor.

The UM co-ordinator will also be providing advisory and training sessions for the students at UCSIC during the annual visits to Malaysia.

## **QUALITY ASSURANCE**

**19. Please indicate how often the agreement will be reviewed as well as an outline of the review process.**

The agreement is renewed every 5 years. During the year, the coordinators are in contact to inform each other of developments at their respective universities and of any course changes. The program is also reviewed annually during the annual visits and through the preparation of annual reports jointly prepared by the two co-ordinators of the institutions.

The annual reporting will include summarizing the students' progress and ability to adjust; listing graduates of the program; summarizing any meetings held during visits; listing any concerns or problems and addressing them.

Contact is maintained through e-mail, regular visits to UCSIC and phone calls if necessary.

**20. Outline how feedback will be provided to the partner institution in terms of student performance.**

Feedback will be provided through the Annual Reporting and through regular correspondence.

**21. If the UM program is accredited by an external body, will the proposed articulation impact the accreditation? If so, what steps are required to maintain accredited status?**

The program has CEAB (Canadian Engineering Accreditation Board) implications. However, all CEAB requirements are met in the program. The courses selected for transfer in the program are selected so that they do not adversely affect the AU requirements of the CEAB. During the accreditation visits the visiting team is presented with documentation of the program and any sample calculations showing compliance.

**22. What mechanisms are in place to allow any students on the articulation pathway to complete their studies should the articulation be withdrawn?**

The agreement will specifically state that students are not adversely affected should the program cease – the conditions of the contract will be honored for any student in the program at the time of termination, either at UM or UCSIC, and they can complete the program.

**23. What is the partner institution's policy on academic freedom? What are the implications of this (if any) on course content.**

UCSIC expresses the following in their Strategic Plan 2021-2025, Page 8:

“We will provide the channels for freedom for individual growth and expansion through free expression and ingenuity in research among students and staff. This belief reflects the value of the principle of academic freedom; thus enabling the pursuit of academic enquiry subject to the norms and standards of academic rules and regulations, without interference or penalty.”

The following is the link to their Strategic Plan:

[https://www.ucsiccollege.edu.my/sites/default/files/strategic-plan-2021-2025\\_final.pdf](https://www.ucsiccollege.edu.my/sites/default/files/strategic-plan-2021-2025_final.pdf)

## **BENEFIT ANALYSIS**

**24. Benefits anticipated from this agreement to the partners and students.**

1. On the student experience front, this program exposes our UM students to globalization as it offers a close working relationship between two groups of UCSIC and UM students during their studies (study groups, group projects, capstone work, etc.). UCSIC students will bring different perspectives to the classroom, different life experiences, and other cultural sensitivities. The addition of these students maintains the diversity among the student population and models real-life experience most engineers will encounter whereby they will be working in multi-disciplinary, intercultural teams on engineering

projects. Studying here at UM gives international students the opportunity of studying in a different country and picking up technology and knowledge to bring back home to areas where they will be working.

2. On the Faculty level, the experience gained in running the predecessor to this program (with UCSIU) led to a track record of organization and efficiency that has enabled the Faculty to stream-line students from non-traditional tracks to complete courses at UM – such as Students without Borders (Brazil Program of the past), APEGM students needing to complete courses to be registered as engineers in Manitoba, and College Diploma holders in the Hybrid Program. This program will result in similar benefits to the Price Faculty of Engineering.
3. On the partner level, this program will enable UCSIC to expand their program to Canada and result in further courses being co-developed for transfers to other universities in addition to UM.
4. On the institution level this program will enable the institution to be recognized as an internationally engaged university with global impact and enhancing student mobility. This program accomplishes some of the goals of the International strategy such as being a sustainable strategic partner, increased intercultural competency among students and being an internationally engaged university.

Additionally, Malaysia, where UCSIC is based, is a non-traditional area for student exchange / collaboration / incoming international students at the UM. This program will continue to expand our reach in Asia Pacific that will allow identification new partners and opportunities in the region. Malaysia, as an ASEAN member state, also makes UCSIC's students eligible to participate in the Canada-ASEAN Scholarships and Educational Exchanges for Development (SEED) providing all other conditions are met.

**25. Have any challenges or barriers to this agreement been identified? If so, how will they be ameliorated?**

A similar program with UCSI University has been running since 1992 and so many of the challenges and barriers have been addressed in the past and we are aware of their possibility. Primary challenges we expect are recruitment of students into UCSIC (which UCSIC will be addressing) and the issuing of student visas for students wanting to come to UM at the end of their studies at UCSIC. We cannot do much with the issuing of student visas except what we are already doing with other students, and that is providing letters of explanation of the program they are in to help the Visa Processing Officer understand the students' academic plans.

**ADDITIONAL INFORMATION**

**26. Please provide any additional information on the proposed program that is deemed relevant to this process. Append any supporting documentation, if required.**

1. The Faculty has had an Articulation Agreement with the UCSI Group since 1992 - first with Sedaya College as it was known at that time, then subsequent entities as Sedaya College became a University (Sedaya International College, then University College Sedaya International and finally with UCSI University). The present Articulation Agreement with UCSI University expires in May 2021 and the UCSI Group wishes the Articulation to continue with UCSI College instead of UCSI University. The Malaysian Authorities prefer to have Articulation-type arrangements (3+0, 2+2, Degree Transfer Programs, etc) run through entities that are licensed specifically for that purpose - of which UCSIC is such an entity.

C. FACULTY/COLLEGE/SCHOOL REVIEW AND APPROVAL

Dean/Director: Nariman Sepetri Date: 16 Oct 2020

Faculty Council: Nariman Sepetri Date: 16 Oct 2020

*Note: proposing Faculty to forward the complete proposal to the Office of the University Secretary, as well as a copy to the Deputy Provost (Academic Planning and Programs) – electronic and original copies.*

D. SENATE REVIEW AND APPROVAL

Senate Committee on Curriculum and Course Changes (SCCCC): Date: \_\_\_\_\_

Senate Committee on Admissions (SCADM): Date: \_\_\_\_\_

Senate Planning and Priorities Committee (SPPC): Date: \_\_\_\_\_

Senate Approval: Date: \_\_\_\_\_

E. PROVOST APPROVAL TO IMPLEMENT

Provost & Vice-President (Academic): \_\_\_\_\_ Date: \_\_\_\_\_

Additional Conditions:

F. PARTNER INSTITUTION APPROVAL

Name: \_\_\_\_\_ Position: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**For international agreements only:** following approval of the Senate articulation agreement, the next step will be to complete an International Articulation Agreement for approval by the Associate Vice President (Partnerships). **Please contact the International Centre for further details.** Copies of the signed international articulation agreement must be sent to the Provost's Office prior to program commencement.

International Articulation Agreement Required: Y  N  Date Received: \_\_\_\_\_

**Signed copies to:** (action by Provost's Office)

- Dean's Office, Proposing UM Faculty       Registrar       University Secretary

Partner Institution Signatory

Admissions

Office of Institutional Analysis



## ARTICULATION AGREEMENT COURSE MAPPING FORM

Please provide detailed mapping for the Partner's course experience to the UM equivalences. Mapping of courses must be assessed and approved by the UM unit responsible for delivering the corresponding course content. Courses should be grouped together by transfer type. Rows can be added or deleted as required. **Please attach course syllabi or course descriptions for the partner program's coursework.**

Questions related to the facilitation of course mapping and/or transfer credit can be directed to the UM Transfer Credit Evaluations Coordinator (Jeff Huston).

Partner Institution:				UM Program:					
Transfer Type <sup>1</sup>	Course Name	Min. Grade	Syllabus (Y/N)	Course No.	Course Name	Cr. Hrs.	Course Type <sup>2</sup>		
C	QAMT 1313 Calc & Anal Geometry 1	C	N	MATH 1510	Applied Calculus 1	3	R	Preliminary Year	
C	QAMT 1323 Calc & Anal Geometry 2	C	N	MATH 1710	Applied Calculus 2	3	R	Preliminary Year	
C	QACT 1283 Intro to Programming/Python	C	N	COMP 1012	Comp Programming for Sc & Engrs	3	R	Preliminary Year	
C	QCPT 1113 Physics for Engineers 1	C	N	PHYS 1050	Physics 1: Mechanics	3	R	Preliminary Year	
C	PELT 1813 Intro to Literature	C	N	ENGL 1340	Int. Literary Analysis	3	R	Preliminary Year	
C	QAMT 2113 Matrix Theory & Linear Alg. ***	C	N	MATH 1210	Tech. in Classical & Linear Algebra	3	R	Preliminary Year	
C	TKET 1413 Statics	C	N	ENG 1440	Introduction to Statics	3	R	Preliminary Year	
C	TKET 1314 Eng Thermodynamics w lab	C	N	ENG 1460	Introduction to Thermal Science	3	R	Preliminary Year	
C	TKET 1203 Electricity - Electronics Fund	C	N	ENG 1450	Intro to Elect and Computer Engr	3	R	Preliminary Year	
C	QDCT 1014 General Chemistry 1 AND	C	N	CHEM 1100	Atomic & Molecular Struct & Energ	3	R	Preliminary Year*	
C	QDCT 1024 General Chemistry 2	C	N	CHEM 1110	Interaction, Reactivity & Chem. Prop.	3	R		
C	QAMT 2313 Engineering Math 1	C	N	MATH 2130	Engineering Math Anal 1	3	R		
C	QCPT 1123 Physics for Engineers 2	C	N	PHYS 1070	Waves and Modern Physics	3	R		
C	TKET 1093 Technical Communication	C	N	ENG 2030	Engr Comm.: Strategies for the Prof.	3	R		
C	QAMT 2614 Statistics for Engineers	C	N	STAT 2220	Contemporary Statistics for Engineers	3	R		
C	QAMT 2323 Engineering Math 2	C	N	MATH 2132	Engineering Math Analysis 2	3	R		
C	QAMT 2564 Numerical Analysis	C	N	MECH 2150 ECE 2240 CIVL 3590	Mech Engr Modelling & Num Meth Numerical Meth for Elec Engrs Numerical Meth in Engr Analysis	4	R		
C	TKET 2063 Engineering Economics	C	N	ENG 3000	Engineering Economics	3	R		
C	TJMT 2414 Fluid Mechanics	C	N	MECH 2262 CIVL 2790	Fund. Of Fluid Mechanics Fluid Mechanics	4	R		
C	TJMT 2434 Solid Mechanics	C	N	MECH 2222 CIVL 2800	Mechanics of Materials Solid Mechanics 1	4	R		
C	TKET2213 + TKET2223 Elect Circuits 1 and 2	C	N	ECE 2262	Electric Circuits	4	R		
	Two of the following to be used as CSE**								
C	BFPT 1113 Intro to Sociology	C	N	SOC 1200	Intro to Sociology	3	E		
C	BFPT 1313 Intro to Political Science	C	N	POLS 1502	Intro to Political Studies	3	E		
C	BFPT 1544 Intro to Psychology	C	N	PSYC 1200	Intro to Psychology	3	E		
C	HFBT 1613 Microeconomics	C	N	ECON 1010	Intro to Microeconomics	3	E		
C	HFBT 1623 Macroeconomics	C	N	ECON 1020	Intro to Macroeconomics	3	E		

<sup>1</sup> Indicate how the course will be transferred to the UM program - **C** = Equivalent Course Credit; **U** = Unallocated Credit; **B** = Block Credit. Where multiple transfer types exist, list courses in order of equivalent, unallocated, and block.

<sup>2</sup> Indicate whether the course is required/core (**R**), or elective (**E**) in the UM program.

\* Students must complete both QDCT 1014 and QDCT 1024 for credit for CHEM 1100 and 1110. UCSI students completing UCSI coursework in 2020-2021 will get credit for CHEM 1300 (QDCT 1014) and CHEM 1310 (QDCT 1024).

\*\*Two of the elective courses are used as Complementary Studies Electives in the engineering programs. One is for the preliminary year.

\*\*\* With successful completion of QAMT 2323 - otherwise no credit for MATH 1210.

**Course Mapping by Program**

<b>Courses Offered for the University of Manitoba/UCSI College Engineering Transfer Program</b>									
<b>UCSI College Course</b>		<b>Year</b>	<b>Civil</b>	<b>Mech</b>	<b>Elec</b>	<b>Comp</b>	<b>Bio sys</b>	<b>University of Manitoba Equivalent</b>	
<b>Course Code</b>	<b>Course Name</b>							<b>Course Code</b>	<b>Course Name</b>
PELT 1813	Introduction to Literature	Year 1	3	3	3	3	3	ENGL 1340	Int. Literary Analysis
QAMT 1313	Calculus & Anal. Geometry I	Year 1	3	3	3	3	3	MATH 1510	Applied Calculus 1
QACT 1283	Intro to Programming/Python	Year 1	3	3	3	3	3	COMP 1012	Computer Prog for Sc & Engineers
QAMT 2113	Matrix Theory & Linear Algebra*	Year 1	3	3	3	3	3	MATH 1210	Tech. of Classical/Linear Algebra
QAMT 1323	Calculus & Anal Geometry 2	Year 1	3	3	3	3	3	MATH 1710	Applied Calculus 2
TKET 1413	Engineering Statics	Year 1	3	3	3	3	3	ENG 1440	Intro to Statics
TKET 1313	Engineering Thermodynamics	Year 1	3	3	3	3	3	ENG 1460	Intro. Thermal Sciences
TKET 1203	Electrical - Electronics Fundamentals	Year 1	3	3	3	3	3	ENG 1450	Intro. To Elect & Comp Engrs
	CSE 1 – Yr1 Arts & Mgmt	Year 1	3	3	3	3	3		Arts or Management Equiv. Course
QCPT 1113	Physics for Engineers 1	Year 1	3	3	3	3	3	PHYS 1050	Physics 1: Mechanics
QDCT 1014	General Chemistry 1 PLUS	Year 1	3	3	3	3	3	CHEM1100	Atomic & Molecular Struct & Energetic
QDCT 1024	General Chemistry 2	Year 2	3	3	3	3	3	CHEM 1110	Interaction, React & Chem Prop Science Elective for ECE
TKET 1093	Technical Communication	Year 2	3	3	3	3		ENG 2030	Engr Comm: Strategies for Prof
QAMT 2313	Engineering Math 1	Year 2	3	3	3	3	3	MATH 2130	Engineering Math Analysis I
QAMT 2323	Engineering Math 2	Year 2	3	3	3	3	3	MATH 2132	Engineering Math Analysis II
QAMT 2564	Numerical Analysis	Year 2	4	4	4	4	4	MECH 2150 ECE 2240 CIVL 3590	Mech Engr modelling Num Methods for EE Num Meth for Civil Engr
TKET 2603	Engineering Economics	Year 2	3	3	3	3	3	ENG 3000	Engineering Economics
	CSE 2 – Yr1 Arts & Mgmt	Year 2	3	3	3	3	3		Arts or Management Equiv. Course
QAMT 2614	Statistics for Engineers	Year 2	3	3	3	3	3	STAT 2220	Statistics for Engineers
TKET 2213 + TKET 2223	Electric Circuits 1 & 2	Year 2			4	4		ECE 2262	Electric Circuits
QCPT 1123	Physics for Engineers 2	Year 2		3			3	PHYS 1070	Waves and Modern Physics (Free elective for Biosystems)
	CSE #3	Year 2					3		Any Year 1 Arts or Mgmt
TMJT 2434	Solid Mechanics	Year 2	4	4			4	MECH 2222 CIVL 2800	Mechanics of Materials (Mech) Solid Mechanics 1 (Civil)
TMJT 2414	Fluid Mechanics	Year 2	4	4			4	CIVL 2790 MECH 2262	Fluid Mechanics (for Civils) Fund of Fluid Mech (Mechanicals)
	<b>Total No. of Courses Transferred</b>		<b>21</b>	<b>22</b>	<b>20</b>	<b>20</b>	<b>23</b>		
	<b>Total Number of Credit Hours Transferred</b>		<b>66</b>	<b>69</b>	<b>62</b>	<b>62</b>	<b>61</b>		
	<b>Approx. total Number of Credit Hours in Program (min.)</b>		<b>163</b>	<b>160</b>	<b>158</b>	<b>156</b>	<b>157</b>		
CSE Choices	CSE Choices:								
BFPT 1113	Intro to Sociology	Year 1						SOC 1200	Intro to Sociology (3ch)
BFPT 1313	Intro to Political Science	Year 1						POLS 1502	Intro to Political Studies (3ch)
BFPT 1544	Intro to Psychology	Year 1						PSYC 1200	Intro to Psychology (3ch)
HFBT 1613	Microeconomics	Year 1						ECON 1010	Intro to Microeconomics (3ch)
HFBT 1623	Macroeconomics	Year 1						ECON 1020	Intro to Macroeconomics (3ch)

\* With successful completion of QAMT 2323 - otherwise no credit for MATH 1210.

Special Note: Each student transferring in this program must have CEAB/AU calculations completed to ensure compliance of 50% or less of program transferred from UCSIC.

**Report of the Senate Committee on Curriculum and Course Changes RE: Articulation Agreement Proposal, University of Manitoba, B.Sc. Degrees in Engineering – UCSI College, American Degree Transfer Program**

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**Preamble:**

1. The [terms of reference](#) for the Senate Committee on Curriculum and Course Changes (SCCCC) include the responsibility to recommend to Senate on the introduction, modification or closure of undergraduate programs, curricula or courses.
2. At its meetings on October 9 and October 28, 2020, the committee considered a proposal from the Price Faculty of Engineering, to establish an articulation agreement between the University of Manitoba and UCSI College, Kuala Lumpur, Malaysia, for a term of five years, effective Fall Term 2021.
3. The proposed articulation agreement between the University and UCSI College would replace an existing agreement between the University and UCSI University, which expires in May 2021.

**Observations:**

1. The proposed articulation agreement would allow students who had completed two years in either the American Degree Transfer Program at UCSI College or in a Bachelor of Engineering program at UCSI University, to transfer to the University of Manitoba, to complete the final two years of their Bachelor of Science in Engineering degree in the Price Faculty of Engineering.
2. To qualify for admission to Year 3, applicants from UCSI College would be required to: (i) complete a minimum of sixteen (16) courses at UCSI College, including a minimum of eight (8) Preliminary Year courses, up to the maximum number of approved courses, as set out in the course mapping form; (ii) achieve a minimum Adjusted Grade Point Average of 3.0 on a 4.5 scale, for courses applicable to a B.Sc. in Engineering; (iii) not exceed 18 credit hours of courses graded “D” or “F,” within those courses; and (iv) satisfy the University’s admission requirements, including the English language proficiency requirements.
3. Students would complete Years 3 and 4 of their program in the Price Faculty of Engineering. In order to graduate from the University with a B.Sc. in Engineering degree, students would be required to complete all of the remaining course and credit hour requirements of their particular degree program.
4. A maximum of ten (10) students would be admitted to the Price Faculty of Engineering under the Articulation Agreement, in any given year. The spaces would be distributed across the Faculty’s four Departments, with a maximum of four (4) students to be admitted to programs in any one Department. The Faculty would reserve the right to adjust the distribution at the time of admission, if warranted.

**Recommendation:**

The Senate Committee on Curriculum and Course Changes recommends:

**THAT Senate approve an articulation agreement between the University of Manitoba, Price Faculty of Engineering, and UCSI College, Kuala Lumpur, Malaysia, concerning advanced standing in Bachelor of Science in Engineering degree programs at the University of Manitoba, for students who have completed a minimum of sixteen courses, including eight Preliminary Year courses, in the American Degree Transfer Program at UCSI College, for a five-year term effective Fall Term 2021.**

Respectfully submitted,

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

## **Report of the Senate Committee on Admissions concerning a proposal from the Price Faculty of Engineering to renew an articulation agreement with UCSI College (2020.10.27)**

### **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](http://umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/490.htm).
2. The Price Faculty of Engineering is proposing the renewal of an articulation agreement with UCSI College in Malaysia.
3. The proposal was approved by the Price Faculty of Engineering Faculty Council on September 8<sup>th</sup>, 2020 and was endorsed by SCADM on October 27<sup>th</sup>, 2020.

### **Observations:**

1. The relationship between the Faculty and the UCSI Group dates back to 1992; the current agreement is with UCSI University. The desire is to continue the relationship with UCSI College as there have been course mapping challenges with the UCSI University courses.
2. SCADM considered the admission regulation portion of the proposed agreement.
3. In addition to other admission requirements, students must have completed a minimum of 16 courses of the UCSI College portion of the program with a grade of "C" or better in order to be eligible for admission.

### **Recommendation:**

The Senate Committee on Admissions recommends that the proposal to renew an articulation agreement with UCSI College be approved and effective upon approval by Senate.

Respectfully submitted

Laurie Schnarr, Chair, Senate Committee on Admissions

**Report of the Senate Planning and Priorities Committee RE: Articulation Agreement Proposal, University of Manitoba, B.Sc. Degrees in Engineering – UCSI College, American Degree Transfer Program**

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**Preamble:**

1. The [terms of reference](#) of the Senate Planning and Priorities Committee (SPPC) are found on the University Governance website, wherein SPPC is charged with making recommendations to Senate regarding proposed academic programs.
2. At its meeting on September 28, 2020, the committee considered a proposal from the Price Faculty of Engineering to establish an articulation agreement between the University of Manitoba and UCSI College, Kuala Lumpur, Malaysia, for a term of five years, effective for the Fall 2021.

**Observations:**

1. The proposed articulation agreement between the University of Manitoba, Price Faculty of Engineering, and UCSI College, would permit students who have completed a minimum of sixteen (16) courses, including at least eight (8) Preliminary Year courses in either (i) the American Degree Transfer Program at UCSI College or (ii) a Bachelor of Engineering degree at UCSI University, to transfer to the University of Manitoba with advanced standing in a Bachelor of Science in Engineering degree. Students could complete up to the maximum number (26) of courses approved for transfer credit under the agreement, at UCSI College before transferring to the University of Manitoba.
2. In order to qualify for admission, students must: (i) complete at least sixteen (16) courses of the UCSI College portion of the program, including at least eight (8) Preliminary Year courses; (ii) achieve a minimum Adjusted Grade Point Average of 3.0, on a 4.5 grade point scale, based on courses completed at UCSI College that would contribute to a B.Sc. in Engineering at the University of Manitoba; (iii) not exceed 18 credit hours of courses graded “D” or “F” among those same courses; and (iv) satisfy the University of Manitoba’s admission requirements, including English language proficiency requirements. Courses that would contribute to the admission requirements are set out in the Articulation Agreement Course Mapping Form.
3. A maximum of ten (10) students would be admitted to the Faculty under the agreement, in any given year. The spaces would be distributed across the Departments in the Faculty (Biosystems, Civil, Electrical and Computer, Mechanical), with a maximum of four (4) students to be admitted to the programs in any one Department. The Faculty would reserve the right to modify the distribution, as warranted, at the time of admission.
4. Students admitted under the Articulation Agreement would be admitted to Year 3 of an Engineering program. Typically, there are spaces available in upper year engineering courses, so the students would not take spaces in the programs that would otherwise be filled by students from Manitoba or by any other students admitted through regular admission processes.
5. Senate previously approved an Articulation Agreement between the Faculty of Engineering and UCSI University (Senate, June 24, 2015). That agreement will expire in May 2021 and would be replaced by the proposed agreement with UCSI College.

6. The Faculty's relationship with UCSI Group is a longstanding one, beginning in 1992 with an agreement for a twinning program between the Faculty and Sedaya College, which was followed by an agreement for a transfer program in 2008, when Sedaya College obtained university-status and was renamed UCSI University. The UCSI Group would like to continue the relationship with the Faculty with UCSI College, as Malaysian authorities prefer to have international articulation agreements run through institutions licensed for this purpose, which the College is.
7. Establishing the Articulation Agreement would allow the Price Faculty of Engineering to: maintain its international exposure; improve the student experience by exposing Engineering students to globalization, as well as different perspectives, life experiences, and other cultural sensitivities; and maintain diversity in the student population that models diversity on engineering project teams in the workplace. The agreement would also generate tuition revenue for the Faculty and the University.
8. The Faculty has indicated that additional resources are not required to support the Articulation Agreement. The Faculty would reallocate resources currently used to support the Articulation Agreement with UCSI University, when that agreement expires, to the new agreement with UCSI College. This includes funding for the International Program Coordinator, which is an existing continuing appointment in the Faculty.

### **Recommendation**

The Senate Planning and Priorities Committee recommends:

**THAT Senate approve the articulation agreement proposal between the University of Manitoba, Price Faculty of Engineering, and UCSI College concerning advanced standing in Bachelor of Science in Engineering degree programs at the University of Manitoba, for students who have completed a minimum of sixteen courses, including eight Preliminary Year courses, in the American Degree Transfer Program at UCSI College, for a five-year term effective Fall 2021.**

Respectfully submitted,

Professor David Watt, Chair  
Senate Planning and Priorities Committee

## **Report of the Faculty Council of Graduate Studies on Course, Curriculum and Regulation Changes**

### **Preamble**

1. The Faculty of Graduate Studies (FGS) has responsibility for all matters relating to the submission of graduate course, curriculum, program and regulation changes. Recommendations for such are submitted by the Faculty Council of Graduate Studies for the approval of Senate.
2. The Faculty Council of Graduate Studies met on the above date to consider a proposal from the Faculty of Architecture.

### **Observations**

1. The **Faculty of Architecture** proposes supplementary regulation changes (program modifications) in the Ph.D. in Design & Planning. The changes consist of raising the minimum English language test scores for admissions, specifically increasing the IELTS score from the FGS minimum of 6.5 to 7.0, and the TOEFL score, from 86 to 94 (internet-based), with related minimum scores for the writing component (section 1.1.7); and adjusting the advisory committee composition to allow for a non-Faculty of Architecture member, one who has expertise on a student's research area not otherwise found in the Faculty (section 5.2.4).

The Faculty of Architecture also proposes supplementary regulation changes to the co-op option in all of its Masters programs: Architecture, City Planning, Interior Design and Landscape Architecture. When the co-op was approved last year, the supplementary regulations incorrectly indicated that the co-op courses are to be taken as occasional (thereby triggering occasional course fees). The Programs & Guidelines Committee recommended the additional removal of all reference to fees in this section.

### **Recommendations**

**Faculty Council of Graduate Studies recommends THAT the program changes from the unit listed below be approved by Senate:**

#### **Faculty of Architecture**

Respectfully submitted,

Dr. Louise Simard, Chair  
Faculty Council of Graduate Studies

/ak

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

Date: June 11, 2020

To: Dr. Kelley Main, Associate Dean  
Faculty of Graduate Studies

From: Dr. Lisa Landrum, Associate Dean Research, Faculty of Architecture;  
Chair, Ph.D. in Design and Planning Program & Doctoral Studies Committee

Re: **Ph.D. in Design and Planning Program – Supp.Reg. Amendments for:**  
• **English Language Admissions Requirements (1.1.7)**  
• **Advisory Committee Composition (5.2.4)**

Attachments: Supplemental Regulations, with proposed track-changes

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Dr. Main,

The Faculty of Architecture's Doctoral Studies Committee met on June 5, 2020 and unanimously agreed to two amendments to the Supplemental Regulations for the Ph.D. in Design and Planning program:

- 1/ to raise the minimum English language test scores for admissions, specifically increasing the IELTS score from the FGS minimum of 6.5 to 7.0, and the TOEFL score, from 86 to 94 (internet-based), with related minimum scores for the writing component (Supp.Reg. 1.1.7); and
- 2/ to adjust the advisory committee composition to allow for a non-Faculty of Architecture member, one who has expertise on a student's research area not otherwise found in our Faculty (Supp.Reg. 5.2.4).

The specific recommendations to the respective sections of the Supplemental Regulations are provided in track-changes in the attached word document.

Rationale for these amendments:

- 1/ (Supp.Reg. 1.1.7): The writing-intensive doctoral program is a challenge for students for whom English is a second language. Raising the minimum English Language Proficiency Test scores for admissions would help ensure student success in the program. In raising the score, the Ph.D. in Design and Planning program is following the lead of three Master's programs in the Faculty of Architecture (City Planning, Interior Design and Landscape Architecture), which have similarly raised the IELTS score from 6.5 to 7.0; and the TOEFL score from 86 to 94. The Doctoral Studies Committee believes that having minimum scores in the writing component is also necessary, as that is the area students find most challenging once they are in the program.
- 2/ (Supp.Reg. 5.2.4) Our current regulations require two of the three advisory members to be FGS members of the Faculty of Architecture. While this composition is ideal, there are a limited number of full-time members in the Faculty of Architecture eligible to serve on a PhD advisory committee (since holding a Ph.D. is required and less than half of Architecture's faculty members hold this qualification).

Moreover, student research areas are diverse, ranging from SSHRC topics intersecting art history and cultural studies, to NSERC related technical research in building sciences. We have discovered that finding the right expertise and availability of committee members from within the Faculty of Architecture is not always possible; yet, in some cases, the expertise and availability does exist in other Faculties at the University of Manitoba. Thus, we have proposed re-wording the Advisory Committee composition to encourage two Faculty of Architecture members, but allow for FGS non-Architecture members if recommended by the advisor and approved by the Doctoral Studies Committee / Ph.D. Program Chair.

Once again, the specific recommended amendments to the program's Supplemental Regulations are indicated in sections 1.1.7 and 5.2.4 in the attached document.

Please advise if anything further is required regarding these recommendations, and do not hesitate to contact me with any questions.

Thank you.

Sincerely,



Lisa Landrum, PhD, M.ArchII, B.Arch, MAA, FRAIC, AIA  
Associate Professor & Associate Dean Research  
Chair, Ph.D. in Design and Planning Program  
Faculty of Architecture, University of Manitoba

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<http://umanitoba.ca/faculties/architecture/facstaff/facilst/landruml.html>

<p>secondary institutions attended to be sent to the Faculty of Graduate Studies, within one (1) month of the date on the admission letter. Applicants will be placed on hold, which prevents registration until all admission requirements have been submitted. <b>All transcripts must arrive in sealed, university-stamped envelopes sent directly from the issuing institution(s) and be accompanied by official and literal English translations</b> (where applicable, see 1.1.5). For international degrees or where the transcripts does not or will not clearly state that a degree has been conferred, a copy of the official degree certificate is also required.</p>	
<p><b>1.1.5 Transcripts: International</b></p> <p>Where academic records from a country other than Canada are produced in a language other than English, the applicant must arrange for the submission of official literal English translations of all records. To be official, original language documents and English translations must arrive together in envelopes which have been sealed and endorsed by the issuing institution. For international degrees or where the transcript does not or will not clearly state that a degree has been conferred, a copy of the official degree certificate is also required.</p>	
<p><b>1.1.6 Transcripts: University of Manitoba</b></p> <p>University of Manitoba students are not required to submit University of Manitoba transcripts.</p>	
<p><b>1.1.7 Proficiency in English</b></p> <p>A successfully completed English Language Proficiency Test from the approved list is required of all applicants unless they have received a secondary school diploma and/or university degree from Canada or one of the countries listed on the <a href="#">English Language Proficiency Test Exemption List</a> (see 1.1.8). The Faculty of Graduate Studies requires a passing, acceptable English Language Test score in order to offer admission. Please note: In all cases, test scores older than two (2) years (from the time of completing the test) are invalid.</p> <p>Thresholds required for successful completion are indicated in parentheses.</p> <ul style="list-style-type: none"> <li>• University of Michigan English Language Examination Assessment Battery (MELAB) (80%)</li> <li>• Test of English as a Foreign Language (TOEFL) Internet based -iBT® (86; minimum score of 20 in each of reading, writing, listening and speaking categories). The "best score" will not be considered for admission. Only individual test scores will be used to meet the minimum requirements.</li> <li>• Canadian Test of English for Scholars and Teachers (CanTEST®) (band 4.5 in listening and reading and band 4.0 in writing and oral interview)</li> <li>• International English Language Testing System (IELTS™) (6.5 in the Academic Module)</li> <li>• Academic English Program for University and College Entrance (AEPUCE) (65%)</li> <li>• PTE Academic (61% overall)</li> </ul> <p><b>Note:</b></p> <p>In addition, foreign language students may be asked by the department/unit to complete the CanTEST prior to or following registration in the Faculty of Graduate Studies and, if need be, the department/unit may recommend remedial measures in</p>	<p><u>The Ph.D. in Design and Planning program requires the following minimum English Language test scores:</u></p> <p><u>IELTS: 7.0, including a min. score of 6.5 in writing;</u></p> <p><u>TOEFL: 94 (Internet based), including a min. score of 22 in writing.</u></p> <p><u>For admissions, preference will be given to TOEFL and IELTS. Comparable scores in other tests will be considered only in exceptional circumstances, if access to TOEFL and IELTS are impossible.</u></p> <p>Students should be aware that even though the language requirements have been met, the student advisory committee may require them to do remedial language work through the English Language Centre or the Academic Learning Centre at the University of Manitoba in order to be successful in the program.</p>

<p>primary advisor; however, both the advisor and co-advisor's signatures are required on all documents where the advisor's signature is required.</p>	
<p><b>5.2.3 Student's Advisor/Co-advisor</b></p> <p>A student who also holds an appointment at the University of Manitoba at the rank of Assistant Professor or above cannot have an advisor or co-advisor with an appointment in the same department/unit.</p> <p>The advisor, co-advisor (if applicable) and student must discuss, and complete, the Faculty of Graduate Studies Advisor Student Guidelines prior to the commencement of any research and no later than the submission of the first Progress Report for the student. If a student does not have an advisor/co-advisor, the interim advisor will be required to complete the Advisor Student Guidelines. If the parties cannot agree on any component(s) of the Advisor Student Guidelines, the matter should be referred to the department/unit Graduate Chair, the Head of the department/unit, or the Dean of the Faculty of Graduate Studies. The Advisor Student Guidelines is to be completed again if there is a change in advisor/co-advisor or when a co-advisor is added midway through the student's program.</p> <p>Should, during the student's program, the relationship between the student and advisor/co-advisor significantly deteriorate, the matter should be referred sequentially to the department/unit Graduate Chair, the Head of the department/unit, then to the Dean of the Faculty of Graduate Studies. It is the responsibility of the department/unit offering the program in which the student is studying to arrange an alternate advisor/co-advisor if this is appropriate and necessary.</p> <p>All students should consult department/unit supplementary regulations for specific details regarding advisor/co-advisor requirements.</p>	
<p><b>5.2.4 Advisory Committee</b></p> <p>The Head of the department/unit is responsible for the establishment of an advisory committee for each Ph.D. student. Advisory committees are selected by the advisor/co-advisor in consultation with the student and should consist of individuals whose expertise is consistent with that necessary to provide additional advice and guidance to the student during their program. The advisory committee must consist of a minimum of three (3) members, all of whom must be members of the Faculty of Graduate Studies (<a href="http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html">http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html</a>). Advisory committees may, in addition, include one (1) non-voting guest member who has expertise in a related discipline but is not a member of the Faculty of Graduate Studies.</p> <p>It is expected that advisory committee members will have a Ph.D. degree or equivalent. Equivalency will be determined by the Dean of the Faculty of Graduate Studies. Graduate students, Post-Doctoral Fellows, and Research Assistants or Associates may not serve on graduate student advisory committees. A student who also holds an appointment at the University of Manitoba at the rank of Assistant Professor or above cannot have an advisor or co-advisor with an appointment in the same department/unit. The composition of, and any changes to, the advisory committee, including the advisor/co-advisor, must be approved by the Faculty of Graduate Studies on the "Program of Study and Appointment of Advisory Committee" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>).</p>	<p>The advisory committee will be formed during the student's first year in the program by mutual consent of the advisor and student, and approved by the Doctoral Studies Committee Chair.</p> <p>The advisory committee shall include at least three members of the Faculty of Graduate Studies:</p> <ul style="list-style-type: none"> <li>• the student's advisor, as Chair;</li> <li>• another <b>FGS</b> member, <b>normally in</b> the Faculty of Architecture, with expertise that supports the student's topic area <b><u>(non-Architecture appointments must be approved by the Doctoral Studies Committee Chair on recommendation by the Advisor)</u></b>; and</li> <li>• a third member from outside the Faculty of Architecture but within the University of Manitoba.</li> </ul> <p>Any changes to the composition of the advisory committee must be approved by the advisor and the Doctoral Studies Committee Chair.</p> <p>Academic staff members who retire during the time they are serving on advisory committees are expected to continue to fulfill their obligations.</p>



Architecture  
City Planning  
Environmental Design  
Interior Design  
Landscape Architecture

Office of the Dean  
Winnipeg, Manitoba  
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Telephone (204) 474-6433  
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Date: June 9, 2020

To: Dr. Kelley Main, Associate Dean  
Faculty of Graduate Studies

From: Lisa Landrum, Associate Dean Research, Faculty of Architecture;  
Academic Liaison, Cooperative Education / Integrated Work (Co-op/I) program

Re: **Faculty of Architecture Co-op/I Graduate Option  
Amendment of Program Description (deleting 'occasional' status)**

Attachments: • Recommended amendment to Graduate Calendar and Supp.Reg. 4.4.2  
• Copy of the original Co-op/I Grad Option Proposal Summary (Sept. 18, 2018),  
highlighting references to "Occasional" courses, now deleted (June 9, 2020).

