SOC APPROVALS
October 9, 2024

The following proposals were approved at the October 9, 2024 meeting of the Subcommittee on Undergraduate Academic Courses (SOC).

FACULTY OF ENGINEERING

DEPARTMENT OF MECHANICAL AND MATERIALS ENGINEERING

Course Revision – Effective September 1, 2024, the following change(s) be made:

MECHANICAL AND MATERIALS ENGINEERING 2202A/B
MECHANICS OF MATERIALS

Course Description
Stress and strain, Mohr's stress circle, behaviour of structures, axial loading of columns and struts, torsion of shafts, bending of beams, buckling of columns and combined loading of components.

Antirequisite(s): CEE 2202A/B, MSE 2212A/B.

Prerequisite(s): Engineering Science 1022A/B/Y, ~~NMM 1414A/B or the former Applied Mathematics 1414A/B.~~ **NMM 1412A/B or the former Applied Mathematics 1412A/B.**

Extra Information: 3 lecture hours, 2 tutorial hours, 0.5 laboratory hour.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following change(s) be made:

MECHANICAL AND MATERIALS ENGINEERING 2221A/B
COMPUTATIONAL METHODS FOR MECHANICAL ENGINEERS

Course Description
The objective of this course is to introduce data organization and processing techniques using spreadsheet tools; and numerical methods, model formulation and programming using advanced mathematical software tools. Applications in applied mathematics and mechanical engineering will be considered throughout the course.

Antirequisite(s): CEE 2219A/B, CBE 2291A/B**, MSE 2221A/B**.

Prerequisite(s): ES 1036A/B, NMM 1411A/B or the former Applied Mathematics 1411A/B, NMM 1414A/B or the former Applied Mathematics 1414A/B.
Corequisite(s): NMM 2270A/B or NMM 2276A/B.

Extra Information: 3 lecture hours, 2 tutorial hours.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following change(s) be made:

MECHANICAL AND MATERIALS ENGINEERING 2273A/B
INTRODUCTION TO FLUID MECHANICS AND HEAT TRANSFER

Course Description
An introduction to fluid mechanics and heat transfer. The fluid mechanics covers fluid properties, fluid statics including buoyancy and stability, one-dimensional fluid dynamics including conservation of mass and energy and losses in pipe networks. Heat transfer covers development of the general energy equation for three dimensions and steady-state conduction in one and two dimensions.

Antirequisite(s): MSE 2273A/B.

Prerequisite(s): NMM 2270A/B or the former Applied Mathematics 2270A/B.

Extra Information: 3 lecture hours, 2 tutorial hours, 0.5 laboratory hour**.**
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following change(s) be made:

MECHANICAL AND MATERIALS ENGINEERING 4453A/B
CORROSION AND WEAR

Course Description
Corrosion principles, types of corrosion, corrosion protection. Surface characterization. Friction, lubrication and wear. Materials selection for tribological applications.

Prerequisite(s): Engineering Science 1021A/B.

Extra Information: 3 lecture hours**, 2 tutorial hours.**
Course Weight: 0.50

FACULTY OF HEALTH SCIENCES

ARTHUR LABATT FAMILY SCHOOL OF NURSING

Course Revision – Effective September 1, 2024, the following change(s) be made:

NURSING 1335A/B
HEALTH ASSESSMENT

Course Description
In this course application of clinical judgement models provide students a framework to convey information from health assessments as a foundational part of nursing practice. Conducting a focused examination of clients using a system based approach enables students to utilize theoretical components of health assessment in the laboratory environment.

Antirequisite(s): the former Nursing 1222A/B, the former Nursing 1225A/B, Nursing 1180A/B.

Prerequisite(s): Registration in Compressed Time Frame BScN program.

Extra Information: 2 ~~asynchronous online~~ lecture hours, 2 laboratory hours.
Course Weight: 0.50

FACULTY OF INFORMATION AND MEDIA STUDIES

Course Revision – Effective September 1, 2024, the following changes be made:

MEDIA, INFORMATION AND TECHNOCULTURE 3220F/G
REBEL KNOWLEDGE: KNOW WHAT YOU NEED

Course Description
This course considers factors crucial to successful functioning of human communities. It reviews problems identified during earlier study in order to propose solutions, whether ideals, dreams, or probabilities supported by information, ecological, technological, and media theories, applying landmark texts to the worlds of present and future.

Antirequisite(s): MIT 4100F/G if taken in 2019-20, 2020-21, 2021-22, 2022-23**; MIT 3405F/G if taken in 2023-2024**.

Extra Information: 3 lecture hours.
Course Weight: 0.50

FACULTY OF SCIENCE

DEPARTMENT OF BIOLOGY

Course Withdrawal – Effective September 1, 2024, the following course be withdrawn:

BIOLOGY 1201A
GENERAL BIOLOGY I

Course Description
This course provides an understanding of fundamental biological concepts with emphasis on function in and relevance to humans. Topics include inheritance, evolution, ecology, behaviour, ecosystem health. This course is not available to students enrolled in the Faculty of Science (students in the Faculty of Science should select Biology 1001A).

Antirequisite(s): Biology 1001A, Biology 1225.

Prerequisite(s): Grade 12U (SB14U) Biology or Grade 11U (SB13UA) Biology and permission of the Department.

Extra Information: 2 lecture hours, 3 laboratory/tutorial hours. Note: The combination of Biology 1201A and Biology 1202B (with the appropriate marks) can be a prerequisite for senior Biology courses and admission to modules offered by the Department of Biology and the Basic Medical Science departments.
Course Weight: 0.50

Course Withdrawal – Effective September 1, 2024, the following course be withdrawn:

BIOLOGY 1202B
GENERAL BIOLOGY II

Course Description
This course provides an understanding of fundamental biological concepts with emphasis on function in and relevance to humans. Topics include molecular genetics, physiology, bioenergetics. This course is not available to students enrolled in the Faculty of Science (students registered in the Faculty of Science should select Biology 1002B).

Antirequisite(s): Biology 1002B, Biology 1225.

Prerequisite(s): Grade 12U (SB14U) Biology or Grade 11U (SB13UA) Biology and permission of the Department.

Extra Information: 2 lecture hours, 3 laboratory/tutorial hours. Note: The combination of Biology 1201A and Biology 1202B (with appropriate marks) can be a prerequisite for senior Biology courses and admission to modules offered by the Department of Biology and the Basic Medical Science departments.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 3596~~A/B~~F/G
GENOMICS AND BEYOND: A LABORATORY COURSE

Course Description
A practical introduction to modern experimental approaches in genetics and molecular biology as applied to such topics as genomics (gene identification and classification), functional genomics (genome expression profiles) and bioinformatics (computational genomic analysis).

