The following proposals, received on DAP between April 1-15, 2019, have been approved. For more information on the DAP process, see the Secretariat's website.

FACULTY OF ENGINEERING

CHEMICAL AND BIOCHEMICAL ENGINEERING

Effective September 1, 2019, the following courses be introduced.

Chemical and Biochemical Engineering 4405A/B – AIR POLLUTION CONTROL

The nature, effects and mitigation strategies for air pollution including the structure and physical behavior of the atmosphere, types and origins of air pollutants, chemical reactions in the atmosphere, atmospheric dispersion, techniques of pollutant evaluation, control, surveys and effects of air pollution on health and other aspects of urban and natural environments. Antirequisite(s): CEE 4405A/B.

Prerequisite(s): CEE 2224 or CBE 2221A/B or MME 2273A/B. Extra Information: 3.0 lecture hours, 1.0 tutorial hours, 0.5 course.

Chemical and Biochemical Engineering 4419A/B - THE ENGINEERING OF CHEMICAL REACTORS

Short title: ENG OF CHEMICAL REACTORS

An introduction to non-ideal chemical reacting systems, including multiple reactions, residence time distributions, diffusion effects, and multiple steady-states, with applications in reaction data analysis, multiphase reactor development, and multi-objective optimization.

Prerequisite(s): CBE 3315A/B or GPE 3315A/B; CBE 3324A/B. Extra Information: 3.0 lecture hours, 1.0 tutorial hours, 0.5 course.

Chemical and Biochemical Engineering 4428A/B – INTRODUCTION TO NANOENGINEERING

Short title: INTRO TO NANOENGINEERING

An introduction to fundamental concepts in nanoengineering, emphasizing limitations of macroscale models and presenting alternative molecular approaches to the engineering of nanoscale systems.

Prerequisite(s): Applied Mathematics 2277A/B or Applied Mathematics 2276A/B; CBE 2214A/B or

MME 2204A/B.

Extra Information: 3.0 lecture hours, 1.0 tutorial hours, 0.5 course.

FACULTY OF HEALTH SCIENCES

HEALTH SCIENCES

Effective **September 1, 2019**, the following courses be introduced.

Health Sciences 2110A/B – RESILIENCE AND THE CREATION OF WELLBEING Short title: RESILIENCE AND WELLBEING

Personal resilience is widely recognized to be a cornerstone of wellbeing, and is considered essential to success in environments ranging from schools to workplaces. In this interdisciplinary course, we study "good vs poor" mental health, cultivation of resilience, creation and maintenance of wellbeing, and living well with compromised mental health.

Prerequisite(s): Registration in second-year or higher, or permission of the School of Health Studies.

Notes: This course may be used as a 2000-level elective course within any of the modular offerings within the School of Health Studies.

Extra Information: 3 contact hours.

Health Sciences 3624A/B - SOCIAL DETERMINANTS OF MENTAL HEALTH

Short title: SOC. DETERM. OF MENTAL HEALTH

In this course, we will discuss the interplay between social and personal determinants of mental health. We will also discuss the interrelatedness of mental disorder, social inequity, and both trauma and adversity in childhood.

Prerequisite(s): Health Sciences 1002A/B.

Extra Information: 3 contact hours.

Effective **September 1, 2019**, the following courses be revised.

Health Sciences 2300A/B FUNCTIONAL HUMAN GROSS ANATOMY

Antirequisite(s): Anatomy and Cell Biology 2200A/B, Anatomy and Cell Biology 2221, Anatomy and Cell Biology 3319, Kinesiology 2222A/B, and Health Sciences 2330A/B.

Prerequisite(s): Grade 12U Biology or equivalent is strongly recommended. Registration information: Students not in a Health Science program are limited to a 1.5 Health Science course load.

Health Sciences 2330A/B FUNCTIONAL HUMAN GROSS ANATOMY FOR NURSING STUDENTS

Antirequisite(s): Health Sciences 2300A/B, Anatomy and Cell Biology 2200A/B, Anatomy and Cell Biology 2221, Anatomy and Cell Biology 3319, Kinesiology 2222A/B.

Prerequisite(s): Grade 12U Biology or equivalent. Corequisite(s): Restricted to students registered in the School of Nursing.

Health Sciences 2700A/B HEALTH ISSUES IN CHILDHOOD AND ADOLESCENCE

Antirequisite(s): Psychology 2040A/B, Psychology 2410A/B, Psychology 2480E; Kinesiology 3347A/B, the former Psychology 2044.

Prerequisite(s): Minimum of 60% [mandatory] in each of Health Sciences 1001A/B and Health Sciences 1002A/B.

Health Sciences 3300A/B ANATOMY OF THE HUMAN BODY: A DESCRIPTION OF SYSTEMIC STRUCTURE & FUNCTION - PART II

Antirequisite(s): Anatomy and Cell Biology 2200A/B, Anatomy and Cell Biology 2221, Anatomy and Cell Biology 3200A/B, Anatomy and Cell Biology 3319.

Prerequisite(s): Health Sciences 2300A/B or Health Sciences 2330A/B, or Kinesiology 2222A/B.

KINESIOLOGY

Effective **September 1, 2019**, the following courses be introduced.

Kinesiology 2991 A/B - COACHING AND SPORT LEADERSHIP

This student-centered movement class is an introduction to the knowledge and techniques essential in educating and assessing individuals in movement competency/proficiency. In this course students will explore the way people across the lifecycle learn and the knowledge and skills that practitioners need to support them to learn effectively.

Prerequisite(s): Completion of the first year Kinesiology program and registration in the School of Kinesiology.

Extra Information: 5 lecture/laboratory hours.

Course Weight: 0.50

Kinesiology 2994A/B - SPECIFIC POPULATIONS HEALTHY ENGAGEMENT REHABILITATION & EXERCISE

Short title: SPEC. POP. ENGAGE REHAB & EX.

This course is an introduction to the basic knowledge and techniques essential in designing exercise programs for specific populations. Students are expected to learn, and put into practice, techniques used to develop muscular strength/endurance, flexibility and cardiovascular fitness. Prerequisite(s): Completion of the first year Kinesiology program and registration in the School of

Kinesiology.

Antirequisite(s): Kinesiology 2962A/B. Extra Information: 5 lecture/laboratory hours.

Course Weight: 0.50

FACULTY OF INFORMATION AND MEDIA STUDIES

MEDIA, INFORMATION AND TECHNOCULTURE

Effective **September 1, 2019**, the following course be revised.

Media, Information and Technoculture 3215F/G KILLER CULTURE: WAR AND THE MEDIATION OF REALITY IN THE 20TH-21ST CENTURIES

Prerequisite(s): At least 65% in MIT 1200F/G.

FACULTY OF SCIENCE and SCHULICH SCHOOL OF MEDICINE AND DENTISTRY

BIOCHEMISTRY

Effective **September 1, 2019**, the following course be revised.

Biochemistry 4463B – Biochemistry of Genetic Diseases MOLECULAR BASIS OF HUMAN DISEASE

In tThis course applies, knowledge of biochemistry and molecular biology, biochemistry, eytogenetics, and genomics is applied to the understanding of human genetic diseases. Topics of current interest are used as examples to study the transition from mutations to clinical disorders explore the molecular mechanisms by which disease states arise and how this knowledge can be used to design therapies.

Antirequisite(s): Biology 4560A/B. Prerequisite(s): Biochemistry 3381A.

Effective September 1, 2019, the following module be revised.

HONORS SPECIALIZATION IN BIOCHEMISTRY AND CANCER BIOLOGY

Notes:

1. Biochemistry 3380G requires both Biochemistry 3381A and Biochemistry 3382A as prerequisite courses; Microbiology and Immunology 3620G requires Microbiology and Immunology 3300B as a pre-or corequisite course; the prerequisite for Physiology and Pharmacology 3000E includes a minimum average of 75% in the previous year. The inclusion of Physiology and Pharmacology 3000E will increase the module to 11.5 courses.

2. For the specific courses that must be completed before Year 4, see the Weighted Average Chart (MODULES OFFERED IN THE BMSc PROGRAM).

- 3. Microbiology and Immunology 4300A requires a minimum mark of 70% in Microbiology and Immunology 3300B as a prerequisite.
- 4. Anatomy and Cell Biology 4461B requires a minimum mark of 70% in either Anatomy and Cell Biology 3309 or Pathology 3500 as a prerequisite.

Effective **September 1, 2019**, the following module requirements in the **Weight Average Chart** be revised.

Honors Specialization Module	Modular courses responsible for 1/3 of the Weighted Average	Modular courses responsible for 2/3 of the Weighted Average
Biochemistry and Cancer Biology	4.0 courses: Biochemistry 2280A; Biology 2382A/B and Biology 2581A/B; Chemistry 2213A/B or Chemistry 2273A; Chemistry 2223B or Chemistry 2283G; Biology 2244A/B or Statistical Sciences 2244A/B; Medical Biophysics 2582B; Microbiology and Immunology 2500A/B	3.5 courses: Biochemistry 3381A; Pharmacology 3620; Anatomy and Cell Biology 3309 or Pathology 3500 (or the former Pathology 3240A and the former Pathology 3245B); one of Biochemistry 3382A, Chemistry 3393A/B or Microbiology and Immunology 3300B; and one of Biochemistry 3380G, Microbiology and Immunology 3620G, Physiology and Pharmacology 3000E, or the former Pharmacology 3580Z Note: If Physiology and Pharmacology 3000E is selected instead of one of the laboratory half courses, then 4.0 courses will be used toward the Weighted Average.

EARTH SCIENCES

Effective September 1, 2019, the following courses be revised.

Earth Sciences 2123A/BF/G THE DYNAMIC EARTH

Earth Sciences 1023A/B PLANET EARTH: SHAKEN AND STIRRED

Antirequisite(s): Earth Sciences 2123F/G or the former Earth Sciences 2123A/B.

Earth Sciences 2281A/B GEOLOGY FOR ENGINEERS

Antirequisite(s): Earth Sciences 1022A/B, Earth Sciences 1023A/B, Earth Sciences 1070A/B,

Earth Sciences 1081A/B, Earth Sciences 2123A/BF/G.

Prerequisite(s): Registration in second, third, or fourth year Civil and Environmental Engineering;

or permission of the Department.

Effective **September 1, 2019**, the following program and modules be revised to reflect the suffix change for **Earth Sciences 2123F/G**.

HONORS GEOPHYSICS PROGRAM - For Professional Registration

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Notes:

1. If Earth Sciences 1023A/B has been taken, Earth Sciences 2123A/BF/G cannot be taken, and one additional 2000-level or above Earth Sciences course not otherwise required for the module must be taken as a substitute.

HONORS SPECIALIZATION IN GEOLOGY

Module

10.0 courses:

8.0 courses: Earth Sciences 2123A/BF/G, Earth Sciences 2200A/B, Earth Sciences 2201A/B, Earth Sciences 2206A/B, Earth Sciences 2230A/B, Earth Sciences 2250Y, Earth Sciences 2260A/B, Earth Sciences 2310A/B, Earth Sciences 3313A/B, Earth Sciences 3314A/B, Earth Sciences 3315A/B, Earth Sciences 3350Y, Earth Sciences 3370A/B, Earth Sciences 3370A/B, Earth Sciences 3370A/B, Earth Sciences 3370A/B, Earth Sciences 3370A/B.

1.0 additional course in Earth Sciences at the 3000 level or above.

1.0 course: Earth Sciences 4490E.

Note: Earth Sciences 2123A/BF/G should be taken by the end of the second year. If Earth Sciences 1023A/B has been taken, Earth Sciences 2123A/BF/G cannot be taken, and one additional 2000-level or above Earth Sciences course not required for the module must be taken as a substitute.

MAJOR IN GEOLOGY

Module

6.0 courses:

3.0 courses: Earth Sciences 2200A/B, Earth Sciences 2201A/B, Earth Sciences 2206A/B, Earth Sciences 2250Y, Earth Sciences 2260A/B, Earth Sciences 2265A/B.

0.5 course from: Earth Sciences 3313A/B, Earth Sciences 3314A/B, Earth Sciences 3315A/B.

1.0 course from: Earth Sciences 2123A/BF/G, Earth Sciences 2130Y, Earth Sciences 2220A/B, Earth Sciences 2230A/B, Earth Sciences 2240F/G or Earth Sciences 2241A/B.

1.5 additional courses in Earth sciences at the 2000 level or above.

Note: If Earth Sciences 1023A/B has been taken, Earth Sciences 2123A/BF/G cannot be taken. Students registered in an honors double major degree must complete a minimum of 1.0 courses at the 3000 level for each module.

SPECIALIZATION IN GEOLOGY

Module

9.0 courses:

8.0 courses: Earth Sciences 2123A/BF/G, Earth Sciences 2200A/B, Earth Sciences 2201A/B, Earth Sciences 2206A/B, Earth Sciences 2230A/B, Earth Sciences 2250Y, Earth Sciences 2260A/B, Earth Sciences 2265A/B, Earth Sciences 3310A/B, Earth Sciences 3313A/B, Earth Sciences 3314A/B, Earth Sciences 3315A/B, Earth Sciences 3370A/B, Earth Sciences 3370A/B, Earth Sciences 3370A/B.

1.0 additional course in Earth Sciences at the 3000 level or above.

Note: Earth Sciences 2123A/BF/G should be taken by the end of second year. If Earth Sciences 1023A/B has been taken, Earth Sciences 2123A/BF/G cannot be taken, and one additional 2000-level or above Earth Sciences course not required for the module must be taken as a substitute.

MINOR IN GEOLOGY

Module

4.0 courses:

- 1.0 course: Earth Sciences 2200A/B, Earth Sciences 2206A/B.
- **1.5 courses** from: Earth Sciences 2123A/BF/G, Earth Sciences 2130Y, Earth Sciences 2201A/B, Earth Sciences 2220A/B, Earth Sciences 2230A/B, Earth Sciences 2240F/G, Earth Sciences 2241A/B, Earth Sciences 2260A/B, Earth Sciences 2265A/B, the former Earth Sciences 2231A/B, the former Earth Sciences 2261A/B.
- **0.5 course** from: Earth Sciences 3313A/B, Earth Sciences 3314A/B, Earth Sciences 3315A/B. **1.0 additional course** in Earth Sciences at the 2000 level or above.