Dr. Main,

Further to our email correspondence of June 4-5, 2020, this letter is to confirm that reference to "occasional courses" should be deleted in the Faculty of Architecture's Cooperative Education / Integrated Work Program (Co-op/I) graduate option description.

Faculty of Architecture Deans and Heads met on June 9, 2020 to discuss this amendment and unanimously agreed to make the necessary change to the respective Supplemental Regulations and Graduate Course Calendar descriptions for the Master of Architecture, Master of City Planning, Master of Interior Design, and Master of Landscape Architecture programs.

The new Co-op/I graduate program option was approved by Senate in February 2019, including the creation of three zero-credit Work Term Courses (ARCG 7150, ARCG 7250 and ARCG 7350). Participation in Co-op/I is *optional* for graduate students: completion of Co-op/I work term courses are *not* required for degree completion; however, completion at least two work terms is required for graduating with the Co-op designation.

Prior to Senate's approval of the graduate Co-op/I program option, graduate students could enroll as "Occasional" students in the undergraduate (EVDS) work term courses, which were launched in summer 2018, having been approved by Senate in December 2017. Since Senate has approved the graduate Co-op/I program, enrolment with "occasional" status for graduate students is no longer necessary (or appropriate). Yet, reference to "occasional courses" was mistakenly included in the approved program descriptions. Deleting reference to "occasional courses" will ensure that Co-op/I graduate students are appropriately registered with the approved Co-op/I program code and do not incur additional tuition fees (beyond the expected work term Co-op fee).

Architecture Graduate Heads are now circulating to their Department the recommended amendment to their respective Supplemental Regulations. I will forward the track-changes word files once we receive confirmation of their approval.

Thank you for your assistance with this minor yet important amendment.

Do not hesitate to contact me with any questions.

<p>In general, students must complete one of the programs of study described below for the Master's degree. However, the program of study is determined by the department/unit and may follow the department/unit's supplementary regulations. Any single course cannot be used for credit toward more than one program.</p>	
<p><b>4.4.1 Thesis/Practicum Route</b></p> <p>A minimum of twelve (12) credit hours of coursework, unless otherwise stated in the department/unit's supplementary regulations, plus a thesis or practicum is required. The minimum must include at least six (6) credit hours at the 7000-level or above, with the balance of the coursework at the 3000-level or above. A maximum of twenty-four (24) credit hours of coursework is allowed unless the department/unit's supplementary regulations indicate otherwise. The student must complete the thesis/practicum at The University of Manitoba.</p>	
<p><b>4.4.2 Course-based or Comprehensive Examination Route</b></p> <p>A minimum of twenty-four (24) credit hours of coursework and comprehensive examination(s) is required. The minimum must include at least eighteen (18) credit hours at the 7000-level or above with the balance of the coursework at the 3000-level or above. A maximum of forty-eight (48) credit hours of coursework is allowed unless a department/unit's supplementary regulations indicate otherwise. A comprehensive examination is required for some course-based programs.</p>	<p>The Department of Architecture students complete their Master's degree with a Design Thesis.</p> <p>Students taking the first professional Master's degree in Architecture are required to take 48 credit hours of coursework and the Design Thesis.</p> <p>The course work (including studios) must be taken in the order offered in any year. Students may not defer any first year Master's (M1) studio or course until the second year (M2) except in exceptional circumstances, and with the permission of the department head.</p> <p><u>Required Core Courses:</u></p> <ul style="list-style-type: none"> <li>• ARCH 7000/7010 (M1/M2) Advanced Technology Topics 1 (x2) (1.5 credit hours each)</li> <li>• ARCH 7020/7030 (M1/M2) Research Topics: History and Theory 1 (x2) (1.5 credit hours each)</li> <li>• ARCH 7350 (M1) Legal Aspects (3 credit hours)</li> <li>• ARCH 7040 (M1) Professional Practice (3 credit hours)</li> <li>• ARCH 7050 (M1) Arch Studio 5 and Comprehensive Program Report (9 credit hours)</li> <li>• ARCH 7060 (M1) Arch Studio 6 (9 credit hours)</li> <li>• ARCH 7070 (M2) Design Research Studio (9 credit hours)</li> <li>• ARCH 7080 (M2) Technology Thesis Report (3 credit hours)</li> <li>• GRAD 7090 (M2) Design Thesis (0 credit hours)</li> </ul>

<p> </p> <p> </p> <p> </p> <p> </p>	<p>During the two year program (M1-Master's year 1 and M2-Master's year 2) a minimum of two technology topics and two research topics are required. The remaining 6 credit hours may be made up of Advanced Technology Topics courses, Research Topics: History and Theory courses, and/or approved electives.</p> <p>Approved electives consist of any 3000 level (or higher) course within the Faculty of Architecture or another University course, as approved by the Department Head.</p> <p>Students may apply to the Faculty of Architecture's Cooperative Education/Integrated Work program (Co-op/<del>14</del>) graduate option. Students must complete a minimum of two and maximum of three four-month work terms to have the Co-op/<del>14</del> option acknowledged on their graduation parchment. For each work term, students must enroll in the appropriate course: ARCG 7150 Work Term 1 and, subsequently, ARCH 7250 and/or ARCG 7350. Each course requires submission of a written report and portfolio covering the work completed for the professional assignment. Work term courses are valued at zero credit hours and evaluated as pass/fail. These are <del>Occasional Courses</del>, above and beyond graduate course requirements. <del>Additional fees will apply.</del></p>
<p><b>4.4.3 Accredited Professional Route</b></p> <p>The credit hours and course requirements shall reflect the requirements of the department/unit's external accrediting body. Students should check department/unit supplementary regulations regarding this requirement.</p>	
<p><b>4.4.4 Language Requirements</b></p> <p>Some department/units specify a language requirement for the Master's degree. Students should check department/unit supplementary regulations regarding this requirement.</p>	<p>There is no language requirement.</p>
<p><b>4.4.5 Advanced Credit</b></p> <p>Advance credit for courses completed prior to admission to a Master's program will be considered on a case-by-case basis. The student's department/unit must make a request to the Faculty of Graduate Studies by completing the "Recommendation for Advance Credit-Transfer of Courses" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>).</p> <ul style="list-style-type: none"> <li>• Application for advance credit must be made within the first year of the program (see section 4.7.2 Lapse of Credit of Courses).</li> <li>• No more than 50% of the required coursework for the program can be achieved using advance credit.</li> </ul>	

## **Report of the Faculty Council of Graduate Studies on Course, Curriculum and Regulation Changes**

### **Preamble**

1. The Faculty of Graduate Studies (FGS) has responsibility for all matters relating to the submission of graduate course, curriculum, program and regulation changes. Recommendations for such are submitted by the Faculty Council of Graduate Studies for the approval of Senate.
2. The Faculty Council of Graduate Studies met on the above date to consider a proposal from the Dept. of Environment & Geography.

### **Observations**

1. The **Dept. of Environment & Geography** proposes a host of supplementary regulation changes (program modifications) in the Masters' programs and Ph.D., which include that co-advisors no longer need to be adjunct in the department, the composition of advisory committees, that letters of recommendation need to be in letter format, the definition of the graduate selection committee, that the Master's defence requires a unanimous decision, required background of a Ph.D. applicant, that the Ph.D. proposal defence take place within 18 months of admission, that all presentations be shortened to 20-30 minutes, and other minor changes.

### **Recommendations**

**Faculty Council of Graduate Studies recommends THAT the program changes from the unit listed below be approved by Senate:**

#### **Dept. of Environment & Geography**

Respectfully submitted,

Dr. Louise Simard, Chair  
Faculty Council of Graduate Studies

/ak

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

30-03-2020

Dr. C.J. Mundy, Biological Oceanographer  
Associate Professor, Graduate Chair  
Centre for Earth Observation Science (CEOS), Department of Environment and Geography  
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Re: Changes to Environment and Geography Supplementary Regulations

Dear Faculty of Graduate Studies (FGS) Programs & Guidelines Committee,

With this letter, we are submitting our recent Department and Faculty approved changes to the Environment and Geography Supplemental Regulations. Most changes are text edits, but some changes occurred as the result of our program review. Below we summarize all changes to our Supplemental Regulations.

**Co-Advisors and Committees:**

- Revised by FGS: Co-advisor has to be a member of FGS, but no longer has to have a position in the department (adjunct). As a result of this change, we slightly reworded the text to address adjunct faculty:
  - (Masters 4.5.1) A departmental Co-Advisor may be required for adjunct faculty wishing to supervise Master's level students. The Graduate Selection Committee (GSC) will make this determination with approval by the Department Head. This determination will be made following procedures outlined in the departmental adjunct policy.
  - (PhD 5.2.2) Should the proposed Advisor be adjunct to the Department, an internal faculty member will have to agree to act as a Co-Advisor, unless permission on a case-by-case basis is provided by the Department Head and Graduate Program Chair.
- FGS change to committees removed the internal/external requirement distinction. In response to this change, we felt it important to still have two department members for the Masters and an internal and external for the PhD:
  - 4.6.1 “. The advisor and at least one other member of the Advisory Committee must be members of the Faculty of Graduate Studies. The Advisory Committee will include at least two Department of Environment and Geography faculty members (normally).”
  - 5.2.4 “In addition to the advisor, the Advisory Committee will normally consist of at least one internal faculty member from the department and one faculty member from outside the department who has expertise in a cognate area of research to that of the student.”

## Other items:

- Application dates for international and domestic students, 1.1.2, were consolidated to a single date each intake period.
- We have changed wording so that student applications have recommendations that must include letters instead of just the web form, 1.1.9:
  - “We require two letters of Recommendation, which should each come from an individual who has knowledge of the applicant’s academic background, area of intended research as well as the applicant’s research and academic abilities. Written letters, in addition to the web form, are required. Applicants must have an additional Letter of Support from a confirmed Program Advisor. The Letter of Support must include information on financial support and how the applicant fits into the Advisor’s current research program.”
- We now only request Department registration forms only for coursework and Exams/defence, 1.2:
  - “Students must submit a completed Departmental Registration form to the Department prior to registering for a course, candidacy exam, or defence in a term for Departmental approval. This form is not required for regular re-registration.”
- We have better defined the Graduate Selection Committee role, 4.3:
  - “The role of the Graduate Selection Committee (GSC) will be to review each applicant’s suitability to the intended program of study as well as the Advisor’s suitability to the applicant’s intended area of research.”
- Unanimous Master’s defence decision kept, 4.8.1.3:
  - “The determination of pass by the Examining Committee must be unanimous.”
- Clarifications for PhD applicants, 5.1.1:
  - “A minimum GPA of 3.5;
  - The prospective student must submit an area of research interest, in the form of a two (maximum three)-page statement of research interest.
  - Student’s education should have a strong background in Geography, Environmental Sciences, Environmental Studies and/or related areas
  - Student should have or be completing a research driven thesis-based Masters degree.”
- A change suggested by our program review will make the Ph.D. proposal defence expected within 18 months, 5.9:
  - “Normally within the first 18 months in the program, the student will develop a thesis research proposal in consultation with his/her Advisor and Advisory Committee.”
- All presentations suggested to be 20 – 30 minutes (Proposals, Cand. Exam, Defences), 4.8.1.1, 4.8.1.3, 5.8, 5.9, 5.12.4

**Everything summarized:**

<b>Section</b>	<b>Action</b>	<b>Change Summary</b>
1.1	Contact info update	
1.1.2	Deadlines for Applications	Making consistent dates
1.1.9	Letters of Rec.	Make letter required, copied Program advisor text
1.2	Registration	Dept. Reg. form instructions
1.4.2	Pre-Master's	Not Available
4.1	Master's Admission	Clarified acceptable background, Advisor required
4.3	Grad Selection Committee	Notes
4.3.2	Pre-Master's	Not available
4.5	Student's Advisor	Advisor required, co-advisor may be required, adjunct policy cited
4.6	Advisory Committee	Removed old wording
4.8.1.2	Examining Committee	Moved thesis style info to 4.9, other wording moved from 4.8.1.3
4.8.1.3	Oral Exam	Updated details of Defence, pass must be unanimous
4.9	Style and Format	Moved details here, a couple of changes to wording about publishable material.
5.1	PhD Admission	Clarified acceptable background, other details
5.2	Advisor	Clarified Letter of Support needed in application
5.2.4	Advisory Committee	Clarified committee structure
5.6.2	Performance	Removed extraneous details
5.8	C. Exam	Added details; changed presentation to 20-30 min
5.9	Thesis Proposal	Changed to 18 months from start (recommended by Review), changed presentation to 20-30 minutes
5.10	Thesis	Added style notes

Sincerely,



C.J. Mundy

<p>Studies and, if need be, the department/unit may recommend remedial measures in language skills based on the results of the CanTEST. Some units may require a specific test or test scores greater than those indicated above. Students should check department/unit supplementary regulations for details.</p>	
<p><b>1.1.8 English Language Proficiency Test Exemption List</b></p> <p>Applicants holding secondary school diplomas and/or recognized university degrees from countries on the Faculty of Graduate Studies English Language exemption list are not required to submit an English Language Proficiency score. For more information please see our website at <a href="http://umanitoba.ca/faculties/graduate_studies/admissions/english_exemption_list.htm">http://umanitoba.ca/faculties/graduate_studies/admissions/english_exemption_list.htm</a></p>	
<p><b>1.1.9 Letters of Recommendation</b></p> <p>Letters of Recommendation are to be completed via the online application. Applicants are required to add their 'Recommendation Provider(s)' contact information so that each recommender is sent an automated email notification.</p> <p>Generally, two (2) Letters of Recommendation must be submitted to the Faculty of Graduate Studies. For the number of recommendation letters necessary, applicants should review their specific Program webpage at <a href="http://umanitoba.ca/faculties/graduate_studies/admissions/programs/index.html">http://umanitoba.ca/faculties/graduate_studies/admissions/programs/index.html</a>.</p>	<p><a href="#">We require two letters of Recommendation, which should each come from an individual who has knowledge of the applicant's academic background, area of intended research as well as the applicant's research and academic abilities. Written letters, in addition to the web form, are required.</a></p> <p><a href="#">Applicants must have an additional Letter of Support from a confirmed Program Advisor. The Letter of Support must include information on financial support and how the applicant fits into the Advisor's current research program.</a></p>
<p><b>1.1.10 Admission Tests</b></p> <p>Some departments/units require admissions tests, such as the Graduate Record Examination (GRE®) or the Graduate Management Aptitude Test (GMAT™). These requirements are listed in the supplementary regulations of the particular department/unit, and if required, the scores must be submitted at the time of application.</p>	
<p><b>1.1.11 Entrance Requirements</b></p> <p>The minimum standard for acceptance into any category in the Faculty of Graduate Studies is a 3.0 Grade Point Average (GPA) or equivalent in the last two (2) previous years of full time university study (60 credit hours).</p> <p><b>Note:</b> This is the minimum requirement of the Faculty of Graduate Studies and departments/units may have higher standards and additional criteria.</p>	
<p><b>1.1.12 Eligibility of University of Manitoba Staff Members</b></p> <p>A staff member at The University of Manitoba at the rank of Assistant Professor or above is not eligible to apply for admission to a graduate program in the department/unit in which the appointment is held.</p>	
<p><b>1.2 Registration Procedures</b></p>	

### 1.2.1 Registration

Pre-Master's students are not normally allowed to register in 7000-level courses or above, with the exception of [GRAD 7500](#), unless prior permission is granted by the Dean of the Faculty of Graduate Studies or designate.

Undergraduate students may be permitted to register in 7000-level courses or above on recommendation of the department/unit offering the graduate course, subject to the conditions listed below.

- Undergraduate students must obtain permission from the department/unit head and course instructor before registering for a graduate course.
- Only undergraduate students completing an undergraduate degree at the University of Manitoba are eligible to enroll in a graduate course.
- Undergraduate students are not eligible for admission to any graduate course that is cross-listed with an undergraduate course, or that is scheduled to be taught at the same time and location as an undergraduate class.
- Undergraduate students will only be eligible to receive graduate-level credit for a course designated as 7000-level or above if at least 75% of the students registered in the course are graduate students.
- Undergraduate students who complete a graduate course are not guaranteed admission to a graduate program.

On admission to a graduate program at the University of Manitoba, application may be made to the Faculty of Graduate Studies to apply any previously completed graduate courses toward meeting program requirements, subject to the restrictions listed below.

- No more than 50% of the coursework required in a graduate program may be imported.
- Only courses in which a C+ grade or higher, or the minimum grade required by the program to which the course would be applied, are eligible to be considered towards meeting the requirements of any graduate program.
- Any graduate course completed by an undergraduate student may subsequently be applied to a graduate program only if it has not been used toward completion of any other degree program.
- Any graduate course completed by an undergraduate student for which a passing grade has been obtained (i.e., C+ or higher) may not be repeated should the student later gain admission to a graduate program.
- Courses completed more than seven (7) years prior to the date of awarding a degree may not normally be used for credit towards the degree (see section [4.7.2 Lapse of Credit of Courses](#)).

**All graduate students must initially register in the term specified in their letter of acceptance as specified in the Academic Schedule of the Graduate Calendar.** Any student not registering by the registration deadline for the term specified in their letter of offer will be required to re-apply for admission. In exceptional circumstances and with prior approval from the department/unit, a student may defer registration for up to one (1) term following acceptance into the Faculty of Graduate Studies. In the case of international students, admission may be deferred, with prior approval from the department/unit, for up to one (1) year following acceptance.

**All programs must be approved by the Head of the major department/unit or designate.** Approval to take courses from departments/units outside the major department/unit must be obtained from the outside department/unit.

[Students must submit a completed Departmental Registration form to the Department prior to registering for a course, candidacy exam, or defence in a term for Departmental approval. This form is not required for regular re-registration.](#)

<p>who is enrolled in the Faculty of Graduate Studies and whose graduate work is concentrated in aging. To be eligible, a "Student intention to receive the Graduate Focus on Aging Concentration" form must be submitted to the Faculty of Graduate Studies. Masters or Doctoral students must complete the requirements of the program to which they have been admitted and the requirements of the Graduate Focus on Aging Concentration.</p> <p>The Graduate Focus on Aging Concentration requirements include:</p> <ol style="list-style-type: none"> <li>1. Six (6) credit hours of graduate (7000-level or higher) courses that focus on aging and are approved by the student's Advisory Committee;</li> <li>2. A thesis/practicum on an aging-related topic;</li> <li>3. Having at least one Advisory committee member who is officially affiliated with the Centre on Aging as a Research Affiliate; and</li> <li>4. Participating in the annual Spring Research Symposium of the Centre on Aging at least once as a poster presenter.</li> </ol> <p>Graduate students may be able to attain their 6 credit hours of courses within the existing course requirements of their graduate program. Students must attain a minimum grade of C+ (or higher, if stipulated in the department/unit supplementary regulations), for the required 6 credit hours of aging courses.</p> <p>Graduate students who are not in a thesis/practicum will be considered on a case-by-case basis.</p> <p>Student progress in the Graduate Focus on Aging Concentration would normally be discussed with the student's Advisory committee, and progress documented on the "Graduate Focus on Aging Concentration Completion" form which must accompany the Progress Report form submitted to the Faculty of Graduate Studies. The final Graduate Focus on Aging Concentration Completion form must be submitted no later than at least one week prior to the FGS deadline for graduands to submit theses/practica and other reports.</p>	
<p><b>SECTION 3: General Regulations: Pre-Master's</b></p> <p><b>3.1 Admission and Program Requirements</b></p> <p>Graduates of bachelor degree programs with a minimum grade point average (GPA) of 3.0 in the last two (2) full years of university study will be considered for admission to a Pre-Master's program. These are the minimum requirements of the Faculty of Graduate Studies. Departments/Units may specify higher or additional criteria. <u>Admission to a Pre-Master's program does not guarantee future admission to a Master's program.</u> As the Pre-Master's program of study is intended to bring a student's background up to the equivalent of the required four (4)-year degree, departments/units should assign to students, as part of their Pre-Master's program of study, an appropriate number of applicable upper level (3000 or 4000) undergraduate courses. Pre-Master's students are not normally allowed to register in 7000-level courses or above, with the exception of <a href="#">GRAD 7500</a>, unless prior permission is granted by the Dean of the Faculty of Graduate Studies or designate.</p>	<p><del>The Pre-Master's program is determined at the time of admission and may require a maximum of 30 credit hours (CH) of upper level undergraduate course work. The Department's Graduate Committee must approve the courses selected to complete the Pre-Master's program.</del> <u>Not Available</u> <del>The Department does not offer a Pre-Master's program.</del></p>
<p><b>3.2 Academic Performance</b></p> <p>3.2.1. The department/unit Head is responsible for assigning the courses and monitoring the progress of each student.</p>	

<p><b>4.2 Diploma Programs</b></p> <p>The regulations for the Master's program shall also prevail for diploma programs. All students should consult the department/unit supplementary regulations regarding diploma programs.</p>	
<p><b>4.3 Admission</b></p> <p><b>4.3.1 General Criteria</b></p> <p>Students who are eligible to be considered for direct admission to a program of study leading to the Master's degree include:</p> <ul style="list-style-type: none"> <li>• Graduates of four (4)-year undergraduate degree programs (or equivalent as deemed by the Faculty of Graduate Studies) from: <ul style="list-style-type: none"> <li>○ Canadian institutions empowered by law to grant degrees; or</li> <li>○ Colleges and universities outside Canada which are officially recognized by the Faculty of Graduate Studies.</li> </ul> </li> <li>• Graduates from first-cycle Bologna compliant degrees.</li> <li>• Students who have completed a Pre-Master's program from: <ul style="list-style-type: none"> <li>○ The University of Manitoba; or</li> <li>○ Canadian institutions empowered by law to grant degrees; or</li> <li>○ Colleges and universities outside Canada which are officially recognized by The Faculty of Graduate Studies.</li> </ul> </li> </ul> <p>All students applying for a Master's degree program must have attained a minimum GPA of 3.0 in the last two (2) full years (60 credit hours) of study. This includes those applying for direct admission and those entering from a Pre-Master's program. Students who meet the minimum requirements for admission to the Faculty of Graduate Studies are not guaranteed admission.</p> <p><b>Note:</b> This is the minimum requirement of the Faculty of Graduate Studies and departments/units may have higher standards and additional criteria.</p>	<p><b>Admission requirements to M.A., M.Env., and M.Sc.</b></p> <p><u>The Department only offers a thesis-based Master's program.</u> Students with an honours degree or equivalent, including a 4-year advanced degree in Geography, Environmental and Human Sciences, and/or Environmental Studies or related areas will be considered for admission to <u>the thesis-based a</u> Master's program.</p> <p><u>a</u> minimum GPA of 3.25 in the last 60 CH of course work or equivalent.</p> <p><u>Students must have a confirmed Advisor identified at the time of application. The Advisor must provide a detailed letter of support to be included with the student's application. It is the student's responsibility to find an Advisor.</u></p> <p><u>The role of the Graduate Selection Committee (GSC) will be to review each applicant's suitability to the intended program of study as well as the Advisor's suitability to the applicant's intended area of research.</u></p>
<p><b>4.3.2 Pre-Master's Programs</b></p> <p>In specific cases where the academic background of the student is judged to be insufficient for the given program in a department/unit, the department/unit may recommend that the student be admitted to a Pre-Master's program of study (Section 3).</p> <p>The Pre-Master's program of study is intended to bring a student's background up to the equivalent of the required 4-year degree in the major department/unit, and to provide the student with any necessary prerequisites for courses to be taken in the Master's program.</p>	
<p><b>4.4 Program Requirements</b></p>	

<p><b>4.5 Student's Advisor and Co-Advisor</b></p> <p><b>4.5.1 Student's Advisor</b></p> <p>Each student should have an advisor upon entry into the program, and must have one assigned no later than one (1) term following registration. The advisor must:</p> <ul style="list-style-type: none"> <li>• hold an appointment in the student's department/unit;</li> <li>• be a member of the Faculty of Graduate Studies*;</li> <li>• hold at least a Master's degree or equivalent**;</li> <li>• be active in research;</li> <li>• have expertise in a discipline related to the student's program.</li> </ul> <p><a href="http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html">*(http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html)</a></p> <p>**Equivalency will be approved by the Dean of the Faculty of Graduate Studies and determined on a case by case basis and assessed by the potential advisor's demonstrated research record and current research activities. Note that M.D., D.M.D., Pharm.D. and J.D. are undergraduate degrees and are not equivalent to a Master's or Ph.D.</p> <p>It is the responsibility of the department/unit Head to determine whether faculty members meet these criteria, and also to report to the Dean of the Faculty of Graduate Studies on equivalency as necessary. Any exceptions or special circumstances must be recommended by the department/unit Head and approved by the Dean of the Faculty of Graduate Studies who considers each case on an individual basis.</p> <p>In department/units where the choice of thesis/practicum topic and thesis/practicum advisor are postponed after a student's entry into the program, the department/unit Head, within one (1) term, shall appoint a faculty member to advise the student in the interim period before the regular advisor is assigned or chosen. Students must have an advisor through to the end of their program in programs requiring an advisor.</p>	<p><u>Students must have a confirmed Advisor identified at the time of application. The Advisor must provide a detailed letter of support to be included with the student's application. It is the student's responsibility to find an Advisor.</u></p> <p>A departmental Co-Advisor may be required for adjunct faculty wishing to supervise Master's level students. The Graduate Selection Committee (GSC) will make this determination with approval by the Department Head. <u>This determination will be made following procedures outlined in the departmental adjunct policy.</u></p>
<p><b>4.5.2 Student's Co-advisor</b></p> <p>In special circumstances, upon approval of the Head of the department/unit, an advisor and a maximum of one (1) co-advisor may advise a student. The co-advisor must:</p> <ul style="list-style-type: none"> <li>• be a member of the Faculty of Graduate Studies*;</li> <li>• hold a Master's or equivalent**;</li> <li>• be active in research;</li> <li>• have expertise in a discipline related to the student's program;</li> </ul> <p><a href="http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html">*(http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html)</a></p> <p>**Equivalency will be approved by the Dean of the Faculty of Graduate Studies and determined on a case by case basis and assessed by the potential co-advisor's demonstrated research record and current research activities. Note that M.D., D.M.D.,</p>	

<p>Pharm.D. and J.D. are undergraduate degrees and are not equivalent to a Master's or Ph.D.</p> <p>The co-advisor may be identified either at the beginning of, or mid-way through, a student's program. In all instances, the Faculty of Graduate Studies must be informed of, and approve, the co-advisor arrangement. If a co-advisor is added midway through the student's program, a new Advisor Student Guidelines must be completed.</p> <p>When an advisor and co-advisor are assigned, together they shall fulfill the role of the advisor (that is, neither shall fulfill any other advisory or examining committee membership requirements for that student). One (1) advisor must be identified as the primary advisor; however, both the advisor and co-advisor's signatures are required on all documents where the advisor's signature is required.</p>	
<p><b>4.5.3 Student's Advisor/Co-advisor</b></p> <p>A student who also holds an appointment at The University of Manitoba at the rank of Assistant Professor or above cannot have an advisor or co-advisor with an appointment in the same department/unit.</p> <p>The advisor, co-advisor (if applicable) and student must discuss, and complete, the Faculty of Graduate Studies Advisor Student Guidelines prior to the commencement of any research and no later than the submission of the first Progress Report for the student. If a student does not have an advisor/co-advisor, then the interim advisor will be required to complete the Advisor Student Guidelines. The advisor/co-advisor and the student are required to approve the agreement. If the parties cannot agree on any component(s) of the Advisor Student Guidelines, the matter should be referred to the department/unit Head, Graduate Chair, or the Dean of the Faculty of Graduate Studies. The Advisor Student Guidelines is to be completed again if there is a change in advisor/co-advisor or when a co-advisor is added mid-way through the student's program.</p> <p>Should, during the student's program, the relationship between the student and advisor/co-advisor significantly deteriorate, the matter should be referred to the department/unit Head, Graduate Chair, or the Dean of the Faculty of Graduate Studies. It is the responsibility of the unit offering the program in which the student is studying to arrange an alternate advisor if this is appropriate and necessary.</p> <p>All students should consult department/unit supplementary regulations for specific details regarding advisor/co-advisor requirements.</p>	
<p><b>4.6 Advisory Committee</b></p> <p><b>4.6.1 Thesis/Practicum Route</b></p> <p>Advisory committees are selected by the advisor/co-advisor in consultation with the student and should consist of individuals whose expertise is consistent with that necessary to provide additional advice and guidance to the student during their research program. The advisory committee must consist of a minimum of three (3) members (including the advisor/co-advisor), at least two (2) of whom must be members of the Faculty of Graduate Studies (<a href="http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html">http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html</a>). All examiners must be deemed qualified by the department/unit Head and be willing to serve. It is expected, under normal circumstances, that advisory committee members will possess at least a Master's degree or equivalent. Advisory committees</p>	<p>Within 12 months of commencement of the program, the Advisor, in consultation with the student, will determine the membership of the Advisory Committee for approval by the Head <u>or Graduate Chair</u>. The advisor and at least one other member of the Advisory Committee must be members of the Faculty of Graduate Studies. The Advisory Committee will include at least two Department of Environment and Geography faculty members (normally). <del>At least one regular faculty member in good standing of the Department of Environment and Geography must be appointed to the Advisory Committee for the Masters of Environment when the principal Advisor is not a</del></p>

<p>may include one (1) non-voting guest member who has expertise in a related discipline but is not a member of the Faculty of Graduate Studies.</p> <p>The composition of, and any changes to, the advisory committee, including the advisor/co-advisor, must be approved by the Faculty of Graduate Studies. The advisor/co-advisor is the Chair of the advisory committee. If two or more advisory committee members are in a personal relationship, the “Conflict of Interest Disclosure Form” (<a href="https://umanitoba.ca/admin/governance/governing_documents/community/962.html">https://umanitoba.ca/admin/governance/governing_documents/community/962.html</a>) must be completed and submitted to the Faculty of Graduate Studies. See The University of Manitoba’s Conflict of Interest policy: <a href="https://umanitoba.ca/admin/governance/governing_documents/community/248.html">https://umanitoba.ca/admin/governance/governing_documents/community/248.html</a>.</p> <p>Additional specifications, if any, regarding the advisory committee are found in the department/unit supplementary regulations and students should consult these regulations for specific requirements.</p>	<p><del>member of the Department.</del> The Advisory Committee can serve as the thesis examining committee.</p>
<p><b>4.6.2 Course-based or Comprehensive Examination Route</b></p> <p>Normally, advisory committees are not required in these routes, however any appropriate specifications regarding an advisory committee can be found in the department/unit’s supplementary regulations and students should consult these regulations for specific requirements. If there is an advisory committee and two or more committee members are in a personal relationship, the “Conflict of Interest Disclosure Form” (<a href="https://umanitoba.ca/admin/governance/governing_documents/community/962.html">https://umanitoba.ca/admin/governance/governing_documents/community/962.html</a>) must be completed and submitted to the Faculty of Graduate Studies. See The University of Manitoba’s Conflict of Interest policy: <a href="https://umanitoba.ca/admin/governance/governing_documents/community/248.html">https://umanitoba.ca/admin/governance/governing_documents/community/248.html</a>.</p>	
<p><b>4.6.3 Accredited professional programs</b></p> <p>Normally, advisory committees are not required in these routes, however any appropriate specifications regarding an advisory committee can be found in the department/unit’s supplementary regulations and students should consult these regulations for specific requirements.</p> <p>If there is an advisory committee and two or more committee members are in a personal relationship, the “Conflict of Interest Disclosure Form” (<a href="https://umanitoba.ca/admin/governance/governing_documents/community/962.html">https://umanitoba.ca/admin/governance/governing_documents/community/962.html</a>) must be completed and submitted to the Faculty of Graduate Studies. See The University of Manitoba’s Conflict of Interest policy: <a href="https://umanitoba.ca/admin/governance/governing_documents/community/248.html">https://umanitoba.ca/admin/governance/governing_documents/community/248.html</a>.</p>	
<p><b>4.7 Courses and Performance</b></p> <p><b>4.7.1 Course or Program Changes</b></p> <p>Students are not permitted to change their program of study, including withdrawal from individual courses, without the approval of their advisor/co-advisor (and/or advisory committee) and department/unit Head. Withdrawal from courses or changes</p>	

<p>the “Progress Report” form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>). Students who fail to maintain satisfactory performance may be required to withdraw on the recommendation of the department/unit Head to the Dean of the Faculty of Graduate Studies.</p>	
<p><b>4.8 Academic Requirements for Graduation</b></p> <p>All students must:</p> <ul style="list-style-type: none"> <li>• maintain a minimum degree grade point average (DGPA) of 3.0 with no grade below C+;</li> <li>• complete <a href="#">GRAD 7500</a></li> <li>• complete <a href="#">GRAD 7300</a></li> <li>• meet the minimum and not exceed the maximum course requirements; and</li> <li>• meet the minimum and not exceed the maximum time requirements.</li> </ul> <p>Individual department/units may have additional specific requirements for graduation and students should consult department/unit supplementary regulations for these specific requirements.</p>	
<p><b>4.8.1 Thesis/Practicum Route</b></p> <p><b>4.8.1.1 Thesis vs. Practicum</b></p> <p>Students must demonstrate their mastery of the field and that they are fully conversant with the relevant literature through their thesis/practicum. The thesis or practicum will normally be written in English unless the student is studying in a program at the Université de Saint-Boniface, or departmental/unit supplementary regulations allow a different language to be used.</p> <p>A practicum differs from the thesis in its emphasis on the application of theory, it is however similar in scope, span, and rigour. The practicum takes the form of an exercise in the practical application of knowledge and skill. It usually involves the careful definition of a problem, the application of appropriate knowledge and skills to the problem, and a report of the results in a manner suitable for evaluation by an examining committee. Individual department/units have specific requirements for graduation and students should consult department/unit supplementary regulations for specific requirements. Research must be approved by the appropriate Human Research Ethics Board or Animal Care Committee, if applicable, before the work has begun on the practicum.</p> <p>The thesis is developed under the mentorship of the advisor/co-advisor. Individual department/units may have specific guidelines regarding the thesis proposal and its acceptance by the student’s advisory committee and department/unit Head; students should consult department/unit supplementary regulations for specific requirements. Research must be approved by the appropriate Human Research Ethics Board or Animal Care Committee, if applicable, before the work has begun on the thesis research.</p>	<p><b>Thesis Proposal and Proposal Defence</b></p> <p>Students are required to submit a thesis proposal to their Advisor. The proposal should incorporate a statement of research purpose, research objectives, proposed methodology, and a rationale for the research, including a brief literature review. The Advisor determines if the proposal is of sufficient merit to be forwarded to the Advisory Committee, which will receive it at least two weeks prior to a meeting, at which time the student will present their proposal in an oral defence format to their committee. The proposal defence will begin with a 20-30 minute presentation by the student that is followed by questions from the committee, with the total time being 1 1/2 to 2 hours. The Advisory Committee will determine at this time what revisions, if any, are necessary, and whether the proposal can be approved pending required revisions. Unanimous approval is required. The Advisor shall chair the proposal defence. The oral defence (presentation and questioning) may be open to the public if the Advisory Committee decides this is appropriate.</p> <p>Should the proposal not be approved, the student may present another or revised proposal following the same procedure outlined above. The proposal must be completed and accepted prior to the end of the first term of the second year of the program. A recommendation that the student be required to withdraw from the program will be made if the</p>

second thesis proposal defence presentation results in a failure.