Prerequisite(s): A minimum mark of 70% in each of Biology 2290F/G and Biology 2581A/B.

Extra Information: 2 lecture/tutorial hours, 4 laboratory hours.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 1225
AN INTRODUCTION TO THE BIOLOGY OF ORGANISMS

Course Description
A study of the whole organism with emphasis on organization, growth, development, integration, reproduction and heredity.

Antirequisite(s): Biology 1001A, Biology 1002B, **the former** Biology 1201A, **the former** Biology 1202B.

Extra Information: 3 lecture hours. Biology 1225 is not intended to serve as a prerequisite for other Biology courses and will not fulfill the requirements for entry into the Biology modules. Offered only by Distance Studies.
Course Weight: 1.00

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 1229A/B
BIOLOGY: THE SECRETS OF LIFE

Course Description
A course intended for non-scientists who want to make sense of life from a biological point of view. We will cover all levels from genes to ecosystems, and the biology behind current environmental and societal issues through case studies and discussions. Students will learn to read/interpret a scientific paper.

Antirequisite(s): Biology 1001A, Biology 1002B, **the former** Biology 1201A, **the former** Biology 1202B.

Extra Information: 3 lecture hours.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 2217A/B
ECONOMIC BOTANY

Course Description
An introduction to economically important plants and their products, especially as sources of food, fuel, drugs and industrial raw materials. National and international programs relating to food and other plant resources.

Prerequisite(s): Either Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and either Biology 1002B ~~or Biology 1202B~~ or Integrated Science 1001X **(or the former Biology 1202B)**; or registration in Foods and Nutrition modules.

Extra Information: 2 lecture hours, 3 laboratory hours.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 2290F/G
SCIENTIFIC METHOD IN BIOLOGY

Course Description
A laboratory course designed to promote understanding of the scientific method by acquainting students with selected technical and conceptual tools that will enable them to generate, analyze and communicate data from experimental investigations of their own design in the areas of cell biology, population biology and genetics.

Prerequisite(s): A minimum mark of 60% in either Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and a minimum mark of 60% in either Biology 1002B ~~or Biology 1202B~~ or Integrated Science 1001X **(or the former Biology 1202B)**.

Extra Information: 6 laboratory hours. Mandatory course in most modules offered by the Department of Biology.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 2382A/B
CELL BIOLOGY

Course Description
Molecular and structural organization of cells in relation to function. Composition and dynamics of the plasma membrane and membrane-bound compartments in cells. Synthesis and trafficking of proteins. Cytoskeleton and cell motility. Membrane receptors in signal and energy transduction, cell-cell adhesion and recognition. Excitable membranes.

Prerequisite(s): Either Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and either Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)** with a minimum of 60% in each; Chemistry 1301A/B and Chemistry 1302A/B. Integrated Science 1001X with a minimum mark of 60% can be used as a prerequisite in place of Biology 1002B and Chemistry 1302A/B.

Extra Information: 2 lecture hours, 1 lecture/tutorial hour. Mandatory course in most modules offered by the Department of Biology.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 2471A/B
VERTEBRATE BIOLOGY

Course Description
The biology of vertebrates including evolution and structural adaptation in a variety of vertebrates. Emphasis will be on features of animal biology unique to the vertebrates.

Prerequisite(s): A minimum mark of 60% in Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)**.

Extra Information: 2 lecture hours, 3 laboratory hours.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 2483A/B
ECOLOGY

Course Description
An introduction to ecology, the scientific study of the interactions that determine the distribution and abundance of plants, animals, and microorganisms. Ecological concepts at the organism, population and ecosystem levels will be considered, including tolerance limits, life history evolution, competition, predation, population growth and control, and ecosystem dynamics.

Prerequisite(s): A minimum mark of 60% in either Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and a minimum mark of 60% in either Biology 1002B ~~or Biology 1202B~~ or Integrated Science 1001X **(or the former Biology 1202b)**.

Extra Information: 2 lecture hours, 1 lecture/tutorial hour. Mandatory course in most modules offered by the Department of Biology.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 2485A/B
ENVIRONMENTAL BIOLOGY

Course Description
Basic principles of environmental biology, human ecology, ecosystem structure and function. Human population growth and its impact on soil, water, energy, agriculture and natural populations of plants and animals. Environmental problems created by resource exploitation and possible solutions.

Prerequisite(s): Either Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and either Biology 1002B ~~or Biology 1202B~~ or Integrated Science 1001X **(or the former Biology 1202B)**.

Extra Information: 3 lecture hours.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 2601A/B
ORGANISMAL PHYSIOLOGY

Course Description
This course provides a general background in the mechanisms and consequences of physiological processes in plants and animals. It will take an integrated approach and include a comparative context, wherever possible. It will include an overview of physiology in both plants and animals.

Prerequisite(s): A minimum mark of 60% in either Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and a minimum mark of 60% in either Biology 1002B ~~or Biology 1202B~~ or Integrated Science 1001X **(or the former Biology 1202B)**.

Extra Information: 2 lecture hours, 1 lecture/tutorial hour.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 3222F/G
SELECTED TOPICS

Course Description
Selected topics of current interest in Biology. The topics may vary each year. Specific topics will be available from the Department prior to registration.

Prerequisite(s): A minimum mark of 60% in Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ or Integrated Science 1001X, **(or the former Biology 1202B)**, and at least one half course in Biology at the 2200 level or above, or permission of the Department.

Extra Information: 2 lecture hours. 1 tutorial/lecture hour.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 3224F/G
SELECTED TOPICS

Course Description
Selected topics of current interest in Biology. The topics may vary each year. Specific topics will be available from the Department prior to registration.

Prerequisite(s): A minimum mark of 60% in Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ or Integrated Science 1001X, **(or the former Biology 1202B)**, and at least one half course in Biology at the 2200 level or above, or permission of the Department.

Extra Information: 3 hours.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 3230F/G
FIELD RESEARCH IN BIOLOGY

Course Description
This field course provides a theoretical and hands-on introduction to the planning and execution of field studies in biology using quantitative tools. A breadth of study organisms and systems will be covered. This course includes four or five field trips during the lab and lecture timeslots.

Prerequisite(s): A minimum mark of 60% in Biology 1001A ~~or Biology 1201A,~~ **(or the former Biology 1201A)**, and Biology 1002B ~~or Biology 1202B~~ or Integrated Science 1001X **(or the former Biology 1202B)**, and Biology 2244A/B or Statistical Science 2244A/B.