Note: If Earth Sciences 1023A/B has been taken, Earth Sciences 2123A/BF/G cannot be taken.

MINOR IN GEOPHYSICS

Module

4.0 courses:

4.0 courses from: Earth Sciences 2123A/BF/G, Earth Sciences 2220A/B, Earth Sciences 2222A/B, Earth Sciences 2281A/B, Earth Sciences 3320A/B, Earth Sciences 3321A/B, Earth Sciences 3420A/B, Earth Sciences 4420A/B, Earth Sciences 4421A/B, Earth Sciences 4425A/B, Earth Sciences 4425A/B, Earth Sciences 4425A/B.

INTEGRATED SCIENCE

Effective **September 1, 2019**, the following module be revised to reflect the suffix change for **Earth Sciences 2123F/G**.

HONORS SPECIALIZATION IN INTEGRATED SCIENCE WITH EARTH SCIENCES

Module

13.0 courses:

- **2.5 courses**: Integrated Science 2001F**, Integrated Science 2002B**, Integrated Science 3001F/G***, Integrated Science 3002A/B***, Integrated Science 4001A/B****.
- **0.5 course** from**: Philosophy 2320F/G (preferred), Philosophy 2033A/B, Philosophy 2035F/G, Philosophy 2370F/G.
- **0.5 course**: Science 3377A/B***.
- 1.5 course: Integrated Science 4999E****.
- **3.0 courses**: Earth Sciences 2200A/B, Earth Sciences 2201A/B, Earth Sciences 2206A/B, Earth Sciences 2265A/B.
- 0.5 course from: Earth Sciences 3313A/B, Earth Sciences 3314A/B, Earth Sciences 3315A/B.
- **1.0 course** from: Earth Sciences 2123-A/BF/G*, Earth Sciences 2130Y, Earth Sciences 2220A/B, Earth Sciences 2230A/B, Earth Sciences 2240F/G or Earth Sciences 2241A/B.
- **1.5 additional courses** in Earth Sciences at the 2000 level or above.
- **2.0 additional courses** in Earth Sciences at the 3000 level or above.

^{*}If Earth Sciences 1023A/B has been taken, Earth Sciences 2123-A/BF/G cannot be taken.

INTERDISCIPLINARY MEDICAL SCIENCES

Effective **September 1, 2019**, the following modules be revised.

HONORS SPECIALIZATION IN INTERDISCIPLINARY MEDICAL SCIENCES (IMS)

Module

10.0 courses:

0.5 course: Biochemistry 2280A.

1.5 courses: Biology 2290F/G, Biology 2382A/B, Biology 2581A/B.

0.5 course: Chemistry 2213A/B.

0.5 course from: Biology 2244A/B or Statistical Sciences 2244A/B.

0.5 course from: Chemistry numbered 2100-3999 (2223B is recommended) or 0.5 course from Group 1 or 2 – see Note # 1.

3.0 courses from: Groups 1 and 2 (see below), with a minimum of 2.5 courses selected from Group 1. A maximum of 2.0 courses from one subject area (e.g. a maximum of 2.0 courses in Biochemistry) can be used towards the Group requirement.

2.0 courses from Group 1 – see Note #2.

1.0 course from: Group 1 or (0.5 from Group 1 and 0.5 from Group 2) – see Note #2.

0.5 course from Group 3 or Physiology and Pharmacology 3000E. See Note # 3 (see notes below).

1.0 course: Medical Sciences 4900F/G, Medical Sciences 4930F/G.

2.0 additional courses at the 4000-level *from at least two of the following subject areas*: Anatomy and Cell Biology, Biochemistry, Biostatistics, Epidemiology, Medical Biophysics, Medical Sciences, Microbiology and Immunology, Pathology, Pharmacology, Physiology. Note: a maximum of 1.5 of these 4000-level courses can be selected from one subject area.

Group 1: Anatomy and Cell Biology 2200A/B, Anatomy and Cell Biology 3309, Biochemistry 3381A, Biochemistry 3382A, Biostatistics 3100A, Biostatistics 3110B, Epidemiology 2200A/B, Epidemiology 3200A, Medical Biophysics 3330F/G, 3336F/G, Medical Biophysics 3501A, Medical Biophysics 3503G, Medical Biophysics 3505F, Medical Biophysics 3507G, Microbiology and Immunology 2500A/B, Microbiology and Immunology 3100A, Microbiology and Immunology 3300B, Pathology 3500, Pharmacology 3620, Physiology 3120, Physiology 3140A, any of the former courses: the former Epidemiology and Biostatistics 2200A/B, the former Microbiology and Immunology 2100A, the former Microbiology and Immunology 3400B, the former Pathology 3245B.

Group 2 (see notes below): Anatomy and Cell Biology 3200A/B Anatomy and Cell Biology 3319, Biochemistry 3385A, Biochemistry 3386B, Biochemistry 3390B, Epidemiology 3210B, Epidemiology 3315B, Epidemiology 3330F/G, Microbiology and Immunology 3500B, Pharmacology 2060A/B, the former Anatomy and Cell Biology 3319.

Group 3: Biochemistry 3380G, Medical Biophysics 3970Z, Medical Sciences 3900F/G, Microbiology and Immunology 3610F, Microbiology and Immunology 3620G, Physiology and Pharmacology 3000E, one of the former Biochemistry 3387G, the former Microbiology and Immunology 3600G, the former Pharmacology 3580Z or the former Physiology 3130Z.

Notes:

1. Chemistry 2223B is a prerequisite for the following Group 1 and 3 courses: Biochemistry 3381A, Biochemistry 3382A and Microbiology and Immunology 3620G.

2. Of these 3.0 specific courses from Groups 1-2, a maximum of 2.0 courses can be from one subject area (e.g. a maximum of 2.0 can be Biochemistry courses). It is not mandatory to complete any Group 2 courses in the Honors Specialization in IMS. If the former Anatomy and Cell Biology 3319 was taken as a Group 2 course, then the total number of courses required for the module will increase by 0.5 course.

- 4. 3. If Physiology and Pharmacology 3000E is selected for the Group 3 requirement, then the total number of courses required for the module will increase by 0.5 course will comprise 10.5 courses.
- 2. As stated in the Weighted Average Chart, at MODULES OFFERED IN THE BMSc PROGRAM, the following 3.0-3.5 courses must be completed prior to Year 4: either 0.5 course from Group 3 or Physiology and Pharmacology 3000E; and 2.5 courses from Groups 1 and 2 (including a minimum of 2.0 courses from Group 1).
- 3. It is not mandatory to complete any Group 2 courses in the Honors Specialization in IMS. If Anatomy and Cell Biology 3319 is taken as a Group 2 course, then the total number of courses required for the module will increase by 0.5 course.
- 4. For the specific courses that must be completed before Year 4, see the Weighted Average Chart (MODULES OFFERED IN THE BMSc PROGRAM).
- 5. See UNDERGRADUATE COURSE INFORMATION for course requisites and the BMSc website for information about constraints (priority and restricted access) for all basic medical science courses.

SPECIALIZATION IN INTERDISCIPLINARY MEDICAL SCIENCES (IMS)

Module

9.5 courses:

0.5 course: Biochemistry 2280A.

1.5 courses: Biology 2290F/G, Biology 2382A/B, Biology 2581A/B.

0.5 course: Chemistry 2213A/B.

0.5 course from: Biology 2244A/B or Statistical Sciences 2244A/B.

0.5 course from: Chemistry numbered 2100-3999 (2223B is recommended) or 0.5 course from Group 1 or 2 – see Note # 1.

3.0 courses from: Groups 1 and 2 (see below), with a minimum of 2.5 courses selected from Group 1. A maximum of 2.0 courses from one subject area (e.g. a maximum of 2.0 courses in Biochemistry) can be used towards the Group requirement.

2.0 courses from Group 1 – see Note #2.

1.0 course from: Group 1 or (0.5 from Group 1 and 0.5 from Group 2) – see Note #2. 0.5 course from Group 3 or Physiology and Pharmacology 3000E. See Note #3 (see notes below).

0.5 course: Medical Sciences 4931F/G.

2.5 2.0 additional courses at the 4000-level from at least two of the following subject areas: Anatomy and Cell Biology, Biochemistry, Biostatistics, Epidemiology, Medical Biophysics, Medical Sciences, Microbiology and Immunology, Pathology, Pharmacology, Physiology. Note: a maximum of 1.5 of these 4000-level courses can be selected from one subject area.

Group 1: Anatomy and Cell Biology 2200A/B, Anatomy and Cell Biology 3309, Biochemistry 3381A, Biochemistry 3382A, Biostatistics 3100A, Biostatistics 3110B, Epidemiology 2200A/B, Epidemiology 3200A, Medical Biophysics 3330F/G, 3336F/G, Medical Biophysics 3501A, Medical Biophysics 3503G, Medical Biophysics 3505F, Medical Biophysics 3507G, Microbiology and Immunology 2500A/B, Microbiology and Immunology 3100A, Microbiology and Immunology 3300B, Pathology 3500, Pharmacology 3620, Physiology 3120, Physiology 3140A, any of the former courses: the former Epidemiology and Biostatistics 2200A/B, the former Microbiology and Immunology 3400B, the former Pathology 3240A, the former Pathology 3245B.

Group 2 (see notes #4 below): Anatomy and Cell Biology 3200A/B Anatomy and Cell Biology 3319, Biochemistry 3385A, Biochemistry 3386B, Biochemistry 3390B, Epidemiology 3210B, Epidemiology 3315B, Epidemiology 3330F/G, Microbiology and Immunology 3500B, Pharmacology 2060A/B, the former Anatomy and Cell Biology 3319.

Group 3: Biochemistry 3380G, Medical Biophysics 3970Z, Medical Sciences 3900F/G, Microbiology and Immunology 3610F, Microbiology and Immunology 3620G, Physiology and Pharmacology 3000E, one of the former Biochemistry 3387G, the former Microbiology and Immunology 3600G, the former Pharmacology 3580Z, the former Physiology 3130Z.

Notes:

- 1. Chemistry 2223B is a prerequisite for the following Group 1 and 3 courses: Biochemistry 3381A. Biochemistry 3382A and Microbiology and Immunology 3620G.
- 2. Of these 3.0 specific courses from Groups 1-2, a maximum of 2.0 courses can be from one subject area (e.g. a maximum of 2.0 can be Biochemistry courses). It is not mandatory to complete any Group 2 courses in the Specialization in IMS. If the former Anatomy and Cell Biology 3319 was taken as a Group 2 course, then the total number of courses required for the module will increase by 0.5 course.
- 4. 3. If Physiology and Pharmacology 3000E is selected to satisfy for the Group 3 requirement, then the total number of courses required for the module will increase by 0.5 course comprise 10.0 courses.
- 2. It is not mandatory to complete any Group 2 courses in the Specialization in IMS. If Anatomy and Cell Biology 3319 is taken as a Group 2 course, then the total number of courses required for the module will increase by 0.5 course.
- 3. 4. See UNDERGRADUATE COURSE INFORMATION for course requisites and the BMSc website for information about constraints (priority and restricted access) for all basic medical science courses.

MAJOR IN INTERDISCIPLINARY MEDICAL SCIENCES (IMS)

Module

6.0 courses:

0.5 course: Biochemistry 2280A.

0.5 course from: Biology 2244A/B or Statistical Sciences 2244A/B.

0.5 course: Biology 2290F/G.

0.5 course from: Biology 2382A/B, Biology 2581A/B.

0.5 course: Chemistry 2213A/B.

2.5 courses from: Groups 1 and 2 with a minimum of 1.5 courses selected from Group 1 (see Note #1 below). A maximum of 2.0 courses from one subject area (e.g. a maximum of 2.0 courses in Biochemistry) can be used towards the Group requirement.

0.5 course: Medical Sciences 4931F/G.

0.5 course at the 4000-level from any of the following subject areas: Anatomy and Cell Biology, Biochemistry, Biostatistics, Epidemiology, Medical Biophysics, Medical Sciences, Microbiology and Immunology, Pathology, Pharmacology, Physiology.

Group 1: Anatomy and Cell Biology 2200A/B, Anatomy and Cell Biology 3309, Biochemistry 3381A, Biochemistry 3382A, Biostatistics 3100A, Biostatistics 3110B, Epidemiology 2200A/B, Epidemiology 3200A, Medical Biophysics 3330F/G, 3336F/G, Medical Biophysics 3501A, Medical Biophysics 3503G, Medical Biophysics 3505F, Medical Biophysics 3507G, Microbiology and Immunology 2500A/B, Microbiology and Immunology 3100A, Microbiology and Immunology 3300B, Pathology 3500, Pharmacology 3620, Physiology 3120, Physiology 3140A, any of the former courses: the former Epidemiology and Biostatistics 2200A/B, the former Microbiology and Immunology 3400B, the former Pathology 3245B.

Group 2: Anatomy and Cell Biology 3200A/B Anatomy and Cell Biology 3319, Biochemistry 3385A, Biochemistry 3386B, Biochemistry 3390B, Epidemiology 3210B, Epidemiology 3330F/G, Microbiology and Immunology 3500B, Pharmacology 2060A/B, the former Anatomy and Cell Biology 3319.

Notes:

- 1. Of these 2.5 courses from Groups 1-2, a maximum of 2.0 courses can be from one subject area (e.g. a maximum of 2.0 can be Biochemistry courses). It is not mandatory to complete any Group 2 courses in the Major in IMS. A maximum of one half course from the courses listed in Group 3 of the Honors Specialization in IMS may be used in place of a half course from Group 2 in the Major in IMS. See the IMS website for more information about the Major in IMS.

 2. A maximum of 1.0 "common course" can be double-counted toward two modules in a BMSc degree. See the IMS website for more information about the Common Course Policy as it relates to the Major in IMS.
- 2. 3. See UNDERGRADUATE COURSE INFORMATION for course requisites and the BMSc website for information about constraints (priority and restricted access) for all basic medical science courses.
- 3. 3000-level courses from the subject areas in Groups 1 and 2 that do not appear in the lists above may be included in the Major only with permission of the IMS counsellor.
- 4. A maximum of 1.0 "common course" can be double-counted toward two modules in a BMSc degree. See Completing Two Modules on the BMSc website for more information.