~~Thesis format guidelines follow those published by the Faculty of Graduate Studies.~~

~~The Department of Environment and Geography will also accept "Manuscripts Within a Thesis" format for all Master's programs (i.e.: published peer-reviewed journal contributions). A thesis of this type is comprised of a collection of papers that have been published, submitted, or are considered publishable by the student's Advisory Committee. This type of thesis must have been approved by the Advisory Committee during the Master's Thesis proposal defence and must comply with Faculty of Graduate Studies regulations. For any unpublished works, the Advisory Committee must agree that the manuscripts provided conform to the content and style of publications for the discipline that best represents the major theme of the work. The number of papers that comprise this format will be determined between the student and the Advisory Committee; however, at least one published or submitted manuscript is required. The collection of papers or articles must contribute toward the overall theme that represents the thesis work. There must be an introductory and a concluding chapter that provide the following information:~~

- ~~• the overall theme of the thesis;~~
- ~~• a description of the theme that is threaded throughout the works;~~
- ~~• the context for the works;~~
- ~~• a description of the commonalities or connecting concepts across the papers or articles; and~~
- ~~• the overall implications of the findings in the collection of papers or articles.~~

~~The concluding chapter should also include a discussion on how the thesis with its findings provides a distinct contribution to knowledge in the research area. The thesis cannot just consist of several papers or articles bound within the one document. All other requirements and regulations regarding the manuscript (sandwich) style thesis as specified by the Faculty of Graduate Studies for the Ph.D. level apply at the Master's level.~~

~~If manuscripts within a thesis are submitted, the student must provide a description for each chapter of the journal where publication has or will occur, the authorship, year of publication, volume and page numbers and other standard reference information. They must also explain clearly their contribution to the work and that of the co-authors for each chapter.~~

#### 4.8.1.2 Examining Committee

The advisor/co-advisor will recommend an examining committee to the department/unit Head for approval, which shall then be reported to the Faculty of Graduate Studies on the “Master’s Thesis/Practicum Title and Appointment of Examiners” form ([http://umanitoba.ca/faculties/graduate\\_studies/forms/index.html](http://umanitoba.ca/faculties/graduate_studies/forms/index.html)). This form must be approved by the Dean of the Faculty of Graduate Studies at least two (2) weeks prior to the distribution of the thesis.

Under normal circumstances, the examining committee will be the same as the advisory committee unless otherwise stipulated in the department/unit’s supplementary regulations. The examining committee must consist of a minimum of three (3) members (including the advisor/co-advisor), at least two (2) of whom must be members of the Faculty of Graduate Studies. All examiners must be deemed qualified by the department/unit Head and be willing to serve. It is expected that, under normal circumstances, examination committee members will have a Master’s degree or equivalent. The composition of, and any changes to, the examining committee, including the advisor/co-advisor, must be approved by the Faculty of Graduate Studies. Individual department/units establish specific requirements for examination and students should consult department/unit supplementary regulations for specific requirements.

Graduate students, Post-Doctoral fellows, and Research Assistants or Associates may not serve on graduate student examining committees.

If two or more examining committee members are in a personal relationship, the “Conflict of Interest Disclosure Form” ([https://umanitoba.ca/admin/governance/governing\\_documents/community/962.html](https://umanitoba.ca/admin/governance/governing_documents/community/962.html)) must be completed and submitted to the Faculty of Graduate Studies. See The University of Manitoba’s Conflict of Interest policy: [https://umanitoba.ca/admin/governance/governing\\_documents/community/248.html](https://umanitoba.ca/admin/governance/governing_documents/community/248.html).

The Head of the department/unit arranges for the distribution of the thesis/practicum to the examiners. It is the duty of all examiners to read the thesis/practicum and report on its merits according to the following categories:

- Acceptable, without modification or with minor revision(s); or
- Acceptable, subject to modification and/or revision(s); or
- Not acceptable.

If two or more examiners do not approve the thesis, then the student is deemed to have failed the distribution.

Note that in the case of an advisor and co-advisor, both together have a single vote on the examining committee.

The Examining Committee will normally consist of the Advisory Committee.

#### Written thesis

The Advisor will advise the student if the thesis is defensible. Following this review and normally at least two weeks prior to the scheduling of the thesis defence, the thesis will be distributed to members of the Examining Committee.

The Advisor is responsible for distributing the thesis to the examining committee.

#### 4.8.1.3 Oral Examination

For department/units requiring students to pass an oral examination on the subject of the thesis/practicum and matters relating thereto, the format of the oral examination is described in the supplementary regulations of the department/unit. Students should consult these supplementary regulations for specific requirements. A student has the right to an examination of the thesis/practicum if they believe it is ready for examination. It is the department/unit’s responsibility to advise the student of any risk

#### Written thesis

The Advisor will advise the student if the thesis is defensible. Following this review and normally at least two weeks prior to the scheduling of the thesis defence, the thesis will be distributed to members of the Examining Committee.

**Defence and oral examination**

<p>involved should they decide to proceed against the department/unit's recommendation.</p> <p>All members of the examining committee are required to be present at the examination. Under exceptional circumstances, and with the prior approval of the Dean of the Faculty of Graduate Studies, one (1) member may participate electronically. Only under very exceptional circumstances can the student or the Advisor/Co-advisor participate electronically. No recording devices will be permitted. The oral examination must be held at either The University of Manitoba Fort Garry or Bannatyne campus, Université de Saint-Boniface, or the St. Boniface Hospital Albrechtsen Research Centre normally during regular business hours. The oral examination shall be open to all members of The University of Manitoba community except in exceptional cases. The oral examination may be closed, for example, when the results of the thesis/practicum research must be kept confidential for a period of time. In such cases, the examining committee and department/unit Head shall recommend such action to the Dean of the Faculty of Graduate Studies who shall then decide whether to grant that the final examination be closed to all but the examining committee and the Dean of the Faculty of Graduate Studies (or delegate).</p> <p>The oral examination will normally be held in English unless the student is studying in a program at the Université de Saint-Boniface, or departmental/unit supplementary regulations allow a different language to be used.</p> <p>Following completion of the examination of the thesis/practicum, examiners will consider the oral examination and the written thesis/practicum.</p> <p>The examiners will also determine the nature of and procedures for approval of any revisions that will be required prior to submission of the thesis/practicum to the Faculty of Graduate Studies. The advisor/co-advisor is normally responsible for ensuring that revisions are completed according to the instructions from the examining committee.</p> <p>The judgment of the examiners shall be reported to the Faculty of Graduate Studies in the qualitative terms "approved" or "not approved" on the "Thesis/Practicum Final Report" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>). Each examiner must indicate their opinion by their signature. If two (2) or more examiners do not approve the thesis/practicum, the student is deemed to have failed the examination.</p>	<p>Students are required to defend their thesis in an open departmental forum. Selection of the Chair and notification of their role is done by the Advisor <del>in consultation with</del> and provided to the Graduate Program <del>Secretary</del> <del>Coordinator</del> at least three weeks prior to the scheduled defence.- <a href="#">Chair needs to be a member of FGS and within the Department of Environment and Geography. A completed Master's Thesis Title and Appointment of Examiner's form must be submitted by the Advisor to the Department no later than 3 weeks prior to the proposed defense date.</a> No defence can be scheduled without selection of a confirmed Chair.</p> <p>At the oral defence, the student will give a 20 to 30 minute presentation followed by questions from the Examining Committee and, time permitting, from the general audience. The length of the examination is generally 1 1/2 to 2 hours. The determination of pass by the Examining Committee must be unanimous.</p> <p><a href="#">A completed Master's Thesis Title and Appointment of Examiner's form must be submitted to the Department no later than 3 weeks prior to the proposed defense date.</a></p>
<p><b>4.8.1.4 Failure</b></p> <p>In the case of a failure of the thesis/practicum at the Master's level, a detailed written report will be prepared by the Chair of the examination committee and submitted to the Faculty of Graduate Studies, who will make the report available to the student and advisor/co-advisor.</p> <p>A student will be required to withdraw when the thesis/practicum has been rejected twice at the stage where:</p> <ul style="list-style-type: none"> <li>• The examining committee reports on the merits of the written thesis/practicum;</li> <li>• The oral examination; or</li> <li>• A combination of both stages.</li> </ul>	

<p>The examining process should be completed within one (1) month of distribution of the thesis/practicum to the examining committee.</p>	
<p><b>4.8.2 Course-based or Comprehensive Examination Route</b></p> <p>Students must demonstrate their mastery of their field. The specific procedures for evaluation of this mastery are stated in individual department/unit supplementary regulations.</p> <p>In those department/units where comprehensive examinations are required, students should consult the department/unit's supplementary regulations for specific requirements.</p> <p>The results of the comprehensive examinations shall be submitted to the Faculty of Graduate Studies on the "Report on Comprehensive Examination" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>) in the terms "pass" or "fail." No student may sit comprehensive examinations more than twice. Any student who receives a "fail" on the comprehensive examination twice will be required to withdraw from the Faculty of Graduate Studies.</p>	
<p><b>4.9 Style and Format</b></p> <p>The thesis/practicum must be written according to a standard style acknowledged by a particular field of study (see <a href="#">Appendix 1</a>).</p>	<p><u><a href="#">Thesis format guidelines follow those published by the Faculty of Graduate Studies.</a></u></p> <p><u><a href="#">The Department of Environment and Geography will also accept "Manuscripts Within a Thesis" format for all Master's programs (i.e.: published peer-reviewed journal contributions). A thesis of this type is comprised of a collection of primary-authored papers by the student that have been published, submitted, or are considered publishable by the student's Advisory Committee. This type of thesis must have been approved by the Advisory Committee during the Master's Thesis proposal defence and must comply with Faculty of Graduate Studies regulations. For any unpublished works, the Advisory Committee must agree that the manuscripts provided conform to the content and style of publications for the discipline that best represents the major theme of the work. –The number of papers that comprise this format will be determined between the student and the Advisory Committee; however, at least one published or in final preparation for submission/submitted manuscript is required. The collection of papers or articles must contribute toward the overall theme that represents the thesis work. There must be an introductory and a concluding chapter that provide the following information:</a></u></p> <ul style="list-style-type: none"> <li><u><a href="#">• the overall theme of the thesis;</a></u></li> <li><u><a href="#">• a description of the theme that is threaded throughout the work(s);</a></u></li> <li><u><a href="#">• the context for the work(s);</a></u></li> <li><u><a href="#">• a description of the commonalities or connecting concepts across the papers or articles; and</a></u></li> </ul>

	<ul style="list-style-type: none"> <li>• <u>the overall implications of the findings in the collection of papers or articles.</u></li> </ul> <p><u>The concluding chapter should also include a discussion on how the thesis with its findings provides a distinct contribution to knowledge in the research area. The thesis cannot just consist of several papers or articles bound within the one document. All other requirements and regulations regarding the manuscript (sandwich) style thesis as specified by the Faculty of Graduate Studies for the Ph.D. level apply at the Master's level.</u></p> <p><u>If manuscripts within a thesis are submitted, the student must provide a description for each chapter of the journal where publication has or will occur, the authorship, year of publication, volume and page numbers and other standard reference information. They must also explain clearly their contribution to the work and that of the co-authors for each chapter.</u></p>
<p><b>4.10 Details for Submission of the Final Copy</b></p> <p>Following the approval of the thesis/practicum by the examining committee and the completion of any revisions required by that committee, the thesis/practicum, must be submitted to the Faculty of Graduate Studies as follows:</p> <ul style="list-style-type: none"> <li>• One digital version submitted as an e-thesis/practicum at the MSpace website (<a href="http://mspace.lib.umanitoba.ca/xmlui/login">http://mspace.lib.umanitoba.ca/xmlui/login</a>);</li> <li>• Thesis/Practicum final report;</li> <li>• Copyright License Declaration form (located within MSpace).</li> </ul>	
<p><b>4.11 Publication and Circulation of Thesis/Practicum</b></p> <p>Every graduate student registering in a thesis/practicum Master's program at The University of Manitoba shall be advised that, as a condition of being awarded the degree, they will be required to grant a license of partial copyright to the University and to the Library and Archives Canada for any thesis or practicum submitted as part of their degree program.</p> <p><b>Note:</b> This license makes the thesis/practicum available for further research only. Publication for commercial purposes remains the sole right of the author.</p> <p>The Copyright Licence Declaration/Infringement Form must be completed on MSpace. This and other related regulations may give rise to important questions of law, and students may need additional legal advice on the copyright laws of Canada and/or other countries. Students who wish to obtain legal advice concerning their subsequent rights are advised to do so prior to signing the agreements. Signing of the license agreements is normally done after the contents of the thesis/practicum have been delineated and the importance of copyright and/or patents fully understood and appreciated.</p> <p>Publication in the above manner does not preclude further publication of the thesis or practicum report or any part of it in a journal or in a book. In such cases, an</p>	

<p><b>5.1.1 General criteria</b></p> <p>Normally, the completion of a Master's degree or equivalent from a recognized university and a cumulative GPA of 3.0 or equivalent in the last two (2) previous years of full time university study (60 credit hours) is the minimum requirement for admission to the Ph.D. program.</p> <p><b>Note:</b> This is the minimum requirement of the Faculty of Graduate Studies and department/units may have higher standards and additional criteria. However, the criteria for admissions into the Ph.D. program are more stringent than for Master's programs; therefore, the completion of a Master's program does not guarantee admission into the Ph.D. program. Some department/units require completion of a thesis-based Master's program prior to admission to a Ph.D. program.</p>	<p>Admission requirements to the Ph.D. Program are:</p> <ul style="list-style-type: none"> <li>• A minimum GPA of 3.5;</li> <li>• The prospective student must submit an area of research interest, in the form of a two (<u>maximum three</u>)-page statement of research interest.</li> <li>• <u>Student's education should have a strong background in Geography, Environmental Sciences, Environmental Studies and/or related areas</u></li> <li>• <u>Student should have or be completing a research driven thesis-based Masters degree.</u></li> </ul> <p>Should the proposed Advisor be adjunct to the Department, an internal faculty member will have to agree to act as a Co-Advisor, unless permission on a case-by-case basis is provided by the Department Head and Graduate Program Chair.</p>
<p><b>5.1.2 Direct Admission from the Bachelor's Honours or equivalent</b></p> <p>With special recommendation of the department/unit concerned, applicants with an honours Bachelor's degree or equivalent may be considered for entry to Ph.D. study. These students must be outstanding in their academic background (GPA well above 3.0 in the last two full years of undergraduate study).</p> <p><b>Note:</b> This is the minimum requirement of the Faculty of Graduate Studies and department/units may have higher standards and additional criteria. Once admitted, these students must complete at least 24 credit hours of coursework, unless the individual department/unit's approved supplementary regulations specify otherwise, and will be assessed Ph.D. fees for three (3) years. A minimum of 18 credit hours at the 7000-level or higher is required. Any further coursework beyond the minimum 18 credit hours at the 7000-level must be at the 3000-level or above. A maximum of 48 credit hours of coursework is allowed toward the Ph.D. program.</p>	
<p><b>5.1.3 Transfer from the Master's to the Ph.D. program</b></p> <p>Students who have not completed a Master's program may transfer to the Ph.D. program within the same department/unit upon the recommendation by the Head of the department/unit to the Faculty of Graduate Studies. The recommendation should be made within four (4) terms (including Summer term) from the start of the Master's program. Fees paid, coursework completed and time spent in the Master's program will normally be credited towards the Ph.D. program. Students must complete at least 24 credit hours of coursework, unless the individual department/unit's approved supplementary regulations specify otherwise. A minimum of 18 credit hours at the 7000-level or higher is required. Any further coursework beyond the minimum 18 credit hours at the 7000-level must be at the 3000-level or above. A maximum of 48 credit hours of coursework is allowed toward the Ph.D. program.</p> <p>The request to transfer from a Master's to the Ph.D. program must be submitted to the Faculty of Graduate Studies at least one (1) month prior to the term for which the student intends to commence the Ph.D. program. The applicant must indicate a request for transfer on the online Application for Admission.</p>	

<p>The student will be admitted to a 3-year Ph.D. program and will pay a total of three years of program fees, including program fees paid in the Master's at the time of transfer. Students are cautioned that such transfers may impact on the duration of The University of Manitoba Graduate Fellowship.</p> <p>Students who have previously completed a recognized Master's degree and are initially admitted and registered in a Master's program may transfer to the Ph.D. program within the same department/unit on the recommendation of the student's advisor/co-advisor and Head of the department/unit. Where a student holds a Master's degree that would be sufficient for admission to the Ph.D. program, students must complete at least 12 credit hours of coursework, unless the individual department/unit's approved supplementary regulations specify otherwise. The student will be admitted to a 2-year Ph.D. program and will pay a total of two years of program fees, including program fees paid in the Master's at the time of transfer.</p>	
<p><b>5.1.4 Provisional Admission to the Ph.D.</b></p> <p>Students nearing the completion of the Master's degree may be accepted provisionally to the Ph.D. program for a 12 month period (commencing with the first registration in the Ph.D. program). Further registration in the Ph.D. program is contingent upon completion of all requirements of the Master's degree within the 12 months. Students must maintain continuous registration in their Master's program until its completion. Students will require assistance from the department/unit and the Faculty of Graduate Studies to complete dual registration on the "Concurrent Curriculum Permission" form (<a href="http://intranet.umanitoba.ca/student/records/2323.html">http://intranet.umanitoba.ca/student/records/2323.html</a>) in the Master's and Ph.D. program simultaneously.</p>	
<p><b>5.1.5 Students with Disabilities</b></p> <p>See Accommodation Policy for Students with Disabilities:</p> <p><a href="http://umanitoba.ca/admin/governance/governing_documents/students/281.html">http://umanitoba.ca/admin/governance/governing_documents/students/281.html</a></p>	
<p><b>5.2 Student's Advisor, Co-advisor and Advisory Committee</b></p> <p><b>5.2.1 Student's Advisor</b></p> <p>Every Ph.D. student must have an advisor throughout their program, appointed by the Head of the department/unit. The advisor is responsible for supervising the student's graduate program. The advisor is the student's first point of contact at the University of Manitoba, and therefore should be familiar with the general policies and regulations of the Faculty of Graduate Studies as well as the specific supplementary regulations of their academic department/unit. In this capacity, the advisor assists the student in planning the graduate program, and ensures that the student is aware of all graduate program requirements, degree regulations, and general regulations of the academic department/unit, the Faculty of Graduate Studies, the university, and external funding agencies. The advisor provides counsel for all aspects of the graduate program, and stays informed of the student's scholarly activities and progress. The student's advisor also acts as a channel of communication to the student's advisory committee, the department/unit and the Faculty of Graduate Studies.</p> <p>The advisor must:</p>	<p><u>Students must have a confirmed Advisor identified at the time of application. It is the student's responsibility to find an Advisor. Choice of Advisor must be specified and the student must be accepted by that Advisor.</u></p> <p>Should the proposed Advisor be adjunct to the Department, an internal faculty member will have to agree to act as a Co-Advisor, unless permission on a case-by-case basis is provided by the Department Head and Graduate Program Chair.</p> <p><u>The proposed Advisor must provide a Letter of Support to be included with the student's application. The Letter of Support must include the candidate's suitability to the intended program as well as financial support that will/will not be provided.</u></p>

<p>A student who also holds an appointment at the University of Manitoba at the rank of Assistant Professor or above cannot have an advisor or co-advisor with an appointment in the same department/unit.</p> <p>The advisor, co-advisor (if applicable) and student must discuss, and complete, the Faculty of Graduate Studies Advisor Student Guidelines prior to the commencement of any research and no later than the submission of the first Progress Report for the student. If a student does not have an advisor/co-advisor, the interim advisor will be required to complete the Advisor Student Guidelines. If the parties cannot agree on any component(s) of the Advisor Student Guidelines, the matter should be referred to the department/unit Graduate Chair, the Head of the department/unit, or the Dean of the Faculty of Graduate Studies. The Advisor Student Guidelines is to be completed again if there is a change in advisor/co-advisor or when a co-advisor is added midway through the student's program.</p> <p>Should, during the student's program, the relationship between the student and advisor/co-advisor significantly deteriorate, the matter should be referred sequentially to the department/unit Graduate Chair, the Head of the department/unit, then to the Dean of the Faculty of Graduate Studies. It is the responsibility of the department/unit offering the program in which the student is studying to arrange an alternate advisor/co-advisor if this is appropriate and necessary.</p> <p>All students should consult department/unit supplementary regulations for specific details regarding advisor/co-advisor requirements.</p>	
<p><b>5.2.4 Advisory Committee</b></p> <p>The Head of the department/unit is responsible for the establishment of an advisory committee for each Ph.D. student. Advisory committees are selected by the advisor/co-advisor in consultation with the student and should consist of individuals whose expertise is consistent with that necessary to provide additional advice and guidance to the student during their program. The advisory committee must consist of a minimum of three (3) members, all of whom must be members of the Faculty of Graduate Studies (<a href="http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html">http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html</a>). Advisory committees may, in addition, include one (1) non-voting guest member who has expertise in a related discipline but is not a member of the Faculty of Graduate Studies.</p> <p>It is expected that advisory committee members will have a Ph.D. degree or equivalent. Equivalency will be determined by the Dean of the Faculty of Graduate Studies. Graduate students, Post-Doctoral Fellows, and Research Assistants or Associates may not serve on graduate student advisory committees. A student who also holds an appointment at the University of Manitoba at the rank of Assistant Professor or above cannot have an advisor or co-advisor with an appointment in the same department/unit. The composition of, and any changes to, the advisory committee, including the advisor/co-advisor, must be approved by the Faculty of Graduate Studies on the "Program of Study and Appointment of Advisory Committee" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>).</p> <p>If two or more advisory committee members are in a personal relationship, the "Conflict of Interest Disclosure Form" (<a href="https://umanitoba.ca/admin/governance/governing_documents/community/962.html">https://umanitoba.ca/admin/governance/governing_documents/community/962.html</a>) must be completed and submitted to the Faculty of Graduate Studies. See The University of Manitoba's Conflict of Interest</p>	<p>Within 12 months from entry, the Advisor, in consultation with the student, will determine the membership of the Advisory Committee for approval by the Head. <del>The Advisory Committee will consist of at least one regular faculty member from the department.</del> <u>In addition to the advisor, the Advisory Committee will normally consist of at least one internal faculty member from the department and one faculty member from outside the department who has expertise in a cognate area of research to that of the student.</u></p>

<p><b>5.6.1 Performance in Coursework</b></p> <p>A minimum degree grade point average (DGPA) of 3.0 with no grade below C+ must be maintained to continue in the Faculty of Graduate Studies. Departments/Units may specify, in their supplementary regulations, standards that are higher than those of the Faculty of Graduate Studies. Students who fail to maintain the specified grades will be required to withdraw unless a department/unit recommends remedial action. Any such action must be approved by the Dean of the Faculty of Graduate Studies.</p>	
<p><b>5.6.2 Performance Not Related to Coursework</b></p> <p>Students may be required to withdraw from their Ph.D. program for reasons of unsatisfactory performance other than those related to failing grades. These include, but are not restricted to, unsatisfactory attendance and lack of progress in research and/or thesis preparation. Unsatisfactory performance must be reported to the Faculty of Graduate Studies on the "Progress Report" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>). Students who fail to maintain satisfactory performance may be required to withdraw on the recommendation of the department/unit Head to the Dean of the Faculty of Graduate Studies.</p>	<p>Students must:</p> <ul style="list-style-type: none"> <li>• Give at least two presentations in the seminar series. This presentation is intended to provide an opportunity to present and receive feedback regarding preliminary thesis results.</li> </ul> <p>Students should:</p> <ul style="list-style-type: none"> <li>• Regularly attend the Departmental seminar series when possible.</li> </ul> <p><del>Presentations by students at the Graduate Student Seminar Series are expected to be approximately one hour in length, including time for questions. The definition of "regular attendance" will be determined by the Department Head and will depend on the number of seminars occurring in any one academic year. This will be communicated to the student at the start of the academic year.</del></p>
<p><b>5.7 Academic Requirement for Graduation</b></p> <p>All students must:</p> <ul style="list-style-type: none"> <li>• maintain a minimum degree grade point average (DGPA) of 3.0 with no grade below C+;</li> <li>• complete <a href="#">GRAD 7500</a></li> <li>• complete <a href="#">GRAD 7300</a></li> <li>• meet the minimum and not exceed the maximum course requirements; and</li> <li>• meet the minimum and not exceed the maximum time requirements.</li> </ul> <p>Individual department/units may have additional specific requirements for graduation and students should consult department/unit supplementary regulations for these specific requirements. A cumulative degree grade point average of 3.0 or greater is required in those courses that constitute the program of study for graduation in the Faculty of Graduate Studies.</p>	
<p><b>5.8 Candidacy Examination</b></p> <p>The candidacy examination is an absolute requirement of the Faculty of Graduate Studies and, as such, cannot be waived under any circumstances. However, the format and content of the candidacy exam varies from unit to unit. The purpose of the candidacy exam in doctoral programs is to determine the student's competence in the discipline with respect to understanding and absorbing a broad spectrum of material,</p>	<p><b>Candidacy examination</b></p> <p>The first attempt at the Candidacy Examination is to be conducted within the first three years of the student's admittance to the Ph.D. program, <del>preferably within the first two years</del>, and no later</p>

and then researching, identifying, analysing, synthesizing, and communicating ideas about that material in depth.

At the time specified by the advisory committee, normally within the first year after the completion of the Ph.D. program coursework, but in no case later than one year prior to expected graduation, the student must successfully complete the formal candidacy examination.

The examination is conducted according to a procedure established by the department/unit which is approved and documented in departmental/unit supplementary regulations. The department/unit supplementary regulations state the format and composition of the examination committee for the candidacy examination. The candidacy examination must be held at either The University of Manitoba Fort Garry or Bannatyne campus, or the St. Boniface Hospital Albrechtsen Research Centre normally during regular business hours.

This examination, which must be independent from the thesis proposal, may be oral, written, or both and may cover subjects relevant to the general area of the student's research. The structure of the exam must be made known to the student well in advance of the exam. In the case where there is a required oral component, the student must be physically present.

A "pass" decision of the examiners must be unanimous. Students must be provided with feedback on their performance and access to the reasons for the pass/fail.

The Dean of the Faculty of Graduate Studies must be informed whether the candidate has "passed" or "failed" the candidacy examination on the "Report on Ph.D. Candidacy Examination" form ([http://umanitoba.ca/faculties/graduate\\_studies/forms/index.html](http://umanitoba.ca/faculties/graduate_studies/forms/index.html)).

Any student who fails the candidacy examination twice will be required to withdraw from the Faculty of Graduate Studies and the notation on the student record will be "Required to withdraw".

On successful completion of this examination, the student will be considered a candidate for the Ph.D. degree.

than one year prior to expected graduation. [The Candidacy examination is an open and announced event.](#)

[The Graduate Program Coordinator must be notified 3 weeks prior to the intended date of the Candidacy Examination.](#)

#### **Nature of the examination**

1. The Examining Committee will consist of the candidate's Advisory Committee, and the chair of the Graduate Studies Committee or their designate.— The Chair of the Examining Committee will normally be the Chair of the Graduate Studies Committee, or their designate.— The Chair of the Examining Committee cannot be a member of the Advisory Committee.
2. The Advisor must ensure that all Examination Committee members, or their acceptable substitutes (as recommended by the Department Head and approved by the Dean of the Faculty of Graduate Studies), are able to attend the examination.— This may, in special circumstances as approved by the Department Head, take the form of video or telephone participation for members of the committee that are on sabbatical from the university, or are physically unable to attend for other meaningful reasons.
3. The Advisor, in consultation with the Advisory Committee, will identify the expectations of the examiners and the scope of the examination to the student two months in advance of the oral examination phase of the exam.
4. The examination will consist of an essay that may reflect a series of or a single topic generated by the Advisory Committee in consultation with the candidate. These topics will be related to their specific Ph.D. research, but should also touch upon related areas of study that the committee deems important to the student's academic foundation.
5. The candidate will have up to six weeks to complete the written phase, at which point it will be submitted to the Examination Committee for two weeks of review and assessment. Failure to meet the timelines in regards to response submission will result in the candidate failing the exam. After the two-week assessment period by the Examination Committee, the candidate will make an oral presentation of the essay. The presentation will be [30-20](#) to [40-30](#) minutes in length and will be open to the public.

	<p>6. Following the presentation, the candidate will be questioned on their essay and presentation and any relevant topics (at the discretion of the exam Chair) by members of the Examining Committee for approximately 1.5 hours. Whether this component of the examination is open to the public is at the discretion of the Examining Committee.</p> <p>7. The Examining Committee will meet in-camera after the question phase to discuss the candidate's performance.</p> <p>In the event of a failure, the advisor, in consultation with the Advisory Committee, will design, schedule and administer a second examination following the procedures described above to be scheduled within six months of the date of the first candidacy examination.</p>
<p><b>5.9 Thesis Proposal</b></p> <p>Some departments/units have specific procedures in place for approval of thesis proposals and students are advised to refer to the specific department/unit supplementary regulations. If departments/units require thesis proposal approval, this exercise must be independent from the candidacy examination. Regardless, the proposed thesis research must be approved by the advisory committee and, if necessary, by the Human Research Ethics Board or Animal Care Committee before the work has begun on the thesis research or project.</p>	<p><b><u>Thesis proposal</u></b></p> <p><b>Written proposal</b></p> <p>Normally within the first <del>two years</del><u>18 months</u> in the program, the student will develop a thesis research proposal in consultation with his/her Advisor and Advisory Committee. The proposal should incorporate a statement of research purpose, research objectives, proposed methodology, and rationale of the research, including a brief literature review and a statement of the potential contribution of new knowledge to the field. The Advisor, on determination that the proposal is ready to go forward to the Advisory Committee, will ensure that it is distributed to committee members two weeks prior to the scheduled proposal meeting. The Advisory Committee will determine if the proposal can go forward for presentation with or without revision.</p> <p><u>The Department must be notified 23 weeks prior to the intended date of the Thesis Proposal.</u></p> <p><b>Proposal meeting and examination</b></p> <p>The proposal meeting is 1 1/2 to 2 hours in length, is open, and is chaired by the Graduate Chair or their designate. <u>Chairs must be members of FGS and the Department of Environment and Geography in order to chair a PhD proposal. The student gives a 320 to 430 minute presentation followed by questions from members of the Advisory Committee and, time permitting, from the general audience. The unanimous determination of the proposal acceptance by the Advisory Committee is not required as a single member of the committee may be a dissenting voice. If two or more members of the Advisory Committee do not accept the proposal, it is not deemed not to be acceptable. -If the proposal is not acceptable, the</u></p>

	<p><u>student must, no later than one academic term after the initial proposal submission, submit another proposal for examination. If the second proposal is not acceptable this will result in a recommendation that the student be required to withdraw from the program.</u></p> <p><del>The student gives a 30 to 40 minute presentation followed by questions from members of the Advisory Committee and, time permitting, from the general audience. If the proposal is not acceptable, the student must, no later than one academic term after the initial proposal submission, submit another proposal for examination. If the second proposal is not acceptable this will result in a recommendation that the student be required to withdraw from the program.</del></p>
<p><b>5.10 Thesis</b></p> <p>An essential feature of Ph.D. study is the candidate's demonstration of competence to complete a research project and present the findings. The thesis must constitute a distinct contribution to knowledge in the major field of study, and the research must be of sufficient merit to be, in the judgement of the examiners, acceptable for publication. The thesis must be written in English unless approved by the department/unit and Faculty of Graduate Studies.</p> <p>The thesis must be written according to a standard style acknowledged within the candidate's particular field of study and recommended by the department/unit, be lucid and well-written, and be reasonably free from errors of style and grammar (including typographical errors).</p> <p>The final version of the thesis must be submitted by the candidate to the Faculty of Graduate Studies following the guidelines found at: <a href="http://umanitoba.ca/faculties/graduate_studies/thesis/guidelines.html">http://umanitoba.ca/faculties/graduate_studies/thesis/guidelines.html</a></p>	<p><u>Thesis format guidelines follow those published by the Faculty of Graduate Studies.</u></p> <p><u>The Department of Environment and Geography will also accept "Manuscripts Within a Thesis" format for the PhD thesis (i.e.: published peer-reviewed journal contributions). A thesis of this type is comprised of a collection of primary-authored papers by the student that have been published, submitted, or are considered publishable by the student's Advisory Committee. This type of thesis must have been approved by the Advisory Committee during the Master's Thesis proposal defence and must comply with Faculty of Graduate Studies regulations. For any unpublished works, the Advisory Committee must agree that the manuscripts provided conform to the content and style of publications for the discipline that best represents the major theme of the work. The number of papers that comprise this format will be determined between the student and the Advisory Committee; however, at least three published or in final preparation for submission/submitted manuscript is required. The collection of papers or articles must contribute toward the overall theme that represents the thesis work. There must be an introductory and a concluding chapter that provide the following information:</u></p> <ul style="list-style-type: none"> <li><u>• the overall theme of the thesis;</u></li> <li><u>• a description of the theme that is threaded throughout the works;</u></li> <li><u>• the context for the works;</u></li> <li><u>• a description of the commonalities or connecting concepts across the papers or articles; and</u></li> <li><u>• the overall implications of the findings in the collection of papers or articles.</u></li> </ul> <p><u>The concluding chapter should also include a discussion on how the thesis with its findings provides a distinct contribution to knowledge in the</u></p>

	<p><a href="#">research area. The thesis cannot just consist of several papers or articles bound within the one document. All other requirements and regulations regarding the manuscript (sandwich) style thesis as specified by the Faculty of Graduate Studies for the Ph.D. level apply at the Master's level.</a></p> <p><a href="#">If manuscripts within a thesis are submitted, the student must provide a description for each chapter of the journal where publication has or will occur, the authorship, year of publication, volume and page numbers and other standard reference information. They must also explain clearly their contribution to the work and that of the co-authors for each chapter.</a></p>
<p><b>5.11 Thesis Examination Procedures</b></p> <p>The final examination for the Ph.D. degree proceeds in two (2) stages:</p> <ol style="list-style-type: none"> <li>1. Examination of the candidate's thesis by the examining committee;</li> <li>2. Oral examination of the candidate by all examiners on the subject of the thesis and any matters relating thereto.</li> </ol>	
<p><b>5.11.1 Formation of the Examining Committee - University of Manitoba (Internal Examiners)</b></p> <p>The candidate's advisor/co-advisor is considered to be a single voting member of the examining committee. All voting members of the advisory committee are expected to serve on the examining committee; any exceptions must be approved in advance by the Dean of the Faculty of Graduate Studies. All examiners must be members of the Faculty of Graduate Studies (<a href="http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html">http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html</a>). It is expected that examining committee members will have a Ph.D. degree or equivalent. Equivalency will be determined by the Dean of the Faculty of Graduate Studies. Note that in the case of an advisor and co-advisor, both together have a single vote on the examining committee.</p> <p>If two or more examining committee members are in a personal relationship, the "Conflict of Interest Disclosure Form" (<a href="https://umanitoba.ca/admin/governance/governing_documents/community/962.html">https://umanitoba.ca/admin/governance/governing_documents/community/962.html</a>) must be completed and submitted to the Faculty of Graduate Studies. See The University of Manitoba's Conflict of Interest policy: <a href="https://umanitoba.ca/admin/governance/governing_documents/community/248.html">https://umanitoba.ca/admin/governance/governing_documents/community/248.html</a>.</p>	
<p><b>5.11.2 Formation of the Examining Committee - External Examiner</b></p> <p>The candidate's advisor/co-advisor, in consultation with the advisory committee, will recommend the names of at least three (3) distinguished scholars from outside The University of Manitoba with particular experience in the field of the thesis research and significant Ph.D. student supervisory/examination experience to serve as the external examiner to the Dean (or designate) of the Faculty of Graduate Studies for approval via the Ph.D. Thesis Submission Portal on JUMP. The recommendations must include a brief CV of each of the prospective external examiners and a short statement detailing the rationale behind the recommendations, the prospective external examiners' qualifications, including a current list of their scholarly publications</p>	

## **Report of the Faculty Council of Graduate Studies on Course, Curriculum and Regulation Changes**

### **Preamble**

1. The Faculty of Graduate Studies (FGS) has responsibility for all matters relating to the submission of graduate course, curriculum, program and regulation changes. Recommendations for such are submitted by the Faculty Council of Graduate Studies for the approval of Senate.
2. The Faculty Council of Graduate Studies met on the above date to consider a proposal from the Faculty of Graduate Studies.