Extra Information: 2 lecture hours, 3 laboratory hours.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following changes be made:

BIOLOGY 3404F/G
EVOLUTION OF PLANTS

Course Description
This course provides an introduction to the major groups of photosynthetic organisms – now classified in three Domains and numerous Kingdoms. These organisms feed the world, produce many of today's medicines, and provide numerous ecosystem functions. Lectures emphasize diversity, evolutionary relationships and importance, and labs emphasize morphology and recognition.

Prerequisite(s): A minimum mark of 60% in either Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)**, and a minimum mark of 60% in either Biology 1002B ~~or Biology 1202B~~ or Integrated Science 1001X **(or the former Biology 1202B)**.

Extra Information: 2 lecture hours, 3 laboratory hours. Offered in alternate years.
Course Weight: 0.50

Program Revision – Effective September 1, 2024, the following changes be made:

HONOURS SPECIALIZATION IN ANIMAL BEHAVIOUR (BSc)

Admission Requirements
Completion of first year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, including**:**

Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)**; Chemistry 1301A/B and Chemistry 1302A/B; Psychology 1002A/B and Psychology 1003A/B, or Psychology 1000, with no mark in these principal courses below 60%.

0.5 course from: Physics 1201A/B, Physics 1401A/B, Physics 1501A/B; the former Physics 1028A/B, the former Physics 1301A/B.

0.5 course: Data Science 1000A/B.

0.5 course from: Calculus 1000A/B or Calculus 1500A/B, Calculus 1301A/B or Calculus 1501A/B, Mathematics 1225A/B, Mathematics 1228A/B, Mathematics 1229A/B or Mathematics 1600A/B, Applied Mathematics 1201A/B, Numerical and Mathematical Methods 1411A/B, Numerical and Mathematical Methods 1412A/B, Numerical and Mathematical Methods 1414A/B; the former Applied Mathematics 1411A/B, the former Applied Mathematics 1412A/B, the former Applied Mathematics 1414A/B, the former Applied Mathematics 1413.

Note: If not completed in Year 1, the Mathematics requirement must be completed by the end of Year 2.
~~Note:~~ If not completed in Year 1, the Physics requirement must be completed by the end of Year 2.

Note: Physics 1101A/B with a minimum mark of 65% can be used to replace Physics 1201A/B.

Module
10.0 courses:

1.0 course: Biology 2290F/G, Biology 2483A/B.
0.5 course: Psychology 2220A/B.
1.0 course: Psychology 2801F/G and Psychology 2802F/G, or the former Psychology 2800E.
0.5 course from: Psychology 2115A/B, Psychology 2210A/B.
0.5 course* from: Biology 2244A/B, Statistical Sciences 2244A/B.
1.5 courses from: Psychology 3209F/G, Psychology 3224A/B, Psychology 3225A/B, Psychology 3226A/B, Psychology 3228A/B, Psychology 3229A/B,

Psychology 3285F/G.
2.0 courses from: Biology 2601A/B, Biology 3435F/G, Biology 3442F/G, Biology 3446A/B, Biology 3475A/B, Biology 3484A/B, Biology 3601A/B, Biology 3602A/B, or the former Biology 2484A.
0.5 course from: Biology 3436F/G, Psychology 3221F/G.
0.5 course from: Biology 4259F/G, Psychology 3800F/G.
1.0 course* from: Biology 4436F/G, Biology 4441F/G, Biology 4611F/G, Biology 4999E (1.5 courses).
1.0 course from: Psychology 4190F/G, Psychology 4195F/G, Psychology 4222F/G, Psychology 4223F/G, Psychology 4224F/G, Psychology 4290F/G, Psychology 4295F/G, Psychology 4850E, Psychology 4851E.

* If Psychology 2810 or Biology 4999E is taken, the number of courses in the module will be adjusted accordingly to equal 10.5.

Notes:

1. The following Psychology courses count towards the 11.0 Faculty of Science course requirements for this BSc degree: Psychology 2115A/B, Psychology 2210A/B, Psychology 2220A/B, Psychology 2800E, Psychology 2810, Psychology 3209F/G, Psychology 3221F/G, Psychology 3224A/B, Psychology 3225A/B, Psychology 3226A/B, Psychology 3228A/B, Psychology 3285F/G, Psychology 3800F/G, Psychology 4190F/G, Psychology 4195F/G, Psychology 4222F/G, Psychology 4223F/G, Psychology 4224F/G, Psychology 4290F/G, Psychology 4295F/G, Psychology 4851E.

2. Students planning to pursue a graduate degree in Biology or Psychology are strongly encouraged to take either Biology 4999E or Psychology 4850E, or Psychology 4851E but only one of the three may be counted toward this module. Biology 4999E, Psychology 4850E and Psychology 4851E have limited enrollment.

Program Revision – Effective September 1, 2024, the following changes be made:

HONOURS SPECIALIZATION IN BIODIVERSITY AND CONSERVATION

Admission Requirements

Completion of first year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, including:

Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)**; Chemistry 1301A/B and Chemistry 1302A/B; plus 1.0 additional course, with no mark in any of these principal courses below 60%.

0.5 course from: Physics 1201A/B, Physics 1401A/B, Physics 1501A/B; the former Physics 1028A/B, the former Physics 1301A/B.

1.0 course from: Calculus 1000A/B or Calculus 1500A/B, Calculus 1301A/B or Calculus 1501A/B, Mathematics 1225A/B, Mathematics 1228A/B, Mathematics 1229A/B or Mathematics 1600A/B, Data Science 1000A/B, Applied Mathematics 1201A/B, Numerical and Mathematical Methods 1411A/B, Numerical and Mathematical Methods 1412A/B, Numerical and Mathematical Methods 1414A/B; the former Applied Mathematics 1411A/B, the former Applied Mathematics 1412A/B, the former Applied Mathematics 1414A/B, the former Applied Mathematics 1413, the former Statistical Sciences 1024A/B.

Note: If not completed in Year 1, the Mathematics requirement must be completed by the end of Year 2.
~~Note:~~ If not completed in Year 1, the Physics requirement must be completed by the end of Year 2.

Note: Physics 1101A/B with a minimum mark of 65% can be used to replace Physics 1201A/B.

Module

10.5 courses:

2.5 courses: Biology 2483A/B, Biology 2601A/B, Biology 2581A/B, Biology 2290F/G, Biology 2382A/B.
0.5 course: Biochemistry 2280A.
0.5 course from: Biology 2244A/B, Statistical Sciences 2244A/B.
0.5 course from: Chemistry 2213A/B, Chemistry 2210A/B.
2.0 courses: Biology 3484A/B, Biology 3445F/G, Biology 3440A/B, Biology 3442F/G.
0.5 course from: Biology 3220Z, Biology 3230F/G, Biology 3403A/B.
0.5 course from: Biology 3218F/G, Biology 3404F/G, Biology 3229F/G, Biology 4420A/B.