Effective **September 1, 2019**, the following module requirements in the **Weight Average Chart** be revised.

Honors Specialization Module	Modular courses responsible for 1/3 of the Weighted Average	Modular courses responsible for 2/3 of the Weighted Average
IMS (Interdisciplinary Medical Sciences)	3.0 courses: Biochemistry 2280A; Biology 2581A/B, Biology 2382A/B and Biology 2290F/G; Chemistry 2213A/B or Chemistry 2273A; Biology 2244A/B or Statistical Sciences 2244A/B.	2.0 courses from Group 1; 0.5 course from either Group 1 or 2; 0.5 course from Group 3 (*if, however, Physiology and Pharmacology 3000E is selected for the Group 3 requirement, then the number of courses used toward the Weighted Average becomes 3.5 courses). See Weighted Averages on the IMS website for more details. 2.5 courses from Groups 1 and 2 (see HONORS SPECIALIZATION IN IMS) including a minimum of 2.0 courses from Group 1; and either 0.5 course from Group 3 or Physiology and Pharmacology 3000E*.

MEDICAL HEALTH INFORMATICS

Effective September 1, 2019, the following module be revised.

HONORS SPECIALIZATION IN MEDICAL HEALTH INFORMATICS

Module

11.0 courses:

- 0.5 course: Biochemistry 2280A.
- 1.0 course from: Biology 2290F/G, Biology 2382A/B, Biology 2581A/B.
- 0.5 course: Chemistry 2213A/B.
- 0.5 course from: Biology 2244A/B or Statistical Sciences 2244A/B.
- 1.0 course: Pathology 3500, or the former Pathology 3240A and the former Pathology 3245B.
- 1.0 course: Computer Science 2120A/B, Computer Science 2121A/B.
- 1.0 course: Computer Science 3120A/B, Computer Science 3121A/B.
- **1.0 course** from: Computer Science 4411A/B, Computer Science 4412A/B, Computer Science 4415A/B, Computer Science 4416A/B, Computer Science 4417A/B, Computer Science 4418A/B, Computer Science 4442A/B.
- 1.0 course: Physiology 3120.
- **1.0 course** from: Anatomy and Cell Biology 2200A/B, Anatomy and Cell Biology 3309, Anatomy and Cell Biology 3319, Biochemistry 3385A, Biochemistry 3386B, Epidemiology 2200A/B, Medical Biophysics 3503G, Microbiology and Immunology 2500A/B, Microbiology and Immunology 4750F/G, Pharmacology 3620, the former Anatomy and Cell Biology 3319.
- 1.0 course: Medical Health Informatics 4100F, Medical Health Informatics 4110G.
- **1.5 courses**: Medical Health Informatics 4980E (Research Project = 1.5 courses).

Notes:

- 1. The prerequisite for both Biochemistry 3385A and Biochemistry 3386B is a mark of at least 65% in either Biochemistry 2280A or Biochemistry 2288A.
- 2. For the specific courses that must be completed before Year 4, see the Weighted Average Chart (MODULES OFFERED IN THE BMSc PROGRAM).

MEDICAL SCIENCES

Effective September 1, 2019, the following modules be revised.

MAJOR IN MEDICAL SCIENCES

Admission Requirements

Completion of first-year requirements, including a mark of at least 60% in each of the 3.0 (full or half) principal courses below:

- 1.0 course: Biology 1001A and Biology 1002B*.
- 1.0 course: Chemistry 1301A/B and Chemistry 1302A/B, or the former Chemistry 1100A/B and the former Chemistry 1200B.
- 1.0 course from: Applied Mathematics 1201A/B, Calculus 1000A/B or Calculus 1500A/B, Calculus 1301A/B or Calculus 1501A/B, Mathematics 1225A/B, Mathematics 1228A/B, Mathematics 1229A/B, Mathematics 1600A/B, Statistical Sciences 1024A/B, Applied Mathematics 1413.

The following must be completed by the end of second year, with a mark of at least 60% in each half course:

- 0.5 course from: Physics 1028A/B, Physics 1301A/B or Physics 1501A/B.
- 0.5 course from: Physics 1029A/B, Physics 1302A/B or Physics 1502A/B.
- It is recommended that the two half courses in Physics be taken in the Fall and Winter terms of the same academic year.
- * Biology 1201A with a mark of at least 70% may be used in place of Biology 1001A, and Biology 1202B with a mark of at least 70% may be used in place of Biology 1002B.

Module

6.0 courses:

0.5 course: Biochemistry 2280A.

0.5 course from: Chemistry 2213A/B or Chemistry 2273A.

0.5 course from: Biology 2244A/B or Statistical Sciences 2244A/B.

1.0 course from: Biology 2290F/G, Biology 2382A/B, Biology 2581A/B.

3.0 courses from: Groups 1 and 2 with a minimum of 1.0 course selected from Group 1. A maximum of 2.0 courses from one subject area (e.g. a maximum of 2.0 courses in Biochemistry) can be used towards the this Group requirement.

0.5 course from: Chemistry numbered 2100-3999 or an additional 0.5 course from Group 1 or 2.

Group 1: Anatomy and Cell Biology 2200A/B, Anatomy and Cell Biology 3309, Biochemistry 3381A, Biochemistry 3382A, Biostatistics 3100A, Biostatistics 3110B, Epidemiology 2200A/B, Epidemiology 3200A, Medical Biophysics 3330F/G, Medical Biophysics 3336F/G, Medical Biophysics 3501A, Medical Biophysics 3503G, Medical Biophysics 3505F, Medical Biophysics 3507G, Microbiology and Immunology 2500A/B, Microbiology and Immunology 3100A, Microbiology and Immunology 3300B, Pathology 3500, Pharmacology 3620, Physiology 3120, Physiology 3140A, or any of these former courses: the former Epidemiology and Biostatistics 2200A/B, the former Microbiology and Immunology 2100A, the former Microbiology and Immunology 3245B.

Group 2: Anatomy and Cell Biology 3200A/B Anatomy and Cell Biology 3319, Biochemistry 3385A, Biochemistry 3386B, Biochemistry 3390B, Epidemiology 3210B, Epidemiology 3315B, Epidemiology 3330F/G, Microbiology and Immunology 3500B, Pharmacology 2060A/B, the former Anatomy and Cell Biology 3319.

Notes:

- 1. It is not mandatory to complete any Group 2 courses in the Major in Medical Sciences. A maximum of 1.0 of the following courses may be used in place of up to 1.0 course from Group 2: 4000-level half courses from the basic medical sciences (Anatomy and Cell Biology, Biochemistry, Biostatistics, Epidemiology, Medical Biophysics, Medical Sciences, Microbiology and Immunology, Pathology, Pharmacology, Physiology) and courses listed in Group 3 of the Honors Specialization in IMS (a maximum of 0.5 course from Group 3 may be substituted for a 0.5 course from Group 2).
- 2. See UNDERGRADUATE COURSE INFORMATION for the course requisites and the BMSc website for information about constraints (priority and restricted access) for all basic medical science courses (www.schulich.uwo.ca/bmsc)
- 3. 3000-level courses from the subject areas in Groups 1 and 2 that do not appear in the lists above may be included in the Major only with permission of the Medical Sciences counsellor.

 4. 4000-level courses from the subject areas in Groups 1 and 2 may be included in the Major only with permission of the Medical Sciences counsellor (a maximum of 1.0 4000-level course will be permitted).

MINOR IN MEDICAL SCIENCES

Admission Requirements

Completion of first-year requirements, including the following courses with a mark of at least 60% in each (full or half) course:

1.0 course: Biology 1001A and Biology 1002B.

1.0 course: Chemistry 1301A/B and Chemistry 1302A/B, or the former Chemistry

1100A/B and the former Chemistry 1200B.

Note for Admission Requirements:

Biology 1201A with a mark of at least 70% may be used in place of Biology 1001A, and Biology 1202B with a mark of at least 70% may be used in place of Biology 1002B.

Module

4.0 courses:

0.5 course: Biochemistry 2280A. **0.5 course**: Chemistry 2213A/B.

1.0 course from: Biology 2290F/G, Biology 2382A/B, Biology 2581A/B.

2.0 courses from: Groups 1 and 2 (see below), with at least 1.0 course selected from Group 1 and no more than 1.5 courses from one subject area.

Group 1: Anatomy and Cell Biology 2200A/B, Anatomy and Cell Biology 3309, Biochemistry 3381A, Biochemistry 3382A, Biostatistics 3100A, Biostatistics 3110B, Epidemiology 2200A/B, Epidemiology 3200A, Medical Biophysics 3330F/G, Medical Biophysics 3336F/G, Medical Biophysics 3501A, Medical Biophysics 3503G, Medical Biophysics 3505F, Medical Biophysics 3507G, Microbiology and Immunology 2500A/B, Microbiology and Immunology 3100A, Microbiology and Immunology 3300B, Pathology 3500, Pharmacology 3620, Physiology 3120, Physiology 3140A, the former Microbiology and Immunology 3240A, the former Pathology 3245B.

Group 2: Anatomy and Cell Biology 3200A/B Anatomy and Cell Biology 3319, Biochemistry 3385A, Biochemistry 3386B, Biochemistry 3390B, Epidemiology 3210B, Epidemiology 3315B, Epidemiology 3330F/G, Microbiology and Immunology 3500B, Pharmacology 2060A/B, the former Anatomy and Cell Biology 3319.

Notes:

- 1. See UNDERGRADUATE COURSE INFORMATION for the course requisites and the BMSc website for information about constraints (priority and restricted access) for all basic medical science courses.
- 2. 3000-level courses from the subject areas in Groups 1 and 2 that do not appear in the lists above may be included in the Minor only with permission of the Medical Sciences counsellor. A maximum of 0.5 course from Group 3 in the Honors Specialization in IMS may be used in place of a half course from Group 2 in the Minor in Medical Sciences.

ONE HEALTH

Effective **September 1, 2019**, the following courses be introduced.

ONE HEALTH 3300A/B - FOUNDATIONS IN ONE HEALTH

The history, core concepts and foundational approaches fundamental to this multi-sectoral and collaborative discipline are presented in lectures and in-depth case studies of the three pillars of One Health (human health, animal health and environmental health).

Prerequisite(s): Biology 1001A or Biology 1201A; Biology 1002B or Biology 1202B; either Biology 2244A/B or Statistical Sciences 2244A/B; and registration in third or fourth year of a BMSc or BSc degree.

Extra Information: 3 lecture/seminar hours.

Course Weight: 0.5

ONE HEALTH 3600A/B - ONE HEALTH IN ACTION

Key research designs and methodologic approaches fundamental to the multi-sectoral and collaborative discipline of One Health are presented in both lectures and in-depth case studies. Topics include study design and methods, data surveillance systems, engaging stakeholders, and implementing the One Health approach into action and policy change.

Prerequisite(s): One Health 3300A/B with a minimum mark of 70%.

Extra Information: 3 lecture/seminar hours.

Course Weight: 0.5

Effective September 1, 2019, the following modules be revised.

HONORS SPECIALIZATION IN ONE HEALTH

Module

11.0 courses:

0.5 course: Biochemistry 2280A. **0.5 course**: Biology 2382A/B.

1.0 course: Chemistry 2213A/B and Chemistry 2210A/B.

0.5 course from: Biology 2244A/B or Statistical Sciences 2244A/B.

0.5 course Biology 2483A/B.

1.0 course from: Geography 2133A/B, Geography 2153A/B, Sociology 2179A/B, Sociology 2180A/B, Sociology 2246A/B, Sociology 2247A/B, Sociology 2281A/B.

0.5 course: Environmental Science 3300F/G.

1.0 courses from: Anatomy and Cell Biology 3319, Anatomy and Cell Biology 2200A/B, Biology 3316A/B or Physiology 3140A, Epidemiology 2200A/B, Microbiology and Immunology 2500A/B, Pharmacology 3620, Physiology 3120, the former Anatomy and Cell Biology 3319. **0.5 course** from: Geography 3431A/B, Geography 3432A/B, Geography 3445F/G, Sociology 3308F/G.

1.5 courses: Pathology 3500 with a minimum mark of 70% (or the former Pathology 3240A and the former Pathology 3245B with marks of at least 70% in each), Pathology 4400A/B.

0.5 course: One Health 3300A/B with a minimum mark of 70%.

0.5 1.0 course: One Health 3600A/B, One Health 4100F/G.

1.0 0.5 course from: Biology 4230A/B, Biostatistics 3100A, Environmental Science 3350F/G, Medical Health Informatics 4100F, Medical Health Informatics 4110G, Pathology 3700F/G, Pathology 4200A/B.

1.5 courses: One Health 4980E (Research Project = 1.5 courses).

Note: s-1. See the Weighted Average Chart (MODULES OFFERED IN THE BMSc PROGRAM) for information about admission to the Honors Specialization modules in Year 4, including which modular courses must be completed prior to Year 4.

Effective **September 1, 2019**, the following module requirements in the **Weight Average Chart** be revised.

Honors Specialization Module	Modular courses responsible for 1/3 of the Weighted Average	Modular courses responsible for 2/3 of the Weighted Average
One Health	3.0 courses: Biochemistry 2280A; Biology 2382A/B, Biology 2483A/B; Chemistry 2213A/B, Chemistry 2210A/B; Biology 2244A/B or Statistical Sciences 2244A/B.	3.5 4.0 courses: Environmental Science 3300F/G; One Health 3300A/B; One Health 3600A/B; Pathology 3500 or the former Pathology 3240A and the former Pathology 3245; 1.5 1.0 courses from: Anatomy and Cell Biology 2200A/B, Biology 3316A/B or Physiology 3140A, Epidemiology 2200A/B, Microbiology and Immunology 2500A/B, Pharmacology 3620, Physiology 3120, the former Anatomy and Cell Biology 3319; and 0.5 course from Geography 3431A/B, Geography 3432A/B, Geography 3445F/G, Sociology 3308F/G.

PATHOLOGY

Effective **September 1, 2019**, the following module be revised.