### **Observations**

1. The **Faculty of Graduate Studies** proposes several supplementary regulation changes (program modifications) in the Masters and Ph.D. of the Individual Interdisciplinary Studies, consisting of admissions requirement changes and ability to transfer between the Master's and PhD.

### **Recommendations**

**Faculty Council of Graduate Studies recommends THAT the program changes from the unit listed below be approved by Senate:**

### **Faculty of Graduate Studies**

Respectfully submitted,

Dr. Louise Simard, Chair  
Faculty Council of Graduate Studies

/ak

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



**University  
of Manitoba**

Faculty of Graduate Studies  
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Date: September 4, 2020

To: Dr. Louise Simard, Acting Dean, Faculty of Graduate Studies

From: Dr. Kelley Main, Associate Dean, Faculty of Graduate Studies

Re: Individual Interdisciplinary Studies (IIS) Graduate Programs – Admission Revisions

The IIS program is housed within the Faculty of Graduate Studies and after a program review last year, the admissions requirements and ability to transfer between the Master's and PhD are being revised. The changes are summarized as follows:

1. Currently, there is a requirement for 2 statements as part of the admissions process, one of 300 to 600 words and another that is several single-spaced pages in length. There is no need for two separate statements, so we are proposing to combine these two statements into one. The revised sections are found in 1.1.1.
2. We have eliminated the requirement for the first year of courses to be identified in the application phase. This causes significant delays as students try and determine the courses to take. It seems that having the advisory committee oversee coursework after admission would be a better approach. The proposed program study form can be completed by the advisory committee within the timelines specified within the supplemental regulations (i.e. within 12 months of admission).
3. Currently, recommendation letters are needed from 3 referees and letters of support are required from each advisory committee member representing all departments that are part of the program. Given this large number of letters, we have reduced the recommendation letters to two. Letters of support are required for at least 2 participating units at the time of admission.
4. Transferring from the Master's to Doctoral program is currently not allowed. Upon further discussion, there seems to be no reason to prevent a transfer. We have revised the language to require the advisory committee members to write letters of support for the transfer citing evidence of the students' research abilities (section 5.1.3).
5. Based on prior comments, we have removed the public requirement of section 5.9 to allow units to follow their own procedures which are not always to have a public defense.
6. Some other clarifications in wording have been added as well across the sections.

requirements of that department/unit. Contact information for each unit can be found at [http://umanitoba.ca/faculties/graduate\\_studies/admissions/programs/index.html](http://umanitoba.ca/faculties/graduate_studies/admissions/programs/index.html).

**1.1.1 Process:**

1.1.1 (a) A completed official application for admission form must be submitted, together with the application fee and supporting documentation, to the Faculty of Graduate Studies, via the online application system.

**NOTE:** International students must pay special attention to the appropriate requirements with respect to transcripts (see application form for details).

1.1.1 (b) Applications are subsequently reviewed by the unit offering the program which will decide whether the applicant meets the unit's criteria including, but not limited to, availability of advisors, space, and facilities.

1.1.1 (c) Notification of recommended/rejected applications is sent by the Head of the unit to the Faculty of Graduate Studies. Applications recommended for admission are checked to determine if they meet the Faculty of Graduate Studies' eligibility requirements. The Faculty of Graduate Studies then notifies applicants of their acceptance or rejection.

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Winnipeg  
Manitoba R3T 2N2

Prior to submitting an application, a student must meet with a potential advisor(s) and, after consultation with the advisor(s), meet with a potential advisory committee (at least 2 and no more than 4 different units/departments must be represented on the committee representing distinct disciplines; see section 4.6 or 5) to design the program.

A completed application must include:

- official copies of transcripts from all institutions attended corresponding to each degree held by the applicant;
- a current curriculum vitae;
- ~~three~~ two letters of recommendation (see section 1.1.9);
- ~~a research statement of 300 to 600 words~~ outlining why the proposed program of study is inherently interdisciplinary and cannot be completed through any other University of Manitoba program. This statement;
- ~~a statement outlining the proposed program of research and should elaborate~~ on why and how the different disciplines are involved in the proposed research. For applicants to the Master's program, this statement should be ~~one to two~~ to three single-spaced pages in length. For applicants to the doctoral program, this statement should be ~~two to three~~ to four single-spaced pages in length;
- ~~proposed courses to be taken in the first year of the program.~~

The admissions committee shall consist of the Associate Dean of the Faculty of Graduate Studies (FGS) responsible for the primary unit represented in the proposed IIS program and the department/unit heads (or their graduate chairs or delegates) of the units/departments to be represented on the applicant's proposed advisory committee. The primary unit is the unit in which the advisor holds their primary appointment.

**1.1.2 Deadlines for Recommended Applications (from Departments/Units to the Faculty of Graduate Studies)**

The following are the deadlines for receipt by the Faculty of Graduate Studies of recommendations from departments/units.

Term	Start Date	Canadian/US	International
FALL	September	July 1	April 1

For upcoming application deadlines, please consult the Graduate Program Page: [http://umanitoba.ca/faculties/graduate\\_studies/admissions/programs/interdisciplinary.html](http://umanitoba.ca/faculties/graduate_studies/admissions/programs/interdisciplinary.html)

Applications will be normally accepted for the ~~regular~~ Fall session only (September start date), but exceptions may be made upon approval of the

<p>WINTER      January      November 1      August 1  SUMMER      May      March 1      December 1</p> <p><b>IMPORTANT:</b> <u>These are not application deadlines.</u> Applicants are <b>required</b> to submit the application and documentation to the Faculty of Graduate Studies to meet the application deadline in place for a particular department/unit. Applicants are advised to confirm the deadline of the department/unit to which the application is being made; deadlines can be found on the application program page at <a href="http://umanitoba.ca/faculties/graduate_studies/admissions/programs/index.html">http://umanitoba.ca/faculties/graduate_studies/admissions/programs/index.html</a>.</p>	<p>participating departments and the Associate Dean of FGS responsible for <u>the primary unit in the the</u> IIS program.</p>
<p><b>1.1.3 Application Fee</b></p> <p>A \$100.00 (CDN) non-refundable fee must accompany admission applications from all Canadian, Permanent Resident, and International applicants. The Physician Assistant Studies and Orthodontics programs charge an additional fee of \$25 and \$50, respectively.</p>	
<p><b>1.1.4 Transcripts</b></p> <p>Unofficial copies of transcripts and final degree certificates are acceptable for initial assessment and provisional admission purposes. Upon admission to the Faculty of Graduate Studies, applicants must arrange for official transcripts from all post-secondary institutions attended to be sent to the Faculty of Graduate Studies, within one (1) month of the date on the admission letter. Applicants will be placed on hold, which prevents registration until all admission requirements have been submitted. <b>All transcripts must arrive in sealed, university-stamped envelopes sent directly from the issuing institution(s) and be accompanied by official and literal English translations</b> (where applicable, see 1.1.5). For international degrees or where the transcripts does not or will not clearly state that a degree has been conferred, a copy of the official degree certificate is also required.</p>	
<p><b>1.1.5 Transcripts: International</b></p> <p>Where academic records from a country other than Canada are produced in a language other than English, the applicant must arrange for the submission of official literal English translations of all records. To be official, original language documents and English translations must arrive together in envelopes which have been sealed and endorsed by the issuing institution. For international degrees or where the transcript does not or will not clearly state that a degree has been conferred, a copy of the official degree certificate is also required.</p>	
<p><b>1.1.6 Transcripts: University of Manitoba</b></p> <p>University of Manitoba students are not required to submit University of Manitoba transcripts.</p>	
<p><b>1.1.7 Proficiency in English</b></p> <p>A successfully completed English Language Proficiency Test from the approved list is required of all applicants unless they have received a secondary school diploma and/or university degree from Canada or one of the countries listed on the <a href="#">English Language Proficiency Test Exemption List</a> (see 1.1.8). The Faculty of Graduate Studies requires a passing, acceptable English Language Test score in order to offer</p>	

<p>admission. Please note: In all cases, test scores older than two (2) years (from the time of completing the test) are invalid.</p> <p>Thresholds required for successful completion are indicated in parentheses.</p> <ul style="list-style-type: none"> <li>• University of Michigan English Language Examination Assessment Battery (MELAB) (80%)</li> <li>• Test of English as a Foreign Language (TOEFL) Internet based -iBT® (86; minimum score of 20 in each of reading, writing, listening and speaking categories). The “best score” will not be considered for admission. Only individual test scores will be used to meet the minimum requirements.</li> <li>• Canadian Test of English for Scholars and Teachers (CanTEST©) (band 4.5 in listening and reading and band 4.0 in writing and oral interview)</li> <li>• International English Language Testing System (IELTS™) (6.5 in the Academic Module)</li> <li>• Academic English Program for University and College Entrance (AEPUCE) (65%)</li> <li>• PTE Academic (61% overall)</li> </ul> <p><b>Note:</b></p> <p>In addition, foreign language students may be asked by the department/unit to complete the CanTEST prior to or following registration in the Faculty of Graduate Studies and, if need be, the department/unit may recommend remedial measures in language skills based on the results of the CanTEST. Some units may require a specific test or test scores greater than those indicated above. Students should check department/unit supplementary regulations for details.</p>	
<p><b>1.1.8 English Language Proficiency Test Exemption List</b></p> <p>Applicants holding secondary school diplomas and/or recognized university degrees from countries on the Faculty of Graduate Studies English Language exemption list are not required to submit an English Language Proficiency score. For more information please see our website at <a href="http://umanitoba.ca/faculties/graduate_studies/admissions/english_exemption_list.htm">http://umanitoba.ca/faculties/graduate_studies/admissions/english_exemption_list.htm</a></p>	
<p><b>1.1.9 Letters of Recommendation</b></p> <p>Letters of Recommendation are to be completed via the online application. Applicants are required to add their 'Recommendation Provider(s)' contact information so that each recommender is sent an automated email notification.</p> <p>Generally, two (2) Letters of Recommendation must be submitted to the Faculty of Graduate Studies. For the number of recommendation letters necessary, applicants should review their specific Program webpage at <a href="http://umanitoba.ca/faculties/graduate_studies/admissions/programs/index.html">http://umanitoba.ca/faculties/graduate_studies/admissions/programs/index.html</a>.</p>	<p><del>Three</del>Two letters of recommendation are required <del>that should with letters</del> representing the disciplines in the proposed program. In addition, statements of support from the student's intended advisor and <u>at least one</u> potential committee members are required. These should confirm the willingness of the faculty members to supervise the student or serve on their committee, attest to their belief that the proposed program is truly interdisciplinary in nature, and confirm their belief that the student has the capacity to successfully complete the proposed program. <u>Letters of recommendation are required to be from different sources than the letters of support.</u></p>
<p><b>1.1.10 Admission Tests</b></p>	<p>No <u>additional</u> admission tests are required for this program.</p>

<p>Some departments/units require admissions tests, such as the Graduate Record Examination (GRE®) or the Graduate Management Aptitude Test (GMAT™). These requirements are listed in the supplementary regulations of the particular department/unit, and if required, the scores must be submitted at the time of application.</p>	
<p><b>1.1.11 Entrance Requirements</b></p> <p>The minimum standard for acceptance into any category in the Faculty of Graduate Studies is a 3.0 Grade Point Average (GPA) or equivalent in the last two (2) previous years of full time university study (60 credit hours).</p> <p><b>Note:</b> This is the minimum requirement of the Faculty of Graduate Studies and departments/units may have higher standards and additional criteria.</p>	<p>Applicants for admission to the Master's degree in IIS must have a four year or honors degree in a discipline relevant to their proposed field of study.</p> <p>Applicants for admission to the Doctoral degree in IIS must possess a research-based Master's degree in a discipline relevant to their proposed field of study <u><a href="#">unless applying to transfer from the Master's program in IIS.</a></u></p> <p>All applicants for admission to graduate programs in IIS must have a 3.50 grade point average (GPA) or equivalent in their last two years of full-time university study (60 credit hours). In addition, they must have completed at least six credit hours of coursework at the 3000 level or above outside their major department with a minimum GPA of 3.5 in these courses, or be able to demonstrate a prior commitment to interdisciplinary education to the satisfaction of the admissions committee.</p>
<p><b>1.1.12 Eligibility of University of Manitoba Staff Members</b></p> <p>A staff member at The University of Manitoba at the rank of Assistant Professor or above is not eligible to apply for admission to a graduate program in the department/unit in which the appointment is held.</p>	
<p><b>1.2 Registration Procedures</b></p> <p><b>1.2.1 Registration</b></p> <p>Pre-Master's students are not normally allowed to register in 7000-level courses or above, with the exception of <a href="#">GRAD 7500</a>, unless prior permission is granted by the Dean of the Faculty of Graduate Studies or designate.</p> <p>Undergraduate students may be permitted to register in 7000-level courses or above on recommendation of the department/unit offering the graduate course, subject to the conditions listed below.</p> <ul style="list-style-type: none"> <li>• Undergraduate students must obtain permission from the department/unit head and course instructor before registering for a graduate course.</li> <li>• Only undergraduate students completing an undergraduate degree at the University of Manitoba are eligible to enroll in a graduate course.</li> <li>• Undergraduate students are not eligible for admission to any graduate course that is cross-listed with an undergraduate course, or that is scheduled to be taught at the same time and location as an undergraduate class.</li> <li>• Undergraduate students will only be eligible to receive graduate-level credit for a course designated as 7000-level or above if at least 75% of the students registered in the course are graduate students.</li> </ul>	

	<p>If an additional unit/department is represented after the initial approval of the project (see section 4.6), at least one 3 CH course must be taken from that unit/department.</p> <p>No later than 12 months after the commencement of the program, the student must submit a complete program of study to the Faculty of Graduate Studies. <u>Subsequent c</u>Changes to the student's program of study need to be approved by the advisory committee in advance of implementation and must retain the same level of the course and same area (e.g. an EDUC 7000 level course can be replaced with a different EDUC 7000 level). If changes to the course program are across level or area, approval by the Faculty of Graduate Studies Associate Dean overseeing the primary unit is required.</p>
<p><b>4.4.2 Course-based or Comprehensive Examination Route</b></p> <p>A minimum of twenty-four (24) credit hours of coursework and comprehensive examination(s) is required. The minimum must include at least eighteen (18) credit hours at the 7000-level or above with the balance of the coursework at the 3000-level or above. A maximum of forty-eight (48) credit hours of coursework is allowed unless a department/unit's supplementary regulations indicate otherwise. A comprehensive examination is required for some course-based programs.</p>	<p>There is no comprehensive examination route in the IIS program. All IIS Master's students must complete a thesis.</p>
<p><b>4.4.3 Accredited Professional Route</b></p> <p>The credit hours and course requirements shall reflect the requirements of the department/unit's external accrediting body. Students should check department/unit supplementary regulations regarding this requirement.</p>	
<p><b>4.4.4 Language Requirements</b></p> <p>Some department/units specify a language requirement for the Master's degree. Students should check department/unit supplementary regulations regarding this requirement.</p>	<p>There may be a language reading requirement in the IIS Master's program if deemed appropriate by the advisor in consultation with the <u>Associate Dean of FGS responsible for the IIS program advisory committee</u>.</p>
<p><b>4.4.5 Advanced Credit</b></p> <p>Advance credit for courses completed prior to admission to a Master's program will be considered on a case-by-case basis. The student's department/unit must make a request to the Faculty of Graduate Studies by completing the "Recommendation for Advance Credit-Transfer of Courses" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>).</p> <ul style="list-style-type: none"> <li>• Application for advance credit must be made within the first year of the program (see section 4.7.2 Lapse of Credit of Courses).</li> <li>• No more than 50% of the required coursework for the program can be achieved using advance credit.</li> </ul>	

<p><b>4.5 Student's Advisor and Co-Advisor</b></p> <p><b>4.5.1 Student's Advisor</b></p> <p>Each student should have an advisor upon entry into the program, and must have one assigned no later than one (1) term following registration. The advisor must:</p> <ul style="list-style-type: none"> <li>• hold an appointment in the student's department/unit;</li> <li>• be a member of the Faculty of Graduate Studies*;</li> <li>• hold at least a Master's degree or equivalent**;</li> <li>• be active in research;</li> <li>• have expertise in a discipline related to the student's program.</li> </ul> <p><a href="http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html">*(http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html)</a></p> <p>**Equivalency will be approved by the Dean of the Faculty of Graduate Studies and determined on a case by case basis and assessed by the potential advisor's demonstrated research record and current research activities. Note that M.D., D.M.D., Pharm.D. and J.D. are undergraduate degrees and are not equivalent to a Master's or Ph.D.</p> <p>It is the responsibility of the department/unit Head to determine whether faculty members meet these criteria, and also to report to the Dean of the Faculty of Graduate Studies on equivalency as necessary. Any exceptions or special circumstances must be recommended by the department/unit Head and approved by the Dean of the Faculty of Graduate Studies who considers each case on an individual basis.</p> <p>In department/units where the choice of thesis/practicum topic and thesis/practicum advisor are postponed after a student's entry into the program, the department/unit Head, within one (1) term, shall appoint a faculty member to advise the student in the interim period before the regular advisor is assigned or chosen. Students must have an advisor through to the end of their program in programs requiring an advisor.</p>	<p>A Master's student must have an advisor(s) prior to admission to the Master's program (see section 1.1).</p> <p>Should the student change advisor within the same unit prior to completion of the program, <a href="#">the Faculty of Graduate Studies Associate Dean overseeing the primary unit</a> <del>the Associate Dean of FGS responsible for the IIS program</del> must be notified. Students are not permitted to change to an advisor outside of the <a href="#">primary unit</a>.</p>
<p><b>4.5.2 Student's Co-advisor</b></p> <p>In special circumstances, upon approval of the Head of the department/unit, an advisor and a maximum of one (1) co-advisor may advise a student. The co-advisor must:</p> <ul style="list-style-type: none"> <li>• be a member of the Faculty of Graduate Studies*;</li> <li>• hold a Master's or equivalent**;</li> <li>• be active in research;</li> <li>• have expertise in a discipline related to the student's program;</li> </ul> <p><a href="http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html">*(http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html)</a></p> <p>**Equivalency will be approved by the Dean of the Faculty of Graduate Studies and determined on a case by case basis and assessed by the potential co-advisor's demonstrated research record and current research activities. Note that M.D., D.M.D.,</p>	

<p>advisory committee may include one (1) non-voting guest member who has expertise in a related discipline but is not a member of the Faculty of Graduate Studies.</p> <p>The composition of, and any changes to, the advisory committee, including the advisor/co-advisor, must be approved by the Faculty of Graduate Studies. The advisor/co-advisor is the Chair of the advisory committee. If two or more advisory committee members are in a personal relationship, the “Conflict of Interest Disclosure Form” (<a href="https://umanitoba.ca/admin/governance/governing_documents/community/962.html">https://umanitoba.ca/admin/governance/governing_documents/community/962.html</a>) must be completed and submitted to the Faculty of Graduate Studies. See The University of Manitoba’s Conflict of Interest policy: <a href="https://umanitoba.ca/admin/governance/governing_documents/community/248.html">https://umanitoba.ca/admin/governance/governing_documents/community/248.html</a>.</p> <p>Additional specifications, if any, regarding the advisory committee are found in the department/unit supplementary regulations and students should consult these regulations for specific requirements.</p>	<p>Should the composition of the advisory committee units/departments change prior to completion of the program, the Associate Dean of FGS responsible for the IIS program shall reconvene the admissions committee, consisting of the department/unit heads (or their delegates) of the relevant units/departments.</p> <p>If representation of an additional unit/department is being proposed, the head (or their nominee) of that unit/department should participate on the admissions committee.</p> <p>The admissions committee shall determine whether the project remains truly interdisciplinary and the new committee members have the expertise to fulfil their roles.</p> <p>Should the admissions committee determine that either of these conditions are not met, the student shall be required to withdraw from the IIS program.</p>
<p><b>4.6.2 Course-based or Comprehensive Examination Route</b></p> <p>Normally, advisory committees are not required in these routes, however any appropriate specifications regarding an advisory committee can be found in the department/unit’s supplementary regulations and students should consult these regulations for specific requirements. If there is an advisory committee and two or more committee members are in a personal relationship, the “Conflict of Interest Disclosure Form” (<a href="https://umanitoba.ca/admin/governance/governing_documents/community/962.html">https://umanitoba.ca/admin/governance/governing_documents/community/962.html</a>) must be completed and submitted to the Faculty of Graduate Studies. See The University of Manitoba’s Conflict of Interest policy: <a href="https://umanitoba.ca/admin/governance/governing_documents/community/248.html">https://umanitoba.ca/admin/governance/governing_documents/community/248.html</a>.</p>	<p><u><a href="#">There is no course-based or comprehensive exam route offered in IIS.</a></u></p>
<p><b>4.6.3 Accredited professional programs</b></p> <p>Normally, advisory committees are not required in these routes, however any appropriate specifications regarding an advisory committee can be found in the department/unit’s supplementary regulations and students should consult these regulations for specific requirements.</p> <p>If there is an advisory committee and two or more committee members are in a personal relationship, the “Conflict of Interest Disclosure Form” (<a href="https://umanitoba.ca/admin/governance/governing_documents/community/962.html">https://umanitoba.ca/admin/governance/governing_documents/community/962.html</a>) must be completed and submitted to the Faculty of Graduate Studies. See The University of Manitoba’s Conflict of Interest policy: <a href="https://umanitoba.ca/admin/governance/governing_documents/community/248.html">https://umanitoba.ca/admin/governance/governing_documents/community/248.html</a>.</p>	
<p><b>4.7 Courses and Performance</b></p> <p><b>4.7.1 Course or Program Changes</b></p>	

<p>The examining process should be completed within one (1) month of distribution of the thesis/practicum to the examining committee.</p>	
<p><b>4.8.2 Course-based or Comprehensive Examination Route</b></p> <p>Students must demonstrate their mastery of their field. The specific procedures for evaluation of this mastery are stated in individual department/unit supplementary regulations.</p> <p>In those department/units where comprehensive examinations are required, students should consult the department/unit's supplementary regulations for specific requirements.</p> <p>The results of the comprehensive examinations shall be submitted to the Faculty of Graduate Studies on the "Report on Comprehensive Examination" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>) in the terms "pass" or "fail." No student may sit comprehensive examinations more than twice. Any student who receives a "fail" on the comprehensive examination twice will be required to withdraw from the Faculty of Graduate Studies.</p>	<p>There is no <u>course-based or</u> comprehensive examination in the IIS Master's program.</p>
<p><b>4.9 Style and Format</b></p> <p>The thesis/practicum must be written according to a standard style acknowledged by a particular field of study (see <a href="#">Appendix 1</a>).</p>	
<p><b>4.10 Details for Submission of the Final Copy</b></p> <p>Following the approval of the thesis/practicum by the examining committee and the completion of any revisions required by that committee, the thesis/practicum, must be submitted to the Faculty of Graduate Studies as follows:</p> <ul style="list-style-type: none"> <li>• One digital version submitted as an e-thesis/practicum at the MSpace website (<a href="http://mspace.lib.umanitoba.ca/xmlui/login">http://mspace.lib.umanitoba.ca/xmlui/login</a>);</li> <li>• Thesis/Practicum final report;</li> <li>• Copyright License Declaration form (located within MSpace).</li> </ul>	
<p><b>4.11 Publication and Circulation of Thesis/Practicum</b></p> <p>Every graduate student registering in a thesis/practicum Master's program at The University of Manitoba shall be advised that, as a condition of being awarded the degree, they will be required to grant a license of partial copyright to the University and to the Library and Archives Canada for any thesis or practicum submitted as part of their degree program.</p> <p><b>Note:</b> This license makes the thesis/practicum available for further research only. Publication for commercial purposes remains the sole right of the author.</p> <p>The Copyright Licence Declaration/Infringement Form must be completed on MSpace. This and other related regulations may give rise to important questions of law, and students may need additional legal advice on the copyright laws of Canada and/or other countries. Students who wish to obtain legal advice concerning their subsequent</p>	

<p>department/unit supplementary regulations for specific details regarding admission, program requirements, progression, and completion.</p>	
<p><b>5.1 Admission</b></p> <p><b>5.1.1 General criteria</b></p> <p>Normally, the completion of a Master's degree or equivalent from a recognized university and a cumulative GPA of 3.0 or equivalent in the last two (2) previous years of full time university study (60 credit hours) is the minimum requirement for admission to the Ph.D. program.</p> <p><b>Note:</b> This is the minimum requirement of the Faculty of Graduate Studies and department/units may have higher standards and additional criteria. However, the criteria for admissions into the Ph.D. program are more stringent than for Master's programs; therefore, the completion of a Master's program does not guarantee admission into the Ph.D. program. Some department/units require completion of a thesis-based Master's program prior to admission to a Ph.D. program.</p>	<p>Applicants for admission to the Doctoral degree in IIS must have a Master's degree in a discipline relevant to their proposed field of study (see section 1.1.11) <u>unless they are applying for a transfer from the Master's program in IIS.</u></p>
<p><b>5.1.2 Direct Admission from the Bachelor's Honours or equivalent</b></p> <p>With special recommendation of the department/unit concerned, applicants with an honours Bachelor's degree or equivalent may be considered for entry to Ph.D. study. These students must be outstanding in their academic background (GPA well above 3.0 in the last two full years of undergraduate study).</p> <p><b>Note:</b> This is the minimum requirement of the Faculty of Graduate Studies and department/units may have higher standards and additional criteria. Once admitted, these students must complete at least 24 credit hours of coursework, unless the individual department/unit's approved supplementary regulations specify otherwise, and will be assessed Ph.D. fees for three (3) years. A minimum of 18 credit hours at the 7000-level or higher is required. Any further coursework beyond the minimum 18 credit hours at the 7000-level must be at the 3000-level or above. A maximum of 48 credit hours of coursework is allowed toward the Ph.D. program.</p>	<p>Applicants will not be admitted to the Ph.D. program in IIS if they do not hold a relevant Master's degree <u>unless they are applying for a transfer from the Master's program in IIS.</u></p>
<p><b>5.1.3 Transfer from the Master's to the Ph.D. program</b></p> <p>Students who have not completed a Master's program may transfer to the Ph.D. program within the same department/unit upon the recommendation by the Head of the department/unit to the Faculty of Graduate Studies. The recommendation should be made within four (4) terms (including Summer term) from the start of the Master's program. Fees paid, coursework completed and time spent in the Master's program will normally be credited towards the Ph.D. program. Students must complete at least 24 credit hours of coursework, unless the individual department/unit's approved supplementary regulations specify otherwise. A minimum of 18 credit hours at the 7000-level or higher is required. Any further coursework beyond the minimum 18 credit hours at the 7000-level must be at the 3000-level or above. A maximum of 48 credit hours of coursework is allowed toward the Ph.D. program.</p> <p>The request to transfer from a Master's to the Ph.D. program must be submitted to the Faculty of Graduate Studies at least one (1) month prior to the term for which the</p>	<p>Applicants may <u>not apply to</u> transfer from a Master's program in IIS to the Ph.D. program in IIS. <u>This transfer application requires letters of support from all current advisory committee members attesting to the research abilities of the student. An admissions committee will be convened with the Department Heads/Graduate Chairs of the units in the program to evaluate the transfer application.</u></p>

<p>student intends to commence the Ph.D. program. The applicant must indicate a request for transfer on the online Application for Admission.</p> <p>The student will be admitted to a 3-year Ph.D. program and will pay a total of three years of program fees, including program fees paid in the Master's at the time of transfer. Students are cautioned that such transfers may impact on the duration of The University of Manitoba Graduate Fellowship.</p> <p>Students who have previously completed a recognized Master's degree and are initially admitted and registered in a Master's program may transfer to the Ph.D. program within the same department/unit on the recommendation of the student's advisor/co-advisor and Head of the department/unit. Where a student holds a Master's degree that would be sufficient for admission to the Ph.D. program, students must complete at least 12 credit hours of coursework, unless the individual department/unit's approved supplementary regulations specify otherwise. The student will be admitted to a 2-year Ph.D. program and will pay a total of two years of program fees, including program fees paid in the Master's at the time of transfer.</p>	
<p><b>5.1.4 Provisional Admission to the Ph.D.</b></p> <p>Students nearing the completion of the Master's degree may be accepted provisionally to the Ph.D. program for a 12 month period (commencing with the first registration in the Ph.D. program). Further registration in the Ph.D. program is contingent upon completion of all requirements of the Master's degree within the 12 months. Students must maintain continuous registration in their Master's program until its completion. Students will require assistance from the department/unit and the Faculty of Graduate Studies to complete dual registration on the "Concurrent Curriculum Permission" form (<a href="http://intranet.umanitoba.ca/student/records/2323.html">http://intranet.umanitoba.ca/student/records/2323.html</a>) in the Master's and Ph.D. program simultaneously.</p>	
<p><b>5.1.5 Students with Disabilities</b></p> <p>See Accommodation Policy for Students with Disabilities:</p> <p><a href="http://umanitoba.ca/admin/governance/governing_documents/students/281.html">http://umanitoba.ca/admin/governance/governing_documents/students/281.html</a></p>	
<p><b>5.2 Student's Advisor, Co-advisor and Advisory Committee</b></p> <p><b>5.2.1 Student's Advisor</b></p> <p>Every Ph.D. student must have an advisor throughout their program, appointed by the Head of the department/unit. The advisor is responsible for supervising the student's graduate program. The advisor is the student's first point of contact at the University of Manitoba, and therefore should be familiar with the general policies and regulations of the Faculty of Graduate Studies as well as the specific supplementary regulations of their academic department/unit. In this capacity, the advisor assists the student in planning the graduate program, and ensures that the student is aware of all graduate program requirements, degree regulations, and general regulations of the academic department/unit, the Faculty of Graduate Studies, the university, and external funding agencies. The advisor provides counsel for all aspects of the graduate program, and stays informed of the student's scholarly activities and progress. The student's advisor</p>	<p>A Ph.D. student must have an advisor prior to admission to the program.</p> <p>The home unit/department of the proposed advisor should ideally house a Ph.D. program. However, an exception to this may be approved by the Associate Dean of FGS responsible for the <a href="#">primary unit in the IIS program</a>, as long as this is acceptable to the Dean of FGS.</p> <p>Should the student change advisor within the same unit prior to completion of the program, the Associate Dean of FGS responsible for the <a href="#">IIS primary unit in the IIS program</a> must be notified. Students are not permitted to change to an advisor outside the unit.</p>

<p>primary advisor; however, both the advisor and co-advisor's signatures are required on all documents where the advisor's signature is required.</p>	
<p><b>5.2.3 Student's Advisor/Co-advisor</b></p> <p>A student who also holds an appointment at the University of Manitoba at the rank of Assistant Professor or above cannot have an advisor or co-advisor with an appointment in the same department/unit.</p> <p>The advisor, co-advisor (if applicable) and student must discuss, and complete, the Faculty of Graduate Studies Advisor Student Guidelines prior to the commencement of any research and no later than the submission of the first Progress Report for the student. If a student does not have an advisor/co-advisor, the interim advisor will be required to complete the Advisor Student Guidelines. If the parties cannot agree on any component(s) of the Advisor Student Guidelines, the matter should be referred to the department/unit Graduate Chair, the Head of the department/unit, or the Dean of the Faculty of Graduate Studies. The Advisor Student Guidelines is to be completed again if there is a change in advisor/co-advisor or when a co-advisor is added midway through the student's program.</p> <p>Should, during the student's program, the relationship between the student and advisor/co-advisor significantly deteriorate, the matter should be referred sequentially to the department/unit Graduate Chair, the Head of the department/unit, then to the Dean of the Faculty of Graduate Studies. It is the responsibility of the department/unit offering the program in which the student is studying to arrange an alternate advisor/co-advisor if this is appropriate and necessary.</p> <p>All students should consult department/unit supplementary regulations for specific details regarding advisor/co-advisor requirements.</p>	
<p><b>5.2.4 Advisory Committee</b></p> <p>The Head of the department/unit is responsible for the establishment of an advisory committee for each Ph.D. student. Advisory committees are selected by the advisor/co-advisor in consultation with the student and should consist of individuals whose expertise is consistent with that necessary to provide additional advice and guidance to the student during their program. The advisory committee must consist of a minimum of three (3) members, all of whom must be members of the Faculty of Graduate Studies (<a href="http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html">http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html</a>). Advisory committees may, in addition, include one (1) non-voting guest member who has expertise in a related discipline but is not a member of the Faculty of Graduate Studies.</p> <p>It is expected that advisory committee members will have a Ph.D. degree or equivalent. Equivalency will be determined by the Dean of the Faculty of Graduate Studies. Graduate students, Post-Doctoral Fellows, and Research Assistants or Associates may not serve on graduate student advisory committees. A student who also holds an appointment at the University of Manitoba at the rank of Assistant Professor or above cannot have an advisor or co-advisor with an appointment in the same department/unit. The composition of, and any changes to, the advisory committee, including the advisor/co-advisor, must be approved by the Faculty of Graduate Studies on the "Program of Study and Appointment of Advisory Committee" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>).</p>	<p>A Ph.D. student must have an advisory committee; at the time of admission, at least one member for each discipline should be specified. If there are additional members needed, they can be specified at a later time and approved by the <a href="#">FGS</a> Associate Dean overseeing the <a href="#">primary unit in the IIS</a> program.</p> <p>A minimum of two units/departments must be represented on the student's advisory committee. No more than four units/departments may be represented on the student advisory committee.</p> <p>Should the composition of the units represented on the advisory committee change prior to completion of the program, the <a href="#">FGS</a> Associate Dean of <a href="#">the FGS primary unit responsible for</a> the IIS program shall reconvene the admissions committee, consisting of the heads (or their nominees) of the units represented on the advisory committee.</p> <p>If representation of an additional unit/department is being proposed, the head (or their nominee) of that unit/department should participate on the admissions committee.</p>

<p>*Unless professional accreditation requirements and/or the department/unit's supplementary regulations indicate otherwise.</p>	
<p><b>5.4.1 Language Requirements</b></p> <p>Some department/units specify a language requirement for the Ph.D. degree. Students are advised to check department/unit supplementary regulations regarding this requirement.</p>	<p>There may be a language reading requirement in the IIS doctoral program if deemed appropriate by the advisor in consultation with the <del>Associate Dean of FGS responsible for the IIS program</del> <a href="#">advisory committee</a>.</p>
<p><b>5.4.2 Advance Credit</b></p> <p>Advance credit for courses completed prior to admission to a Ph.D. program will be considered on a case-by-case basis. The student's department/unit makes the request to the Faculty of Graduate Studies by completing the "Advance Credit - Transfer of Courses" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>).</p> <ul style="list-style-type: none"> <li>• Application for advance credit must be made within the first year of the program (see section 5.4.4 Lapse of Credit of Courses)</li> <li>• No more than 50% of the required coursework for the program can be achieved using advance credit.</li> <li>• A course may not be used for credit toward more than one degree, diploma or certificate.</li> <li>• The student must register at the University of Manitoba for at least two consecutive terms and must also complete the thesis and candidacy examination at The University of Manitoba. Regardless of the extent of advanced credit received, all students are required to pay applicable program fees.</li> </ul>	
<p><b>5.4.3 Transfer Credit</b></p> <p>Courses within a program of study may be taken elsewhere and transferred for credit at the University of Manitoba. All such courses:</p> <ul style="list-style-type: none"> <li>• must be approved for transfer to the program of study by the department/unit and the Faculty of Graduate Studies before the student may register for them;</li> <li>• are considered on an individual basis;</li> <li>• cannot be used for credit towards another degree;</li> <li>• may not exceed 50% of the minimum credit hours of coursework required of the student's graduate program at The University of Manitoba.</li> </ul> <p>Permission is granted in the form of a Letter of Permission which may be obtained by making an application to the Registrar's Office; (<a href="http://umanitoba.ca/student/records/leave_return/710.html">http://umanitoba.ca/student/records/leave_return/710.html</a>) an original transcript, and course equivalency must be provided.</p>	
<p><b>5.4.4 Lapse of Credit of Courses</b></p>	