0.5 course from: Biology 3444A/B, Biology 3466A/B.
0.5 course from: Biology 3415F/G, Biology 4405A/B, Biology 4223F/G, Geography 3343A/B.
0.5 course: Biology 4289A/B.
1.0 course: Biology 4412F/G, Biology 4410F/G.
1.0 course from: Biology 3435F/G, Biology 3436F/G, Biology 3446A/B, Biology 3475A/B, Biology 4200A/B, Biology 4230A/B, Biology 4259F/G, Biology 4944F/G Biology 4970F/G, Biology 4999E, Geography 2133A/B, Geography 3352A/B, Geography 3441F/G, Geography 3445F/G, the former Biology 4243F/G, or courses above if not already taken.

Notes:

1. If student takes Biology 4999E, this module becomes 11.0 courses.

Some module courses require prerequisite offerings that are not themselves part of the module.

Program Revision – Effective September 1, 2024, the following changes be made:

HONOURS SPECIALIZATION IN BIOLOGY

Admission Requirements

Completion of first year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, including:

Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)**; Chemistry 1301A/B and Chemistry 1302A/B; plus 1.0 additional course, with no mark in any of these principal courses below 60%.

0.5 course from: Physics 1201A/B, Physics 1401A/B, Physics 1501A/B; the former Physics 1028A/B, the former Physics 1301A/B.

1.0 course from: Calculus 1000A/B or Calculus 1500A/B, Calculus 1301A/B or Calculus 1501A/B, Mathematics 1225A/B, Mathematics 1228A/B, Mathematics 1229A/B or Mathematics 1600A/B, Data Science 1000A/B, Applied Mathematics 1201A/B, Numerical and Mathematical Methods 1411A/B, Numerical and Mathematical Methods 1412A/B, Numerical and Mathematical Methods 1414A/B; the former Applied Mathematics 1411A/B, the former Applied Mathematics 1412A/B, the former Applied Mathematics 1414A/B, the former Applied Mathematics 1413, the former Statistical Sciences 1024A/B.

Note: If not completed in Year 1, the Mathematics requirement must be completed by the end of Year 2.
~~Note:~~ If not completed in Year 1, the Physics requirement must be completed by the end of Year 2.

Note: Physics 1101A/B with a minimum mark of 65% can be used to replace Physics 1201A/B.

Module

10.0 courses:

2.5 courses: Biochemistry 2280A, Biology 2290F/G, Biology 2382A/B, Biology 2483A/B, Biology 2581A/B.
0.5 course: Chemistry 2213A/B.
0.5 course: Biology 2601A/B.
0.5 course from: Biology 2244A/B, Statistical Sciences 2244A/B.
4.0 courses at the 2200 level or above*, chosen from the Department of Biology and the Basic Medical Sciences disciplines (see below), of which at least 3.0 courses must be chosen from the Department of Biology. A maximum of 1.0 course may be at the 2200-2999 level and at least 1.5 of these courses must have a laboratory component.

1.5 courses from any 4000-level Biology course.
0.5 courses from the following: Biology 4920F/G, Biology 4944F/G, the former Biology 4930F/G, the former Biology 4931F/G (Students registered in Biology 4999E can satisfy this 0.5 credit with any 4000-level Biology course).
Basic Medical Sciences Disciplines: Anatomy and Cell Biology, Biochemistry, Epidemiology and Biostatistics, Medical Biophysics, Microbiology and Immunology, Pathology, Physiology, and Pharmacology.

Courses in History of Science are not included.

*The former Microbiology and Immunology 2100A and/or Pharmacology 2060A/B may be taken to satisfy this requirement.

Notes:

1. Many 4000-level Biology courses require the completion of 1.5 Biology courses at the 3000-level or above.

2. Students with specific Biology interests should visit the departmental website for course recommendations in various disciplines or contact a Biology Academic Counsellor.

Program Revision – Effective September 1, 2024, the following changes be made:

SPECIALIZATION IN BIOLOGY

Admission Requirements
Completion of first year requirements including a minimum mark of 60% in each of Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)**.

1.0 course: Chemistry 1301A/B and Chemistry 1302A/B.

0.5 course from: Physics 1201A/B, Physics 1401A/B, Physics 1501A/B; the former Physics 1028A/B, the former Physics 1301A/B.

1.0 course from: Calculus 1000A/B or Calculus 1500A/B, Calculus 1301A/B or Calculus 1501A/B, Mathematics 1225A/B, Mathematics 1228A/B, Mathematics 1229A/B or Mathematics 1600A/B, Data Science 1000A/B, Applied Mathematics 1201A/B, Numerical and Mathematical Methods 1411A/B, Numerical and Mathematical Methods 1412A/B, Numerical and Mathematical Methods 1414A/B; the former Applied Mathematics 1411A/B, the former Applied Mathematics 1412A/B, the former Applied Mathematics 1414A/B, the former Applied Mathematics 1413, the former Statistical Sciences 1024A/B.

Note: If not completed in Year 1, the Mathematics requirement must be completed by the end of Year 2.
~~Note:~~ If not completed in Year 1, the Physics requirement must be completed by the end of Year 2.

Note: Physics 1101A/B with a minimum mark of 65% can be used to replace Physics 1201A/B.

Module
9.0 courses:

2.5 courses: Biochemistry 2280A, Biology 2290F/G, Biology 2382A/B, Biology 2483A/B, Biology 2581A/B.
0.5 course: Chemistry 2213A/B.
0.5 course: Biology 2601A/B.
0.5 course from: Biology 2244A/B, Statistical Sciences 2244A/B.
5.0 courses at the 2200 level or above*, chosen from the Department of Biology and Basic Medical Sciences disciplines (see below), of which at least 4.0 courses must be chosen from the Department of Biology. A maximum of 1.0 course may be at the 2200-2999 level and at least 1.5 of these courses must have a laboratory component. Basic Medical Sciences Disciplines: Anatomy and Cell Biology, Biochemistry, Epidemiology and Biostatistics, Medical Biophysics, Microbiology and Immunology, Pathology, Physiology, and Pharmacology.

Courses in the History of Science are not acceptable.
* The former Microbiology and Immunology 2100A and/or Pharmacology 2060A/B may be taken to satisfy this requirement.

Program Revision – Effective September 1, 2024, the following changes be made:

MAJOR IN BIOLOGY

Admission Requirements
Completion of first year requirements with no failures including a minimum mark of 60% in each of Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)**.

1.0 course: Chemistry 1301A/B and Chemistry 1302A/B.