HONORS SPECIALIZATION IN PATHOLOGY

Module

11.0 courses:

0.5 course: Biochemistry 2280A. **0.5 course**: Biology 2382A/B.

0.5 course from: Biology 2290F/G, Biology 2581A/B.

0.5 course: Chemistry 2213A/B.

0.5 course from: Chemistry 2211A/B, Chemistry 2214A/B, Chemistry 2223B.

0.5 course from: Biology 2244A/B or Statistical Sciences 2244A/B.

1.0 course: Pharmacology 3620.

1.0 course from: Anatomy and Cell Biology 3309, or (Anatomy and Cell Biology 2200A/B and one of Anatomy and Cell Biology 3200A/B or Microbiology and Immunology 2500A/B), or the former Anatomy and Cell Biology 3319.

1.0 course: Physiology 3120.

1.0 course: Pathology 3500 with a mark of at least 70%, or the former Pathology 3240A and the former Pathology 3245B with marks of at least 70% in each.

0.5 course from: Biology 3316A/B, Chemistry 2272F, Epidemiology 2200A/B, Physiology 3140A,

Medical Health Informatics 4100F, Medical Health Informatics 4110G.

1.0 course: Pathology 4400A/B, Pathology 4500B.

1.0 course from: Medical Sciences 4100F/G, Pathology 3700F/G, Pathology 4200A/B.

1.5 courses: Pathology 4980E (Research Project = 1.5 courses).

Note: For the specific courses that must be completed before Year 4, see the Weighted Average Chart (MODULES OFFERED IN THE BMSc PROGRAM).

MAJOR IN PATHOLOGY

Module

6.0 courses:

0.5 course: Biochemistry 2280A. **0.5 course:** Biology 2382A/B.

0.5 course from: Chemistry 2213A/B, Biology 2244A/B or Statistical Sciences 2244A/B. **1.0 course** from: Anatomy and Cell Biology 3309, or (Anatomy and Cell Biology 2200A/B and one of Anatomy and Cell Biology 3200A/B or Microbiology and Immunology 2500A/B), or the

former Anatomy and Cell Biology 3319.

1.0 course: Physiology 3120.

1.5 courses: Pathology 3500 with a minimum mark of 70% (or the former Pathology 3240A and the former Pathology 3245B with minimum marks of 70% in each), Pathology 4400A/B.

1.0 course from: Medical Health Informatics 4100F, Medical Health Informatics 4110G, Medical Sciences 4100F/G, Microbiology and Immunology 2500A/B, Pathology 3700F/G, Pathology 4200A/B, Pathology 4500B, Physiology 3140A.

Note: A maximum of 1.0 "common course" can be double-counted towards two Major modules in a BMSc degree. See the Common Course Policy on the BMSc website for more information.

Effective **September 1, 2019**, the following module requirements in the **Weight Average Chart** be revised.

Honors Specialization Module	Modular courses responsible for 1/3 of the Weighted Average	Modular courses responsible for 2/3 of the Weighted Average
Pathology – for students registering in Year 4 in 2016/17 and enward	2.5 courses: Biochemistry 2280A; Biology 2382A/B; Biology 2290F/G or Biology 2581A/B; Chemistry 2213A/B; Biology 2244A/B or Statistical Sciences 2244A/B.	4.0 courses: 1.0 course from Anatomy and Cell Biology 3309 or (Anatomy and Cell Biology 2200A/B and one of Anatomy and Cell Biology 3200A/B or Microbiology and Immunology 2500A/B) or the former Anatomy and Cell Biology 3319; Pathology 3500 or the former Pathology 3240A and the former Pathology 3245B; Pharmacology 3620; Physiology 3120.

Pathology and Toxicology - for students registered in Year 4 in 2015/16	2.5 courses: Biochemistry 2280A; Biology 2382A/B; Biology 2290F/G or Biology 2581A/B; Chemistry 2213A/B; Biology 2244A/B or Statistical Sciences 2244A/B.	4.0 courses: 1.0 course from Anatomy and Cell Biology 3309 or Anatomy and Cell Biology 3319; Pathology 3500 or the former Pathology 3240A and the former Pathology 3245B; Pharmacology 3620; Physiology 3120.	
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PHYSIOLOGY AND PHARMACOLOGY

Effective September 1, 2019, the following course be revised.

Physiology 4630A/B MOTOR NEUROPHYSIOLOGY

Prerequisite(s): Physiology 3120, Physiology 3140A and either Physiology and Pharmacology 3000E or the former Physiology 3130Z; or (Neuroscience 2000, Physiology 3140A and registration in Year 4 of an Honors Specialization in Neuroscience).

Effective **September 1, 2019**, the following module be revised.

HONORS SPECIALIZATION IN PHYSIOLOGY*

Module

10.0 courses:

0.5 course: Biochemistry 2280A.

1.5 courses: Biology 2290F/G, Biology 2382A/B, Biology 2581A/B.

0.5 course: Chemistry 2213A/B.

0.5 course from: Biology 2244A/B or Statistical Sciences 2244A/B.

1.5 courses: Physiology 3120 and Physiology 3140A.

1.0 course: Physiology and Pharmacology 3000E (see Notes).

1.0 course from: Anatomy and Cell Biology 2200A/B, Anatomy and Cell Biology 3200A/B, Anatomy and Cell Biology 3309, Anatomy and Cell Biology 3319, Biology 2471A/B, Biology 2601A/B, Biology 3338A/B, Biology 3592A/B, Biology 3595A/B, Chemistry 2223B, Medical Biophysics 3501A, Medical Biophysics 3503G, Medical Biophysics 3505F, Medical Biophysics 3507G, Microbiology and Immunology 2500A/B, Microbiology and Immunology 3100A, Microbiology and Immunology 3300B, Pathology 3500, Pharmacology 3620, the former Anatomy and Cell Biology 3319.

1.5 courses: Physiology and Pharmacology 4980E (Seminar and Research Project = 1.5 courses) or the former Physiology 4980E.

2.0 additional courses in Physiology at the 4000-level.

STATISTICAL AND ACTUARIAL SCIENCES

Effective September 1, 2019, the following courses be revised.

Statistical Sciences 2141A/B APPLIED PROBABILITY AND STATISTICS FOR ENGINEERS

An introduction to statistics with emphasis on the applied probability models used in Electrical and Civil Engineering and elsewhere. Topics covered include samples, probability, probability distributions, estimation (including comparison of means), correlation and regression. Cannot be taken for credit in any 3-year or honors program or in any module in Statistics, Actuarial Science, or Financial Modelling This course cannot be taken for credit in any module in Data Science,

Statistics, Actuarial Science, or Financial Modelling, other than the Minor in Applied Statistics or the Minor in Applied Financial Modeling.

Statistical Sciences 2143A/B APPLIED STATISTICS AND DATA ANLYSIS FOR ENGINEERS A data-driven introduction to statistics intended primarily for students in Chemical and Mechanical Engineering. Exploratory data analysis, probability, the Binomial, Poisson, Normal, Chi-Square and F distributions. Estimation, correlation and regression (model building and parameter estimation), analysis of variance, design of experiments. Cannot be taken for credit in any module in Statistics, Actuarial Science, or Financial Modelling This course cannot be taken for credit in any module in Data Science, Statistics, Actuarial Science, or Financial Modelling, other than the Minor in Applied Statistics or the Minor in Applied Financial Modeling.

Statistical Sciences 2244A/B STATISTICS FOR SCIENCE

An introductory course in the application of statistical methods, intended for honors students in departments other than Statistical and Actuarial Sciences, Applied Mathematics, Mathematics, or students in the Faculty of Engineering. Topics include sampling, confidence intervals, analysis of variance, regression and correlation. Cannot be taken for credit in any module in Data Science, Statistics, Actuarial Science, or Financial Modelling other than the Minor in Applied Statistics.

Statistical Sciences 4844A/B STATISTICAL CONSULTING

Prerequisite(s): Statistical Sciences 3859A/B with at least 60%. Registration in fourth year of the Honors Specialization in Data Science or Honors Specialization in Statistics modules. Extra Information: 3 lecture hours. Note: This course is restricted to students enrolled in the Honors Specialization module in Data Science.

Effective **September 1, 2019**, the following modules be revised.

HONORS SPECIALIZATION IN STATISTICS

Module

9.0 courses:

6.0 courses: Statistical Sciences 2503A/B (or the former Applied Mathematics 2503A/B), Statistical Sciences 2857A/B, Statistical Sciences 2858A/B, Statistical Sciences 2864A/B, Statistical Sciences 3657A/B, Statistical Sciences 3843A/B, Statistical Sciences 3858A/B, Statistical Sciences 3859A/B, Statistical Sciences 3850F/G, Statistical Sciences 3860A/B, Statistical Sciences 4846A/B or Statistical Sciences 4853A/B, Statistical Sciences 4850F/G, Statistical Sciences 4861A/B.

0.5 courses: Calculus 2402A/B.

1.5 courses from: Actuarial Science 3424A/B, Actuarial Science 4824A/B, Actuarial Science 4823A/B, one of Statistical Sciences 4844A/B, Statistical Sciences 4846A/B, or Statistical Sciences 4864A/B. Statistical Sciences 4864A/B.

1.0 courses from: Actuarial Science 3424A/B, Actuarial Science 4824A/B, Actuarial Science 4823A/B, Financial Modelling 3520A/B (or the former Statistical Sciences 3520A/B), Financial Modelling 3613A/B (or the former Applied Mathematics 3613A/B), Financial Modelling 3817A/B (or the former Applied Mathematics 3817A/B), Financial Modeling 4521A/B, Applied Mathematics 3815A/B, any Statistical Sciences course at the 4000 level, or any course at the 4000 level approved by the Department of Statistical and Actuarial Sciences.

Calculus 2402A/B may be replaced by either (Calculus 2502A/B and Calculus 2503A/B) er (Calculus 2502A/B and the former Mathematics 2123A/B). When such a replacement occurs, the module will include 9.5 courses.

MAJOR IN APPLIED STATISTICS

Module

6.0 courses:

3.0 3.5 courses: Statistical Sciences 2857A/B, Statistical Sciences 2858A/B, Statistical Sciences 2864A/B, Statistical Sciences 3843A/B, Statistical Sciences 3850F/G, Statistical Sciences 3859A/B, Statistical Sciences 3860A/B.

0.5 course: Calculus 2402A/B*.

0.5 course from: Biology 2290F/G, Sociology 2206A/B, Psychology 2800E**.

0.5 course: Epidemiology 2200A/B or the former Epidemiology and Biostatistics 3330B. **1.0 course** from: Applied Mathematics 2402A, Applied Mathematics 3615A/B, Financial Modelling 3817A/B (or the former Applied Mathematics 3817A/B); Psychology 3800F/G, Psychology 3840F/G; Sociology 2236A/B, Sociology 4441A/B; Statistical Sciences 4846A/B,

Statistical Sciences 4850F/G, Statistical Sciences 4853A/B, or any approved Statistics course at the 3000-level or higher.

0.5 course from: Statistical Sciences 4846A/B. Statistical Sciences 4853A/B.

- Calculus 2402A/B may be replaced by either (Calculus 2502A/B and Calculus 2503A/B), or Calculus 2502A/B and the former Mathematics 2123A/B. When such a replacement occurs, the module will include 6.5 courses increase by 0.5 course.
- ** Psychology 2800E may be used to fulfill this 0.5 course requirement and in these cases the module will consist of 6.5 courses increase by 0.5 course.

This module can only be completed in a four-year (honors or non-honors) degree.

FACULTY OF SCIENCE and SCHULICH SCHOOL OF MEDICINE AND DENTISTRY and the RICHARD IVEY SCHOOL OF BUSINESS

Effective September 1, 2019, the following program be revised.

HBA/HONORS BMSc INTERDISCIPLINARY MEDICAL SCIENCES

. . .

Years 4 and 5: BMSc requirements for the Honors Specialization in Interdisciplinary Medical Sciences (IMS)

Year 4

3.0 courses from: Groups 1 and 2 (see below) with a minimum of 2.5 courses selected from Group 1. A maximum of 2.0 courses from one subject area (e.g. a maximum of 2.0 courses in Biochemistry) can be used towards the Group requirements.

2.0 courses from Group 1 – see Note #1.

1.0 course from: Group 1 or (0.5 from Group 1 and 0.5 from Group 2) – see Note #1. 0.5 course from: Group 3 or Physiology and Pharmacology 3000E. See Note # 2.

Group 1: Anatomy and Cell Biology 2200A/B, Anatomy and Cell Biology 3309, Biochemistry 3381A, Biochemistry 3382A, Biostatistics 3100A, Biostatistics 3110B, Epidemiology 2200A/B, Epidemiology 3200A, Medical Biophysics 3330F/G, Medical Biophysics 3336F/G, Medical Biophysics 3501A, Medical Biophysics 3503G, Medical Biophysics 3505F, Medical Biophysics 3507G, Microbiology and Immunology 2500A/B, Microbiology and Immunology 3100A, Microbiology and Immunology 3300B, Pathology 3500, Pharmacology 3620, Physiology 3120, Physiology 3140A, any of the former courses: Epidemiology and Biostatistics 2200A/B, Microbiology and Immunology 2100A, Microbiology and Immunology 3240A, Pathology 3240A,

Pathology 3245B.

Group 2: Anatomy and Cell Biology 3319, Anatomy and Cell Biology 3200A/B Biochemistry 3385A, Biochemistry 3386B, Biochemistry 3390B, Epidemiology 3210B, Epidemiology 3315B, Epidemiology 3330F/G, Microbiology and Immunology 3500B, Pharmacology 2060A/B, the former Anatomy and Cell Biology 3319.

Group 3: Biochemistry 3380G, Medical Biophysics 3970Z, Medical Sciences 3900F/G, Microbiology and Immunology 3610F, Microbiology and Immunology 3620G, Physiology and Pharmacology 3000E, one of the former Biochemistry 3387G, the former Microbiology and Immunology 3600G, the former Pharmacology 3580Z, the former Physiology 3130Z.