<p>Students who fail to maintain satisfactory performance may be required to withdraw on the recommendation of the Graduate Chair and/or department/unit Head to the Dean of the Faculty of Graduate Studies on the "Progress Report" form. Students who receive two (2) consecutive "in need of improvement" or one (1) "unsatisfactory" rating will normally be required to withdraw from the Faculty of Graduate Studies and the notation on the student record will be "Required to withdraw".</p>	
<p><b>5.6.1 Performance in Coursework</b></p> <p>A minimum degree grade point average (DGPA) of 3.0 with no grade below C+ must be maintained to continue in the Faculty of Graduate Studies. Departments/Units may specify, in their supplementary regulations, standards that are higher than those of the Faculty of Graduate Studies. Students who fail to maintain the specified grades will be required to withdraw unless a department/unit recommends remedial action. Any such action must be approved by the Dean of the Faculty of Graduate Studies.</p>	
<p><b>5.6.2 Performance Not Related to Coursework</b></p> <p>Students may be required to withdraw from their Ph.D. program for reasons of unsatisfactory performance other than those related to failing grades. These include, but are not restricted to, unsatisfactory attendance and lack of progress in research and/or thesis preparation. Unsatisfactory performance must be reported to the Faculty of Graduate Studies on the "Progress Report" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>). Students who fail to maintain satisfactory performance may be required to withdraw on the recommendation of the department/unit Head to the Dean of the Faculty of Graduate Studies.</p>	<p>All students in the IIS doctoral program are required to present a research seminar hosted by one of the units/departments represented on their advisory committee. Students can present one interdisciplinary seminar in which all relevant units are invited, ensuring the presentation uses language that is accessible to all relevant disciplines.</p> <p>Alternatively, two presentations can be made. (The presentation of a seminar in the seminar series of Unit/Department A and the presentation of a seminar in the seminar series of Unit/Department B, where units/departments A and B are both represented on the student's advisory committee, would satisfy this requirement). These presentations should be different in content and appropriate to the unit hosting the seminar. The student's advisor shall notify the Associate Dean of FGS responsible for the <u>primary unit in the IIS</u> program of the time, location and topic of the student's seminars on the progress report following the seminar(s).</p>
<p><b>5.7 Academic Requirement for Graduation</b></p> <p>All students must:</p> <ul style="list-style-type: none"> <li>• maintain a minimum degree grade point average (DGPA) of 3.0 with no grade below C+;</li> <li>• complete <a href="#">GRAD 7500</a></li> <li>• complete <a href="#">GRAD 7300</a></li> <li>• meet the minimum and not exceed the maximum course requirements; and</li> <li>• meet the minimum and not exceed the maximum time requirements.</li> </ul> <p>Individual department/units may have additional specific requirements for graduation and students should consult department/unit supplementary regulations for these specific requirements. A cumulative degree grade point average of 3.0 or greater is</p>	

<p>required in those courses that constitute the program of study for graduation in the Faculty of Graduate Studies.</p>	
<p><b>5.8 Candidacy Examination</b></p> <p>The candidacy examination is an absolute requirement of the Faculty of Graduate Studies and, as such, cannot be waived under any circumstances. However, the format and content of the candidacy exam varies from unit to unit. The purpose of the candidacy exam in doctoral programs is to determine the student's competence in the discipline with respect to understanding and absorbing a broad spectrum of material, and then researching, identifying, analysing, synthesizing, and communicating ideas about that material in depth.</p> <p>At the time specified by the advisory committee, normally within the first year after the completion of the Ph.D. program coursework, but in no case later than one year prior to expected graduation, the student must successfully complete the formal candidacy examination.</p> <p>The examination is conducted according to a procedure established by the department/unit which is approved and documented in departmental/unit supplementary regulations. The department/unit supplementary regulations state the format and composition of the examination committee for the candidacy examination. The candidacy examination must be held at either The University of Manitoba Fort Garry or Bannatyne campus, or the St. Boniface Hospital Albrechtsen Research Centre normally during regular business hours.</p> <p>This examination, which must be independent from the thesis proposal, may be oral, written, or both and may cover subjects relevant to the general area of the student's research. The structure of the exam must be made known to the student well in advance of the exam. In the case where there is a required oral component, the student must be physically present.</p> <p>A "pass" decision of the examiners must be unanimous. Students must be provided with feedback on their performance and access to the reasons for the pass/fail.</p> <p>The Dean of the Faculty of Graduate Studies must be informed whether the candidate has "passed" or "failed" the candidacy examination on the "Report on Ph.D. Candidacy Examination" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>).</p> <p>Any student who fails the candidacy examination twice will be required to withdraw from the Faculty of Graduate Studies and the notation on the student record will be "Required to withdraw".</p> <p>On successful completion of this examination, the student will be considered a candidate for the Ph.D. degree.</p>	<p>The candidacy examination must be successfully completed after completion of the student's course work.</p> <p>The candidacy examination may follow the format of the candidacy examinations in the advisor's home unit/department or the format used in any of the units/departments represented on the student's advisory committee. However, this is not a requirement and the advisory committee may develop a candidacy examination format, which, in their opinion, best reflects the unique needs of the student, as long as this is consistent with the standards of the Faculty of Graduate Studies. <u>FGS should be advised as to the decided format within the first 12 months of the program.</u></p> <p>In all cases, the candidacy examination should reflect the interdisciplinary nature of the student's program of study and should not be structured on disciplinary lines.</p> <p><del>Details of the candidacy examination format to be used must be communicated to FGS with the submission of the outcomes of the candidacy exam.</del></p> <p>After completion of the candidacy examination, the student's advisory committee shall meet in camera to assess the student's performance. This assessment shall be on a Pass/Fail basis. Unanimous approval is required to achieve a pass.</p> <p>In the event of a failure, a second candidacy examination process shall be initiated. This process must be completed within three months of the initial failure. The format of the second attempt of the candidacy examination shall be identical to the first. A second failure shall result in a recommendation to the Faculty of Graduate Studies that the student be required to withdraw.</p>
<p><b>5.9 Thesis Proposal</b></p> <p>Some departments/units have specific procedures in place for approval of thesis proposals and students are advised to refer to the specific department/unit supplementary regulations. If departments/units require thesis proposal approval, this exercise must be independent from the candidacy examination. Regardless, the proposed thesis research must be approved by the advisory committee and, if</p>	<p>The student must submit a detailed research proposal to their advisory committee. The research proposal format must be approved by the advisory committee in advance and the proposal must be presented and defended <del>in a public forum</del> within one of the units/departments represented on the student's advisory committee.</p>

<p>necessary, by the Human Research Ethics Board or Animal Care Committee before the work has begun on the thesis research or project.</p>	<p>The members of the student's advisory committee must be in attendance and the presentation shall be chaired by the <u>primary unit's Graduate Chair/Department Head or the student's Advisor of the primary unit. The Chair is a non-voting member.</u> The student shall present their proposal for approximately 20 minutes and will be questioned by their advisory committee and, time permitting, by members of the audience <u>(if present)</u>. The duration of the proposal defence may not exceed 90 minutes. Approval of the proposal by the advisory committee must be unanimous.</p> <p>In the event of the proposal not receiving approval, the student will be given three months from the date of the proposal failure to develop, submit and defend a revised proposal. In the event of a second failure, a recommendation that the student be required to withdraw shall be submitted to FGS.</p>
<p><b>5.10 Thesis</b></p> <p>An essential feature of Ph.D. study is the candidate's demonstration of competence to complete a research project and present the findings. The thesis must constitute a distinct contribution to knowledge in the major field of study, and the research must be of sufficient merit to be, in the judgement of the examiners, acceptable for publication. The thesis must be written in English unless approved by the department/unit and Faculty of Graduate Studies.</p> <p>The thesis must be written according to a standard style acknowledged within the candidate's particular field of study and recommended by the department/unit, be lucid and well-written, and be reasonably free from errors of style and grammar (including typographical errors).</p> <p>The final version of the thesis must be submitted by the candidate to the Faculty of Graduate Studies following the guidelines found at: <a href="http://umanitoba.ca/faculties/graduate_studies/thesis/guidelines.html">http://umanitoba.ca/faculties/graduate_studies/thesis/guidelines.html</a></p>	
<p><b>5.11 Thesis Examination Procedures</b></p> <p>The final examination for the Ph.D. degree proceeds in two (2) stages:</p> <ol style="list-style-type: none"> <li>1. Examination of the candidate's thesis by the examining committee;</li> <li>2. Oral examination of the candidate by all examiners on the subject of the thesis and any matters relating thereto.</li> </ol>	<p>The internal thesis examining committee will consist of the members of the student's advisory committee.</p>
<p><b>5.11.1 Formation of the Examining Committee - University of Manitoba (Internal Examiners)</b></p> <p>The candidate's advisor/co-advisor is considered to be a single voting member of the examining committee. All voting members of the advisory committee are expected to serve on the examining committee; any exceptions must be approved in advance by the Dean of the Faculty of Graduate Studies. All examiners must be members of the Faculty of Graduate Studies  <a href="http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.ht">http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.ht</a></p>	

<ul style="list-style-type: none"> <li>• For the purposes of calculating vacation entitlement, the academic year means the period from September 1 to August 31.</li> <li>• Vacation entitlement will be prorated for the portion of the year in which a student is registered.</li> <li>• Any vacation time taken during an official closure of the University is not included as part of the 21 calendar day vacation entitlement. In addition, attendance at academic conferences shall not be considered vacation time.</li> <li>• Student vacation requests should have minimal impact on the student's research, coursework, and other obligations to the University. Any requests provided ahead of time and within these guidelines will not be unreasonably denied.</li> <li>• Should a conflict arise between a student's vacation request and a supervisor's expectations, the Department/Unit Head (or designate) shall make a final determination.</li> </ul>	
<p><b>SECTION 9: Appeals – Procedures and Guidelines</b></p> <p><b>9.1 General</b></p> <p>Students who disagree with a decision have access to appeal routes as laid out by various Faculty of Graduate Studies and University of Manitoba appeal procedures. Student appeals may be limited by the scope of the inquiry available at each level and category of appeal, as well as by the time restrictions for submission of appeals.</p> <p>A further limitation is that the Faculty of Graduate Studies rules and regulations, established to uphold the academic rigour of the University of Manitoba, are generally not subject to appeal unless an appeal route is otherwise stipulated. In situations where no appeal route is available, a student may make a written request to the Dean of the Faculty of Graduate Studies.</p> <p>Students are referred to the appeals section of the University of Manitoba Governing Documents (<a href="http://umanitoba.ca/admin/governance/governing_documents/index.html">http://umanitoba.ca/admin/governance/governing_documents/index.html</a>) for further details.</p> <p>For students registered in Joint Master's Programs (University of Manitoba and University of Winnipeg) there is a different process for handling academic and disciplinary appeals cases than for University of Manitoba students in regular programs (not Joint Programs). This process is outlined in the Joint Master's Program Governing Documents available at <a href="http://umanitoba.ca/faculties/graduate_studies/media/JMP_Regulations2017.pdf">http://umanitoba.ca/faculties/graduate_studies/media/JMP_Regulations2017.pdf</a>.</p>	<p>As per the Faculty of Graduate Studies Academic and Disciplinary Appeals process, appeals by students should be initially directed to the Associate Dean of FGS responsible for the <u>primary unit in the IIS program</u>.</p> <p><del>In the event of the Associate Dean being unable to resolve the appeal to the satisfaction of the student, the student may then appeal to the Dean of FGS.</del></p>
<p><b>9.2 Definitions</b></p> <ul style="list-style-type: none"> <li>• “Appellant” – the graduate student appealing a decision affecting the student’s own admission to, academic standing in, awards from or disciplinary action by a department/unit or the Faculty of Graduate Studies;</li> <li>• “Appeal Panel” – a panel convened from the members of the Faculty of Graduate Studies Appeals Committee by the Executive Committee of the Faculty of Graduate Studies empowered to deal with appeals stemming from decisions of departments/units or the Faculty of Graduate Studies, or individuals designated to make such decisions;</li> <li>• “Unit” – the department/unit council, or appeal body, whose decision is being appealed. This is understood to include decisions taken by individuals or committees acting in the name of the department/unit and also to the</li> </ul>	

## Report of the Faculty Council of Graduate Studies on Course, Curriculum and Regulation Changes

### Preamble

1. The Faculty of Graduate Studies (FGS) has responsibility for all matters relating to the submission of graduate course, curriculum, program and regulation changes. Recommendations for such are submitted by the Faculty Council of Graduate Studies for the approval of Senate.
2. The Faculty Council of Graduate Studies met on the above date to consider a proposal from the Dept. of History.

### Observations

1. The **Dept. of History** proposes the introduction of one course, HIST 7110, the modification of one course, HIST 7190. The modifications to HIST 7190 involve a change to the course's title in order to reflect the different ways instructors might approach this time period in American history. For instance, an instructor may choose to spend more time on topics such as business, gender, or law than might be suggested by the former title, a title that could imply a breadth of approach similar to introductory or survey courses. The proposed course title also more clearly indicates that the end of Reconstruction in 1877 will be the starting point. The proposed course description informs prospective students that course content will vary with the assigned instructor. Finally, the emphasis on *United States* history (rather than American) should remove all confusion with courses that treat a broader swath of the Americas (Latin America, British North America, etc.) The introduction of HIST 7110 is the result of recommendations received following the department's most recent external review.

The Dept. of History also proposes supplementary regulation changes (program modifications) in the Joint Master's program (thesis, comprehensive, and major research paper routes), specifically, that HIST 7110 Historical Methods (6) become a required course in each. The course provides a common course for all incoming graduate students. In connection with bringing this course into History's graduate offerings as mandatory for students in the streams named, the department seeks a reduction in the credit hours for students in those streams. The rationale for this – again flowing from the external review – was to bring the requirements in line with other programs in Canada. The thesis route remains a total of 12 credit hours, while the comprehensive and major research paper routes are reduced from 24 credit hours to 21.

### Course Introduction

#### **HIST 7110 Advanced Historical Methodologies**

**+6**

This course provides advanced training in key methodologies for historical research and knowledge mobilization. The goal of the course is to familiarize students with the protocols, ethics, procedures, and best practices for historical research in a variety of settings. Students will have opportunities to apply this training to specific projects and to develop a range of skills for historical research, alongside building critical understanding of various historical methodologies. Students will also complete certification in key areas such as oral history and research ethics.

Course Modification

**HIST 7190 Studies in United States History since 1877**

**6**

An examination of United States history from the close of the Reconstruction era to the present. Students will gain exposure to the political, economic, social, and/or cultural history of the United States. Course content may vary according to the instructor.

**NET CREDIT HOUR CHANGE**

**+6**

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Recommendations

**Faculty Council of Graduate Studies recommends THAT the program changes from the unit listed below be approved by Senate:**

Dept. of History

Respectfully submitted,

Dr. Louise Simard, Chair  
Faculty Council of Graduate Studies

/ak

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

16 December 2019

## **Memorandum regarding program changes**

The History Joint MA program approved the following changes to requirements for students in the regular stream (thesis, comprehensives, MRP). We seek approval for a new course (Item A).

A. All MA students entering the Joint MA program in the regular stream will take a mandatory 6 credit Historical Methods course (HIST 7110).

B. Requirements for students in the MA thesis stream will be:

- 12 credit hours of coursework at the 7000 level:
  - HIST 7110
  - 6 CH selected from the student's field(s) of choice
- language exam in French or other relevant language
- a thesis that typically should not exceed 20,000 words double-spaced pages in length, defended at an oral examination.

C. Requirements for students in the MA comprehensive exam stream will be:

- 21 CH of coursework, of which
  - HIST 7110
  - 15 CH, of which at least 12CH must be at the 7000 level in History in two areas
    - 3 CH at 4000 level is permitted if the course is outside of History
- language exam in French or other relevant language, to be normally completed in the first year of the degree
- two-hour written comprehensive exam in the major field, followed by an oral exam

D. Requirements for students in the MA Major Research Paper stream will be:

- 21 CH of coursework, of which
  - HIST 7110
  - 15 CH, of which at least 12CH must be at the 7000 level in History in two areas
    - 3 CH at 4000 level is permitted if the course is outside of History.
- language exam in French or other relevant language, to be normally completed in the first year of the degree
- a major research paper of 8000-10000 words, graded by an Advisor and a Second Reader

Please contact me if you have any questions regarding these changes.  
Len Kuffert, Graduate Chair, History Department

<p><b>4.3.2 Pre-Master's Programs</b></p> <p>In specific cases where the academic background of the student is judged to be insufficient for the given program in a department/unit, the department/unit may recommend that the student be admitted to a Pre-Master's program of study (Section 3).</p> <p>The Pre-Master's program of study is intended to bring a student's background up to the equivalent of the required 4-year degree in the major department/unit, and to provide the student with any necessary prerequisites for courses to be taken in the Master's program.</p>	
<p><b>4.4 Program Requirements</b></p> <p>In general, students must complete one of the programs of study described below for the Master's degree. However, the program of study is determined by the department/unit and may follow the department/unit's supplementary regulations. Any single course cannot be used for credit toward more than one program.</p>	
<p><b>4.4.1 Thesis/Practicum Route</b></p> <p>A minimum of twelve (12) credit hours of coursework, unless otherwise stated in the department/unit's supplementary regulations, plus a thesis or practicum is required. The minimum must include at least six (6) credit hours at the 7000-level or above, with the balance of the coursework at the 3000-level or above. A maximum of twenty-four (24) credit hours of coursework is allowed unless the department/unit's supplementary regulations indicate otherwise. The student must complete the thesis/practicum at The University of Manitoba.</p>	<p><u>Thesis stream:</u>  Students who pursue the thesis M.A. must take 12 credit hours of course work at the 7000 level, <del>6 of which will be HIST 7110, selected from two areas of historical study with the remaining 6 credit hours chosen by the student. The area in which the student is writing his/her thesis is classified as the major field and the student is expected to take 6 credit hours of course work in it. A second field is classified as her/his minor.</del> In exceptional cases candidates may be permitted to take 6 extra departmental credit hours at the 7000 level <del>as their minor field.</del></p> <p>A student is not permitted to take a Selected Topics (HIST 7770) reading course in a topic closely related to that of her/his thesis field.</p> <p>Normally students enrolled in the M.A. program are not permitted to submit a thesis unless they achieve a GPA of 3.0 in their course work. See 4.7.4 for remediation options.</p> <p><u>Archival Studies stream:</u>  Students must also complete a thesis on a topic relevant to archival studies. Students who pursue the Archival Studies stream must complete HIST 7372, HIST 7382, an internship (HIST 7390) plus 6 credit hours at the 7000 level in History, plus 3 credit hours of elective coursework (normally outside of History).</p> <p>Elective courses may only be taken at the University of Manitoba. Courses may be in one of either public administration, management studies, media studies, computer science or other subject which reinforces thesis research.</p>

	<p>See below (section 4.4.2) for the Coursework/Comprehensive stream and Major Research Paper (MRP) stream program requirements.</p>
<p><b>4.4.2 Course-based or Comprehensive Examination Route</b></p> <p>A minimum of twenty-four (24) credit hours of coursework and comprehensive examination(s) is required. The minimum must include at least eighteen (18) credit hours at the 7000-level or above with the balance of the coursework at the 3000-level or above. A maximum of forty-eight (48) credit hours of coursework is allowed unless a department/unit's supplementary regulations indicate otherwise. A comprehensive examination is required for some course-based programs.</p>	<p><u>Coursework/Comprehensive stream:</u>  Students who pursue the comprehensive M.A. must take <u>24-21 credit hours of course work, including, HIST 7110 plus 15 credit hours, of which at least 18-12 credit hours of which must be at the 7000 level in History in two areas, and 36 credit hours of which may be taken at the 4000 level if the course is outside of History. Usually students elect to take all 24 credit hours of coursework in History.</u></p> <p>Students pursuing the comprehensive M.A. must complete course work in at least 3 areas of historical study, a major field and two minor fields. Normally 12 credit hours are in the major field.</p> <p>In addition, comprehensive M.A. students will sit both a written and oral examination in their major field.</p> <p><u>Major Research Paper (MRP) stream:</u>  Students who pursue the MRP stream must take <u>21 credit hours of course work, including, HIST 7110 plus 15 credit hours, of which at least 12 credit hours must be at the 7000 level in History in two areas. 3 credit hours may be taken at the 4000 level if the course is outside of History.</u></p> <p><del>24 credit hours of course work, at least 18 credit hours of which must be at the 7000 level in History and 6 of which may be taken at the 4000 level. Usually students elect to take all 24 credit hours of coursework in History.</del></p> <p>In addition, students will be required to complete a Major Research Paper. The student will meet with their MRP Advisor and develop a topic for the paper. The MRP itself will be a piece of original writing based on research that includes primary sources. It will be roughly 8,000-10,000 words in length. The MRP will be distributed to the Advisor and a Second Reader selected by the Chair of the JMP for grading. Students must achieve a minimum grade of B from both the Advisor and Second Reader to pass the MRP. Students who fail to achieve the grade of B will be permitted to submit the MRP a second time. Those who do not achieve a grade of B on the second submission of the MRP will be required to withdraw from the program.</p>
<p><b>4.4.3 Accredited Professional Route</b></p>	

## **Report of the Faculty Council of Graduate Studies on Course, Curriculum and Regulation Changes**

### **Preamble**

1. The Faculty of Graduate Studies (FGS) has responsibility for all matters relating to the submission of graduate course, curriculum, program and regulation changes. Recommendations for such are submitted by the Faculty Council of Graduate Studies for the approval of Senate.
2. The Faculty Council of Graduate Studies met on the above date to consider a proposal from the Faculty of Law.

### **Observations**

1. The **Faculty of Law** proposes a host of supplementary regulation changes (program modifications) in the Master of Human Rights, which include permitting SOC 7160 or PEAC 7110 in place of required course HMRT 7100 if not offered in that term, removal of the oral defence for the thesis proposal, indicating thesis length in terms of a word count, revisions to the evaluation of the major research paper/required symposium, and other minor changes.

### **Recommendations**

**Faculty Council of Graduate Studies recommends THAT the program changes from the unit listed below be approved by Senate:**

### **Faculty of Law**

Respectfully submitted,

Dr. Louise Simard, Chair  
Faculty Council of Graduate Studies

/ak

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

# Proposed Revisions to the Master of Human Rights Supplemental Regulations

## Overview

Dear colleagues,

The Master of Human Rights program is just completing its first year of operation. Like any new program, there are some program design elements that work well, and others which do not. Accordingly, we have reviewed our extensive Supplemental Regulations with a view to streamlining and rationalizing processes, and revising any contradictory or unclear language. This is a key component of operationalizing our program. In proposing these revisions, we have strived to maintain a balance between ensuring academic rigour, while ensuring that program requirements are feasible for students and university alike. These changes will allow us to make better use of our limited resources, while also improving the student experience.

The MHR Program Committee has approved the following proposed changes.

## Detailed Explanation of Changes<sup>1</sup>

- **Preface:** We have removed the requirement to submit new course proposals to the Academic Affairs Committee in Law. Academic Affairs deals only with the undergraduate JD program, not graduate level courses. We could discuss alternative governance structures, but, in my view, it makes the most sense to submit new course proposals to the MHR Program Committee in consultation with the Dean of Law. I believe this is in keeping with our character as an interdisciplinary program. New courses would, of course, still also need to be approved by the Faculty of Graduate Studies.
- **1.1.7** We have added an option in our admissions process to request written work (academic writing samples) as demonstration of English proficiency. This would be useful information in our determinations, particularly in cases where TOEFL scores barely meet our minimum requirement.

<sup>1</sup> I am not including the correction of grammatical or language errors here, only substantive changes.

- **4.3.1** We are now requesting a curriculum vitae from our applicants. A CV would once again provide useful information to the Admissions Committee, particularly in terms of relevant work and life experience.
- **4.4.1** We are revising the required courses so that students can take PEAC 7110 (International Human Rights and Human Security), or SOC 7160 (Critical Perspectives on Human Rights) in lieu of HMRT 7100 (Theory and Practice of Human Rights) in years where this latter course is not offered, such as this coming year (2020-2021). This was envisaged in the MHR Program Proposal, but was never carried through formal approval processes. It gives us a bit more flexibility in how we deliver our required courses, while still ensuring a cohesive cohort through our other MHR required courses (HMRT 7200 and HMRT 7300). We have received letters of support from the department head/program chairs of Peace and Conflict Studies and Sociology.
- **4.4.1** We have streamlined the procedure to “apply” for the thesis stream by no longer requiring an MHR transcript or MHR course papers. These elements seem unnecessary – our central concern in students undertaking thesis research is that their work is well-conceptualized and adequately supervised.
- **4.4.1** We have streamlined the “application” procedure for theses and practica. It seems unnecessarily bureaucratic for advisors to write memos for approval by the MHR Program Committee. For a small program such as ours, we have limited resources that can be better utilized for the students’ benefit. The practicum will still require a proposal, which will initiate the practicum procedure, which will be carried out by the student in conjunction with MHR program staff (including the Program Committee on an *ad hoc* basis). Thesis students will still be required to submit a proposal to their Thesis Committee.
- **4.5.1** We have removed the separate “program advisor role” and instead replaced it simply with students’ thesis and practicum advisors. It does not make much sense for students to have a separate program advisor, who they may not be working with on their practicum or thesis. For thesis students, we arrange thesis advisors (in principle) before we agree to admit students to the program.
- **4.6.1** There is quite a bit of confusion throughout the Supplemental Regulations about distinctions between “examiners,” “external examiners,” and “second readers” in thesis and practicum committees. In an earlier rounds of Supplemental Regulation revisions we removed the requirement for an external examiner (external to the

university), as this was deemed overly complicated as a requirement for our program (though we did retain it as an option, with the discretion of the MHR director). We are now using the term “examiner” throughout to designate thesis and practicum committee members who will ultimately grade the thesis/major research paper, alongside the student’s advisor.

- **4.8.1.1** We have removed the requirement for a public oral defence of thesis proposals. This was deemed to be overly onerous (both for the administration and the students) and not typical of other master’s programs. Students will still be required to submit a written proposal for approval (or rejection) by their thesis committee, and the public oral defence for the finalized thesis has been retained.
- **4.8.1.1** We have converted the required thesis length of 80-100 pages double spaced to 20,000-25,000 words excluding bibliography and appendices. Word counts are less ambiguous than page counts, and this is also consistent with the use of a word count for the practicum’s major research paper.
- **4.8.1.1** We have added the appointment of a separate “practicum coordinator” as an option for the supervision of work placements. This role (which we have hired this year on a temporary basis) involves the setting up and supervision of work placements, but not the major research paper, which remains the purview of the faculty advisor. We would like to add such a role as an option, as we are currently seeking to regularize this position.
- **4.8.1.1** The Supplemental Regulations require students in the Practicum Stream to participate in a practicum symposium, after which point they will be assigned a pass/fail grade on the Major Research Paper required for the practicum. We have slightly changed the wording around the practicum symposium to centre the grading of the practicum around the written work (major research paper). The symposium will still be a requirement for completion of the practicum stream, but it makes more sense to organize a joint symposium involving several or even all the MHR practicum students, rather than trying to organize separate symposia for each student with the mandatory attendance of all advisory committee members. This quasi-defence would be logistically very challenging for our program – in this current cohort, it would involve organizing 16 separate public symposia for practica, with the mandatory attendance of 32 committee members (in addition to 3 thesis proposal defences, and 3 thesis defences). In our proposed alternative, we would invite, but not require, the attendance of all examiners and advisors, and would keep a record of student

participation so that the advisors and examiners are aware of whether students have completed this requirement. This flexibility will ease administrative burden, while also allowing us to organize the symposium as a kind of conference, which will be a more valuable, and better-attended, experience for the students.

Thank you for reviewing these revisions. We would be happy to answer any questions that you might have.

<p>The Faculty of Graduate Studies Academic Guide contains all the rules and policies pertaining to the Faculty of Graduate Studies. Adherence to these rules is of utmost importance for the effective functioning/operation of programs and for guiding and monitoring the progress of students. The integrity of the process is at stake. The major goal of this guide is to prevent potential problems that may affect the completion of a student's program. It is the responsibility of students and the department/unit offering a graduate program to read and follow the policies contained herein.</p> <p>All regulations as laid out in the Faculty of Graduate Studies Academic Guide are subject to revision by the appropriate bodies of the Faculty of Graduate Studies. This compendium is presented as the most recent set of regulations as a guideline for students and staff. Individual departments/units may have additional regulations that supplement these general regulations. All such supplementary procedures and regulations must be approved as specified by the By-Laws of the Faculty of Graduate Studies, be published and available to students, and kept on file in the Faculty of Graduate Studies Office.</p> <p>For those programs that are administered through a Faculty (as opposed to a Department) the term "Department" should be substituted by "Unit" within this document (i.e. Department Head becomes Unit Head.)</p> <p><b>PREFACE</b></p> <p>The Faculty of Graduate Studies is a pan-University faculty charged with the oversight of the administration of all graduate programs at the University. Therefore these regulations apply to all graduate students in all programs in all academic units. Individual units may require specific requirements above and beyond those in the following document, and students should consult unit supplementary regulations for these specific regulations. All unit supplementary regulations require approval of the Faculty of Graduate Studies.</p> <p><b>Definitions</b></p> <p>The "Dean, Faculty of Graduate Studies" shall be taken to mean the Dean, Faculty of Graduate Studies or designate.</p> <p>"Unit" shall be taken to mean the academic unit where the graduate student is pursuing his/her studies. Generally, this is the department. For Faculty-based programs, the Dean is the <i>de facto</i> Head of the unit. The term "unit" shall also include Schools of Faculties within the University. The Dean of the Faculty of Graduate Studies is the <i>de facto</i> Head of interdisciplinary programs administered by the Faculty of Graduate Studies. The Head of any unit may designate any of his/her responsibilities in this policy to another member of the unit, such as the Graduate Chair.</p>	<p>The Master of Human Rights (MHR) program committee consists of:</p> <ul style="list-style-type: none"> <li>- MHR program director (who will chair the committee)</li> <li>- the Mauro Chair in Human Rights and Social Justice</li> <li>- Arts professor appointed by the Dean of Arts</li> <li>- Law professor appointed by the Dean of Law</li> <li>- Education professor appointed by the Dean of Education</li> <li>- Social Work professor appointed by the Dean of Social Work</li> </ul> <p>(These four faculty representatives will ideally include professors who advise or teach students in the MHR program.)</p> <ul style="list-style-type: none"> <li>- Centre for Human Rights Research director</li> <li>- Peace and Conflict Studies director</li> <li>- Mauro Centre for Peace and Justice director</li> <li>- An MHR graduate student. This student will participate in discussions unrelated to confidential student files. The student will be selected by the MHR director until such time as an MHR student association is established, after which it will <u>be</u> that organization's responsibility to nominate a student for the position.</li> </ul> <p>The program committee will report to and advise the director on program matters such as student admission, scholarships, policy, program changes and general administration of the MHR program, <u>including new course introductions. The committee will submit new course proposals to the academic affairs committee of Law Faculty Council for review.</u></p> <p>All program-related changes must be approved by the Faculty of Graduate Studies before coming into effect.</p>
<p><b>1.1 Application and Admission Procedures</b></p> <p>The application (and all required documentation) is to be submitted directly to the Faculty of Graduate Studies via the online application system. <b>Applicants should contact the department/unit to which they are applying for the procedures and requirements of that department/unit.</b> Contact information for each unit can be</p>	<p>The Master of Human Rights has specific requirements for application and admission. Please contact:</p> <p><b>University of Manitoba</b>  Master of Human Rights  c/o Faculty of Law</p>

<p>secondary institutions attended to be sent to the Faculty of Graduate Studies, within one (1) month of the date on the admission letter. Applicants will be placed on hold, which prevents registration until all admission requirements have been submitted. <b>All transcripts must arrive in sealed, university-stamped envelopes sent directly from the issuing institution(s) and be accompanied by official and literal English translations</b> (where applicable, see 1.1.5). For international degrees or where the transcripts does not or will not clearly state that a degree has been conferred, a copy of the official degree certificate is also required.</p>	
<p><b>1.1.5 Transcripts: International</b></p> <p>Where academic records from a country other than Canada are produced in a language other than English, the applicant must arrange for the submission of official literal English translations of all records. To be official, original language documents and English translations must arrive together in envelopes which have been sealed and endorsed by the issuing institution. For international degrees or where the transcript does not or will not clearly state that a degree has been conferred, a copy of the official degree certificate is also required.</p>	
<p><b>1.1.6 Transcripts: University of Manitoba</b></p> <p>University of Manitoba students are not required to submit University of Manitoba transcripts.</p>	
<p><b>1.1.7 Proficiency in English</b></p> <p>A successfully completed English Language Proficiency Test from the approved list is required of all applicants unless they have received a secondary school diploma and/or university degree from Canada or one of the countries listed on the <a href="#">English Language Proficiency Test Exemption List</a> (see 1.1.8). The Faculty of Graduate Studies requires a passing, acceptable English Language Test score in order to offer admission. Please note: In all cases, test scores older than two (2) years (from the time of completing the test) are invalid.</p> <p>Thresholds required for successful completion are indicated in parentheses.</p> <ul style="list-style-type: none"> <li>• University of Michigan English Language Examination Assessment Battery (MELAB) (80%)</li> <li>• Test of English as a Foreign Language (TOEFL) Internet based -iBT® (86; minimum score of 20 in each of reading, writing, listening and speaking categories). The "best score" will not be considered for admission. Only individual test scores will be used to meet the minimum requirements.</li> <li>• Canadian Test of English for Scholars and Teachers (CanTEST®) (band 4.5 in listening and reading and band 4.0 in writing and oral interview)</li> <li>• International English Language Testing System (IELTS™) (6.5 in the Academic Module)</li> <li>• Academic English Program for University and College Entrance (AEPUCE) (65%)</li> <li>• PTE Academic (61% overall)</li> </ul> <p><b>Note:</b></p> <p>In addition, foreign language students may be asked by the department/unit to complete the CanTEST prior to or following registration in the Faculty of Graduate Studies and, if need be, the department/unit may recommend remedial measures in</p>	<p><a href="#">In addition to a proficiency test, applicants may be asked upon request to demonstrate proficiency by submitting an academic writing sample (i.e. a research paper from a prior degree).:-</a></p>

<p><b>4.2 Diploma Programs</b></p> <p>The regulations for the Master's program shall also prevail for diploma programs. All students should consult the department/unit supplementary regulations regarding diploma programs.</p>	
<p><b>4.3 Admission</b></p> <p><b>4.3.1 General Criteria</b></p> <p>Students who are eligible to be considered for direct admission to a program of study leading to the Master's degree include:</p> <ul style="list-style-type: none"> <li>• Graduates of four (4)-year undergraduate degree programs (or equivalent as deemed by the Faculty of Graduate Studies) from: <ul style="list-style-type: none"> <li>○ Canadian institutions empowered by law to grant degrees; or</li> <li>○ Colleges and universities outside Canada which are officially recognized by the Faculty of Graduate Studies.</li> </ul> </li> <li>• Graduates from first-cycle Bologna compliant degrees.</li> <li>• Students who have completed a Pre-Master's program from: <ul style="list-style-type: none"> <li>○ The University of Manitoba; or</li> <li>○ Canadian institutions empowered by law to grant degrees; or</li> <li>○ Colleges and universities outside Canada which are officially recognized by The Faculty of Graduate Studies.</li> </ul> </li> </ul> <p>All students applying for a Master's degree program must have attained a minimum GPA of 3.0 in the last two (2) full years (60 credit hours) of study. This includes those applying for direct admission and those entering from a Pre-Master's program. Students who meet the minimum requirements for admission to the Faculty of Graduate Studies are not guaranteed admission.</p> <p><b>Note:</b> This is the minimum requirement of the Faculty of Graduate Studies and departments/units may have higher standards and additional criteria.</p>	<p>An admissions/selection committee, to be named by the program Director, will review all applications.</p> <ol style="list-style-type: none"> <li>1. At least one undergraduate-level course in human rights or equivalent field experience is preferred.</li> <li>2. Two letters of reference. Letters may be academic and/or professional.</li> <li>3. Statement of interest (maximum two pages) that includes reasons for seeking admission, an outline of the applicant's relevant background, a tentative indication of whether the student is likely to pursue a thesis or practicum, and a potential thesis topic, if applicable.</li> <li>4. <a href="#">Current resume or CV</a></li> <li>3-5. <a href="#">An academic writing sample (only upon request)</a>.</li> </ol>
<p><b>4.3.2 Pre-Master's Programs</b></p> <p>In specific cases where the academic background of the student is judged to be insufficient for the given program in a department/unit, the department/unit may recommend that the student be admitted to a Pre-Master's program of study (Section 3).</p> <p>The Pre-Master's program of study is intended to bring a student's background up to the equivalent of the required 4-year degree in the major department/unit, and to provide the student with any necessary prerequisites for courses to be taken in the Master's program.</p>	
<p><b>4.4 Program Requirements</b></p>	