0.5 course from: Physics 1201A/B, Physics 1401A/B, Physics 1501A/B; the former Physics 1028A/B, the former Physics 1301A/B.

1.0 course from: Calculus 1000A/B or Calculus 1500A/B, Calculus 1301A/B or Calculus 1501A/B, Mathematics 1225A/B, Mathematics 1228A/B, Mathematics 1229A/B or Mathematics 1600A/B, Data Science 1000A/B, Applied Mathematics 1201A/B, Numerical and Mathematical Methods 1411A/B, Numerical and Mathematical Methods 1412A/B, Numerical and Mathematical Methods 1414A/B; the former Applied Mathematics 1411A/B, the former Applied Mathematics 1412A/B, the former Applied Mathematics 1414A/B, the former Applied Mathematics 1413, the former Statistical Sciences 1024A/B.

Note: If not completed in Year 1, the Mathematics requirement must be completed by the end of Year 2.
~~Note:~~ If not completed in Year 1, the Physics requirement must be completed by the end of Year 2.

Note: Physics 1101A/B with a minimum mark of 65% can be used to replace Physics 1201A/B.

Module
6.0 courses:

0.5 course: Biochemistry 2280A.
2.0 courses: Biology 2290F/G, Biology 2382A/B, Biology 2483A/B, Biology 2581A/B.
0.5 course: Chemistry 2213A/B.
0.5 course: Biology 2601A/B (see note 2).
0.5 course from: Biology 2244A/B, Statistical Sciences 2244A/B.
1.5 additional courses at the 2200 level or above in Biology.
0.5 additional course at the 2200 level or above* chosen from either the Department of Biology or one of the Basic Medical Sciences disciplines (see below). Basic Medical Sciences Disciplines: Anatomy and Cell Biology, Biochemistry, Epidemiology and Biostatistics, Medical Biophysics, Microbiology and Immunology, Pathology, Physiology, and Pharmacology.

Courses in the History of Science are not included.

* The former Microbiology and Immunology 2100A or Pharmacology 2060A/B may be taken to satisfy this requirement.

Notes:

1. Students registered in an honours double major degree must complete a minimum of 1.0 at the 3000 level for each module.

2. Physiology 2130 or Physiology and Pharmacology 2000 can be taken instead of Biology 2601A/B to satisfy the physiology requirement for the module. However, students must make up the 0.5 course represented by Biology 2601A/B with an alternate Biology course from the 2200 level or above.

3. Physiology 2130 or Physiology and Pharmacology 2000 can replace Biology 2601A/B in the Major in Biology but are not sufficient prerequisites for any courses that require Biology 2601A/B as a prerequisite.

Program Revision – Effective September 1, 2024, the following changes be made:

MINOR IN BIOLOGY

Admission Requirements
Completion of first-year requirements, including a minimum mark of 60% in each of Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)**.

Chemistry 1301A/B and Chemistry 1302A/B~~, or the former Chemistry 1100A/B and the former Chemistry 1200B~~.

Module
4.0 courses:

2.5 courses from: Biochemistry 2280A, Biology 2244A/B or Statistical Sciences 2244A/B, Biology 2290F/G, Biology 2382A/B, Biology 2483A/B, Biology 2581A/B, Biology 2601A/B, Chemistry 2213A/B.
1.5 courses in Biology at the 2200 level or above, which may include courses listed above not already taken.

Program Revision – Effective September 1, 2024, the following changes be made:

HONOURS SPECIALIZATION IN GENETICS

Admission Requirements

Completion of first year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, including:

Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)**; Chemistry 1301A/B and Chemistry 1302A/B; plus 1.0 additional course, with no mark in any of these principal courses below 60%.

0.5 course from: Physics 1201A/B, Physics 1401A/B, Physics 1501A/B; the former Physics 1028A/B, the former Physics 1301A/B.

1.0 course from: Calculus 1000A/B or Calculus 1500A/B, Calculus 1301A/B or Calculus 1501A/B, Mathematics 1225A/B, Mathematics 1228A/B, Mathematics 1229A/B or Mathematics 1600A/B, Data Science 1000A/B, Applied Mathematics 1201A/B, Numerical and Mathematical Methods 1411A/B, Numerical and Mathematical Methods 1412A/B, Numerical and Mathematical Methods 1414A/B; the former Applied Mathematics 1411A/B, the former Applied Mathematics 1412A/B, the former Applied Mathematics 1414A/B, the former Applied Mathematics 1413, the former Statistical Sciences 1024A/B.

Note: If not completed in Year 1, the Mathematics requirement must be completed by the end of Year 2.
~~Note:~~ If not completed in Year 1, the Physics requirement must be completed by the end of Year 2.

Note: Physics 1101A/B with a minimum mark of 65% can be used to replace Physics 1201A/B.

Module

10.0 courses:

0.5 course: Biochemistry 2280A.
3.5 courses: Biology 2290F/G, Biology 2382A/B, Biology 2483A/B, Biology 2581A/B, Biology 3596A/B, Biology 4583F/G, Biology 4950F/G.
0.5 course: Chemistry 2213A/B.
0.5 course: Biology 2244A/B, Statistical Sciences 2244A/B.
0.5 course from: Biology 2601A/B.
1.0 course from: Biology 3466A/B, Biology 3467A/B, Biology 3592A/B, Biology 3598A/B.
1.0 course from: Biology 3593A/B, Biology 3594A/B, Biology 3595A/B, Biology 3597A/B.

0.5 course from: Any of the 3000-level Biology courses listed above and not already taken.
2.0 courses from: Biology 4260A/B, Biology 4289A/B, Biology 4355F/G, Biology 4510F/G, Biology 4515A/B, Biology 4540F/G, Biology 4560A/B, Biology 4561F/G, Biology 4562A/B, Biology 4563F/G, Biology 4970F/G, Biology 4999E.

Notes:

1. For progression into third year of this module, students must obtain a minimum mark of 70% in each of Biology 2581A/B, and Biology 2290F/G.

2. For progression into fourth year of this module, students must obtain a minimum 70% in each of Biology 3596A/B and 1.0 of the 3000 level Biology courses listed above.

Program Revision – Effective September 1, 2024, the following changes be made:

MAJOR IN GENETICS

Admission Requirements
Completion of first year requirements with no failures including a minimum mark of 60% in each of Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)**. Chemistry 1301A/B and Chemistry 1302A/B.

0.5 course from: Physics 1201A/B, Physics 1401A/B, Physics 1501A/B; the former Physics 1028A/B or the former Physics 1301A/B.