Year 5

- 1.0 course: Medical Sciences 4900F/G, Medical Sciences 4930F/G.
- 2.0 additional courses at the 4000-level from at least two of the following subject areas: Anatomy and Cell Biology, Biochemistry, Biostatistics, Epidemiology, Medical Biophysics, Medical Sciences, Microbiology and Immunology, Pathology, Pharmacology, Physiology. Note: a maximum of 1.5 of these 4000-level courses can be selected from one subject area.

Notes:

- 1. Of these 3.0 specific courses from Groups 1-2, a maximum of 2.0 courses can be from one subject area (e.g. a maximum of 2.0 can be Biochemistry courses). It is not mandatory to complete any Group 2 courses. If the former Anatomy and Cell Biology 3319 was taken as a Group 2 course, then the total number of courses required for the module will increase by 0.5 course.
- 2. If Physiology and Pharmacology 3000E is selected to satisfy the Group 3 requirement, then the total number of courses required for the Honors Specialization in IMS will increase by 0.5 course. 2. It is not mandatory to complete any Group 2 courses in the Honors Specialization in IMS. If Anatomy and Cell Biology 3319 is taken as a Group 2 course, then the total number of courses required for the module will increase by 0.5 course.
- 3. See UNDERGRADUATE COURSE INFORMATION for the requisites for 3000- and 4000-level courses, and the BMSc website for information about constraints (priority and restricted access) for all basic medical science courses.
- 4. Both the breadth and essay requirements of a BMSc degree must be satisfied. See "Graduation Requirements for Honors Bachelor degrees".

FACULTY OF SOCIAL SCIENCE

Effective March 1, 2019, the following course be revised.

Social Science 3990A/B/Y INTERNSHIP

Effective September 1, 2019, the following course be introduced.

Social Science 3895E SOCIAL SCIENCE IN THE COMMUNITY

In this project-based course, social science students, working in interdisciplinary teams, apply their scholarship to help community agencies address their self-identified needs, developing transferable skills in the process.

Prerequisite(s): Registration in third or fourth year in any social science module. By special permission from the course instructor in the Spring/Summer before the course begins in the Fall term.

Antirequisite(s): Psychology 3895E.

Extra Information: 2 seminar hours, 4-5 hours on community placement/project. (This course has a service learning component). The course is held off campus (at Innovation Works), so allow for travel time.

COURSE WEIGHT: 1.0

ANTHROPOLOGY

Effective **September 1, 2019**, the following course be introduced.

Anthropology 4409F/G ANTHROPOLOGY OF ETHICS AND MORALITY

Short title: ANTHRO OF ETHICS AND MORALITY

Through an anthropological approach to the study of ethics and morality, the course explores how value and meaning are socially, culturally, and historically produced. It covers a range of ethnographic case studies that explore how ethical and moral values operate in various contexts, from everyday talk to international humanitarian intervention.

Prerequisite(s): Fourth-year in an Anthropology module and by application (see Department website).

Extra Information: 3 lecture hours, 0.5 course.

Effective September 1, 2019, the following course be revised.

Anthropology 4412F/G Language and Power

This course examines linkages between linguistic practices and relations of power, drawing primarily on techniques of discourse analysis tools and methodologies of Linguistic Anthropology and Discourse Analysis. Topics such as racism, disability, migration will be addressed. Prerequisite(s): Fourth year standing in Anthropology or Linguistics or permission from the department. Fourth-year in an Anthropology or Linguistic module and by application (see Department website).

Effective September 1, 2019, the list of ANTHROPOLOGY COURSES BY SUBFIELD be revised.

Sociocultural Anthropology:

Anthropology 1020 (formerly Anthropology 1020E), Anthropology 1021A/B, Anthropology 1025F/G, Anthropology 2201F/G, Anthropology 2203F/G, Anthropology 2211F/G, Anthropology 2211F/G, Anthropology 2212F/G, Anthropology 2216F/G, Anthropology 2219F/G, Anthropology 2222F/G, Anthropology 2224F/G, Anthropology 2255E, Anthropology 2260F/G, Anthropology 2269F/G, Anthropology 2275A/B, Anthropology 2269F/G, Anthropology 2275F/G, Anthropology 2275F/G, Anthropology 2275F/G, Anthropology 2277F/G, Anthropology 2280F/G, Anthropology 2281F/G, Anthropology 2281F/G, Anthropology 2283F/G, Anthropology 2284F/G, Anthropology 2285F/G, Anthropology 2290F/G, Anthropology 3223F/G, Anthropology 3305F/G, Anthropology 3321, Anthropology 3322, Anthropology 3323A/B, Anthropology 3331F/G, Anthropology 3355F/G, Anthropology 3359F/G, Anthropology 3359F/G, Anthropology 3359F/G, Anthropology 3359F/G, Anthropology 3359F/G, Anthropology 3359F/G, Anthropology 3220E, the former Anthropology 2117F/G, the former Anthropology 2118F/G, the former Anthropology 2218F/G, the former Anthropology 2218F/G, the former Anthropology 3301E.

Archaeology and Biological Anthropology:

Anthropology 1020 (formerly Anthropology 1020E), Anthropology 1022A/B, Anthropology 1026F/G, Anthropology 2100, Anthropology 2101A/B, Anthropology 2226A/B, Anthropology 2239F/G, Anthropology 2233F/G, Anthropology 2234F/G, Anthropology 2235A/B, Anthropology 2236A/B, Anthropology 2237A/B, Anthropology 2238A/B, Anthropology 2264F/G, Anthropology 2264F/G, Anthropology 2265F/G, Anthropology 2267A/B, Anthropology 2269F/G, Anthropology 2269F/G

3308F/G, Anthropology 3309F/G, Anthropology 3310A/B, Anthropology 3311F/G, Anthropology 3312F/G, Anthropology 3313A/B, Anthropology 3320, Anthropology 3322, Anthropology 3324A/B, Anthropology 3334F/G, Anthropology 3336F/G, Anthropology 3338F/G, Anthropology 3340A/B, Anthropology 3341F/G, Anthropology 3369F/G, Anthropology 4408F/G, Anthropology 4420A/B, Anthropology 4422F/G, Anthropology 4424F/G, Anthropology 4429F/G, Anthropology 4470A/B, the former Anthropology 2231F/G, the former Anthropology 3303.

Linguistic Anthropology:

Anthropology 1020 (formerly Anthropology 1020E), Anthropology 1027A/B, Anthropology 2151A/B, Anthropology 2152A/B, Anthropology 2245F/G, Anthropology 2246F/G, Anthropology 2250F/G, Anthropology 2251F/G, Anthropology 2252F/G, Anthropology 3237A/B, Anthropology 3243F/G, Anthropology 3339F/G, Anthropology 3343A/B, Anthropology 4412F/G, the former Anthropology 2247A/B, the former Anthropology 2243F/G, the former Anthropology 3337F/G.

FIRST NATIONS STUDIES

Effective **September 1, 2019**, the following courses be withdrawn.

First Nations Studies 2101E IROQUOIAN PERSPECTIVE AND TRADITION First Nations Studies 2112 IROQUOIAN LANGUAGE AND CULTURE

Effective **September 1, 2019**, the following courses be introduced.

First Nations Studies 2104 INTRODUCTORY MOHAWK LANGUAGE

In this unique introductory course, students will learn the basic structural framework of the Mohawk language and, through that process -- standing (metaphorically) at the "edge of the woods" -- will transform how they view an Indigenous culture and its traditions in a collaborative, supportive learning environment.

Antirequisite(s): The former Anthropology 2112, the former First Nations Studies 2112.

Extra Information: 3 hour lecture.

Course Weight: 1.0

First Nations Studies 2700A/B MOHAWK METAPHOR: WHAT WE SAY – WHAT WE MEAN Short title: MOHAWK METAPHOR

This course, designed for a general audience, explores the Mohawk vocabulary in everyday situations. Students will learn to deconstruct the vocabulary to discover its underlying cultural references and how this reflects the values and world view of its speakers, as well as explore how the vocabulary has changed over time.

Prerequisite(s): Completion of 3.0 courses.

Extra Information: 3 hour lecture

Course Weight: 0.5

First Nations Studies 3104 INTERMEDIATE MOHAWK LANGUAGE

Your introduction to Iroquoian culture and tradition through the Mohawk language began when you arrived at the "edge of the woods." Now, having acquired the consent of the village, you may head towards it by "crossing the fields" and continuing on your learning journey of Mohawk language, culture, and tradition.

Antirequisite(s): The former Anthropology 2220E, the former First Nations Studies 2101E.

Prerequisite(s): First Nations Studies 2104.

Extra Information: 3 hour lecture.

Course Weight: 1.0

Effective **September 1, 2019**, the following modules be revised.

HONORS SPECIALIZATION IN FIRST NATIONS STUDIES

Module

9.0 courses:

- **1.0 course** from: First Nations Studies 2112, First Nations Studies 2213F/G, First Nations Studies 2218F/G, the former Anthropology 2217F/G, the former Anthropology 2218F/G, the former First Nations Studies 2112, the former First Nations Studies 2217F/G.
- 2.0 courses from: First Nations Studies 2101E, First Nations Studies 2501F/G, First Nations Studies 2601F/G, First Nations Studies 2901E, First Nations Studies 2919F/G, Geography 2411F/G, History 2209E, the former Anthropology 2220E, the former First Nations Studies 2101E.
 1.0 course from: First Nations Studies 3140F/G, First Nations Studies 3142F/G, First Nations Studies 3722F/G, Political Science 3398F/G.
- **1.0 course**: First Nations Studies 4022E, First Nations Studies 4023F/G, First Nations Studies 4903F/G, Geography 3001F/G, the former Anthropology 4402F/G, the former First Nations Studies 4141F/G, the former First Nations Studies 4402F/G, the former First Nations Studies 4901F/G.
- **4.0 courses** in First Nations Studies at the 2000 level or higher, from the list above, not previously taken, or from: Anthropology 2203F/G, Anthropology 2211F/G, Anthropology 2212F/G, Anthropology 2216F/G, Anthropology 2233F/G, Anthropology 2234F/G, Anthropology 3343A/B, English 3680F/G, First Nations Studies 2103F/G, First Nations Studies 2113, First Nations Studies 2203F/G, First Nations Studies 2211F/G, First Nations Studies 2212F/G, First Nations Studies 2216F/G, First Nations Studies 2234F/G, First Nations Studies 3306A/B, First Nations Studies 3500F/G, First Nations Studies 3880F/G, the former Anthropology 2231F/G, the former First Nations Studies 2132F/G, the former First Nations Studies 2232F/G, the former First Nations Studies 2232F/G, the former First Nations Studies 3001 (if taken in Fall 2013 or Fall 2014).

MAJOR IN FIRST NATIONS STUDIES

Module

6.0 courses:

- **1.0 course** from: First Nations Studies 2112, First Nations Studies 2213F/G, First Nations Studies 2218F/G, the former Anthropology 2217F/G, the former Anthropology 2218F/G, the former First Nations Studies 2112, the former First Nations Studies 2217F/G.
- 2.0 courses from: First Nations Studies 2101E, First Nations Studies 2501F/G, First Nations Studies 2601F/G, First Nations Studies 2901E, First Nations Studies 2919F/G, Geography 2411F/G, History 2209E, the former Anthropology 2220E, the former First Nations Studies 2101E.
 1.0 course from: First Nations Studies 3140F/G, First Nations Studies 3142F/G, First Nations Studies 3722F/G, Political Science 3398F/G.
- **2.0 courses** in First Nations Studies at the 2000 level or higher, from the list above, not previously taken, or from: Anthropology 2203F/G, Anthropology 2211F/G, Anthropology 2212F/G, Anthropology 2216F/G, Anthropology 2233F/G, Anthropology 2234F/G, Anthropology 3343A/B, English 3680F/G, First Nations Studies 2103F/G, First Nations Studies 2113, First Nations Studies 2203F/G, First Nations Studies 2211F/G, First Nations Studies 2212F/G, First Nations Studies 2216F/G, First Nations Studies 2234F/G, First Nations Studies 3306A/B, First Nations Studies 3500F/G, First Nations Studies 3880F/G, First Nations Studies 4022E, First Nations Studies 4023F/G, First Nations Studies 4903F/G, Geography 3001F/G, the former Anthropology 2231F/G, the former Anthropology 2232F/G, the former First Nations Studies 2232F/G, the former First Nations Studies 3001 (if taken in Fall 2013 or Fall 2014), the former First Nations Studies 4901F/G.

MINOR IN FIRST NATIONS STUDIES

Module

4.0 courses:

1.0 course from: First Nations Studies 2112, First Nations Studies 2213F/G, First Nations Studies 2218F/G, the former Anthropology 2217F/G, the former Anthropology 2218F/G, the former First Nations Studies 2112, the former First Nations Studies 2217F/G.

1.0 course from: First Nations Studies 3140F/G, First Nations Studies 3142F/G, First Nations Studies 3722F/G, Political Science 3398F/G.

2.0 courses in First Nations Studies at the 2000 level or higher, from the list above, not previously taken, or from: Anthropology 2203F/G, Anthropology 2211F/G, Anthropology 2212F/G, Anthropology 2216F/G, Anthropology 2233F/G, Anthropology 2234F/G, Anthropology 3343A/B, English 3680F/G, First Nations Studies 2101E, First Nations Studies 2103F/G, First Nations Studies 2113, First Nations Studies 2203F/G, First Nations Studies 2211F/G, First Nations Studies 2212F/G, First Nations Studies 2216F/G, First Nations Studies 2233F/G, First Nations Studies 2234F/G, First Nations Studies 2501F/G, First Nations Studies 2601F/G, First Nations Studies 2901E. First Nations Studies 2919F/G. First Nations Studies 3306A/B. First Nations Studies 3500F/G, First Nations Studies 3880F/G, First Nations Studies 4022E, First Nations Studies 4023F/G, First Nations Studies 4903F/G, Geography 2411F/G, Geography 3001F/G, History 2209E, the former Anthropology 2220E, the former Anthropology 2231F/G, the former Anthropology 2232F/G, the former Anthropology 4402F/G, the former First Nations Studies 2101E the former First Nations Studies 2132F/G, the former First Nations Studies 2231F/G, the former First Nations Studies 2232F/G, the former First Nations Studies 3001 (if taken in Fall 2013 or Fall 2014), the former First Nations Studies 4141F/G, the former First Nations Studies 4402F/G, the former First Nations Studies 4901F/G.