<p>In general, students must complete one of the programs of study described below for the Master's degree. However, the program of study is determined by the department/unit and may follow the department/unit's supplementary regulations. Any single course cannot be used for credit toward more than one program.</p>	
<p><b>4.4.1 Thesis/Practicum Route</b></p> <p>A minimum of twelve (12) credit hours of coursework, unless otherwise stated in the department/unit's supplementary regulations, plus a thesis or practicum is required. The minimum must include at least six (6) credit hours at the 7000-level or above, with the balance of the coursework at the 3000-level or above. A maximum of twenty-four (24) credit hours of coursework is allowed unless the department/unit's supplementary regulations indicate otherwise. The student must complete the thesis/practicum at The University of Manitoba.</p>	<p>Students will complete 18 course credits and one of the following:</p> <ul style="list-style-type: none"> <li>• a practicum (GRAD 7030) with a related major research paper (7,500-10,000 words) suitable for external evaluation; or</li> <li>• a thesis (GRAD 7000).</li> </ul> <p>Students must complete three (9 credit hours of) required 7000-level graduate courses and at least three (9 credit hours of) additional graduate-level (7000), Law or post-baccalaureate (5000-level) courses from an approved list. The list of approved courses is expected to change annually, depending on the offerings in partner faculties. Please see:  <a href="https://law.robsonhall.com/programs/mhr/">https://law.robsonhall.com/programs/mhr/</a></p> <p><b>Required courses:</b></p> <ul style="list-style-type: none"> <li>• <del>HMRT 7100: Theory and Practice of Human Rights (3). If HMRT 7100 is not offered, or</del> <a href="#">SOC7160 T04: Critical Perspectives on Human Rights (3)</a> or <a href="#">PEAC 7110: International Human Rights and Human Security (3)</a> can be used to satisfy the requirement.</li> <li>• HMRT 7200: Selected Topics in Human Rights Research and Methods (3)</li> <li>• HMRT 7300: Human Rights Law (3)</li> <li>• <del>GRAD 7500: Academic Integrity (0)</del></li> </ul> <p>After the completion of 9 credit hours within the program, students must <a href="#">apply-confirm their interest</a> for either the thesis stream or the practicum stream.</p> <p>Students applying for the thesis stream must submit:</p> <ul style="list-style-type: none"> <li>• an updated statement regarding the proposed area of research to ensure MHR faculty can support the proposed research project;</li> <li>• <del>an MHR transcript</del></li> <li>• evidence of support from a faculty member willing to <a href="#">supervise</a> the thesis; <del>and</del></li> <li>• <del>one or more previous MHR course papers.</del></li> </ul> <p>Students applying for the practicum stream must submit a two- to three-page document specifying particular areas of research interest and potential practicum work sites.</p>

	<p><del>Students in both streams submit their applications to their advisors. The advisor will consult with the professor teaching the practicum course, where applicable, and may consult with the director of the program or the student's other professors. The advisor will send a memo to the MHR committee to record the decision made. The director of the program will notify the student of the decision.</del></p> <p><del>In cases where an application cannot be approved, the advisor will work with a student to develop and resubmit another application either for the thesis or practicum streams.</del></p>
<p><b>4.4.2 Course-based or Comprehensive Examination Route</b></p> <p>A minimum of twenty-four (24) credit hours of coursework and comprehensive examination(s) is required. The minimum must include at least eighteen (18) credit hours at the 7000-level or above with the balance of the coursework at the 3000-level or above. A maximum of forty-eight (48) credit hours of coursework is allowed unless a department/unit's supplementary regulations indicate otherwise. A comprehensive examination is required for some course-based programs.</p>	<p>Not applicable.</p>
<p><b>4.4.3 Accredited Professional Route</b></p> <p>The credit hours and course requirements shall reflect the requirements of the department/unit's external accrediting body. Students should check department/unit supplementary regulations regarding this requirement.</p>	
<p><b>4.4.4 Language Requirements</b></p> <p>Some department/units specify a language requirement for the Master's degree. Students should check department/unit supplementary regulations regarding this requirement.</p>	<p>MHR students whose original language is English are required to demonstrate working knowledge of a second language by the time of graduation. Note that American Sign Language is among the languages recognized by the program. To satisfy the language requirement, students must either:</p> <ul style="list-style-type: none"> <li>• pass a language competency test approved by the MHR director; or</li> <li>• <del>pass</del> <b>achieve a minimum "C" grade (or equivalent) in</b> a language course that has been approved by the MHR director. This course will be taken in addition to the 18 required course credits. Students who hope to work internationally should consider selecting one of the official languages of the United Nations (Arabic, Chinese, French, Russian and Spanish) or another world language such as German.</li> </ul> <p>The MHR Director may waive this requirement in appropriate circumstances, including where a student provides other evidence of competence in a second language, such as a high school graduation certificate or transcript in that language, confirmation of work experience in the second language or a transcript of advanced education in the second language.</p>

<p>maximum time limits, and students should periodically check department/unit supplementary regulations regarding these specific requirements.</p> <p>Requests for extensions of time to complete the degree will be considered on an individual basis and must be submitted to the Dean of the Faculty of Graduate Studies using the "Time Extension Request" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>) <b>at least three (3), but no more than four (4), months</b> prior to expiration of the respective maximum time limit.</p> <p>A student who has not completed the degree requirements within the time limit or within the time limit of the extension will be required to withdraw from the Faculty of Graduate Studies and the notation on the student record will be "Required to withdraw".</p>	
<p><b>4.5 Student's Advisor and Co-Advisor</b></p> <p><b>4.5.1 Student's Advisor</b></p> <p>Each student should have an advisor upon entry into the program, and must have one assigned no later than one (1) term following registration. The advisor must:</p> <ul style="list-style-type: none"> <li>• hold an appointment in the student's department/unit;</li> <li>• be a member of the Faculty of Graduate Studies*;</li> <li>• hold at least a Master's degree or equivalent**;</li> <li>• be active in research;</li> <li>• have expertise in a discipline related to the student's program.</li> </ul> <p>*(<a href="http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html">http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html</a>)</p> <p>**Equivalency will be approved by the Dean of the Faculty of Graduate Studies and determined on a case by case basis and assessed by the potential advisor's demonstrated research record and current research activities. Note that M.D., D.M.D., Pharm.D. and J.D. are undergraduate degrees and are not equivalent to a Master's or Ph.D.</p> <p>It is the responsibility of the department/unit Head to determine whether faculty members meet these criteria, and also to report to the Dean of the Faculty of Graduate Studies on equivalency as necessary. Any exceptions or special circumstances must be recommended by the department/unit Head and approved by the Dean of the Faculty of Graduate Studies who considers each case on an individual basis.</p> <p>In department/units where the choice of thesis/practicum topic and thesis/practicum advisor are postponed after a student's entry into the program, the department/unit Head, within one (1) term, shall appoint a faculty member to advise the student in the interim period before the regular advisor is assigned or chosen. Students must have an advisor through to the end of their program in programs requiring an advisor.</p>	<p>Each student will be assigned an <del>an</del> <del>program</del>-advisor <del>that may be</del> in consultation with the MHR Program Committee. An advisor will be identified at the time of admission for students considering the thesis stream. An advisor will be identified <del>once the program begins in the fall term</del> <u>within the first year</u> for students considering the practicum stream. The advisor shall be an MHR professor or adjunct.</p> <p>The <del>Program</del> Advisor is a member of the Faculty of Graduate Studies, and is responsible for advising the student on the program of study and monitoring the student's progress, including conducting progress reviews as required.</p> <p><del>The Program Advisor serves as an interim Practicum or Thesis Advisor. Normally, the Program Advisor becomes the Practicum or Thesis Advisor.</del> The Practicum or Thesis Advisor is the person primarily responsible for guiding and supervising the student through the Program.</p>
<p><b>4.5.2 Student's Co-advisor</b></p>	

<p>All students should consult department/unit supplementary regulations for specific details regarding advisor/co-advisor requirements.</p>	
<p><b>4.6 Advisory Committee</b></p> <p><b>4.6.1 Thesis/Practicum Route</b></p> <p>Advisory committees are selected by the advisor/co-advisor in consultation with the student and should consist of individuals whose expertise is consistent with that necessary to provide additional advice and guidance to the student during their research program. The advisory committee must consist of a minimum of three (3) members (including the advisor/co-advisor), at least two (2) of whom must be members of the Faculty of Graduate Studies (<a href="http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html">http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html</a>). All examiners must be deemed qualified by the department/unit Head and be willing to serve. It is expected, under normal circumstances, that advisory committee members will possess at least a Master's degree or equivalent. Advisory committees may include one (1) non-voting guest member who has expertise in a related discipline but is not a member of the Faculty of Graduate Studies.</p> <p>The composition of, and any changes to, the advisory committee, including the advisor/co-advisor, must be approved by the Faculty of Graduate Studies. The advisor/co-advisor is the Chair of the advisory committee. If two or more advisory committee members are in a personal relationship, the "Conflict of Interest Disclosure Form" (<a href="https://umanitoba.ca/admin/governance/governing_documents/community/962.html">https://umanitoba.ca/admin/governance/governing_documents/community/962.html</a>) must be completed and submitted to the Faculty of Graduate Studies. See The University of Manitoba's Conflict of Interest policy: <a href="https://umanitoba.ca/admin/governance/governing_documents/community/248.html">https://umanitoba.ca/admin/governance/governing_documents/community/248.html</a>.</p> <p>Additional specifications, if any, regarding the advisory committee are found in the department/unit supplementary regulations and students should consult these regulations for specific requirements.</p>	<p>Thesis option: In some situations, the program director may exercise the option to include an external reviewer.e.g. a faculty member from another university or an academically qualified staff member of a human rights organization.</p> <p>Practicum option: The student's faculty advisor will consult an external examiner e.g. a faculty member from another university or an academically qualified staff member of a human rights organization, following submission of the major research paper. The external examiner will normally be selected by the advisor in consultation with the MHR program director. Together the advisor and examiner will evaluate the major research paper and determine whether it passes or fails. In cases of disagreement between the advisor and examiner, the MHR program director or chair will decide whether the major research paper passes or fails.</p> <p><u>In some situations, the program director may exercise the option to include an external examiner.e.g. a faculty member from another university or an academically qualified staff member of a human rights organization.</u></p>
<p><b>4.6.2 Course-based or Comprehensive Examination Route</b></p> <p>Normally, advisory committees are not required in these routes, however any appropriate specifications regarding an advisory committee can be found in the department/unit's supplementary regulations and students should consult these regulations for specific requirements. If there is an advisory committee and two or more committee members are in a personal relationship, the "Conflict of Interest Disclosure Form" (<a href="https://umanitoba.ca/admin/governance/governing_documents/community/962.html">https://umanitoba.ca/admin/governance/governing_documents/community/962.html</a>) must be completed and submitted to the Faculty of Graduate Studies. See The University of Manitoba's Conflict of Interest policy: <a href="https://umanitoba.ca/admin/governance/governing_documents/community/248.html">https://umanitoba.ca/admin/governance/governing_documents/community/248.html</a>.</p>	
<p><b>4.6.3 Accredited professional programs</b></p> <p>Normally, advisory committees are not required in these routes, however any appropriate specifications regarding an advisory committee can be found in the</p>	

<p><b>4.7.4 Performance in Coursework</b></p> <p>A minimum degree grade point average (DGPA) of 3.0 with no grade below C+ must be maintained to continue in the Faculty of Graduate Studies. Departments/units may specify, in their supplementary regulations, standards that are higher than those of the Faculty of Graduate Studies. Students who fail to maintain the specified grades will be required to withdraw unless a department/unit recommends remedial action. Any such action must be approved by the Dean of the Faculty of Graduate Studies.</p>	<p>A student may not remediate a course in which a grade lower than a C+ was assigned due to academic dishonesty. See Section 2.3.</p>
<p><b>4.7.5 Performance not related to Coursework</b></p> <p>In some departments/units, students are required to demonstrate satisfactory academic performance in areas not related to performance in courses, such as attendance at or participation in course lectures, seminars and in laboratories and progress in research, thesis or practicum. The specific nature of satisfactory academic performance is outlined in individual department/unit supplementary regulations and students should consult these supplementary regulations for specific requirements. Unsatisfactory performance must be reported to the Faculty of Graduate Studies on the "Progress Report" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>). Students who fail to maintain satisfactory performance may be required to withdraw on the recommendation of the department/unit Head to the Dean of the Faculty of Graduate Studies.</p>	<p><u>From time-to-time, Mandatory professional seminars (non-credit) will be offered to students.:-</u> These seminars are intended to provide grounding in the skills required to undertake human rights work and will include such topics as non-academic writing (e.g. reports, funding applications, policy briefs, legislation etc.), social media, cross-cultural communication, budgeting, negotiation, professional ethics, working with journalists, presentation skills, grant writing, human rights curation, and career paths. Tours will also be arranged of local archives and museums and relevant historical sites.</p>
<p><b>4.8 Academic Requirements for Graduation</b></p> <p>All students must:</p> <ul style="list-style-type: none"> <li>• maintain a minimum degree grade point average (DGPA) of 3.0 with no grade below C+;</li> <li>• complete <a href="#">GRAD 7500</a></li> <li>• complete <a href="#">GRAD 7300</a></li> <li>• meet the minimum and not exceed the maximum course requirements; and</li> <li>• meet the minimum and not exceed the maximum time requirements.</li> </ul> <p>Individual department/units may have additional specific requirements for graduation and students should consult department/unit supplementary regulations for these specific requirements.</p>	
<p><b>4.8.1 Thesis/Practicum Route</b></p> <p><b>4.8.1.1 Thesis vs. Practicum</b></p> <p>Students must demonstrate their mastery of the field and that they are fully conversant with the relevant literature through their thesis/practicum. The thesis or practicum will normally be written in English unless the student is studying in a program at the Université de Saint-Boniface, or departmental/unit supplementary regulations allow a different language to be used.</p> <p>A practicum differs from the thesis in its emphasis on the application of theory, it is however similar in scope, span, and rigour. The practicum takes the form of an exercise in the practical application of knowledge and skill. It usually involves the</p>	<p><b>Thesis Proposal</b></p> <p>Students must complete a thesis proposal. The proposal may be submitted after the student has completed 9 credit hours of coursework. Students should normally submit their thesis proposals within three months of completing their coursework to maintain momentum, structure, continuity and connection with the program and faculty.</p> <p>Under the supervision of the Thesis Advisor, the student must prepare a <del>10-15 page</del><a href="#">4000-5000 word</a> written thesis proposal to be submitted to the Thesis Advisory Committee. <del>The student is</del></p>

careful definition of a problem, the application of appropriate knowledge and skills to the problem, and a report of the results in a manner suitable for evaluation by an examining committee. Individual department/units have specific requirements for graduation and students should consult department/unit supplementary regulations for specific requirements. Research must be approved by the appropriate Human Research Ethics Board or Animal Care Committee, if applicable, before the work has begun on the practicum.

The thesis is developed under the mentorship of the advisor/co-advisor. Individual department/units may have specific guidelines regarding the thesis proposal and its acceptance by the student's advisory committee and department/unit Head; students should consult department/unit supplementary regulations for specific requirements. Research must be approved by the appropriate Human Research Ethics Board or Animal Care Committee, if applicable, before the work has begun on the thesis research.

~~required to defend the thesis proposal orally in open session.~~ The proposal will outline in some detail the problem the student intends to investigate, as well as the theory and methodology to be employed in the endeavour.

The proposal should include an introduction, a context section, the theoretical background of the study, the methodology to be used, the research questions, and the significance of the study.

The Thesis Advisor will call a Thesis Advisory Committee meeting to consider the adequacy of the proposal. The Advisor must provide written notice to each member of the Thesis Advisory Committee advising them of the ~~proposal's oral defence~~ Thesis Advisory Committee Meeting date. Students must submit the written proposal to each member of the Thesis Advisory Committee at least two weeks prior to the meeting. Students should normally defend their thesis proposals within six months of completing their coursework to maintain momentum, structure, continuity and connection with the program and faculty. ~~The student will formally present the proposal in a forum open to all faculty members and graduate students of the program.~~

The purposes of the proposal examination meeting are:

- 1) to enable the Thesis Advisory Committee to assess the student's preparation for undertaking independent graduate research;
- 2) to consider the feasibility of the proposed research; and,
- 3) to provide necessary feedback for further advancement of the research.

The Thesis Advisor shall chair the thesis proposal ~~defence meeting~~. All members of the Thesis Advisory Committee shall be present at the proposal ~~defence meeting~~ unless specifically exempted by the Chair of the MHR Program Committee. Members must be present in person or via video- or tele-conference ~~or Skype~~. In some cases (at their Advisor's discretion), the student may also be asked to present their work to the committee.

The proposal meeting will be chaired by the Advisor, and will have the following steps:

- 1) introduction by the Advisor;
- ~~2) presentation of highlights of the research proposal by the student;~~

32) review of the proposal by the Thesis Advisory Committee ~~and oral defence by the student;~~

34) evaluation of the proposal by the Thesis Advisory Committee on a pass/fail basis.

For a successful ~~oral defence~~ proposal meeting, the decision of the Thesis Advisory Committee must be by majority. Unanimity is not required. Students whose proposals pass with revisions must complete the revisions under the supervision of the Thesis Advisor. The feedback received must be incorporated into the revised proposal, which may be required to be re-defended.

Unsuccessful candidates will be allowed a second attempt within 2 months of the first attempt.

Following the successful defence of the Thesis proposal, the Thesis Advisor should work with the student and the Thesis Advisory Committee to address any concerns raised in the proposal meeting.

After successful defence of the thesis proposal, the student may proceed to the stage of research and thesis writing. See the Thesis Guidelines on the Faculty of Graduate Studies website [https://umanitoba.ca/faculties/graduate\\_studies/thesis/index.html](https://umanitoba.ca/faculties/graduate_studies/thesis/index.html).

Where the research involves human subjects, data collection shall not proceed until the thesis proposal has been approved and approval has been secured from the relevant University of Manitoba Research Ethics Board.

If a candidate fails a Thesis proposal on two occasions, ~~he/she~~ they will be required to withdraw from the program.

### **Thesis**

The MHR thesis is an independently written research document on a topic of relevance to human rights. The thesis would normally range from ~~80 to 100 pages~~ 20,000-25,000 words of double-spaced typescript, including notes and bibliography. The thesis should demonstrate that the student has mastery of the specific field of human rights research under investigation, and is fully conversant with the relevant literature. The thesis should also demonstrate that the candidate has made an original contribution to knowledge in the field of human rights research.

The thesis may entail co-operation with other faculties at the University of Manitoba, and agencies in the local and wider global community.

In general, the overall goal of the thesis is to build or apply theory through disciplined and focused independent study. Consequently, the thesis should be based on scholarly study and research that encompasses both theoretical and empirical aspects of human rights research.

### **Practicum**

The student, working with an advisor and under the supervision of a site supervisor, will accrue at least 300 hours at a practicum site, usually during the summer.

Students will meet with their faculty advisor [or practicum coordinator selected by the MHR program director](#) on a regular basis to discuss related topics, experiences, and to problem-solve issues that may arise at the sites. Students are responsible for maintaining a *Log of Practicum Hours and Project Notes*. This log is to be signed by the site supervisor and submitted at the end of the semester to the faculty advisor supervising the practicum.

The Practicum Agencies that participate in the practicum course will be selected because of the potential opportunities for student learning, unique program focus, and direct application of human rights skills and knowledge. Every agency must have staff members who apply human rights analysis in their professional work.

Students will be asked to make a specific positive contribution to the operation of their host organizations in the form of a report, curriculum module, work of art, documentary film, workshop, website, strategic plan, or other such project. Prior to the start of this field experience, students will spend two to three weeks orienting themselves regarding the organization. Following completion of the practicum placement, students are required to write a major research paper of between 7,500 and 10,000 words.

### **Major Research Paper (part of the practicum)**

The Major Research Paper in Human Rights critically reflects on and contextualizes the student's practicum experience. It must be between 7,500 to 10,000 words, including notes and bibliography, and should be of high enough quality to be suitable for academic or professional journal publication. Students will work with their [practicum-faculty advisor](#) to develop a topic that is informed by their practicum experience. The resulting paper will be reviewed by the faculty advisor [and an second reader/examiner](#) (a member of the Faculty of Graduate Studies) .

<p> </p> <p> </p> <p> </p> <p> </p>	<p>In some situations, the program director may exercise the option to include an external <del>reviewer</del> <del>examiner</del>, e.g. a faculty member from another university or an academically qualified staff member of a human rights organization.</p> <p>Students will present an abbreviated summary of their research results at a <u>mandatory</u> student-led symposium dedicated to this purpose, <del>after which a</del> <u>The major research paper will be assigned a</u> passing or failing grade <del>will be assigned</del> by the advisor and examiner. In cases of disagreement between the advisor and examiner, the MHR program director or chair will decide whether the major research paper passes or fails. <u>The symposium is considered to be a mandatory element of the major research paper and students must complete the symposium to complete the paper.</u></p> <p>Should a major research paper fail, a student will be given one additional opportunity to revise and resubmit it for evaluation. Should it fail a second time, the student will be required to withdraw from the program.</p>
<p><b>4.8.1.2 Examining Committee</b></p> <p>The advisor/co-advisor will recommend an examining committee to the department/unit Head for approval, which shall then be reported to the Faculty of Graduate Studies on the “Master’s Thesis/Practicum Title and Appointment of Examiners” form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>). This form must be approved by the Dean of the Faculty of Graduate Studies at least two (2) weeks prior to the distribution of the thesis.</p> <p>Under normal circumstances, the examining committee will be the same as the advisory committee unless otherwise stipulated in the department/unit’s supplementary regulations. The examining committee must consist of a minimum of three (3) members (including the advisor/co-advisor), at least two (2) of whom must be members of the Faculty of Graduate Studies. All examiners must be deemed qualified by the department/unit Head and be willing to serve. It is expected that, under normal circumstances, examination committee members will have a Master’s degree or equivalent. The composition of, and any changes to, the examining committee, including the advisor/co-advisor, must be approved by the Faculty of Graduate Studies. Individual department/units establish specific requirements for examination and students should consult department/unit supplementary regulations for specific requirements.</p> <p>Graduate students, Post-Doctoral fellows, and Research Assistants or Associates may not serve on graduate student examining committees.</p> <p>If two or more examining committee members are in a personal relationship, the “Conflict of Interest Disclosure Form” (<a href="https://umanitoba.ca/admin/governance/governing_documents/community/962.html">https://umanitoba.ca/admin/governance/governing_documents/community/962.html</a>) must be completed and submitted to the Faculty of Graduate Studies. See The University of Manitoba’s Conflict of Interest</p>	<p><b>Thesis stream:</b></p> <p>Normally the Thesis Advisory Committee serves as the Thesis Examining Committee. The Thesis Advisory Committee must consist of a minimum of three persons (see 4.6.1).</p> <p><b>Practicum stream:</b></p> <p>The student’s faculty advisor will evaluate the major research paper arising from the student’s practicum, <del>the review may include an external examiner who is selected by the advisor approved by the MHR director</del>. While the advisor will work with the student to shape the topic and argument of the major research paper, the <del>external</del> examiner’s role is purely evaluative.</p>

## Report of the Faculty Council of Graduate Studies on Course, Curriculum and Regulation Changes

### Preamble

1. The Faculty of Graduate Studies (FGS) has responsibility for all matters relating to the submission of graduate course, curriculum, program and regulation changes. Recommendations for such are submitted by the Faculty Council of Graduate Studies for the approval of Senate.
2. The Faculty Council of Graduate Studies met on the above date to consider a proposal from the Dept. of Occupational Therapy.

### Observations

1. The **Dept. of Occupational Therapy** proposes the modification of two courses, OT 6112 and OT 6300, to change the grading method from letter grades to pass/fail. The department proposes this change as these are two courses wherein students consistently achieve high marks that lead to degree GPA inflation.

The department also proposes supplementary regulation changes (program modifications) to add greater detail about the required CASPer Test for admission to the MOT.

#### Course modifications

#### **OT 6122 Foundations of Health and Well-Being 3**

This course explores foundational knowledge in topics essential for understanding the concepts of and influences on health and well-being. Students engage in theory based and practical activities to understand models of disability, concepts of health, social determinants of health, cultural competence and safety, power and privilege. Course evaluated on a Pass/Fail basis.

#### **OT 6300 Analysis of Occupation 4**

Students examine the relationships between components of human performance and engagement in occupations. Students analyze self-care, productivity and leisure occupations to identify physical, cognitive and affective components required for function. Adapting and grading principles and methods are applied. Course evaluated on a Pass/Fail basis.

#### **NET CREDIT HOUR CHANGE 0**

### Recommendations

**Faculty Council of Graduate Studies recommends THAT the program changes from the unit listed below be approved by Senate:**

#### **Dept. of Occupational Therapy**

Respectfully submitted,

Dr. Louise Simard, Chair  
Faculty Council of Graduate Studies

#### Comments of the Senate Executive Committee:

The Senate Executive Committee endorses the Report to Senate.



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July 13, 2020

Dr. Louise Simard, Acting Dean  
Faculty of Graduate Studies  
500 University Centre  
Fort Garry Campus

Re: Changes to the MOT Supplemental Regulations

Dear Dr. Simard,

In response to concerns raised by the Faculty of Graduate Studies regarding the lack of information included in section 1.1.10 of the MOT Supplemental Regulations related to the CASPer Test (email dated January 15, 2020 from Kasey Morgan), the OT Admissions Committee has made the attached recommendations outlining specific requirements pertaining to the MOT application process. These recommendations were recently approved by OT Council (June 22/20) and CoRS Executive Council (July 13/20), and are being submitted for consideration and approval from the Programs and Guidelines Committee and Faculty of Graduate Studies Council.

I appreciate your attention to this matter, and if there is anything else you require, please do not hesitate to contact me.

Sincerely,

Leanne Leclair, PhD  
Associate Professor and Head  
Department of Occupational Therapy

Attach.

cc: Dr. Michael Czubryt, Associate Dean Faculty of Graduate Studies  
Ms. Andrea Kailer, Assistant to the Associate Deans and Programs Coordinator  
Ms. Kasey Morgan, Assistant Programs Coordinator

## MOT Admissions Committee Recommendation for Changes to the Supplemental Regulations Regarding the Application of the CASPer Test

The MOT Admissions Committee is recommending that the CASPer Test be incorporated in the admissions process to determine the ranking of applicants to be invited to an MOT admission interview. For the 2020-21 application year, the MOT Program required that applicants complete the CASPer Test to be considered for admission to the MOT Program. However, when we incorporated this test into the admissions process, we did not specify how it would be weighted. The Faculty of Graduate Studies has requested that we stipulate all requirements related to the CASPer Test in the supplemental regulations.

**Background:** The MOT Admissions Committee has been wanting to include an assessment of skills other than academics that are important for the MOT program and the profession of occupational therapy. The CASPer Test is one such assessment that is designed to assess “people skills” including: collaboration, communication, empathy, equity, ethics, motivation, problem solving, professionalism, resilience, and self-awareness. Unlike other assessments the CASPer Test is a situational judgement assessment that is a psychological test that uses scenarios and asks individuals what they would do in a given dilemma and why. This type of testing is thought to provide information about an individual’s behavioural tendencies and the effectiveness of the particular responses

**Psychometric Properties:** Psychometric properties including generalizability (.85) and reliability, test-retest (.69), internal consistency reliability (.83) are discussed in the 2019-2020 cycle report that is available at <https://altusassessments.docsend.com/view/4pradnpw5j4mq28w> There is also some evidence that the CASPer can be a predictor of the occupational therapy students who will perform best on the practical examinations and recently research has shown a strong correlation with some parts of the Competency Based Fieldwork Evaluation including: communication ( $r=.21, <.05$ ), performance management ( $r=.19, <.05$ ), and professional interactions and responsibility ( $r=.18, <.05$ ).

**Other Health Profession Programs Using the CASPer:** The CASPer test is being incorporated into many Canadian health profession education programs admission process.

Professional Health Education Program	Programs	No.
Occupational Therapy	UBC, UWO, U of A, Laval, Sherbrooke, McGill, U of O	7
Physical Therapy	Dal, U of T, U of A, McGill, Laval, U of O, UBC, UWO, Queen’s U	9
Medicine Undergraduate	U of M, U of A, Dal, Laval, McGill, McMaster, U of O, Sherbrooke, Montreal	9
Medicine Post Graduate	U of M (all programs), Queen’s (4 programs), U of S (all programs), UBC, UWO, Laval, Dal.	12

Nursing	McGill, BC Tech, College of Rockies, Conestoga College, Dal, Fanshawe College, George Brown College, McMaster, McGill, Mohawk, Nipissing U, North Island College, Selkirk U, St. Francis U, Trent U, Trinity Western U, U of A, UBC, Ontario Tech U, Vancouver Island U, UWO, York U	22
Pharmacy	Laval U, Memorial U, U of Montreal, U of S, U of Waterloo	5
Dentistry	McGill, Laval, UBC, U of Montreal, U of T	5

While there is some variation in the way universities are applying the CASPer scores to the admissions process, the MOT Admissions Committee trialed a process similar to the way the University of Manitoba, College of Medicine uses the CASPer Test where the Z-Score counts for 30% of score used to rank students for admission interviews.

The MOT Committee explored the CASPer in 2019-2020 and decided they would like to move forward to try using the CASPer as part of the admissions process. The then Chair of the MOT Admissions Committee, Dr. Cara Brown and the MOT Committee met with Eric Beaune from ALTUS Assessments to learn more about the test and the research behind the CASPer. All applicants to the MOT Program 2020-2021 wrote the CASPer Test. The CASPer Z-Scores weighted at 30% were combined with the applicants' grade point average (GPA) for last 60 credit hours Z-Scores to create a score weighted at 70%. The score was used to rank students to be invited for an admissions interview.

The MOT Admissions Committee reviewed the rankings and it was observed that the CASPer had an impact on the rankings of students invited for interviews. The MOT Admissions Committee believe that the CASPer Test is value added to the process as it opens up an avenue to consider these important non-academic skills.

Given this information, the MOT Admissions Committee recommends that the CASPer Test continues to be used in the MOT Admission Process for the purpose of selecting applicants to invite to an interview for admission to the MOT Program. CASPer shall not be used in the selection of registrants from the Canadian Indigenous Peoples applicant category. However, as applicants from the Canadian Indigenous Peoples category may also be considered in the other priority categories (Manitoba, Other Canadian and International), the CASPer Test must be written as it will be used in the selection of these applicants. Therefore, the Committee recommends that the following be added to the MOT Supplemental Regulations:

#### **1.1.10 Admission Tests**

CASPer Test administered by Altus Assessments: a minimum Z-Score of greater than 2.0 standard deviations below the mean is required. The minimum Z-Score does not apply to applicants to the Canadian Indigenous Peoples category.

Results must be distributed to the MOT program at the University of Manitoba by the date indicated in the MOT Application Guide in order to be considered.

## **4.3 Admission**

### **4.3.1 General Criteria**

Eligible applicants are ranked for an interview within their priority category as listed above using a weighting of:

- 1) CASPer Test Z-Score weighted at 30%
- 2) Last 60 credit hour GPA Z-Score weighted at 70%

<ul style="list-style-type: none"> <li>• International English Language Testing System (IELTS™) (6.5 in the Academic Module)</li> <li>• Academic English Program for University and College Entrance (AEPUCE) (65%)</li> <li>• PTE Academic (61% overall)</li> </ul> <p><b>Note:</b></p> <p>In addition, foreign language students may be asked by the department/unit to complete the CanTEST prior to or following registration in the Faculty of Graduate Studies and, if need be, the department/unit may recommend remedial measures in language skills based on the results of the CanTEST. Some units may require a specific test or test scores greater than those indicated above. Students should check department/unit supplementary regulations for details.</p>	
<p><b>1.1.8 English Language Proficiency Test Exemption List</b></p> <p>Applicants holding secondary school diplomas and/or recognized university degrees from countries on the Faculty of Graduate Studies English Language exemption list are not required to submit an English Language Proficiency score. For more information please see our website at <a href="http://umanitoba.ca/faculties/graduate_studies/admissions/english_exemption_list.htm">http://umanitoba.ca/faculties/graduate_studies/admissions/english_exemption_list.htm</a></p>	
<p><b>1.1.9 Letters of Recommendation</b></p> <p>Letters of Recommendation are to be completed via the online application. Applicants are required to add their 'Recommendation Provider(s)' contact information so that each recommender is sent an automated email notification.</p> <p>Generally, two (2) Letters of Recommendation must be submitted to the Faculty of Graduate Studies. For the number of recommendation letters necessary, applicants should review their specific Program webpage at <a href="http://umanitoba.ca/faculties/graduate_studies/admissions/programs/index.html">http://umanitoba.ca/faculties/graduate_studies/admissions/programs/index.html</a>.</p>	<p>Not required for MOT Regular program.</p>
<p><b>1.1.10 Admission Tests</b></p> <p>Some departments/units require admissions tests, such as the Graduate Record Examination (GRE®) or the Graduate Management Aptitude Test (GMAT™). These requirements are listed in the supplementary regulations of the particular department/unit, and if required, the scores must be submitted at the time of application.</p>	<p>CASPer Test administered by Altus Assessments: <u>a minimum Z-Score of greater than 2.0 standard deviations below the mean is required. The minimum Z-Score does not apply to applicants to the Canadian Indigenous Peoples category.</u></p> <p><u>Results must be distributed to the MOT program at the University of Manitoba by the date indicated in the MOT Application Guide in order to be considered.</u></p>
<p><b>1.1.11 Entrance Requirements</b></p> <p>The minimum standard for acceptance into any category in the Faculty of Graduate Studies is a 3.0 Grade Point Average (GPA) or equivalent in the last two (2) previous years of full time university study (60 credit hours).</p>	

<p>Faculty of Graduate Studies), be published and available to students (<a href="http://umanitoba.ca/faculties/graduate_studies/admin/supplemental_regulations.html">http://umanitoba.ca/faculties/graduate_studies/admin/supplemental_regulations.html</a>), and be kept on record in the Faculty of Graduate Studies. All students should consult department/unit supplementary regulations for specific details regarding admission, program requirements, progression, and completion. Individual departments/units may offer Master's programs by one or more of the following:</p> <ul style="list-style-type: none"> <li>• Thesis/practicum-based;</li> <li>• Course-based;</li> <li>• Comprehensive Exam;</li> <li>• Project;</li> <li>• Accredited Professional.</li> </ul>	
<p><b>4.2 Diploma Programs</b></p> <p>The regulations for the Master's program shall also prevail for diploma programs. All students should consult the department/unit supplementary regulations regarding diploma programs.</p>	
<p><b>4.3 Admission</b></p> <p><b>4.3.1 General Criteria</b></p> <p>Students who are eligible to be considered for direct admission to a program of study leading to the Master's degree include:</p> <ul style="list-style-type: none"> <li>• Graduates of four (4)-year undergraduate degree programs (or equivalent as deemed by the Faculty of Graduate Studies) from: <ul style="list-style-type: none"> <li>○ Canadian institutions empowered by law to grant degrees; or</li> <li>○ Colleges and universities outside Canada which are officially recognized by the Faculty of Graduate Studies.</li> </ul> </li> <li>• Graduates from first-cycle Bologna compliant degrees.</li> <li>• Students who have completed a Pre-Master's program from: <ul style="list-style-type: none"> <li>○ The University of Manitoba; or</li> <li>○ Canadian institutions empowered by law to grant degrees; or</li> <li>○ Colleges and universities outside Canada which are officially recognized by The Faculty of Graduate Studies.</li> </ul> </li> </ul> <p>All students applying for a Master's degree program must have attained a minimum GPA of 3.0 in the last two (2) full years (60 credit hours) of study. This includes those applying for direct admission and those entering from a Pre-Master's program. Students who meet the minimum requirements for admission to the Faculty of Graduate Studies are not guaranteed admission.</p> <p><b>Note:</b> This is the minimum requirement of the Faculty of Graduate Studies and departments/units may have higher standards and additional criteria.</p>	<p>The Admissions and Selection Committees will review all applicants and select an annual quota of up to 50 students. Students are selected on a competitive basis using the entry requirements and ranking criteria indicated below. In addition, Canadian Indigenous people who meet all entry requirements will be given priority for up to 20% of the seats available; proof of ancestry is required. Eligible applicants will be considered in the following order of priority:</p> <ol style="list-style-type: none"> <li>1) Manitoban</li> <li>2) Other Canadian</li> <li>3) International</li> </ol> <p><u>Regular Program Entry Requirements</u></p> <ul style="list-style-type: none"> <li>➤ completion of a 3 or 4 year undergraduate degree;</li> <li>➤ minimum B (3.0) average in last 60 credit hours of study;</li> <li>➤ proof of Indigenous ancestry (copy of Treaty card, Manitoba Métis membership card, or letter from Band Council; copy of Nunavut Trust Certificate card), if applicable;</li> <li>➤ completion of the following prerequisite courses or equivalents*, with no grade below a B (3.0): <ul style="list-style-type: none"> <li>• Anatomy of the Human Body</li> <li>• Physiology of the Human Body</li> <li>• Introductory Statistics</li> <li>• Minimum 3 credit hours in Psychology</li> <li>• Minimum 3 credit hours in Social Sciences</li> </ul> </li> </ul>

	<p>*A list of prerequisite courses and equivalents is available from the Department of Occupational Therapy website.</p> <p><u>Eligible applicants are ranked for an interview within their priority category as listed above using a weighting of:</u></p> <p><u>1) CASPer Test Z-Score weighted at 30%</u>  <u>2) Last 60 credit hour GPA Z-Score weighted at 70%</u></p> <p>Selected eligible applicants are interviewed and are ranked within their priority group as listed above, using an equal weighting of:</p> <p>1) GPA of the last 60 credit hours  2) interview score</p> <p>Successful applicants who accept an offer of admission to the Master of Occupational Therapy program must submit the following documentation by the deadlines published yearly and provided to successful applicants with the offer of admission.</p> <ul style="list-style-type: none"> <li>➤ completed Health Questionnaire, Immunization Status/Record and MIMS Release of Information;</li> <li>➤ current certification in CPR at the Basic Life Support (BLS) Provider level (or higher) ;</li> <li>➤ current Criminal Record Check including a vulnerable sector check;</li> <li>➤ current Child Abuse Registry Check;</li> <li>➤ current Adult Abuse Registry Check;</li> <li>➤ a Certificate in Emergency First Aid is strongly recommended but not required.</li> </ul> <p>Additional requirements are mandatory in subsequent year(s) of the program. No student will be allowed to participate in fieldwork placements without meeting all requirements. Please see information provided by the department for greater detail.</p> <p><u>Accelerated Program Entry Requirements</u></p> <ul style="list-style-type: none"> <li>➤ completion of a BMR (OT) degree or equivalent;</li> <li>➤ minimum B (3.0) average in last 60 credit hours of study;</li> <li>➤ successful completion of 42 non-BMR(OT) degree credit hours;</li> <li>➤ evidence of having passed the Canadian Association of Occupational Therapists certification examination and/or eligibility for registration in Manitoba by the College of Occupational Therapists of Manitoba.</li> </ul>
<p><b>4.3.2 Pre-Master's Programs</b></p> <p>In specific cases where the academic background of the student is judged to be insufficient for the given program in a department/unit, the department/unit may recommend that the student be admitted to a Pre-Master's program of study (Section 3).</p>	

## Report of the Faculty Council of Graduate Studies on Course, Curriculum and Regulation Changes

### Preamble

1. The Faculty of Graduate Studies (FGS) has responsibility for all matters relating to the submission of graduate course, curriculum, program and regulation changes. Recommendations for such are submitted by the Faculty Council of Graduate Studies for the approval of Senate.
2. The Faculty Council of Graduate Studies met on the above date to consider a proposal from the Dept. of Physics & Astronomy.