1.0 course from: Calculus 1000A/B or Calculus 1500A/B, Calculus 1301A/B or Calculus 1501A/B, Mathematics 1225A/B, Mathematics 1228A/B, Mathematics 1229A/B or Mathematics 1600A/B, Data Science 1000A/B, Applied Mathematics 1201A/B, Numerical and Mathematical Methods 1411A/B, Numerical and Mathematical Methods 1412A/B, Numerical and Mathematical Methods 1414A/B; the former Applied Mathematics 1411A/B, the former Applied Mathematics 1412A/B, the former Applied Mathematics 1414A/B, the former Applied Mathematics 1413, the former Statistical Sciences 1024A/B.

Note: If not completed in Year 1, the Mathematics requirement must be completed by the end of Year 2.
~~Note:~~ If not completed in Year 1, the Physics requirement must be completed by the end of Year 2.

Note: Physics 1101A/B with a minimum mark of 65% can be used to replace Physics 1201A/B.

Module
6.0 courses:

0.5 course: Biochemistry 2280A.
1.5 courses: Biology 2290F/G, Biology 2382A/B, Biology 2581A/B.
0.5 course from: Biology 2244A/B, Statistical Sciences 2244A/B.
0.5 course: Biology 3596A/B.
0.5 courses from: Biology 3594A/B, Biology 3595A/B, Biology 3597A/B.
1.5 courses (not already taken above) from: Biology 3466A/B, Biology 3592A/B, Biology 3593A/B, Biology 3594A/B, Biology 3595A/B, Biology 3597A/B.
1.0 course from: Biology 4289A/B, Biology 4540F/G, Biology 4560A/B, Biology 4561F/G, Biology 4562A/B.

Notes:
1. For progression into third year of this module, students must obtain a minimum mark of 70% in each of Biology 2581A/B, and Biology 2290F/G.

2. For progression in this module, students must obtain a minimum of 70% in Biology 3596A/B.

A degree containing this module normally requires 4 years to complete.

Program Revision – Effective September 1, 2024, the following changes be made:

MINOR IN GENETICS

Admission Requirements
Completion of first-year requirements, including a minimum mark of 60% in each of Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)**. Chemistry 1301A/B and Chemistry 1302A/B.

Module
4.0 courses:

1.5 courses: Biochemistry 2280A, Biology 2290F/G, Biology 2581A/B.
2.5 courses from: Biology 3466A/B, Biology 3592A/B, Biology 3593A/B, Biology 3594A/B, Biology 3595A/B, Biology 3596A/B, Biology 3597A/B, Biology 3598A/B, Biology 4289A/B, Biology 4540F/G, Biology 4560A/B, Biology 4561F/G, Biology 4562A/B.

Notes:

1. Biology 3595A/B requires a minimum mark of 70% in Biology 2581A/B.

2. For progression into third year of this module, students must obtain a minimum mark of 70% in each of Biology 2581A/B, and Biology 2290F/G.

3. Many 4000 level Biology courses require the completion of 1.5 Biology courses at the 3000 level or above.

Program Revision – Effective September 1, 2024, the following changes be made:

HONOURS SPECIALIZATION IN GENETICS AND BIOCHEMISTRY

Admission Requirements

Completion of first year requirements with no failures. Students must have an average of at least 70% in 4.0 principal courses with no mark in these principal courses below 60%.

1.0 course from: Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)**.

1.0 course: Chemistry 1301A/B and Chemistry 1302A/B.

0.5 course from: Calculus 1000A/B, Calculus 1500A/B, Numerical and Mathematical Methods 1412A/B, the former Applied Mathematics 1412A/B.

0.5 course from: Calculus 1301A/B, Calculus 1501A/B, Mathematics 1228A/B, Mathematics 1229A/B, Mathematics 1600A/B, Numerical and Mathematical Methods 1411A/B, Numerical and Mathematical Methods 1414A/B, Data Science 1000A/B, Applied Mathematics 1201A/B; the former Applied Mathematics 1411A/B, the former Applied Mathematics 1414A/B, the former Statistical Sciences 1024A/B.

The former Applied Mathematics 1413 can be used to fulfill the 1.0 mathematics requirement.

0.5 course from: Physics 1201A/B, Physics 1401A/B, Physics 1501A/B; the former Physics 1028A/B, the former Physics 1301A/B.

0.5 course from: Physics 1202A/B, Physics 1402A/B, Physics 1502A/B; the former Physics 1029A/B, the former Physics 1302A/B.

Note: Physics 1101A/B with a minimum mark of 80% can be used to replace Physics 1201A/B.

Module

10.0 courses:

0.5 course: Biochemistry 2280A.
2.0 courses: Biology 2290F/G, Biology 2382A/B, Biology 2581A/B, Biology 3596A/B.
0.5 course from: Biology 2244A/B or Statistical Sciences 2244A/B.
1.0 course: Chemistry 2213A/B and Chemistry 2223B.
1.5 courses: Biochemistry 3380G, Biochemistry 3381A, Biochemistry 3382A.
1.0 course from: Biology 3594A/B, Biology 3595A/B, Biology 3597A/B, Biology

3598A/B.
0.5 course from: Biology 3466A/B, Biology 3592A/B, Biology 3593A/B.
1.5 courses from: Biology 4289A/B, Biology 4510F/G, Biology 4540F/G, Biology 4560A/B, Biology 4561F/G, Biology 4562A/B, Biology 4970F/G.
1.0 course: Biochemistry 4410A and Biochemistry 4420A.
0.5 course from: Biochemistry 3385B, Biochemistry 3390B, Biochemistry 3392F/G, Biochemistry 4415B, Biochemistry 4450A, the former Biochemistry 4463B.

Note:

1. Biochemistry 3381A and Biochemistry 3382A requires a minimum mark of 65% in Biochemistry 2280A, and a minimum mark of 60% in each of Chemistry 2213A/B and Chemistry 2223B.

For progression into third year of this module, students must obtain a minimum mark of 70% in each of Biology 2581A/B, and Biology 2290F/G.

Program Revision – Effective September 1, 2024, the following changes be made:

HONOURS SPECIALIZATION IN SYNTHETIC BIOLOGY

Admission Requirements

Completion of first year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, with no mark below 60% in any of these half courses, including:

1.0 course from: Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)**~~,~~**.**

1.0 course: Chemistry 1301A/B and Chemistry 1302A/B~~, and~~**.**

1.0 course from: Calculus 1000A/B or Calculus 1500A/B, Calculus 1301A/B or Calculus 1501A/B, Mathematics 1225A/B, Mathematics 1228A/B, Mathematics 1229A/B or Mathematics 1600A/B, Applied Mathematics 1201A/B, Numerical and Mathematical Methods 1411A/B, Numerical and Mathematical Methods 1412A/B, Numerical and Mathematical Methods 1414A/B; the former Applied Mathematics 1411A/B, the former Applied Mathematics 1412A/B, the former Applied Mathematics 1414A/B, the former Applied Mathematics 1413.