DAN MANAGEMENT & ORGANIZATIONAL STUDIES

Effective **September 1, 2019**, the following course be introduced.

Management and Organizational Studies 4424A/B – CONSUMER BRAND MANAGEMENT Consumer-Brand Management provides a consumer psychology-based framework for developing and fostering brand equity. The course provides students with a nuanced understanding and application of the underlying consumer processes that influence factors such as brand image, identification, and loyalty and provides the opportunity to execute this framework to develop brand

Antirequisite(s): MOS 3395A/B if taken in 2018-2019.

Prerequisite(s): MOS 3321F/G and enrolment in 3rd or 4th year of BMOS.

Extra Information: 3 lecture hours, 0.5 course.

Effective **September 1, 2019**, the following module be revised.

SPECIALIZATION IN CONSUMER BEHAVIOR

Module

9.0 9.5 courses:

- **1.0 course** normally taken in second year: Business Administration 2257.
- 0.5 course normally taken in second or third year: MOS 2320A/B*
- **1.0 course** normally taken in second year from: MOS 2242A/B and 0.5 MOS 2000-level or above; Psychology 2820E; Sociology 2205A/B and Sociology 2206A/B; Statistical Sciences 2035. **1.0 course** normally taken in second year from: MOS 2181A/B or Psychology 2061A/B, and MOS 2275A/B.

1.5 courses normally taken in third year: MOS 2310A/B*, MOS 3321F/G, MOS 3330A/B. **9.5 1.0 course** normally taken in third year from: MOS 3322F/G, MOS 3420F/G.

2.0 courses from: Anthropology 2262F/G, Anthropology 2272F/G, Anthropology 2280F/G; Economics 2124A/B, Economics 2128A/B, Economics 2129A/B, Economics 2150A/B, Economics 2160A/B, Geography 2140A/B, Geography 2140A/B, Geography 2140A/B, History 2120A/B, History 2170A/B, History 2180A/B, History 2807F/G; MOS 2277A/B, MOS 3367A/B; Philosophy 2074F/G, Philosophy 2730F/G; Political Science 2102A/B, Political Science 2140A/B, Political Science 2211E, Political Science 2246E; Psychology 2030A/B, Psychology 2035A/B, Psychology 2070A/B; Sociology 2166A/B, Sociology 2172A/B, Sociology 3308F/G.

1.0 course normally taken in fourth year from: MOS 2276A/B, MOS 3280F/G, MOS 3325A/B, MOS 3342A/B, MOS 3343A/B, MOS 3344A/B, MOS 3352F/G, MOS 3355F/G, MOS 3356F/G, MOS 3385A/B, MOS 3385A/B-3398A/B, MOS 4423F/G, MOS 4495A/B-4498A/B **0.5 course**: MOS 4410A/B.

GEOGRAPHY

Effective **September 1, 2019**, the following courses be withdrawn.

Geography 2020A/B LATIN AMERICA AND THE CARIBBEAN: LANDSCAPES OF INEQUALITY

Geography 2040A/B GEOGRAPHY OF EAST AND SOUTHEAST ASIA

Geography 2045A/B RUSSIA AND THE FORMER SOVIET UNION: THE LEGACY

Geography 2050A/B WESTERN EUROPE

Geography 2450F/G INTRODUCTION TO RESOURCE AND ENVIRONMENTAL MANAGEMENT

Geography 3415A/B GEOGRAPHIC PERSPECTIVES ON LAW AND SOCIETY Geography 3422A/B GEOGRAPHY OF INTERNATIONAL BUSINESS

Effective **September 1, 2019**, the following courses be revised.

Geography 2142A/B GEOPOLITICS

An exploration of the geographical setting in which political decisions are taken. The history of the rise and fall of centres of power, the rise of supranational entities, ethnic wars, and the impermanence of international boundaries will be discussed.

Explores geographical dimensions of political rivalries and conflicts in the modern world system, from the onset of European imperialism to the present. A central focus is on struggles over land, resource frontiers, and labour, and the pivotal role of military force in establishing and bracing global inequalities.

Geography 2210A/B INTRODUCTION TO SPATIAL ANALYSIS

Antirequisite(s): Biology 2244A/B, Economics 2122A/B, Economics 2222A/B, Health Sciences 3801A/B,MOS 2242A/B, Psychology 2810, Psychology 2820E, Psychology 2830A/B, Psychology 2850A/B, Social Work 2207A/B, Sociology 2205A/B, Statistical Sciences 2035, Statistical Sciences 2141A/B, Statistical Sciences 2143A/B, Statistical Sciences 2244A/B, Statistical Sciences 2858A/B, Statistical Sciences 2037A/B if taken prior to Fall 2010, former Psychology 2885 (Brescia), former Statistical Sciences 2122A/B, former Social Work 2205.

Prerequisite(s): 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2152F/G, Geography 2153A/B, Environmental Science 1021F/G; or enrolment in the Major in Physical Geography or in an Honors Earth Science Program for Professional Registration.

Geography 2220A/B GEOGRAPHIC INFORMATION SCIENCE I Geography 2230A/B REMOTE SENSING

Prerequisite(s): 1.0 from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, Geography 2153A/B, Environmental Science 1021F/G; or registration in a module in Science or in Engineering, in the Major in Physical Geography, or in the Commercial Aviation Management program in MOS.

Geography 2240A/B INTRODUCTORY CARTOGRAPHY

Prerequisite(s): 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, Geography 2153A/B, Environmental Science 1021F/G; or enrolment in the Major in Physical Geography; or registration in the Commercial Aviation Management program in MOS.

Geography 2310A/B WEATHER AND CLIMATE

Prerequisite(s): 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, Geography 2153A/B; or 0.5 course from Mathematics, Applied Mathematics, Calculus, Environmental Science or Physics at 1000-1999 level; or enrolment in the Major in Physical Geography or in an Honors Earth Science Program for Professional Registration.

Geography 2320A/B INTRODUCTORY BIOGEOGRAPHY

Prerequisite(s): 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, Geography 2153A/B, Environmental Science 1021F/G; or enrolment in the Major in Physical Geography.

Geography 2330A/B GEOMORPHOLOGY AND HYDROLOGY

Prerequisite(s): 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, Geography 2153A/B (taken after September 2012); or 0.5 course from Earth Sciences 1022A/B, Earth Sciences 1070A/B, Earth Sciences 1081A/B, or Environmental Science 1021F/G; or enrolment in the Major in Physical Geography or in an Honors Earth Science Program for Professional Registration.

Geography 2410A/B SOCIAL GEOGRAPHY

Prerequisite(s): 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2152F/G, Geography 2153A/B, Environmental Science 1021F/G, or enrolment in any of the Global Culture Studies modules.

Geography 2411F/G INDIGENOUS ENVIRONMENTS

Antirequisite(s): First Nations Studies 2601F/G.

Prerequisite(s): 1.0 course from Environmental Science 1021F/G, First Nations Studies 1020E, Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, Geography 2153A/B, Environmental Science 1021F/G or First Nations Studies 1020E; Women's Studies 1020E, Health Sciences 1001A/B and Health Sciences 1002A/B; Sociology 1020, Sociology 1021E, Sociology 1025A/B, Sociology 1026F/G, Sociology 1027A/B or enrolment in the Major in Ecosystem Health or in any of the Globalization Studies modules, or permission from the Instructor.

Geography 2420A/B ECONOMIC GEOGRAPHY

Prerequisite(s): 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2152F/G, Geography 2153A/B, Environmental Science 1021F/G; Economics 1021A/B, Economics 1022A/B; MOS 1021A/B, MOS 1023A/B, or enrolment in any of the Globalization Studies modules.

Geography 2430A/B PUBLIC HEALTH AND ENVIRONMENT

Prerequisite(s): 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, Geography 2153A/B, Environmental Science 1021F/G; Health Sciences 1001A/B and Health Sciences 1002A/B; Sociology 1020, Sociology 1021E, 1025A/B, 1026F/G, 1027A/B or enrolment in the Major in Ecosystem Health or in any of the Global Development Studies modules, or permission of the instructor.

Geography 2460F/G INTRODUCTION TO URBAN DEVELOPMENT

Prerequisite(s): 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2152F/G, Geography 2153A/B, Environmental Science 1021F/G, or Economics 1021A/B or Economics 1022A/B, or enrolment in any of the Global Development Studies or Globalization Studies modules.

Geography 3441F/G CONSERVATION AND DEVELOPMENT

Examines struggles between conservation and economic development in a North-South context, setting the transformation of natural ecosystems and impoverishment of biodiversity in a political economic context that includes disparities in wealth, consumption, and 'ecological footprints'. Examines struggles over conservation and development in a global context. A central aim is to consider the transformation of ecosystems, loss of biodiversity, and struggles for alternatives in relation to the vast and growing inequalities in wealth, power, and resource consumption that exist within and between countries.

Prerequisite(s): Third or fourth year status at the University. Two full courses in Geography or equivalent, or enrolment in the Minor in Environment and Culture, in any of the Global Development Studies modules, or permission of the instructor.

Extra Information: 2 3 lecture hours, 1 tutorial hours.

Geography 3445F/G GLOBAL AGRICULTURE AND FOOD SYSTEMS

Food is a basic human need and agriculture is one of the most fundamental ways that societies interact with their habitats. This course examines the diversity of world agriculture and the rise of a dominant industrial system, focusing on both the social and environmental dimensions of agrarian change and their interrelation.

Extra Information: 2 3 lecture hours, 1 tutorial hours.

Effective **September 1, 2019**, the following modules be revised.

HONORS SPECIALIZATION IN GEOGRAPHY BA

Admission Requirements

Completion of first-year requirements with no failures. Students must have an average of at least 70% and no mark below 60% in 3.0 principal courses, including 1.0 course* from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Environmental Science 1021F/G, plus 2.0 additional courses numbered 1000-1999.

^{*} Senior students may also use <u>Geography 2131A/B</u> and/or <u>Geography 2153A/B</u> If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement,

as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

Module

9.0 courses:

- **0.5 course:** Geography 2210A/B* (normally taken in Year 2).
- **1.5 courses**: Geography 2220A/B, Geography 2240A/B, Geography 3250A/B or the former Geography 2250A/B.
- **1.0 course** from: Geography 2410A/B, Geography 2411F/G, Geography 2420A/B, Geography 2430A/B, Geography 2450F/G, the former Geography 2450F/G.
- **1.0 course** from: Geography 2310A/B, Geography 2320A/B, Geography 2330A/B, the former Geography 2340A/B.
- 1.0 courses: Geography 3210A/B, Geography 4000A/B.
- **0.5 course** from: Geography courses numbered 2000 to 2099.
- **3.5 courses** in Geography at the 2200 level or above, at least 2.0 of which must be at 3000 level or above, with Geography 3000Y or Geography 3001F/G strongly recommended. (Students wishing to pursue Graduate Studies are encouraged to take Geography 4900E or Geography 4901E.) * In cases where an antirequisite statistics course has been taken instead, then an additional 0.5 course numbered 2200 or above in Geography must be taken to make up the 9.0 courses required for the module.

HONORS SPECIALIZATION IN GEOGRAPHY BSc

Admission Requirements

Completion of first year requirements with no failures. Students must have an average of at least 70% and no mark less than 60% in the 3.0 principal courses.

Principal Courses:

1.0 course* from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, or Environmental Science 1021F/G, (with Geography 1300A/B recommended). 2.0 courses numbered 1000-1999 from the Faculty of Science (which may include Environmental Science 1021F/G if not used above) but may not include Astronomy 1011A/B, Astronomy 1021, Biology 1225, Biology 1229A/B, Biology 1290B, Chemistry 1027A/B, Computer Science 1011A/B, Computer Science 1032A/B, Computer Science 1033A/B, Earth Sciences 1086F/G, Earth Sciences 1089F/G, Mathematics 0110A/B, Physics 1021, the former Earth Sciences 1088F/G.

Additional Requirements:

1.0 additional course numbered 1000-1999 from the Faculty of Science (which may include Environmental Science 1021F/G if not used above) but may not include Astronomy 1011A/B, Astronomy 1021, Biology 1225, Biology 1229A/B, Biology 1290B, Chemistry 1027A/B, Computer Science 1011A/B, Computer Science 1032A/B, Computer Science 1033A/B, Earth Sciences 1086F/G, Earth Sciences 1089F/G, Mathematics 0110A/B, Physics 1021, the former Earth Sciences 1088F/G.

1.0 course numbered 1000-1999

^{*} Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

Module

10.0 courses:

0.5 course: Geography 2210A/B* (normally taken in Year 2).

1.5 courses from: Geography 2220A/B, Geography 2230A/B, Geography 2240A/B, Geography 3250A/B or the former Geography 2250A/B.

1.0 course from: Geography 2410A/B, Geography 2411F/G, Geography 2420A/B, Geography 2430A/B, Geography 2450F/G, Geography 2450F/G.

1.0 course from: Geography 2310A/B, Geography 2320A/B, Geography 2330A/B, the former Geography 2340A/B.

1.0 courses: Geography 3210A/B, Geography 4000A/B.

0.5 course from: Geography courses numbered 2000 to 2099.

4.5 courses in Geography at the 2200 level or above, at least 3.0 of which must be at 3000 level or above, with Geography 3000Y or Geography 3001F/G strongly recommended, and where 2.0 courses must be taken from the following list of Science-equivalent courses. (Students wishing to pursue Graduate Studies are encouraged to take Geography 4901E). * If an antirequisite statistics course has been taken instead, then the module will be 9.5 courses.

HONORS SPECIALIZATION IN GEOGRAPHIC INFORMATION SCIENCE BA

Admission Requirements

Completion of first-year requirements with no failures. Students must have an average of at least 70% and no mark below 60% in 3.0 principal courses, including 1.0 course* from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Environmental Science 1021F/G, plus 2.0 additional courses numbered 1000-1999.

* Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

Module

10.0 courses:

0.5 course: Geography 2210A/B* (normally taken in Year 2).

1.5 courses: Geography 2220A/B, Geography 2230A/B, Geography 2240A/B.