### Observations

1. The **Dept. of Physics & Astronomy** proposes two modifications, PHYS 7370 and PHYS 7400, to make minor adjustments to the course titles. These courses are used by the Medical Physics concentration and the new titles correspond to the ones submitted for the recent CAMPEP (Commission on Accreditation of Medical Physics Education Programs) accreditation.

The Dept. of Physics & Astronomy also proposes several supplementary regulation changes (program modifications) in the M.Sc. and Ph.D. (both general Physics and Medical Physics), which include the removal of all core courses in the M.Sc. and Ph.D. to permit a better tailoring of coursework requirements depending on student background, the removal of the fourth member of the Ph.D. advisory committee, and other minor changes.

#### Course modifications

#### **PHYS 7370 Radiation Therapy Physics 3**

The calculations and measurements necessary to determine the radiation dose distribution in patients receiving radiotherapy will be presented. Newer treatment modalities, e.g., pion therapy and hyperthermia will be discussed. Prerequisites: PHYS 4510, PHYS 4560, or consent of instructor.

#### **PHYS 7400 Linear Systems for Imaging 3**

Fundamental principles of image formation, analysis of the characteristics of medical images, parametric description of image quality; application to transmission radiography. Prerequisite: consent of instructor.

#### **NET CREDIT HOUR CHANGE 0**

### Recommendations

**Faculty Council of Graduate Studies recommends THAT the program changes from the unit listed below be approved by Senate:**

#### **Dept. of Physics & Astronomy**

Respectfully submitted,

Dr. Louise Simard, Chair  
Faculty Council of Graduate Studies

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



## Department of Physics & Astronomy

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Wednesday, September 2, 2020

*Subj: Update of Physics & Astronomy Supplementary Regulations*

Dear Dr. Simard,

Attached you will find our proposal for a revision of the Physics & Astronomy Supplementary Regulations, both as a tracking-enabled Word document and an identical pdf document for easier review. We add our proposed changes in tracking mode to the new, September 2020 FGS template. In the following, please let me discuss the changes and the rationale behind them.

- (1) Page 1 and throughout the document: *Director of the Medical Physics Academic Program* is replaced by *Associate Head: Medical Physics*. This simply reflects the title of the person now heading the Medical Physics Program.
- (2) Sec. 3.1: At the request of FGS, we added a statement about offering a Pre-Master's Program.
- (3) Sec. 4.3.1: An appropriate advisor is assigned by the department, not the Medical Physics Academic Committee.
- (4) Sec. 4.4.1: We now require that at time of admission to the program, the advisor and the prospective student submit a department-internal form "proposed coursework", which has to be approved by the Graduate Committee. Since our graduate students, especially the international ones, come in with a wide range of background, we want to make sure that a suitable program of study is chosen.
- (5) Sec. 4.4.2: A few course titles have been updated to reflect the CAMPEP accredited names.

- PHYS 7360 *Medical Radiation Physics*: This is how the course is listed in the Academic Calendar. By mistake we still had the old form in the supplementary regulations.
  - PHYS 7370 *Radiation Therapy Physics*: Previously called *Radiotherapy Physics*. The new name corresponds to the one given for the recent CAMPEP (Commission on Accreditation of Medical Physics Education Programs) accreditation. We attach a *Proposal for Course Modifications* form.
  - PHYS 7400 *Linear Systems for Imaging*: Previously called *Medical Imaging*. The new name corresponds to the one given for the recent CAMPEP accreditation. We attach a *Proposal for Course Modifications* form.
- (6) Sec. 4.4.2: For the *Comprehensive M.Sc. Medical and Health Physics Program* we remove the previously existing course requirement of “core” physics courses. We found that such a rigid list does not align well with the aforementioned range of backgrounds. In lieu of this requirement, the department will prescribe a more tailored program based on the “proposed coursework” form mentioned in (4). The modification does not affect total credit hours.
  - (7) Sec. 5.1.3: In case of a transfer from MSc to PhD, an updated “proposed coursework” form has to be submitted, reflecting the course level expected for a PhD, and has to be approved by the Graduate Committee.
  - (8) Sec. 5.2.4: The department now falls back to the FGS specification “*The advisory committee must consist of a minimum of three (3) members*”. Previously we had a minimum of 4. With the removal of a mandatory “internal external” member, there is no need for 4 mandatory members.
  - (9) Sec. 5.4: Again, for admission to the PhD program, the form “proposed coursework”, must be submitted and approved by the Graduate Committee.
  - (10) Sec. 5.4: For the general physics program, we remove the “core course” requirement (i.e. PHYS 7540/7550/7590/7600). The background of our students covers a wide range, and the tailored program of study established with the “proposed coursework” form will replace this rule.
  - (11) Sec 5.4: For the PhD in Medical Physics, again, a few course names are brought up to date (courses and rationale same as listed under (5)), and the core course requirement is replaced by a more flexible list of electives, which reflect better the needs of medical physics training.

We believe that these changes are (1) uncontroversial and (2) will allow us to deliver a graduate course program that can address the needs of today's graduate students better than our previous, rather rigid list. All modifications have been discussed with and approved by Department Council. I will be happy to answer any questions or address concerns that these changes might raise.

Sincerely,

A handwritten signature in blue ink, appearing to read "Gerald Gwinner". The signature is fluid and cursive, with the first name "Gerald" written in a larger, more prominent script than the last name "Gwinner".

Gerald Gwinner

Professor of Physics

Associate Head (Graduate)

Past Chair, Division of Nuclear Physics, Canadian Association of Physicists

The Faculty of Graduate Studies Academic Guide contains all the rules and policies pertaining to the Faculty of Graduate Studies. Adherence to these rules is of utmost importance for the effective functioning/operation of programs and for guiding and monitoring the progress of students. The integrity of the process is at stake. The major goal of this guide is to prevent potential problems that may affect the completion of a student's program. It is the responsibility of students and the department/unit offering a graduate program to read and follow the policies contained herein.

All regulations as laid out in the Faculty of Graduate Studies Academic Guide are subject to revision by the appropriate bodies of the Faculty of Graduate Studies. This compendium is presented as the most recent set of regulations as a guideline for students and staff. Individual departments/units may have additional regulations that supplement these general regulations. All such supplementary procedures and regulations must be approved as specified by the By-Laws of the Faculty of Graduate Studies, be published and available to students, and kept on file in the Faculty of Graduate Studies Office.

For those programs that are administered through a Faculty (as opposed to a Department) the term "Department" should be substituted by "Unit" within this document (i.e. Department Head becomes Unit Head.)

## PREFACE

The Faculty of Graduate Studies is a pan-University faculty charged with the oversight of the administration of all graduate programs at the University. Therefore these regulations apply to all graduate students in all programs in all academic units. Individual units may require specific requirements above and beyond those in the following document, and students should consult unit supplementary regulations for these specific regulations. All unit supplementary regulations require approval of the Faculty of Graduate Studies.

## Definitions

The "Dean, Faculty of Graduate Studies" shall be taken to mean the Dean, Faculty of Graduate Studies or designate.

"Unit" shall be taken to mean the academic unit where the graduate student is pursuing his/her studies. Generally, this is the department. For Faculty-based programs, the Dean is the *de facto* Head of the unit. The term "unit" shall also include Schools of Faculties within the University. The Dean of the Faculty of Graduate Studies is the *de facto* Head of interdisciplinary programs administered by the Faculty of Graduate Studies. The Head of any unit may designate any of his/her responsibilities in this policy to another member of the unit, such as the Graduate Chair.

All matters relating to graduate programs in the Department of Physics and Astronomy are under the jurisdiction of the Graduate Studies Committee (GSC), with the exception of certain matters pertaining to the Medical and Health Physics (MP) Program, which are handled by the Medical Physics Academic Committee (MPAC).

GSC consists of 7 academic staff (appointed by Department Council after nomination by the Nominating Committee) and one graduate student representative (selected by the Graduate Student Executive). Annually, the committee elects a Chair. The appointments are renewable. The committee recommends procedures for graduate student admissions, reviews and revises the graduate curriculum, examination and thesis standards, recommends to academic staff on student stipends, liaises with the Faculty of Graduate Studies, and advises the Head on recommendations for scholarships and bursaries. The graduate student member of the committee may be requested or request to be recused from discussion of graduate student matters of a sensitive or personal nature.

The MPAC has the mandate to initiate, support and coordinate the development and maintenance of Medical and Health Physics education at the University of Manitoba and in particular the Medical and Health Physics graduate program in the Department of Physics and Astronomy; to review graduate student applications, program content and performance of medical physics students and faculty and to identify which students are eligible for program funding; to make appropriate recommendations to the University of Manitoba's Department of Physics and Astronomy, through its Head or Graduate Studies Committee or both.

MPAC is chaired by the Associate Head: Director of the Medical Physics Academic Program, and consists of the chair of the MP Graduate Admissions and Student Progress Subcommittee, the chair of the MP Graduate Curriculum Subcommittee, the chair of the MP Examination Subcommittee, the chair of the MP Liaison and Outreach Subcommittee, the MP Student Councilor and up to three (3) additional members (drawn from the Medical Physics community who hold academic or adjunct appointments in Physics and Astronomy) to ensure sufficient institutional and professional representation. At least 50% of the MPAC should hold a recognized Medical Physics certification.

	<p>Subcommittee Chairs and additional members are appointed by the <del>Associate Head: Director of the Medical Physics Academic program</del> for a period of (<del>nominally</del>normally) 3 years. The MP Student Councilor is elected on an annual basis by MP students in the program.</p>																
<p><b>1.1 Application and Admission Procedures</b></p> <p>The application (and all required documentation) is to be submitted directly to the Faculty of Graduate Studies via the online application system. <b>Applicants should contact the department/unit to which they are applying for the procedures and requirements of that department/unit.</b> Contact information for each unit can be found at <a href="http://umanitoba.ca/faculties/graduate_studies/admissions/programs/index.html">http://umanitoba.ca/faculties/graduate_studies/admissions/programs/index.html</a>.</p> <p><b>1.1.1 Process:</b></p> <p>1.1.1 (a) A completed official application for admission form must be submitted, together with the application fee and supporting documentation, to the Faculty of Graduate Studies, via the online application system.</p> <p><b>NOTE:</b> International students must pay special attention to the appropriate requirements with respect to transcripts (see application form for details).</p> <p>1.1.1 (b) Applications are subsequently reviewed by the unit offering the program which will decide whether the applicant meets the unit's criteria including, but not limited to, availability of advisors, space, and facilities.</p> <p>1.1.1 (c) Notification of recommended/rejected applications is sent by the Head of the unit to the Faculty of Graduate Studies. Applications recommended for admission are checked to determine if they meet the Faculty of Graduate Studies' eligibility requirements. The Faculty of Graduate Studies then notifies applicants of their acceptance or rejection.</p>	<p>Physics and Astronomy 301 Allen Building University of Manitoba Winnipeg, MB R3T 2N2 Canada</p> <p>Phone: (204) 474-9817 Fax: (204) 474-7622 <a href="mailto:physics@umanitoba.ca">physics@umanitoba.ca</a></p> <p><a href="http://www.physics.umanitoba.ca/grad/gradprog.html">http://www.physics.umanitoba.ca/grad/gradprog.html</a></p>																
<p><b>1.1.2 Deadlines for Recommended Applications (from Departments/Units to the Faculty of Graduate Studies)</b></p> <p>The following are the deadlines for receipt by the Faculty of Graduate Studies of recommendations from departments/units.</p> <table border="1" data-bbox="77 1457 812 1591"> <thead> <tr> <th>Term</th> <th>Start Date</th> <th>Canadian/US</th> <th>International</th> </tr> </thead> <tbody> <tr> <td>FALL</td> <td>September</td> <td>July 1</td> <td>April 1</td> </tr> <tr> <td>WINTER</td> <td>January</td> <td>November 1</td> <td>August 1</td> </tr> <tr> <td>SUMMER</td> <td>May</td> <td>March 1</td> <td>December 1</td> </tr> </tbody> </table> <p><b>IMPORTANT:</b> <u>These are not application deadlines.</u> Applicants are <b>required</b> to submit the application and documentation to the Faculty of Graduate Studies to meet the application deadline in place for a particular department/unit. Applicants are advised to confirm the deadline of the department/unit to which the application is being made; deadlines can be found on the application program page at <a href="http://umanitoba.ca/faculties/graduate_studies/admissions/programs/index.html">http://umanitoba.ca/faculties/graduate_studies/admissions/programs/index.html</a>.</p>	Term	Start Date	Canadian/US	International	FALL	September	July 1	April 1	WINTER	January	November 1	August 1	SUMMER	May	March 1	December 1	<p>For upcoming application deadlines, please consult the Graduate Program Page: <a href="http://umanitoba.ca/faculties/graduate_studies/admissions/programs/physics.html">http://umanitoba.ca/faculties/graduate_studies/admissions/programs/physics.html</a></p>
Term	Start Date	Canadian/US	International														
FALL	September	July 1	April 1														
WINTER	January	November 1	August 1														
SUMMER	May	March 1	December 1														

<p>long as no more than one (1) term separates one graduate degree program from another graduate degree program.</p> <p>Students on an exceptional/parental/regular leave of absence must register in <a href="#">GRAD 7300</a> upon return from leave if it has not already been completed.</p> <p>Visiting and Occasional students are not expected to complete <a href="#">GRAD 7300</a>. For further information see <a href="http://umanitoba.ca/research/integrity/research_integrity.html">http://umanitoba.ca/research/integrity/research_integrity.html</a>.</p>	
<p><b>2.7 Graduate Focus on Aging Concentration</b></p> <p>The Graduate Focus on Aging Concentration is available to any interested student who is enrolled in the Faculty of Graduate Studies and whose graduate work is concentrated in aging. To be eligible, a "Student intention to receive the Graduate Focus on Aging Concentration" form must be submitted to the Faculty of Graduate Studies. Masters or Doctoral students must complete the requirements of the program to which they have been admitted and the requirements of the Graduate Focus on Aging Concentration.</p> <p>The Graduate Focus on Aging Concentration requirements include:</p> <ol style="list-style-type: none"> <li>1. Six (6) credit hours of graduate (7000-level or higher) courses that focus on aging and are approved by the student's Advisory Committee;</li> <li>2. A thesis/practicum on an aging-related topic;</li> <li>3. Having at least one Advisory committee member who is officially affiliated with the Centre on Aging as a Research Affiliate; and</li> <li>4. Participating in the annual Spring Research Symposium of the Centre on Aging at least once as a poster presenter.</li> </ol> <p>Graduate students may be able to attain their 6 credit hours of courses within the existing course requirements of their graduate program. Students must attain a minimum grade of C+ (or higher, if stipulated in the department/unit supplementary regulations), for the required 6 credit hours of aging courses.</p> <p>Graduate students who are not in a thesis/practicum will be considered on a case-by-case basis.</p> <p>Student progress in the Graduate Focus on Aging Concentration would normally be discussed with the student's Advisory committee, and progress documented on the "Graduate Focus on Aging Concentration Completion" form which must accompany the Progress Report form submitted to the Faculty of Graduate Studies. The final Graduate Focus on Aging Concentration Completion form must be submitted no later than at least one week prior to the FGS deadline for graduands to submit theses/practica and other reports.</p>	
<p><b>SECTION 3: General Regulations: Pre-Master's</b></p> <p><b>3.1 Admission and Program Requirements</b></p> <p>Graduates of bachelor degree programs with a minimum grade point average (GPA) of 3.0 in the last two (2) full years of university study will be considered for admission to a Pre-Master's program. These are the minimum requirements of the Faculty of Graduate Studies. Departments/Units may specify higher or additional criteria. <u>Admission to a Pre-Master's program does not guarantee future admission to a Master's program.</u> As the Pre-Master's program of study is intended to bring a</p>	<p><u>Pre-Master's studies are possible in Physics &amp; Astronomy. The Graduate Committee reviews applications and makes a recommendation to the Head.</u></p>

<p>Faculty of Graduate Studies), be published and available to students (<a href="http://umanitoba.ca/faculties/graduate_studies/admin/supplemental_regulations.html">http://umanitoba.ca/faculties/graduate_studies/admin/supplemental_regulations.html</a>), and be kept on record in the Faculty of Graduate Studies. All students should consult department/unit supplementary regulations for specific details regarding admission, program requirements, progression, and completion. Individual departments/units may offer Master's programs by one or more of the following:</p> <ul style="list-style-type: none"> <li>• Thesis/practicum-based;</li> <li>• Course-based;</li> <li>• Comprehensive Exam;</li> <li>• Project;</li> <li>• Accredited Professional.</li> </ul>	
<p><b>4.2 Diploma Programs</b></p> <p>The regulations for the Master's program shall also prevail for diploma programs. All students should consult the department/unit supplementary regulations regarding diploma programs.</p>	
<p><b>4.3 Admission</b></p> <p><b>4.3.1 General Criteria</b></p> <p>Students who are eligible to be considered for direct admission to a program of study leading to the Master's degree include:</p> <ul style="list-style-type: none"> <li>• Graduates of four (4)-year undergraduate degree programs (or equivalent as deemed by the Faculty of Graduate Studies) from: <ul style="list-style-type: none"> <li>○ Canadian institutions empowered by law to grant degrees; or</li> <li>○ Colleges and universities outside Canada which are officially recognized by the Faculty of Graduate Studies.</li> </ul> </li> <li>• Graduates from first-cycle Bologna compliant degrees.</li> <li>• Students who have completed a Pre-Master's program from: <ul style="list-style-type: none"> <li>○ The University of Manitoba; or</li> <li>○ Canadian institutions empowered by law to grant degrees; or</li> <li>○ Colleges and universities outside Canada which are officially recognized by The Faculty of Graduate Studies.</li> </ul> </li> </ul> <p>All students applying for a Master's degree program must have attained a minimum GPA of 3.0 in the last two (2) full years (60 credit hours) of study. This includes those applying for direct admission and those entering from a Pre-Master's program. Students who meet the minimum requirements for admission to the Faculty of Graduate Studies are not guaranteed admission.</p> <p><b>Note:</b> This is the minimum requirement of the Faculty of Graduate Studies and departments/units may have higher standards and additional criteria.</p>	<p><b>The Comprehensive M.Sc. Medical and Health Physics Program:</b> Students will be accepted into the Medical and Health Physics M.Sc. Program by the Medical Physics Academic Committee (MPAC), subject to the approval of the Department of Physics and Astronomy, rather than by an individual supervisor. <a href="#">The Department of Physics and Astronomy will assign An</a> appropriate supervisor <del>will be assigned by the Medical Physics Academic Committee</del> to oversee the student's research and <del>to</del> will act as a mentor for the student.</p>

<p><b>4.3.2 Pre-Master's Programs</b></p> <p>In specific cases where the academic background of the student is judged to be insufficient for the given program in a department/unit, the department/unit may recommend that the student be admitted to a Pre-Master's program of study (Section 3).</p> <p>The Pre-Master's program of study is intended to bring a student's background up to the equivalent of the required 4-year degree in the major department/unit, and to provide the student with any necessary prerequisites for courses to be taken in the Master's program.</p>	
<p><b>4.4 Program Requirements</b></p> <p>In general, students must complete one of the programs of study described below for the Master's degree. However, the program of study is determined by the department/unit and may follow the department/unit's supplementary regulations. Any single course cannot be used for credit toward more than one program.</p>	
<p><b>4.4.1 Thesis/Practicum Route</b></p> <p>A minimum of twelve (12) credit hours of coursework, unless otherwise stated in the department/unit's supplementary regulations, plus a thesis or practicum is required. The minimum must include at least six (6) credit hours at the 7000-level or above, with the balance of the coursework at the 3000-level or above. A maximum of twenty-four (24) credit hours of coursework is allowed unless the department/unit's supplementary regulations indicate otherwise. The student must complete the thesis/practicum at The University of Manitoba.</p>	<p><u>At the time of admission to the program, the advisor, in consultation with the student, submits the form "Proposed Coursework"; this proposal and subsequent changes must be approved by the Graduate Committee.</u></p> <p><b>M.Sc. Thesis Route:</b> All undergraduate courses chosen from outside the department must be relevant to the thesis work.</p>
<p><b>4.4.2 Course-based or Comprehensive Examination Route</b></p> <p>A minimum of twenty-four (24) credit hours of coursework and comprehensive examination(s) is required. The minimum must include at least eighteen (18) credit hours at the 7000-level or above with the balance of the coursework at the 3000-level or above. A maximum of forty-eight (48) credit hours of coursework is allowed unless a department/unit's supplementary regulations indicate otherwise. A comprehensive examination is required for some course-based programs.</p>	<p><b>The Comprehensive M.Sc. Medical and Health Physics Program:</b> This accredited program is designed to prepare students for a career in Clinical Medical Physics and/or in Health Physics. The program requires a minimum of two years of study and a minimum of 36 credit hours of didactic and experimental coursework as well as a research project. Research (i.e.: 2 summers of 3-4 months) in an approved laboratory and the submission of a research report are required. On successful completion of the coursework, the student will be required to pass a comprehensive examination that will cover the requirements for program accreditation by the Commission on Accreditation of Medical Physics Education Programs (CAMPEP).</p> <p><b>Required Course Work for the Comprehensive M.Sc. Medical and Health Physics Program (30 credit hours):</b></p> <ul style="list-style-type: none"> <li>• PHYS 7360 Medical Radiation <u>Physics</u> (3)</li> <li>• PHYS 7370 <u>Radiation Therapy Physics</u> (3)</li> <li>• PHYS 7380 Radiation Biology (3)</li> </ul>

- PHYS 7390 Radiation Protection (3)
- PHYS 7400 Linear Systems for Medical Imaging (3)
- PHYS 7410 Diagnostic Methods (3)
- PHYS 7422 Physics of X-ray Imaging (3)
- PHYS 7430 Physics of Nuclear Medicine (3)
- PHYS 7460 Methods in Medical and Health Physics 1 (3); and
- PHYS 7470 Methods in Medical and Health Physics 2 (3).

In cases in which the student has completed a required course or its equivalent prior to entering the M.Sc. program, or in other special cases, other courses may be substituted upon recommendation of the student's advisor and with the approval of the Associate Head: Medical Physics, GSC, MPAG Director and the Department Head.

Students who have not taken Anatomy or Physiology at an undergraduate level (BIOL 1410, BIOL 1012 or BIOL 2410 or equivalent) are required to take ANAT 7014 Functional Human Anatomy (2) and/or BME 7012 Foundation in Physiology (2) in addition to the courses listed above.

Up to 12 credit hours of additional electives may be taken to achieve a minimum of 36 credit hours of coursework and to meet program needs. At least 6 ch must be courses at the 7000 level, while 6 ch may be 4000 or higher level courses. Approved 4000 level courses include PHYS 4386 (Quantum Mechanics 3), PHYS 4250 (Computational Physics), PHYS 4516 (Intro to Nuclear and Particle Physics), PHYS 4646 (Electro- and Magnetodynamics and Special Relativity)  
~~Students are required to complete up to 6 credit hours (1-2 courses) of coursework from the following list in order to achieve a minimum of 36 credit hours of course work:~~

- ~~• PHYS 4250 Computational Physics (3)~~
- ~~• PHYS 7590 Electromagnetic Theory (3)~~
- ~~• PHYS 7600 Applied Electromagnetism (3)~~
- ~~• PHYS 7720 Quantum Mechanics 1 (3)~~

Changes in the student's program of study will only be allowed with the prior written approval of the department. Students are also required to register for PHYS 7700 (Research Project in Medical Health Physics).

CAMPEP specifies requirements for supplementary training of students in accredited Medical Physics programs. To meet these requirements, zero credit training in ethics, communication, radiation and laboratory safety is required. A program checklist detailing the

<p>and as approved by the Dean of the Faculty of Graduate Studies) to meet the minimum credit hour requirements for their program.</p>	
<p><b>4.7.3 Academic Performance</b></p> <p>Student progress shall be reported <b>at least</b> annually (but no more than once every four (4) months) to the Faculty of Graduate Studies on the “Progress Report” form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>).</p> <p>Students who fail to maintain satisfactory performance may be required to withdraw on the recommendation of the Graduate Chair and/or department/unit Head to the Dean of the Faculty of Graduate Studies on the “Progress Report” form. Students who receive two (2) consecutive “in need of improvement” or one (1) “unsatisfactory” rating will normally be required to withdraw from the Faculty of Graduate Studies and the notation on the student record will be “Required to withdraw”.</p>	
<p><b>4.7.4 Performance in Coursework</b></p> <p>A minimum degree grade point average (DGPA) of 3.0 with no grade below C+ must be maintained to continue in the Faculty of Graduate Studies. Departments/units may specify, in their supplementary regulations, standards that are higher than those of the Faculty of Graduate Studies. Students who fail to maintain the specified grades will be required to withdraw unless a department/unit recommends remedial action. Any such action must be approved by the Dean of the Faculty of Graduate Studies.</p>	
<p><b>4.7.5 Performance not related to Coursework</b></p> <p>In some departments/units, students are required to demonstrate satisfactory academic performance in areas not related to performance in courses, such as attendance at or participation in course lectures, seminars and in laboratories and progress in research, thesis or practicum. The specific nature of satisfactory academic performance is outlined in individual department/unit supplementary regulations and students should consult these supplementary regulations for specific requirements. Unsatisfactory performance must be reported to the Faculty of Graduate Studies on the “Progress Report” form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>). Students who fail to maintain satisfactory performance may be required to withdraw on the recommendation of the department/unit Head to the Dean of the Faculty of Graduate Studies.</p>	<p><b>Regular M.Sc. in Physics:</b> In the event that a student’s progress in research is judged by the advisor to be unsatisfactory, the advisor will request that the Department Head task the Graduate Studies Committee with conducting a review of the student’s research. The committee will recommend remedial actions or withdrawal from the program.</p> <p><b>The Comprehensive M.Sc. Medical and Health Physics Program:</b> The student’s supervisor will evaluate the quality of the student’s research. An annual progress report is made to the Faculty of Graduate Studies using the Master’s Annual Progress Report. If the performance of the student is not satisfactory, the <u>Associate Head: Medical Physics MPAC Director</u> will request that the Department Head task the Graduate Studies Committee (GSC) with conducting a review. The GSC will recommend remedial actions or withdrawal from the program.</p> <p>For the Medical and Health Physics Program unsatisfactory performance in research or professional conduct may lead to various disciplinary recommendations, depending on the nature of the performance or misconduct. These recommendations may include but are not limited to, the taking of remedial supplemental courses or training, through to dismissal from the program for poor progress or severe or repeated academic or</p>

<p>24 credit hours of coursework, unless the individual department/unit's approved supplementary regulations specify otherwise. A minimum of 18 credit hours at the 7000-level or higher is required. Any further coursework beyond the minimum 18 credit hours at the 7000-level must be at the 3000-level or above. A maximum of 48 credit hours of coursework is allowed toward the Ph.D. program.</p> <p>The request to transfer from a Master's to the Ph.D. program must be submitted to the Faculty of Graduate Studies at least one (1) month prior to the term for which the student intends to commence the Ph.D. program. The applicant must indicate a request for transfer on the online Application for Admission.</p> <p>The student will be admitted to a 3-year Ph.D. program and will pay a total of three years of program fees, including program fees paid in the Master's at the time of transfer. Students are cautioned that such transfers may impact on the duration of The University of Manitoba Graduate Fellowship.</p> <p>Students who have previously completed a recognized Master's degree and are initially admitted and registered in a Master's program may transfer to the Ph.D. program within the same department/unit on the recommendation of the student's advisor/co-advisor and Head of the department/unit. Where a student holds a Master's degree that would be sufficient for admission to the Ph.D. program, students must complete at least 12 credit hours of coursework, unless the individual department/unit's approved supplementary regulations specify otherwise. The student will be admitted to a 2-year Ph.D. program and will pay a total of two years of program fees, including program fees paid in the Master's at the time of transfer.</p>	<p>7000 level courses at the University of Manitoba with a minimum average grade of 3.5, and at least 3 credit hours must be from a course that has a final exam for which the student received a grade of 3.5 or higher.</p> <p><i><u>An updated "Proposed Coursework" form must be submitted and approved by the Graduate Committee.</u></i></p>
<p><b>5.1.4 Provisional Admission to the Ph.D.</b></p> <p>Students nearing the completion of the Master's degree may be accepted provisionally to the Ph.D. program for a 12 month period (commencing with the first registration in the Ph.D. program). Further registration in the Ph.D. program is contingent upon completion of all requirements of the Master's degree within the 12 months. Students must maintain continuous registration in their Master's program until its completion. Students will require assistance from the department/unit and the Faculty of Graduate Studies to complete dual registration on the "Concurrent Curriculum Permission" form (<a href="http://intranet.umanitoba.ca/student/records/2323.html">http://intranet.umanitoba.ca/student/records/2323.html</a>) in the Master's and Ph.D. program simultaneously.</p>	
<p><b>5.1.5 Students with Disabilities</b></p> <p>See Accommodation Policy for Students with Disabilities:</p> <p><a href="http://umanitoba.ca/admin/governance/governing_documents/students/281.html">http://umanitoba.ca/admin/governance/governing_documents/students/281.html</a></p>	
<p><b>5.2 Student's Advisor, Co-advisor and Advisory Committee</b></p> <p><b>5.2.1 Student's Advisor</b></p> <p>Every Ph.D. student must have an advisor throughout their program, appointed by the Head of the department/unit. The advisor is responsible for supervising the student's graduate program. The advisor is the student's first point of contact at the University of Manitoba, and therefore should be familiar with the general policies and regulations of the Faculty of Graduate Studies as well as the specific supplementary regulations</p>	<p>At the time of admission, an advisor must be in place.</p>

<p>of, and approve, the co-advisor arrangement. If a co-advisor is added midway through the student's program, a new Advisor Student Guidelines must be completed. When an advisor and co-advisor are assigned, together they shall fulfill the role of the advisor (that is, neither shall fulfill any other advisory or examining committee membership requirements for that student). One (1) advisor must be identified as the primary advisor; however, both the advisor and co-advisor's signatures are required on all documents where the advisor's signature is required.</p>	
<p><b>5.2.3 Student's Advisor/Co-advisor</b></p> <p>A student who also holds an appointment at the University of Manitoba at the rank of Assistant Professor or above cannot have an advisor or co-advisor with an appointment in the same department/unit.</p> <p>The advisor, co-advisor (if applicable) and student must discuss, and complete, the Faculty of Graduate Studies Advisor Student Guidelines prior to the commencement of any research and no later than the submission of the first Progress Report for the student. If a student does not have an advisor/co-advisor, the interim advisor will be required to complete the Advisor Student Guidelines. If the parties cannot agree on any component(s) of the Advisor Student Guidelines, the matter should be referred to the department/unit Graduate Chair, the Head of the department/unit, or the Dean of the Faculty of Graduate Studies. The Advisor Student Guidelines is to be completed again if there is a change in advisor/co-advisor or when a co-advisor is added midway through the student's program.</p> <p>Should, during the student's program, the relationship between the student and advisor/co-advisor significantly deteriorate, the matter should be referred sequentially to the department/unit Graduate Chair, the Head of the department/unit, then to the Dean of the Faculty of Graduate Studies. It is the responsibility of the department/unit offering the program in which the student is studying to arrange an alternate advisor/co-advisor if this is appropriate and necessary.</p> <p>All students should consult department/unit supplementary regulations for specific details regarding advisor/co-advisor requirements.</p>	
<p><b>5.2.4 Advisory Committee</b></p> <p>The Head of the department/unit is responsible for the establishment of an advisory committee for each Ph.D. student. Advisory committees are selected by the advisor/co-advisor in consultation with the student and should consist of individuals whose expertise is consistent with that necessary to provide additional advice and guidance to the student during their program. The advisory committee must consist of a minimum of three (3) members, all of whom must be members of the Faculty of Graduate Studies (<a href="http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html">http://umanitoba.ca/faculties/graduate_studies/governance/academic_membership.html</a>). Advisory committees may, in addition, include one (1) non-voting guest member who has expertise in a related discipline but is not a member of the Faculty of Graduate Studies.</p> <p>It is expected that advisory committee members will have a Ph.D. degree or equivalent. Equivalency will be determined by the Dean of the Faculty of Graduate Studies. Graduate students, Post-Doctoral Fellows, and Research Assistants or Associates may not serve on graduate student advisory committees. A student who also holds an appointment at the University of Manitoba at the rank of Assistant Professor or above cannot have an advisor or co-advisor with an appointment in the</p>	<p><del>The department requires a minimum of 4 committee members.</del></p>

<p>same department/unit. The composition of, and any changes to, the advisory committee, including the advisor/co-advisor, must be approved by the Faculty of Graduate Studies on the “Program of Study and Appointment of Advisory Committee” form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>).</p> <p>If two or more advisory committee members are in a personal relationship, the “Conflict of Interest Disclosure Form” (<a href="https://umanitoba.ca/admin/governance/governing_documents/community/962.html">https://umanitoba.ca/admin/governance/governing_documents/community/962.html</a>) must be completed and submitted to the Faculty of Graduate Studies. See The University of Manitoba’s Conflict of Interest policy: <a href="https://umanitoba.ca/admin/governance/governing_documents/community/248.html">https://umanitoba.ca/admin/governance/governing_documents/community/248.html</a>.</p> <p>The advisor/co-advisor is the Chair of the advisory committee.</p> <p>Advisory committee meetings must be held at least annually, and are not intended to take the place of meetings between the student and advisor/co-advisor which should occur with much greater frequency than the advisory committee meetings.</p>	
<p><b>5.3 Program of Study</b></p> <p>As soon as possible, but no later than 24 months after a student has commenced their program, the student’s program of study should be registered with the Faculty of Graduate Studies on the “Program of Study and Appointment of Advisory Committee” form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>) and should include:</p> <ul style="list-style-type: none"> <li>• information about the minimum or expected time for completion of the degree;</li> <li>• coursework to be taken along with course classification (“S”, “X”, “A” or “O”);</li> <li>• any foreign language requirement;</li> <li>• the research area in which the thesis will be written.</li> </ul> <p>The approval of the student’s advisor/co-advisor and the Head of the department/unit are sufficient for registration. The program of study, including withdrawal from individual courses and any subsequent changes, must be approved by the student’s advisor/co-advisor, the advisory committee, and the Head of the department/unit. Withdrawal from courses or changes of course category without such approval may result in the student being required to withdraw from the Faculty of Graduate Studies.</p>	
<p><b>5.4 Program Requirements</b></p> <p>All students must complete one of the following programs of study for the Ph.D. degree, unless otherwise specified in the approved department/unit supplementary regulations:</p> <ul style="list-style-type: none"> <li>• Where admission to the Ph.D. is directly from a Master’s degree, a minimum of 12 credit hours at the 7000- level or higher plus a thesis is required. Any further coursework beyond the minimum 12 credit hours at the 7000-level must be at the 3000-level or above. A maximum of 24 credit hours of coursework is allowed toward the Ph.D. program.*</li> <li>• Where admission to the Ph.D. is directly from an Honours Bachelor degree or equivalent, a minimum of 24 credit hours plus a thesis is required. The coursework must include a minimum of 18 credit hours at the 7000-level or</li> </ul>	<p><u>At the time of admission to the program, the advisor, in consultation with the student, submits the form “Proposed Coursework”; this proposal and subsequent changes must be approved by the Graduate Committee and, once established, by the student’s advisory committee.</u></p> <p><del>The student’s course program shall be selected in consultation with and subject to the approval of the student’s advisory committee. All students in the Ph.D. program are required to take PHYS 7720 Quantum Mechanics 1 (3). In addition, all Ph.D. students, except those specializing in medical and health physics, are required to take a minimum of 6 credit hours from the list below:</del></p>

higher with the balance of the coursework at the 3000-level or higher. A maximum of 48 credit hours of coursework is allowed toward the Ph.D. program.\*

\*Unless professional accreditation requirements and/or the department/unit's supplementary regulations indicate otherwise.