A minimum mark of 60% is also required in one of the following half courses which is not included in the principal courses:

0.5 course from: Physics 1201A/B, Physics 1401A/B, Physics 1501A/B; the former Physics 1028A/B, the former Physics 1301A/B.

Note: If not completed in Year 1, the Physics requirement must be completed by the end of Year 2.

Note: Physics 1101A/B with a minimum mark of 65% can be used to replace Physics 1201A/B.

Module

10.5 courses:

0.5 course: Biochemistry 2280A with a mark of at least 65%.
1.0 course: Biology 2290F/G, Biology 2581A/B, with a mark of at least 70% in each.
0.5 course: Biology 2382A/B.
0.5 course from: Biology 2244A/B or Statistical Sciences 2244A/B.
0.5 course from: Chemistry 2213A/B or Chemistry 2273A.
0.5 course from: Chemistry 2223B or Chemistry 2283G.
1.5 courses: Biochemistry 3381A, Biochemistry 3382A, Biochemistry 3392F/G.
0.5 course from: Biochemistry 3380G or Biochemistry 3390B.

1.0 course: Biology 3593A/B, Biology 3596A/B.
0.5 course: Science 3377A/B.
0.5 course from: Business Administration 2295F/G, or one of Business Administration 1220E or Business Administration 2257 (see note).
0.5 course from: Philosophy 2035F/G, Philosophy 2300F/G, Philosophy 2320F/G, Philosophy 2370F/G, Philosophy 2350F/G, Philosophy 3341F/G.
0.5 course: Biology 4260A/B.
0.5 course: Biochemistry 4415B.
1.5 courses: Biology 4998E (Research Project = 1.5 courses).

Note: the module will be comprised of 11.0 courses if either Business Administration 1220E or Business Administration 2257 is taken. Business Administration 1220E cannot be used towards both First Year Requirements and modular requirements.

Program Revision – Effective September 1, 2024, the following changes be made:

MAJOR IN ECOSYSTEM HEALTH

Admission Requirements
Completion of first year requirements, including Biology 1001A ~~or Biology 1201A~~ **(or the former Biology 1201A)** and Biology 1002B ~~or Biology 1202B~~ **(or the former Biology 1202B)** with a mark of at least 60% in each.

Chemistry 1301A/B and Chemistry 1302A/B.

0.5 course from: Physics 1201A/B, Physics 1401A/B, Physics 1501A/B; the former Physics 1028A/B, the former Physics 1301A/B.

1.0 course from: Calculus 1000A/B, or Calculus 1500A/B, Calculus 1301A/B or Calculus 1501A/B, Mathematics 1225A/B, Mathematics 1228A/B, Mathematics 1229A/B or Mathematics 1600A/B, Applied Mathematics 1201A/B, Numerical and Mathematical Methods 1411A/B, Numerical and Mathematical Methods 1412A/B, Numerical and Mathematical Methods 1414A/B; the former Applied Mathematics 1411A/B, the former Applied Mathematics 1412A/B, the former Applied Mathematics 1414A/B, the former Applied Mathematics 1413.

Note: If not completed in Year 1, the Mathematics requirement must be completed by the end of Year 2.

Highly recommended: Environmental Science 1021F/G.
Note: If not completed in Year 1, the Physics requirement must be completed by the end of Year 2.

Note: Physics 1101A/B with a minimum mark of 65% can be used to replace Physics 1201A/B.

Module
6.0 courses:

2.0 courses: Biology 2290F/G, Biology 2483A/B, Biology 2485A/B, Biology 3484A/B, Biology 4218A/B.
0.5 course from: Biology 2244A/B, Statistical Sciences 2244A/B.
1.0 courses from: Biology 3442F/G, Chemistry 2210A/B, Environmental Science 3300F/G.
1.0 course from: Biology 4223F/G, Geography 2133A/B, Microbiology and Immunology 2500A/B, Microbiology and Immunology 3500B.
0.5 course from: Geography 2430A/B, Geography 3431A/B, Pathology 3500*, Pathology 4400A/B, Sociology 2246A/B, the former Biology 4243F/G.
1.0 course: Biology 4230A/B, Biology 4405A/B.

*If students take Pathology 3500, the module becomes 6.5 courses.

Note: At least 3.5 courses taken in the module must be from the Faculty of Science.

DEPARTMENT OF CHEMISTRY

Course Revision – Effective September 1, 2024, the following change(s) be made:

CHEMISTRY 2214A/B
PHYSICAL CHEMISTRY FOR LIFE SCIENCES

Course Description
Basic thermodynamic concepts and relations and illustration of their relevance and applications to biological systems. In addition, some aspects of electrochemistry, and spectroscopic techniques will be introduced, again with emphasis on the role of these techniques in understanding the structure and nature of important biological molecules.

Antirequisite(s): **Chemistry 2274A, the former** Chemistry 2374A, **the former** Chemistry 2384B**.**

Prerequisite(s): (Chemistry 1301A/B and Chemistry 1302A/B) or (Chemistry 1301A/B and Integrated Science 1001X); 0.5 course from: Calculus 1000A/B or Calculus 1500A/B, and 0.5 course from: Applied Mathematics 1201A/B, Calculus 1301A/B, Calculus 1501A/B, Mathematics 1225A/B, Mathematics 1229A/B, Mathematics 1600A/B.

Extra Information: 3 lecture hours, 1.5 laboratory hours (3 hours every other week).
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following change(s) be made:

CHEMISTRY 3320A/B
POLYMER CHEMISTRY

Course Description
A comprehensive treatment of the preparation and uses of polymers, and their chemical and physical properties in the solid state and in solution.

Antirequisite(s): CBE 4493A/B.

Prerequisite(s): Either (Chemistry 2273A and Chemistry 2283G) or Chemistry 2213A/B, and ~~either~~ **(**Chemistry 2214A/B or **Chemistry 2274A or the former** Chemistry 2384B**)**.

Extra Information: 3 lecture hours, 2 laboratory hours (4 lab hours every other week).
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following change(s) be made:

CHEMISTRY 3364A/B
MATERIALS CHEMISTRY

Course Description
Introduction to the structure, properties, and functionalities of societally relevant materials including metals, semiconductors, soft materials, and nanostructures. Modern characterization techniques and applications of materials are also discussed.

Prerequisite(s): Prerequisite(s): Chemistry 2214A/B **or Chemistry 2274A** or **the former** Chemistry 2384B.