1.0 course from: Geography 2310A/B, Geography 2320A/B, Geography 2330A/B, Geography 2410A/B, Geography 2411F/G, Geography 2420A/B, Geography 2430A/B, Geography 2450F/G, Geography 3250A/B, the former Geography 2450F/G.

1.5 courses normally taken in Year 3: Geography 3210A/B, Geography 3211A/B, Geography 3222A/B.

1.5 courses from: Computer Science 2034A/B, Computer Science 2120A/B, Geography 3221A/B, Geography 3223A/B, Geography 3231A/B, Geography 3260A/B, Geography 3421A/B, Geography 4220A/B.

0.5 course: Geography 4000A/B.

3.5 additional courses in Geography at the 3000 level or above, with Geography 3000Y or 3001F/G strongly recommended. (Students wishing to pursue graduate studies are encouraged to take Geography 4900E or Geography 4901E.)

HONORS SPECIALIZATION IN GEOGRAPHIC INFORMATION SCIENCE BSc

Admission Requirements

Completion of first year requirements with no failures. Students must have an average of at least 70% and no mark less than 60% in the 3.0 principal courses.

Principal Courses:

1.0 course* from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, or Environmental Science 1021F/G, (with Geography 1300A/B recommended). 2.0 courses numbered 1000-1999 from the Faculty of Science (which may include Environmental Science 1021F/G if not used above) but may not include Astronomy 1011A/B, Astronomy 1021, Biology 1225, Biology 1229A/B, Biology 1290B, Chemistry 1027A/B, Computer Science 1011A/B, Computer Science 1032A/B, Computer Science 1033A/B, Earth Sciences 1086F/G, Earth Sciences 1089F/G, Mathematics 0110A/B, Physics 1021, the former Earth Sciences 1088F/G.

Additional Requirements:

1.0 additional course numbered 1000-1999 from the Faculty of Science (which may include Environmental Science 1021F/G if not used above) but may not include Astronomy 1011A/B, Astronomy 1021, Biology 1225, Biology 1229A/B, Biology 1290B, Chemistry 1027A/B, Computer Science 1011A/B, Computer Science 1032A/B, Computer Science 1033A/B, Earth Sciences 1086F/G, Earth Sciences 1089F/G, Mathematics 0110A/B, Physics 1021, the former Earth Sciences 1088F/G.

1.0 course numbered 1000-1999

* Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

Module

10.0 courses:

- **0.5 course:** Geography 2210A/B* (normally taken in Year 2).
- 1.5 courses: Geography 2220A/B, Geography 2230A/B, Geography 2240A/B.
- **1.0 course** from: Geography 2310A/B, Geography 2320A/B, Geography 2330A/B, Geography 2410A/B, Geography 2411F/G, Geography 2420A/B, Geography 2430A/B, Geography 2450F/G, Geography 3250A/B, the former Geography 2450F/G.
- **1.5 courses** normally taken in Year 3: Geography 3210A/B, Geography 3211A/B, Geography 3222A/B.
- **1.5 courses** from: Computer Science 2034A/B, Computer Science 2120A/B, Geography 3221A/B, Geography 3223A/B, Geography 3231A/B, Geography 3260A/B, Geography 3421A/B, Geography 4220A/B.
- 0.5 course: Geography 4000A/B.
- **3.5 additional courses** in Geography at the 3000 level or above, with Geography 3000Y or 3001F/G strongly recommended. (Students wishing to pursue graduate studies are encouraged to take Geography 4900E or Geography 4901E.)

HONORS SPECIALIZATION IN GEOGRAPHY AND COMMERCIAL AVIATION MANAGEMENT BA

Admission Requirements

Completion of first-year requirements with no failures. Students must have an average of at least 73% and no mark below 60% in 3.0 principal courses, including 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, Geography 2153A/B, Environmental Science 1021F/G, 0.5 course from Computer Science 1025A/B, Computer Science 1032A/B, plus 1.5 additional courses.

All students applying to this program must submit a supplementary application form to the Department of Geography.

After first year, students may apply for admission to the GEOGRAPHY AND COMMERCIAL AVIATION MANAGEMENT HONORS SPECIALIZATION upon completion of first-year requirements with no failures. Students must have an average of at least 73% on, and no grade less than 60% in any of the 3.0 principal courses:

- 1.0 course from: Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Environmental Science 1021F/G
- 0.5 course from: Computer Science 1025A/B, Computer Science 1026A/B, Computer Science 1032A/B
- 1.5 course numbered 1000-1999

Year 1

5.0 courses:

- 1.0 course* from: Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Environmental Science 1021F/G.
- 0.5 course from: Computer Science 1025A/B, Computer Science 1026A/B, Computer Science 1032A/B.
- 0.5 course from: Category B or C.
- 3.0 courses numbered 1000-1999.

Notes:

* Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

Module

11.0 courses:

- 0.5 course: Geography 2210A/B (must be taken in Year 2).
- **2.0 courses:** Geography 2220A/B, Geography 2230A/B, Geography 2240A/B, Geography 2310A/B.
- **3.0 courses:** MOS 1022F/G, MOS 3305A/B, MOS 3306A/B, MOS 4405F/G, MOS 4406F/G, MOS 4409F/G.
- **1.0 course** from: Geography 2330A/B, Geography 2410A/B, Geography 2411F/G, Geography 2420A/B, Geography 2430A/B, Geography 2450F/G, Geography 2460F/G, the former Geography 2450F/G.
- **0.5 course** from: Geography 3210A/B, Geography 3211A/B, Geography 3221A/B, Geography 3222A/B, Geography 3223A/B, Geography 3231A/B, Geography 3250A/B, Geography 3260A/B, Geography 3421A/B, Geography 4220A/B.
- **1.0 course** from: Geography 2132A/B, Geography 2133A/B, Geography 3311A/B, Geography 3333A/B, Geography 3334A/B, Geography 3341A/B, Geography 3342A/B, Geography 3350A/B, Geography 3352A/B, the former Geography 3312A/B.
- **1.0 course** from: Geography 2000-2999, History 2814F/G or the former History 2215F/G, or MOS 2199Y.
- 2.0 courses from: Geography 2200-4999, MOS 3199Y, MOS 4199Y.

HONORS SPECIALIZATION IN URBAN DEVELOPMENT BA

Admission Requirements

Completion of 5.0 first-year courses with no failures. Students must have an average of at least 70% and no mark less than 60%in the 3.0 principal courses.

Principal Courses:

- 1.0 course* from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Environmental Science 1021F/G, (with Geography 1400F/G recommended). 1.0 course from Economics 1021A/B and Economics 1022A/B.
- 1.0 course numbered 1000-1999.
- * Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

Module

15.0 courses:

0.5 course: Geography 2210A/B (normally taken in Year 2).

- **5.5 courses**: Geography 2220A/B, Geography 2420A/B, Geography 2460F/G, Geography 3210A/B, Geography 3211A/B, Geography 3461F/G, Geography 3462F/G, Geography 3463F/G, Geography 4000A/B, Geography 4460F/G.
- **1.5 courses** from: Geography 2230A/B, Geography 2240A/B, Geography 2310A/B, Geography 2320A/B, Geography 2330A/B, Geography 2410A/B, Geography 2411F/G, Geography 2430A/B, Geography 2450F/G, Geography 3000Y or Geography 3001F/G, Geography 3221A/B, Geography 3222A/B, Geography 3223A/B, Geography 3250A/B, Geography 3311A/B, Geography 3416F/G, Geography 3421A/B, Geography 3465F/G, Geography 3466F/G, the former Geography 2250A/B, the former Geography 2340A/B, the former Geography 3000Y or Geography 3001F/G strongly recommended.
- 1.0 course: Business Administration 2257.
- 1.0 course: Political Science 2246E.
- **1.5 courses** from: Economics 2129A/B, Economics 2150A/B, Economics 2157F/G, MOS 2310A/B, Sociology 2151A/B, Sociology 2152A/B, Political Science 2211E, Political Science 3363F/G.
- **1.5 courses**: MOS 2275A/B, MOS 3370A/B, MOS 4471A/B.
- 2.5 additional courses* from: Actuarial Science 2053, Actuarial Science 2553A/B, Anthropology 2201F/G, Anthropology 2203F/G, Anthropology 2260F/G, Art History 2670F/G, Classical Studies 2500A/B, Comparative Literature and Culture 2129A/B, Computer Science 1032A/B, Computer Science 2034A/B, Digital Humanities 2144A/B, Digital Humanities 2220A/B, Earth Sciences 2241A/B, Economics 2129A/B, Economics 2150A/B, Economics 2151A/B, Economics 2157F/G, Economics 2172A/B, Economics 2176A/B, Economics 2184A/B, Financial Modelling 2555A/B, Geography 2162A/B, Geography 3000Y or Geography 3001F/G, Geography 3221A/B, Geography 3222A/B, Geography 3223A/B, Geography 3311A/B, Geography 3416F/G, Geography 3421A/B, Geography 3465F/G, Geography 3466F/G, Geography 4900E, Law 2101, Law 5322A/D, Law 5682A/D, MOS 2276A/B, MOS 2310A/B, Philosophy 2035F/G, Philosophy 2355F/G, Political Science 2211E, Political Science 2236E, Political Science 3363F/G, Political Science 3364F/G, Sociology 2151A/B, Sociology 2152A/B, Sociology 2236A/B, Sociology 2281A/B, Writing 2101F/G, Writing 2111F/G, with Geography 3000Y / Geography 3001F/G strongly recommended.

SPECIALIZATION IN GEOGRAPHY

Admission Requirements

Completion of first-year requirements, including 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Environmental Science 1021F/G, with a mark of at least 60% in each of these courses.

Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

Module

9.0 courses:

0.5 course: Geography 2210A/B* (normally taken in Year 2).

2.0 courses: Geography 2220A/B, Geography 2240A/B, Geography 3250A/B, Geography 4000A/B.

1.0 course from: Geography 2410A/B, Geography 2411F/G, Geography 2420A/B, Geography 2430A/B, Geography 2450F/G, Geography 2460F/G, the former Geography 2450F/G.

1.0 course from: Geography 2310A/B, Geography 2320A/B, Geography 2330A/B, the former Geography 2340A/B.

1.0 course from: Geography courses numbered 2000 to 2199

3.5 courses from: Geography at the 2200 level or above, at least 2.0 of which must be at the 3000 level or above.

SPECIALIZATION IN GEOGRAPHY AND COMMERCIAL AVIATION MANAGEMENT BA

Admission Requirements

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Year 1

5.0 courses:

1.0 course* from: Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Environmental Science 1021F/G

0.5 course from: Computer Science 1025A/B, Computer Science 1026A/B, Computer Science 1032A/B

0.5 course from: Category B or C 3.0 courses numbered 1000-1999

Notes:

* Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

Module

9.5 courses:

0.5 course: Geography 2210A/B (must be taken in Year 2).

2.0 courses: Geography 2220A/B, Geography 2230A/B, Geography 2240A/B, Geography 2310A/B.

3.0 courses: MOS 1022F/G, MOS 3305A/B, MOS 3306A/B, MOS 4405F/G, MOS 4406F/G, MOS 4409F/G.

0.5 course from: Geography 2330A/B, Geography 2410A/B, Geography 2411F/G, Geography 2420A/B, Geography 2430A/B, Geography 2450F/G, Geography 2460F/G, the former Geography 2450F/G.

0.5 course from: Geography 3210A/B, Geography 3211A/B, Geography 3221A/B, Geography 3222A/B, Geography 3223A/B, Geography 3231A/B, Geography 3250A/B, Geography 3260A/B, Geography 3421A/B, Geography 4220A/B.

0.5 course from: Geography 2132A/B, Geography 2133A/B, Geography 3311A/B, Geography 3333A/B, Geography 3334A/B, Geography 3342A/B, Geography 3350A/B, Geography 3352A/B, the former Geography 3312A/B.

1.0 course from: Geography 2000-2999, History 2814F/G or the former History 2215F/G, MOS 2199Y.

1.5 courses from: Geography 2100-4899, MOS 3199Y, MOS 4199Y.

MAJOR IN ENVIRONMENT AND HEALTH

Admission Requirements

Completion of first-year requirements, including 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Environmental Science 1021F/G, with a mark of at least 60% in each of these courses.

Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

Module

6.0 courses:

- **2.0 courses**: Geography 2411F/G, Geography 2430A/B, Geography 3431A/B, Geography 3432A/B.
- **1.0 course** from: Geography 2210A/B, Geography 2220A/B, Geography 2230A/B, Geography 2240A/B, Geography 3250A/B.
- **0.5 course** from: Geography 2152F/G, Geography 2153A/B, Geography 2162A/B, Geography 2410A/B, Geography 2420A/B, Geography 2450F/G, Geography 2460F/G, Sociology 2180A/B, Psychology 2036A/B, the former Geography 2450F/G.
- **0.5 course** from: Geography 2131A/B, Geography 2133A/B, Geography 2310A/B, Geography 2320A/B, Geography 2330A/B.
- **1.0 course** from: Geography 3412F/G, Geography 3441F/G, Geography 3442F/G, Geography 3445F/G, Geography 3461F/G, Geography 3462F/G, Geography 3463F/G, First Nations Studies 4001F/G, Anthropology 3341F/G, the former Geography 4430A/B.
- **1.0 course** in Geography at the 3000 level or above

MAJOR IN GEOGRAPHY

Admission Requirements

Completion of first-year requirements, including 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Environmental Science 1021F/G, with a mark of at least 60% in each of these courses.

Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

Module

6.0 courses:

- **0.5 course:** Geography 2210A/B* (normally taken in Year 2).
- **1.0 courses** from: Geography 2220A/B, Geography 2230A/B, Geography 2240A/B, Geography 3250A/B or the former Geography 2250A/B.
- **1.5 courses** from: Geography 2310A/B, Geography 2320A/B, Geography 2330A/B, Geography 2410A/B, Geography 2411F/G, Geography 2420A/B, Geography 2430A/B, Geography 2450F/G, Geography 2460F/G, the former Geography 2340A/B, the former Geography 2450F/G.
- **0.5 course** from: Geography courses numbered 2000 or above.
- 2.5 additional courses in Geography numbered 3000 or above.