- ~~• PHYS 7540 Statistical Mechanics (3)~~
- ~~• PHYS 7550 Advanced Statistical Mechanics (3)~~
- ~~• PHYS 7590 Electromagnetic Theory (3)~~
- ~~• PHYS 7600 Applied Electromagnetism (3)~~

~~In cases where the student has already taken the above or equivalent courses prior to entering the Ph.D. program, or in other special cases, other courses shall be substituted, upon recommendation of the student's advisory committee and with approval of the Department Head.~~

**The Ph.D. Program in Medical and Health Physics:**

The Ph.D. Program in Medical and Health Physics is designed to prepare students for a Clinical and Academic career in Medical Physics or Health Physics. The program requires a minimum of 24 credits of didactic course work beyond a Hons. B.Sc. and a minimum of 12 credits beyond a M.Sc., as well as the standard departmental Ph.D. research project in a Medical and Health Physics field. Students who enter the program with a M.Sc. but without the required courses for this program may need to take up to 25 credit hours of additional course work to meet the needs of this accredited program. Under these circumstances, the program may be extended by 1 year.

The student's course program shall be selected in consultation with and subject to the approval of the student's advisory committee. All students in the Ph.D. program in Medical and Health Physics are required to take:

- ~~• PHYS 7720 Quantum Mechanics 1 (3)~~
- PHYS 7360 Medical Radiation Physics (3)
- PHYS 7380 Radiation Biology (3)
- PHYS 7390 Radiation Protection (3)
- ~~• PHYS 7400 Linear Systems for Medical Imaging (3); and either~~
- ~~•~~
- ~~PHYS 7590 Electromagnetic Theory (3) OR~~
- ~~PHYS 7600 Applied Electromagnetism (3).~~

In addition to the above core courses, students with a focus on therapy applications will require PHYS 7370 ~~Radiation Therapy Physics~~ ~~Radiotherapy~~ (3), while students with a focus on imaging applications require at least one of PHYS 7410 Diagnostic Methods (3), PHYS 7422 Physics of X-ray Imaging (3), or PHYS 7430 Physics of Nuclear Medicine (3).

In cases where the student has already taken the above or equivalent courses prior to entering the Ph.D. program, or in other special cases, other courses may be substituted, upon recommendation of the student's advisory committee and with

	<p>approval of the <u>Associate Head: Medical Physics</u> <del>MPAC Director</del> and the Department Head.</p> <p>Students who have not taken Anatomy or Physiology at an undergraduate level (BIOL 1410, BIOL 1012 or BIOL 2410 or equivalent) are required to take ANAT 7014 Functional Human Anatomy (3) and/or BME 7012 Foundation in Physiology (3).</p> <p><u>Up to 12 ch of additional electives may be taken to meet program or research needs; At least 6 ch must be courses at the 7000 level, while 6 ch may be 4000 or higher level courses. Approved 4000 level courses include PHYS 4386 (Quantum Mechanics 3), PHYS 4250 (Computational Physics), PHYS 4516 (Intro to Nuclear and Particle Physics), PHYS 4646 (Electro- and Magnetodynamics and Special Relativity)</u></p> <p>Zero credit training in ethics, communication, radiation and laboratory safety as detailed in the program check list are also required as part of this program. The program checklist is provided to the student when they initially register for the CAMPEP accredited Medical Physics program.</p>
<p><b>5.4.1 Language Requirements</b></p> <p>Some department/units specify a language requirement for the Ph.D. degree. Students are advised to check department/unit supplementary regulations regarding this requirement.</p>	<p>There is no language reading requirement.</p>
<p><b>5.4.2 Advance Credit</b></p> <p>Advance credit for courses completed prior to admission to a Ph.D. program will be considered on a case-by-case basis. The student's department/unit makes the request to the Faculty of Graduate Studies by completing the "Advance Credit - Transfer of Courses" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>).</p> <ul style="list-style-type: none"> <li>• Application for advance credit must be made within the first year of the program (see section 5.4.4 Lapse of Credit of Courses)</li> <li>• No more than 50% of the required coursework for the program can be achieved using advance credit.</li> <li>• A course may not be used for credit toward more than one degree, diploma or certificate.</li> <li>• The student must register at the University of Manitoba for at least two consecutive terms and must also complete the thesis and candidacy examination at The University of Manitoba. Regardless of the extent of advanced credit received, all students are required to pay applicable program fees.</li> </ul>	
<p><b>5.4.3 Transfer Credit</b></p>	

**Report of the Faculty Council of Graduate Studies on Course, Curriculum and Regulation Changes**

**Preamble**

1. The Faculty of Graduate Studies (FGS) has responsibility for all matters relating to the submission of graduate course, curriculum, program and regulation changes. Recommendations for such are submitted by the Faculty Council of Graduate Studies for the approval of Senate.
2. The Faculty Council of Graduate Studies met on the above date to consider a proposal from the Dept. of Preventive Dental Science.

**Observations**

1. The **Dept. of Preventive Dental Science** proposes supplementary regulation changes (one program modification) in the M.Sc. (Orthodontics), which includes the addition of core requirement DDSS 7030 and an explicit statement that the program requires 40 credit hours.

**Recommendations**

**Faculty Council of Graduate Studies recommends THAT the program changes from the unit listed below be approved by Senate:**

**Dept. of Preventive Dental Science**

Respectfully submitted,

Dr. Louise Simard, Chair  
Faculty Council of Graduate Studies

/ak

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



Dr. Gerald Niznick College of Dentistry  
Rady Faculty of Health Sciences

Dental Clinical Graduate Programs  
D113 -790 Bannatyne Avenue  
Winnipeg, Manitoba  
Canada, R3E 0W2  
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September 2, 2020

Dr. Louise Simard, Acting Dean & Chair  
Programs and Guidelines Committee  
Faculty of Graduate Studies  
500 E University Centre  
University of Manitoba

Dear Dr. Simard:

**RE: Course Addition to the Master of Science (Orthodontic) Program**

This is to advise that the Master of Science (Orthodontic) Program now require the addition of DDSS 7030 Advanced Oral Radiology (1 CH).

The Master of Science (Orthodontic) Master Program's Supplemental Regulations include this required course, DDSS 7030 Advanced Oral Radiology, and that the Orthodontics Program in its entirety, requires 40 Credit Hours.

Thank you.

Yours sincerely,

Dr. W.A. Wiltshire, BChD. BChD(HONS), MDent, MChD. DSc., FACD, FPFA, FRCD(C)  
Professor and Chairman of Orthodontics and Graduate Program Director  
Preventive Dental Science  
Dr. Gerald Niznick College of Dentistry  
Rady Faculty of Health Sciences  
University of Manitoba

	<p>opinion of the applicants. A final, binding, secret ballot, in which the Chair will participate, will occur to rank order the applicants and the ballots will be counted by the committee.</p> <p><u>Orthodontics:</u></p> <p>The Program Director will inform the successful applicants in accordance with the deadlines of the Canadian Council of Graduate Orthodontic Program Directors (CCGOPD) and the Match process of the American Association of Orthodontists (AAO). The Program Director will also make conditional offers of acceptance in accordance with the established rank-ordered list in the event of non-acceptance from offered candidates. Once final acceptance is obtained and the acceptance deposit is paid, the final list will be forwarded to the Faculty of Graduate Studies for approval of the selected candidates.</p> <p><u>Pediatric Dentistry:</u></p> <p>The Program Director will make conditional offers of acceptance in accordance with the established rank-ordered list in the event of non-acceptance from offered candidates. The Program Director will forward the final list of selected candidates to the Faculty of Graduate Studies for approval.</p>
<p><b>4.3.2 Pre-Master's Programs</b></p> <p>In specific cases where the academic background of the student is judged to be insufficient for the given program in a department/unit, the department/unit may recommend that the student be admitted to a Pre-Master's program of study (Section 3).</p> <p>The Pre-Master's program of study is intended to bring a student's background up to the equivalent of the required 4-year degree in the major department/unit, and to provide the student with any necessary prerequisites for courses to be taken in the Master's program.</p>	
<p><b>4.4 Program Requirements</b></p> <p>In general, students must complete one of the programs of study described below for the Master's degree. However, the program of study is determined by the department/unit and may follow the department/unit's supplementary regulations. Any single course cannot be used for credit toward more than one program.</p>	
<p><b>4.4.1 Thesis/Practicum Route</b></p> <p>A minimum of twelve (12) credit hours of coursework, unless otherwise stated in the department/unit's supplementary regulations, plus a thesis or practicum is required. The minimum must include at least six (6) credit hours at the 7000-level or above, with the balance of the coursework at the 3000-level or above. A maximum of twenty-four</p>	<p><b><u>Orthodontics Program:</u></b></p> <p><a href="#"><u>The Orthodontic Dentistry program requires a total of 40 core credit hours (CH):</u></a></p> <p><b>Courses:</b> GRAD 6000 – Summer Research</p>

(24) credit hours of coursework is allowed unless the department/unit's supplementary regulations indicate otherwise. The student must complete the thesis/practicum at The University of Manitoba.

GRAD 7000 – Master's Thesis  
ANAT 7060 - Advanced Human Macroscopic Gross Anatomy – 6 CH  
CHSC 6810 – Biostatistics for Clinicians – 3 CH  
PDS 7000 – Neural Basis of Oropharyngeal Function – 3 CH  
PDS 7020 - The Mechanics of Orthodontic Therapy – 6 CH  
PDS 7040 – Clinical Craniofacial Growth and Development – 3 CH  
PDS 7060 - Cephalometric Analysis – 3 CH  
PDS 7070 - Biology of Orthodontic and Facial Orthopedics – 3 CH  
RSTD 7150 – Orthodontic Materials – 3 CH  
DDSS 7130 - Occlusion – 3 CH  
DDSS 7230 - Advanced Oral Pathology – 6 CH  
DDSS 7030 [Advanced Oral Radiology – 1 CH](#)

**Ancillary Subjects/Topics**

Journal club and evidence-based orthodontics  
Radiology for Orthodontics  
Medically compromised patients  
History of Orthodontics  
Case Analysis and Treatment Planning  
Practice Management  
Orthognathic Surgery and Orthodontics  
Orthodontic technique and typodont

**NOTE:**

Ancillary subjects/topics, when offered in the program, require mandatory attendance by the students.

Written tests and/or viva voce may be required for certain ancillary subjects/topics, at the discretion of the program director and/or the subject/topic coordinator. When either a written or viva voce is required, the required pass mark is a C+ (>= 65%). It may be designated a pass/fail test.

If the test is failed, it will be required to be re-taken at least 2 weeks hence. If it is failed for a 3<sup>rd</sup> time, the student may be required to do remedial work prior to a 4<sup>th</sup> and final test. If the student fails the test again, they will be required to withdraw from the program.

**Comprehensive Examination Requirements:**

At the end of the 1<sup>st</sup> year there is an oral diagnosis and treatment planning exam which consists of evaluation and presentation of 3 or 4 orthodontic cases. The examiners will be 3-5 internal orthodontic instructors and at least one full-time academic faculty member from an accredited North American graduate orthodontic program or a specialist orthodontist with a Masters degree. It is a pass/fail exam, evaluated by the examination panel. Students who fail will be offered a

## **Report of the Faculty Council of Graduate Studies on Course, Curriculum and Regulation Changes**

### **Preamble**

1. The Faculty of Graduate Studies (FGS) has responsibility for all matters relating to the submission of graduate course, curriculum, program and regulation changes. Recommendations for such are submitted by the Faculty Council of Graduate Studies for the approval of Senate.
2. The Faculty Council of Graduate Studies met on the above date to consider a proposal from the Dept. of Sociology & Criminology.

### **Observations**

1. The **Dept. of Sociology & Criminology** proposes a supplementary regulation change (program modification) in the Ph.D., in that SOC 7470 be included in the list of acceptable research methods courses from which students may choose.

### **Recommendations**

**Faculty Council of Graduate Studies recommends THAT the program changes from the unit listed below be approved by Senate:**

#### **Dept. of Sociology & Criminology**

Respectfully submitted,

Dr. Louise Simard, Chair  
Faculty Council of Graduate Studies

/ak

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

**University of Manitoba**  
**DEPARTMENT OF SOCIOLOGY and CRIMINOLOGY**  
Inter-Departmental Correspondence

**Date:** May 15, 2020  
**To:** Greg Sobie, Course and Program Approvals Committee, Faculty of Arts  
**From:** Sonia Bookman, Graduate Chair  
**Subject:** Changes to Supplementary Regulations RE: SOC 7470

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The Department Council in Sociology and Criminology has approved the graduate course, **SOC 7470 *Evaluating Social Programs***, to be included in the list of courses that meet the methods requirement for MA and PhD programs.

**Rationale:** This course has been approved by the Sociology and Criminology methods cluster as a methods course, and it is taught by a professor whose specialty is methods. Additions to the list of methods courses provides a greater variety of choices for students to take and faculty to teach, and more flexibility for timetabling courses.

This change affects box **5.4 Program Requirements**, of the Supplementary Regulations (second paragraph, on the right hand side on page 37):

All students must complete at least three (3) credit hours in theory (i.e., one of: SOC 7190, SOC 7320, SOC 7430, SOC 7440 or SOC 7480), and six (6) credit hours in research methods (i.e., two of SOC 7240, SOC 7390, SOC 7400, SOC 7420 or SOC 7470). Students must achieve a minimum grade of 'B' in each of the two research methods courses. With permission from the Graduate Chair, a student may replace one research methods course offered by the Department of Sociology and Criminology with a graduate-level research methods course in another department .

Please see attached supplementary regulations with track changes.

	<p>Nation, Métis and Inuit students to be prepared for and to achieve education success in the full range of academic programs we offer.”</p>
<p><b>4.3.2 Pre-Master’s Programs</b></p> <p>In specific cases where the academic background of the student is judged to be insufficient for the given program in a department/unit, the department/unit may recommend that the student be admitted to a Pre-Master’s program of study (Section 3).</p> <p>The Pre-Master’s program of study is intended to bring a student’s background up to the equivalent of the required 4-year degree in the major department/unit, and to provide the student with any necessary prerequisites for courses to be taken in the Master’s program.</p>	
<p><b>4.4 Program Requirements</b></p> <p>In general, students must complete one of the programs of study described below for the Master’s degree. However, the program of study is determined by the department/unit and may follow the department/unit’s supplementary regulations. Any single course cannot be used for credit toward more than one program.</p>	
<p><b>4.4.1 Thesis/Practicum Route</b></p> <p>A minimum of twelve (12) credit hours of coursework, unless otherwise stated in the department/unit’s supplementary regulations, plus a thesis or practicum is required. The minimum must include at least six (6) credit hours at the 7000-level or above, with the balance of the coursework at the 3000-level or above. A maximum of twenty-four (24) credit hours of coursework is allowed unless the department/unit’s supplementary regulations indicate otherwise. The student must complete the thesis/practicum at The University of Manitoba.</p>	<p>M.A. students are required to complete 18 credit hours (6 courses), comprising at least 12 credit hours of Sociology at the 7000-level, 3- credit hours of which must be a methods course. Students will not normally be permitted to take directed reading courses, except under exceptional circumstances. In those instances where a reading course is permitted, no more than 3 credit hours will be counted towards a student’s required coursework for their program. Courses outside the department of Sociology and Criminology will normally be at the graduate level, and selected by the student in consultation with his/her Advisor (where applicable) and the Graduate Chair.</p>
<p><b>4.4.2 Course-based or Comprehensive Examination Route</b></p> <p>A minimum of twenty-four (24) credit hours of coursework and comprehensive examination(s) is required. The minimum must include at least eighteen (18) credit hours at the 7000-level or above with the balance of the coursework at the 3000-level or above. A maximum of forty-eight (48) credit hours of coursework is allowed unless a department/unit’s supplementary regulations indicate otherwise. A comprehensive examination is required for some course-based programs.</p>	

<p>As soon as possible, but no later than 24 months after a student has commenced their program, the student's program of study should be registered with the Faculty of Graduate Studies on the "Program of Study and Appointment of Advisory Committee" form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>) and should include:</p> <ul style="list-style-type: none"> <li>• information about the minimum or expected time for completion of the degree;</li> <li>• coursework to be taken along with course classification ("S", "X", "A" or "O");</li> <li>• any foreign language requirement;</li> <li>• the research area in which the thesis will be written.</li> </ul> <p>The approval of the student's advisor/co-advisor and the Head of the department/unit are sufficient for registration. The program of study, including withdrawal from individual courses and any subsequent changes, must be approved by the student's advisor/co-advisor, the advisory committee, and the Head of the department/unit. Withdrawal from courses or changes of course category without such approval may result in the student being required to withdraw from the Faculty of Graduate Studies.</p>	
<p><b>5.4 Program Requirements</b></p> <p>All students must complete one of the following programs of study for the Ph.D. degree, unless otherwise specified in the approved department/unit supplementary regulations:</p> <ul style="list-style-type: none"> <li>• Where admission to the Ph.D. is directly from a Master's degree, a minimum of 12 credit hours at the 7000- level or higher plus a thesis is required. Any further coursework beyond the minimum 12 credit hours at the 7000-level must be at the 3000-level or above. A maximum of 24 credit hours of coursework is allowed toward the Ph.D. program.*</li> <li>• Where admission to the Ph.D. is directly from an Honours Bachelor degree or equivalent, a minimum of 24 credit hours plus a thesis is required. The coursework must include a minimum of 18 credit hours at the 7000-level or higher with the balance of the coursework at the 3000-level or higher. A maximum of 48 credit hours of coursework is allowed toward the Ph.D. program.*</li> </ul> <p>*Unless professional accreditation requirements and/or the department/unit's supplementary regulations indicate otherwise.</p>	<p>Students who have completed a Master's Degree in Sociology (or equivalent) must complete a minimum of 18 credit hours in Sociology at 7000-level.</p> <p>All students must complete at least three (3) credit hours in theory (i.e., one of: SOC 7190, SOC 7320, SOC 7430, SOC 7440 or SOC 7480), and six (6) credit hours in research methods (i.e., two of SOC 7240, SOC 7390, SOC 7400, <del>or</del> SOC 7420 <u>or</u> SOC 7470). Students must achieve a minimum grade of 'B' in each of the two research methods courses. With permission from the Graduate Chair, a student may replace one research methods course offered by the Department of Sociology and Criminology with a graduate-level research methods course in another department.</p> <p>Of the remaining nine (9) credit hours, one three (3) credit hour graduate course from another department may be taken with permission from the Chair of the Graduate Committee.</p> <p>In exceptional cases where a student who has already completed a Master's degree in the Department of Sociology and Criminology and who is then accepted into the PhD program finds that they cannot complete their coursework requirements due to having already taken many of the graduate level courses offered by the Department in any given academic year, the Graduate Chair in consultation with the student and their advisor will permit the student to take up to nine (9) credit hours of graduate courses in</p>



University  
of Manitoba

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University Secretary

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Date: November 19, 2020  
To: Members of Senate  
From: Jeff M. Leclerc, University Secretary  
Subject: For Discussion: Senate Assessment Survey

In discussion with the President, the Provost, members of the Office of the University Secretary, and members of the university community, there is a desire to examine the nature, structures and processes of Senate to enable Senate to most effectively meet its mandate as the academic governing body of the university and to ensure that Senate has the opportunity to consider the broad, big-picture academic matters as part of its work. As part of this continuous process of improvement, it was felt that a key first step is to hear from those directly engaged in the work of Senate – senators themselves. To that end, I have developed a draft Senate Assessment survey.

Research of Senates at Canadian Universities has found that most Senates do not regularly assess their own work or effectiveness.<sup>1</sup> This research also showed that most members of Senate feel that such assessments are important.

The draft attached survey was developed based on a review of best practices in governing body assessments, and in examining assessment instruments from other institutions. We were also fortunate that Dr. Tracey Peter, Professor of Sociology in the Faculty of Arts and expert in survey design reviewed and provided feedback on this draft survey. The draft survey was recently discussed at Senate Executive and feedback from that group has been incorporated into the draft.

After the excellent discussion with the Senate Executive Committee, the Committee wanted to bring the draft to Senate for discussion and to receive feedback on the survey. Following the discussion at Senate, we hope to administer the survey to members of Senate in January, and bring a report on the results for discussion at Senate Executive and Senate over the winter. We would then plan on administering the survey at regular (annually, biennially) intervals thereafter. The results of the survey will help inform the work of Senate, the setting of agendas, and the on-going improvement of structures, committees, and processes.

Should any members of Senate have any questions, please feel free to reach out to me.

[umanitoba.ca/governance](http://umanitoba.ca/governance)

<sup>1</sup> Pennock et al, *Challenges and Opportunities for Collegial Governance* in The Canadian Journal of Higher Education, Volume 46, No. 3, 2016.



**Senate Assessment Survey**  
Draft – November 19, 2020

All members of Senate and Senate assessors are being invited to complete a survey on their experience and views of Senate. The object of the survey is to collect data on Senate's effectiveness and use it to improve the work of Senate and Senate Committees in the future. This survey will take approximately 10 minutes to complete, although if you choose to fill in the optional text boxes, it may take longer.

This survey is being administered by the Office of the University Secretary, and your responses will be anonymous. Your participation in the survey is completely voluntary. If you choose to participate, you may skip any question you do not wish to answer.

Your responses to this survey will be held in the strictest of confidence. All responses to the survey will be aggregated. No quantitative information will be reported on unless there are aggregate groupings of five or more participants. Qualitative comments will be vetted to guard against residual disclosure. Your responses cannot and will not be part of any academic, medical, employment, or disciplinary record.

Aggregated data, both quantitative and qualitative, will be made available in a report completed for the Senate Executive Committee and will be shared with Senate for its information at an upcoming Senate meeting. The data will also be used as part of on-going quality assurance and improvement.

Thank you in advance for sharing of your views by completing this survey. If you encounter any difficulty in completing the survey, please contact Jeff Leclerc, University Secretary, by email at [jeff.leclerc@umanitoba.ca](mailto:jeff.leclerc@umanitoba.ca).

**Part 1 – General Information**

Q1 Please indicate the means by which you serve on Senate:

- a.1 Ex-officio
- a.2 Elected by Faculty or School Council
- a.3 Elected by students
- a.4 Other appointed representative (staff, alumni, faculty association, Board of Governors)  
- please specify
- a.5 Assessor

Q2 Please indicate the response that best describes your current role with the University:

- a.1 Faculty member (professor or instructor)
- a.2 Librarian
- a.3 Academic Administrator
- a.4 Non-academic administrator
- a.5 Student
- a.6 Support Staff member
- a.7 Community member
- a.8 Other – please specify

Q3 Please indicate how many years you have served on Senate at the University of Manitoba (total years, not necessarily consecutive):

- a.1 Less than one year
- a.2 One to two years
- a.3 Three to five years
- a.4 Six to nine years
- a.5 Ten years or more

**Part 2 – Senate Assessment**

Q4 Senate is the University’s senior academic governing body. It has authority to determine matters of an academic nature, as defined in *The Unviersity of Manitoba Act*. Reflecting upon your experiences during your membership on Senate, please indicate your response to the following statements. There is a space below to provide additional comments if you wish.

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don’t Know/Not Sure
I understand the role of Senate.					
Senate discharges its responsibilities effectively.					
Senate uses its meeting time effectively.					
Senate effectively performs its responsibilities in regard to oversight of academic policy.					

Senate effectively performs its responsibilities in regard to academic program oversight.					
Academic approval processes are timely.					
Senate deliberations are transparent.					
Senate decisions focus on the interests of the University as a whole.					
Senate decisions are aligned with the University’s mission and strategic plan.					
I am comfortable expressing views during Senate meetings.					
I am comfortable asking questions during Senate meetings.					
Senate members have the opportunity to contribute.					
I feel valued for my contributions as a member of Senate.					

Please share any comments. [Open response box]

Q5 In what ways do you think Senate could better fulfill its role? [Open response box]

Q6 Are there things that Senate and/or its Committees are not now doing that you believe they should be doing?

- a.1 Yes
- a.2 No
- a.3 Don’t know/not sure

Q7 If yes, please elaborate. [Open response box]

Q8 Generally speaking, the time flow for securing approvals through the Faculty Council-Senate Committee-Senate process is:

- a.1 too fast
- a.2 about right
- a.3 too slow
- a.4 don't know/not sure

Q9 Are there any particular issues or priorities that you think Senate should consider in the next year? [Open response box]

Q10 Are there any topics for presentations at Senate that you think would benefit Senate, and /or you as a Senator in fulfilling your roles? [Open response box]

**Part 3 – Senator Self-Assessment**

Q11 As a Senator, how would you assess your:

	Very low	Low	Average	High	Very High
Degree of preparation for Senate meetings					
Attendance at Senate meetings					
Active engagement in Senate meetings					
Degree of participation in discussions at Senate meetings					
Overall contribution to the functioning of Senate					
The extent to which your experiences, skills and knowledge have grown because of your membership on Senate					
Interest in the work of Senate					
Knowledge of the mandate and work of standing committees of Senate					
Degree to which you read major university					

reports and planning documents to inform your role on Senate					
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Q12 How much time do you spend reviewing agenda materials and preparing for each meeting of Senate?

- a.1 Less than 30 minutes
- a.2 30 minutes to 59 minutes
- a.3 60 to 90 minutes
- a.4 More than 90 minutes

Q13 How close is your actual role as a Senator to the role you anticipated as a Senator?

- a.1 Very different
- a.2 Somewhat different
- a.3 Exactly the same
- a.4 Somewhat close
- a.5 Very close

Please elaborate on your response [Open response box]

Q14 Please share any other comments on your overall contributions and effectiveness as a member of Senate. [Open response box]

#### Part 4 Senate Meetings and Information

Q15 Senate currently meets nine times during the academic year, from October to June. In your view, this number of Senate meetings is:

- a.1 Too frequent
- a.2 The right number
- a.3 Not frequent enough

Q16 Have you attended a Senate Orientation session offered by the Office of the University Secretary?

- a.1 Yes
- a.2 No

Q17 If yes, was the session helpful?

- a.1 Very helpful

- a.2 Somewhat helpful
- a.3 Somewhat unhelpful
- a.4 Very unhelpful

Q18 Do you have any suggestions for future Senate Orientation sessions or on the orientation manual provided? [Open response box]

Q19 Overall, do you feel that the information and agendas provided to you for decision making at Senate meetings are:

	No	Yes	Not sure/Don't know
Appropriate			
Too much			
Not enough			
Easily accessible			
Clear			
Timely			

Q20 Are you provided with everything you need to be an effective Senate member?

- a.1 Yes
- a.2 No

Please provide any additional comments. [Open response box]

Q21 The Office of the University Secretary's role is to support Senate and Senate Committees in fulfilling their role. Please respond to the following:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am satisfied with the service provided to Senate by the Office of the University Secretary.					
The Office of the University Secretary is knowledgeable about matters of University Governance.					
The Office of the University Secretary is responsive to requests for information.					

Meetings of Senate and Senate Committees are well-organized.					
Meeting materials and agendas are easily accessible.					
Meeting materials and agendas are clear.					
Senate minutes are accurate.					
Senate minutes include the appropriate level of detail.					
The University Governance website is a useful source of information.					

Q22 Please provide any additional comments or suggestions. [Open response box]

**Part 5 – Senate Chair**

Q23 The Chair of Senate:

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know/Not Sure
Keeps Senate meetings focused.					
Ensures that discussions reflect the purpose of Senate.					
Encourages discussion and debate.					
Ensures that discussion is on topic.					
Effectively manages conflicts or disagreements that arise at Senate meetings.					
Summarizes discussions and actions					

Please provide any additional comments about the Chair. [Open response box]

## Part 6 – Senate Committees

Q 24 I have, or currently serve on a Senate Standing Committee.

- a.1 Yes
- a.2 No

Q25 If no, why not [Open response box]

Q26 Please identify the Senate Committee(s) you have served, or currently serve, on. Check all that apply:

- a.1 Senate Executive Committee
- a.2 Senate Committee on Academic Accommodation Appeals
- a.3 Senate Committee on Academic Computing
- a.4 Senate Committee on Academic Dress
- a.5 Senate Committee on Academic Freedom
- a.6 Senate Committee on Academic Review
- a.7 Senate Committee on Admissions
- a.8 Senate Committee on Admission Appeals
- a.9 Senate Committee on Appeals
- a.10 Senate Committee on Approved Teaching Centres
- a.11 Senate Committee on Awards
- a.12 Senate Committee on the Calendar
- a.13 Senate Committee on Curriculum and Course Changes
- a.14 Senate Committee on Honorary Degrees
- a.15 Senate Committee on Instruction and Evaluation
- a.16 Joint Senate Committee on Joint Master's Programs
- a.17 Senate Committee on Libraries
- a.18 Senate Committee on Medical Qualifications
- a.19 Senate Committee on Nominations
- a.20 Senate Planning and Priorities Committee
- a.21 Senate Committee on Rules and Procedures
- a.22 Senate Committee on University Research

Q27 I understand the role of Senate Committees.

- a.1 Strongly agree
- a.2 Agree
- a.3 Disagree
- a.4 Strongly disagree

Q28 Based on your experience, to what extent do you believe the balance between work done by Committees and work done by Senate is appropriate?

- a.1 Too much work is done by Senate.
- a.2 Slightly too much work is done by Senate.
- a.3 The balance is about right.
- a.4 Slightly too much work is done by Committees.
- a.5 Too much work is done by Committees.

Q29 How confident are you that reports and recommendations brought before Senate are well-researched and ready for Senate’s consideration?

- a.1 Rarely confident.
- a.2 Sometimes confident.
- a.3 Always confident.

Q30 Would you suggest any changes to the number, type, or composition of Senate Standing Committees?

- a.1 Yes
- a.2 No

Q31 If yes, please share your suggestions. [Open response box]

Q32 Please provide any other comments about Senate Committees. [Open response box]

### **Part 7 – Diversity Questions**

To better understand the composition of Senate and the diversity of its membership, the following **optional** diversity questions are being asked. Responses to these questions will better help us to understand which voices are present at Senate and which voices are missing.

Q33 Please indicate your age:

- a.1 under 20
- a.2 20-29
- a.2 30-39
- a.4 40-49
- a.5 50-59
- a.6 60-69
- a.7 over 70
- a.8 Prefer not to answer

Q34 Please indicate your gender identity by checking all terms that currently apply to you:

- a.1 Woman
- a.2 Man
- a.3 Agender
- a.4 Gender non-binary (e.g., genderfluid)
- a.5 Transgender
- a.6 Two-Spirit
- a.7 Not sure/Questioning
- a.8 Prefer not to answer
- a.9 Another gender identity: (please specify)

Q35 Do you self-identify as First Nation, Inuit, or Métis?

- a.1 Yes
- a.2 No (skip to question 36)

Q36 If yes, please select the Nation with which you identify: (select all that apply)

- a.1 Inuit
- a.2 Métis
- a.3 First Nation (please specify)
- a.4 Prefer not to answer

Q37 Do you self-identify as: (select all that apply)

- a.1 Biracial/Multiracial (i.e., parents or ancestors from different racialized backgrounds)
- a.2 Black (African, Caribbean, Canadian, etc.)
- a.3 Central Asian (Kazakh, Afghan, Tajik, Uzbek, Caucasus, etc.)
- a.4 East Asian (Chinese, Japanese, Korean, etc.)
- a.5 Indigenous
- a.6 Latin American/Latina/Latino/Latinx/Hispanic (e.g., Central American, South African, West Indies)
- a.7 Pacific Islanders (non-white)
- a.8 South Asian (Indian, Pakistani, Sri Lankan, Bengali, etc.)
- a.9 Southeast Asian (Cambodian, Indonesian, Laotian, Vietnamese, Thai, etc.)
- a.10 West Asian or North African (Iran, Saudi Arabi, Morocco, etc.)
- a.11 White
- a.12 A background not listed here: (please specify)
- a.13 Prefer not to answer

Q38 What is your sexuality or sexual orientation? Please check all terms that apply to you.

- a.1 Asexual/Non-sexual
- a.2 Bisexual
- a.3 Gay
- a.4 Heterosexual
- a.5 Lesbian
- a.6 Pansexual
- a.7 Two-Spirit
- a.8 Queer
- a.9 Not sure /Questioning
- a.10 Another sexual orientation: (please specify)
- a.11 Prefer not to answer

Q39 Do you identify as having a disability? (check yes to all that apply)

- a.1 No
- a.2 Yes, a physical disability
- a.3 Yes, a mental illness/disorder or psychological/psychiatric disability
- a.4 Yes, a sensory disability
- a.5 Yes, a cognitive disability
- a.6 Prefer not to answer

### **Part 8 – Conclusion**

Q40 Please provide any additional comments or reflections about Senate, Senate meetings and processes and Senate Committees. [Open response box]

Thank you for completing the Senate Assessment Survey and for your commitment to collegial governance at the University of Manitoba.