Extra Information: 3 lecture hours.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following change(s) be made:

CHEMISTRY 4494A/B
BIOPHYSICAL CHEMISTRY

Course Description
An overview of the physical principles underlying the structure, function, and dynamics of biological systems, with focus on proteins and biomembranes. Topics to be covered include: Selected applications of thermodynamics and statistical mechanics; inter- and intramolecular (noncovalent) interactions; protein folding; spectroscopic properties of biopolymers.

Prerequisite(s): Chemistry 2274A or the former Chemistry 2374A.

Extra Information: 3 lecture hours.
Course Weight: 0.50

FACULTY OF SOCIAL SCIENCE

DEPARTMENT OF HISTORY

Course Revision – Effective September 1, 2024, the following change(s) be made:

HISTORY 3440E
THE VIRGIN QUEEN

Course Description
The Virgin Queen or Gloriana, Elizabeth I is the most studied Briton of the early modern period. Using primary and secondary sources including literature and film, this research seminar examines Elizabeth's role as a leader, woman, and queen, exploring her self-representation and later use of her image and memory.

Antirequisite(s): History 3441F/G**, History 4496F/G if taken on Main Campus in 2024-25**.

Prerequisite(s): Registration in third year or above, any module.

Extra Information: 3 hours.
Course Weight: 1.00

Course Revision – Effective September 1, 2024, the following change(s) be made:

HISTORY 3441F/G
GLORIANA IN HISTORY, LITERATURE, PORTRAITURE AND FILM

Course Description
Elizabeth I, or Gloriana, fascinated scholars for centuries, reaching new heights with developments in women's and gender history, but more recently with studies of "Queenship and Power." Using primary sources, this seminar will explore the historiography, history, literature, portraiture and films that surround the myth and memory of Gloriana.

Antirequisite(s): History 3440E**, History 4496F/G if taken on Main Campus in 2024-25**.

Prerequisite(s): Registration in third year or above, any module.

Extra Information: 3 seminar hours.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following change(s) be made:

HISTORY 4496F/G
SELECTED TOPICS IN EUROPEAN HISTORY

Course Description
See History Department for current offerings.

Antirequisite(s) on Main Campus: History 3440E, History 3441F/G.

Prerequisite(s): Registration in third year or above, any module.

Extra Information: 3 hours.
Course Weight: 0.50

Course Revision – Effective September 1, 2024, the following change(s) be made:

HISTORY 3723F/G
THE ANTHROPOCENE: HISTORY OF A HUMAN PLANET

Course Description
Humans of late have exerted so much influence on the Earth, and created what are essentially permanent changes to it, that some scientists and scholars argue we are in a new age not just in human history, but in Earth history: the Anthropocene. This seminar course is a global environmental history of the recent past.

Prerequisite(s): Registration in third year or above, any module.

Extra Information: ~~3~~ **2** seminar hours.
Course Weight: 0.50

INDIGENOUS STUDIES PROGRAM

Course Withdrawal – Effective September 1, 2024, the following course be withdrawn:

INDIGENOUS STUDIES 2104
INTRODUCTORY MOHAWK LANGUAGE

Course Description
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 First Nations Studies 2112.

Extra Information: 3 hour lecture.
Course Weight: 1.00

Course Withdrawal – Effective September 1, 2024, the following course be withdrawn:

INDIGENOUS STUDIES 2211F/G
CULTURES OF THE CARIBBEAN

Course Description
An introduction to the Caribbean and circum-Caribbean, emphasizing religion, aesthetic styles, current political processes, and relationships of the region and its peoples to Canada.

Antirequisite(s): Anthropology 2211F/G.

Extra Information: 3 hours.
Course Weight: 0.50

Course Withdrawal – Effective September 1, 2024, the following course be withdrawn:

INDIGENOUS STUDIES 2212F/G
CULTURES OF THE PACIFIC

Course Description
Focusing on the cultures of Melanesia, Micronesia and Polynesia, this course reveals how people often understood as peripheral are at the centre of global processes. The course addresses topics including social structure, gender, politics, economies, ecologies, cosmologies, and the representation of Pacific peoples.

Antirequisite(s): Anthropology 2212F/G.

Extra Information: 3 lecture hours.
Course Weight: 0.50

Course Withdrawal – Effective September 1, 2024, the following course be withdrawn:

INDIGENOUS STUDIES 2213F/G
HISTORICAL ISSUES: FROM PRE-CONTACT TO THE 1969 WHITE PAPER

Course Description
This course examines key issues related to the history of Indigenous peoples in Canada. The time frame covers pre-contact era to the 1969 White Paper. Topics may include: Aboriginal rights and title; treaty-making; colonial policy development; residential schools; relocation and centralization; child welfare; and the 1969 White Paper.

Antirequisite(s): The former First Nations Studies 2217F/G, the former Anthropology 2217F/G.

Extra Information: 3 lecture hours.
Course Weight: 0.50

Course Withdrawal – Effective September 1, 2024, the following course be withdrawn:

INDIGENOUS STUDIES 2700A/B
MOHAWK METAPHOR: WHAT WE SAY – WHAT WE MEAN

Course Description
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: 0.50

Course Withdrawal – Effective September 1, 2024, the following course be withdrawn:

INDIGENOUS STUDIES 3104
INTERMEDIATE MOHAWK LANGUAGE

Course Description
Your introduction to Iroquoian culture and tradition through 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): Indigenous Studies 2104.

Extra Information: 3 hour lecture.
Course Weight: 1.00

HURON UNIVERSITY COLLEGE

ENGLISH AND CULTURAL STUDIES

Course Introduction – Effective September 1, 2024, the following course be introduced:

GLOBAL GREAT BOOKS 3400F/G
GLOBAL GREAT BOOKS IN CONTEXT

Course Description
Exploring philosophy and literature of a particular place, in addition to classroom time, students will participate in a study abroad opportunity where these ideas were conceived, created and developed.

Prerequisite(s): Permission of the instructor.

Extra Information: 3 hours when in the classroom.
Course Weight: 0.50

NON-DEPARTMENTAL COURSES

Course Revision – Effective September 1, 2024, the following change(s) be made:

ARABIC 1050A/B
SPOKEN ARABIC FOR NOVICES

Course Description
This course is for students who have basic but still novice ability in Arabic. Students will learn vocabulary and phrases enabling them to converse on standard topics. By the end of this course, students will have the ability to express basic ideas in simple sentences and comprehend plain audio/video texts.

Antirequisite(s): Grade 12U Arabic~~. Arabic 1030, Arabic 1035,~~ and Arabic 2050A/B.

Extra Information: 3 hours.
Course Weight: 0.50