MAJOR IN GEOGRAPHIC INFORMATION SCIENCE

Admission Requirements

Completion of first-year requirements, including 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Environmental Science 1021F/G, with a mark of at least 60% in each of these courses.

Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

Module

6.0 courses:

- **0.5 or 1.0* course** from: Geography 2210A/B or any university-level statistics course at the 2000 level or above* (normally taken in Year 2).
- 1.5 courses from: Geography 2220A/B, Geography 2230A/B, Geography 2240A/B.
- **1.0 course** from: Geography 2310A/B, Geography 2320A/B, Geography 2330A/B, Geography 2410A/B, Geography 2411F/G, Geography 2420A/B, Geography 2430A/B, Geography 2450F/G, Geography 2460F/G, the former Geography 2450F/G.
- 1.0 course from: Geography 3211A/B, Geography 3222A/B (normally taken in Year 3).
- **2.0 courses** from: Computer Science 2034A/B, Computer Science 2120A/B, Geography 3210A/B, Geography 3223A/B, Geography 3231A/B, Geography 3260A/B, Geography 3421A/B, Geography 4220A/B, the former Geography 3241A/B, the former Geography 3321A/B.

MAJOR IN PHYSICAL GEOGRAPHY

Admission Requirements

Completion of first-year requirements, including 1.0 course from the following with a minimum mark of 60% in the courses taken: Geography 1100, Geography 1300A/B, Geography 1400F/G or Geography 1500F/G, Earth Sciences 1022A/B, Earth Sciences 1023A/B, Earth Sciences 1070A/B, Earth Sciences 1081A/B, Environmental Science 1021F/G, Biology 1001A, Biology 1002B, Biology 1201A, Biology 1202B.

Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 Geography admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

MINOR IN GEOGRAPHY

Admission Requirements

Completion of first-year requirements, including 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Environmental Science 1021F/G, with a mark of at least 60% in each of these courses.

Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

POLITICAL SCIENCE

Effective **September 1, 2019**, the following course be introduced.

Political Science 4215F/G: GLOBAL WELFARE STATES

This seminar explores the welfare state as a multifaceted phenomenon, which has assumed qualitatively different forms in different places. More recently, welfare states around the world have been subjected to significant pressure, and the causes, extent, and character of change will be subject to detailed debate.

Antirequisite(s): Political Science 4406F/G.

Prerequisite(s): Political Science 2231E, Political Science 2245E, or International Relations 2702E, or the former International Relations 2701E or permission of the instructor. 2 hours, 0.5 course.

SOCIOLOGY

Effective **September 1, 2019**, the following courses be introduced.

Sociology 3368F/G: MARRIAGE MARKETS

This course examines shifts in marriage market conditions due to the increasing inequality and transition into a service economy. It further investigates how the resulting changes in marriage market conditions affect dating, union formation, family structure; and the wellbeing of couples and their offspring.

Antirequisite(s): Sociology 3364F/G taught in 2017/2018 and 2018/2019.

Prerequisite(s): Third or fourth year standing in any module in the Department of Sociology.

Extra Information: 3 lecture hours, 0.5 course.

Sociology 4466F/G PROFESSIONS, PROFESSIONALS AND THEIR WORK

Short title: PROFESSIONALS AND THEIR WORK

Examines the nature of professions and professional work in Canadian society and elsewhere in the world. Attention will be paid to the structure of professional work, and workers experiences within professions, as well as inequalities within and across professions.

Prerequisite(s): Enrolment in fourth year of a Sociology or Criminology module.

Extra Information: 3 seminar hours, 0.5 course.

FACULTY OF SOCIAL SCIENCE and the RICHARD IVEY SCHOOL OF BUSINESS

Effective September 1, 2019, the following programs be revised.

HONORS SPECIALIZATION IN GEOGRAPHY/HBA

Year 1

Completion of 5.0 first-year courses with no failures. Students must have an average of at least 75% and no mark below 60% in the 3.0 principal courses.

Principal Courses:

1.0 course* from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Environmental Science 1021F/G, (with Geography 1400F/G recommended). 2.0 courses numbered 1000-1999

*Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

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Year 2

5.0 courses:

0.5 course: Geography 2210A/B* (must be taken in Year 2) **2.5 courses** from the following 3.5 geography courses:

1.0 course: Geography 2220A/B, Geography 2240A/B

1.0 course from: Geography 2410A/B, Geography 2411F/G, Geography 2420A/B, Geography 2430A/B, Geography 2450F/G, Geography 2460F/G, the former Geography 2450F/G

1.0 course from: Geography 2310A/B, Geography 2320A/B, Geography 2330A/B, the former Geography 2340A/B

0.5 course from: Geography courses numbered 2000 to 2099

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Years 4 and 5 (Geography)

6.0 courses:

The remaining **1.0 course** from the following 3.5 geography courses:

1.0 course: Geography 2220A/B, Geography 2240A/B

1.0 course from: Geography 2410A/B, Geography 2411F/G, Geography 2420A/B, Geography 2430A/B, Geography 2450F/G, Geography 2460F/G, the former Geography 2450F/G

1.0 course from: Geography 2310A/B, Geography 2320A/B, Geography 2330A/B, the former Geography 2340A/B

0.5 course from: Geography courses numbered 2000 to 2099

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HONORS SPECIALIZATION IN URBAN DEVELOPMENT/HBA

Year 1

Completion of 5.0 first-year courses with no failures. Students must have an average of at least 75% and no mark below 60% in the 3.0 principal courses.

Principal Courses:

1.0 course* from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Environmental Science 1021F/G, (with Geography 1400F/G recommended).

1.0 course from Economics 1021A/B and Economics 1022A/B.

1.0 course numbered 1000-1999.

*Senior students may also use Geography 2131A/B and/or Geography 2153A/B If upper-year students have not completed 1.0 courses listed above, they may select one or two courses from: Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, and/or Geography 2153A/B in making up the 1.0 admission requirement, as long as they were completed with a grade of at least 60%. Senior qualifying entry course(s) cannot be counted for subsequent program credit.

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Year 2

5.0 courses:

- 1.0 course: Business Administration 2257.
- **2.0 courses**: Geography 2210A/B*, Geography 2220A/B, Geography 2420A/B, Geography 2460F/G.
- **1.0 course** from: Geography 2230A/B, Geography 2240A/B, Geography 2310A/B, Geography 2320A/B, Geography 2410A/B, Geography 2411F/G, Geography 2430A/B, Geography 2450F/G, the former Geography 2340A/B, the former Geography 2450F/G.
- **1.0 course** from: Anthropology 2201F/G; Comparative Literature and Culture 2129A/B, Digital Humanities 2220A/B; Economics 2150A/B, Economics 2151A/B, Economics 2157F/G, Economics 2184A/B; MOS 2275A/B**; Political Science 2211E, Political Science 2236E, Political Science 2246E; Sociology 2151A/B, Sociology 2152A/B, Sociology 2281A/B; Writing 2101F/G.

1.0 additional course from Category B or C (if not already completed in Year 1).

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FACULTY OF SCIENCE and SCHULICH SCHOOL OF MEDICINE AND DENTISTRY, HURON UNIVERSITY COLLEGE and KING'S UNIVERSITY COLLEGE

STATISTICAL SCIENCES

Effective September 1, 2019, the following course be revised.

Statistical Sciences 1024A/B INTRODUCTION TO STATISTICS

Extra Information: Offered in two formats: 3 lecture hours, or weekly online lectures and 2 in-class lab hours (Main); 3 lecture hours (Huron, King's) Note also that Statistical Sciences 1024A/B cannot be taken concurrently with any Introductory Statistics course. For a full list of Introductory Statistics courses please see:

http://www.westerncalendar.uwo.ca/Departments.cfm?DepartmentID=55&SelectedCalendar=Live &ArchiveID=.

FACULTY OF SCIENCE and SCHULICH SCHOOL OF MEDICINE AND DENTISTRY and KING'S UNIVERSITY COLLEGE

ACTUARIAL AND STATISTICAL SCIENCES

Effective September 1, 2019, the following courses be revised.

Actuarial Science 2053 MATHEMATICS FOR FINANCIAL ANALYSIS

Simple and compound interest, annuities, amortization, sinking funds, bonds, bond duration, depreciation, capital budgeting, probability, mortality tables, life annuities, life insurance, net premiums and expenses. Cannot be taken for credit in any module in Statistics or Actuarial Science, Financial Modelling or Statistics, other than the minor in Applied Financial Modeling.

Statistical Sciences 2035 STATISTICS FOR BUSINESS AND SOCIAL SCIENCES

Descriptive statistics and graphs, probability and distributions. Sampling, hypothesis testing, and confidence intervals. Experimental design and analysis of variance. Regression and correlation, including multiple regression. Applications emphasized. This course cannot be taken for credit in any module in Data Science, Statistics, Actuarial Science, or Financial Modelling, other than the Minor in Applied Statistics.

Antirequisite(s): All other courses in Introductory Statistics (except Statistical Sciences 1023A/B and Statistical Sciences 1024A/B): Biology 2244A/B, Economics 2122A/B, Economics 2222A/B, Geography 2210A/B, Health Sciences 3801A/B,MOS 2242A/B, Psychology 2810, Psychology 2820E, Psychology 2830A/B, Psychology 2850A/B, Psychology 2851A/B, Social Work 2207A/B, Sociology 2205A/B, Statistical Sciences 2141A/B, Statistical Sciences 2143A/B, Statistical Sciences 2244A/B, Statistical Sciences 2858A/B, Statistical Sciences 2037A/B if taken prior to Fall 2010, former Psychology 2885 (Brescia), former Statistical Sciences 2122A/B, former Social Work 2205.

Prerequisite(s): One full course or equivalent from: Applied Mathematics 1201A/B, Applied Mathematics 1413, Statistical Sciences 1024A/B, Calculus 1000A/B or the former Calculus 1400A/B or Calculus 1500A/B, Calculus 1301A/B or Calculus 1501A/B, Mathematics 1600A/B or the former Linear Algebra 1600A/B, Mathematics 1225A/B, Mathematics 1228A/B, Mathematics 1229A/B, Mathematics 1230A/B.

BRESCIA UNIVERSITY COLLEGE

SOCIOLOGY

Effective **September 1, 2019**, the following courses be introduced.

Sociology 3388F/G SPECIAL TOPICS

Topic and course description will be available at time of registration.

Prerequisite(s): Enrolment in third or fourth year Sociology.

Extra Information: Course Weight: 0.50

Sociology 3389F/G SPECIAL TOPICS

Topic and course description will be available at time of registration.

Prerequisite(s): Enrolment in third or fourth year Sociology.

Extra Information: Course Weight: 0.50

DAP UPDATE: MINOR CHANGES

FACULTY OF ARTS AND HUMANITIES

Effective **March 1, 2019**, the following courses be revised to correct an oversight in a previous DAP submission.

Arts and Humanities 3000A/B/Y - Internship

MODERN LANGUAGES AND LITERATURES

Effective **September 1, 2019**, the following course be revised to correct a typo following the changes to the module at the April 2019 meeting of Senate.

MAJOR IN SPANISH

Module

6.0 courses:

3.5 courses from: Spanish 2200 or Spanish 2200W/X, Spanish 2214A/B, Spanish 2215F/G, Spanish 2220A/B or Spanish 3327A/B and Spanish 3300 or Spanish 3310E Spanish 3301E.

1.5 courses from: Spanish 2100 level or above or Intercultural Communications 2200F/G.

1.0 course(s) from: Spanish 3000 level or above.

THEATRE STUDIES

Effective March 1, 2019, the following course be revised.

Theatre Studies 3206F/G SHAKESPEARE AND IN PERFORMANCE

An historical, theoretical, and analytical introduction to Shakespeare's plays in performance. This course focuses on specific problems related to past productions and to those in the current Stratford Festival season. Class meets for three hours a day, five afternoons a week, and includes attendance at Shakespeare productions. Summer Day Intersession only.

Theatre Studies 3207F/G VOICE AND TEXT IN THE THEATRE

A workshop in which students will experience, with simple, practical exercises, the ways in which Festival actors develop and maintain their voices and explore various aspects of the text they are performing. The class meets for three hours, four mornings a week. Taught by Stratford Festival staff. Summer Day Intersession only.

FACULTY OF HEALTH SCIENCES

NURSING

Effective March 1, 2019, the following course be revised.

Nursing 3920A/B HEALTH PROMOTION & CARING: CLIENTS WITH HEALTH CHALLENGES II

This course provides students with the opportunity to deepen and apply their understanding of health promotion to the care of adults and children experiencing more complex mental health challenges from a strengths-based perspective.

Extra Information: 3 lecture hours, 2 simulated clinical hours (every other week).

FACULTY OF INFORMATION AND MEDIA STUDIES

Effective **March 1, 2019**, the following courses be revised to correct an oversight in a previous DAP submission.

Faculty of Information and Media Studies 3999A/B/Y INTERNSHIP

Media, Information and Technoculture 3090F/G/Z MIT ACADEMIC INTERNSHIP I

BRESCIA UNIVERSITY COLLEGE

FOODS AND NUTRITION

Effective **September 1, 2019**, the following course be revised to correct course suffixes following the introduction of the module at the April 2019 meeting of Senate.

HONORS SPECIALIZATION IN FOODS AND NUTRITION

Module

9.0 courses:

- **3.5 courses**: Foods and Nutrition 2266F/G, Foods and Nutrition 2232,Foods and Nutrition 2230A/B, Foods and Nutrition 2449A/B, Foods and Nutrition 3390W/X.
- **0.5 course**: Human Ecology 2222A/B.
- **0.5 course** from: Chemistry 2003A/B (recommended) or Chemistry 2213A/B.
- **0.5 course** from: Biochemistry 2288A (recommended) or Biochemistry 2280A.
- **2.0 courses** from: Foods and Nutrition 3320, Foods and Nutrition 3342A/B, Foods and Nutrition 3348A/B, Foods and Nutrition 3361F/G, Foods and Nutrition 3380A/B, or Foods and Nutrition 3400 A/B, the former Foods and Nutrition 3320.
- **2.0 courses** from: Foods and Nutrition or Human Ecology at the 3000 or 4000-level.