University of Toronto Mississauga

Science Undergraduate Curriculum Committee Fall 2024 Report

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Table of Contents

Anthropology

1 New Course

ANT410H5: Seminar on the History of Archaeological Theory

Contact Hours:
Lecture: 12 / **Seminar:** 12

Description:
This seminar course examines major schools of archaeological thought over time. Class members will explore theoretical approaches to archeological explanations of the human past. We will discuss how these models affect and are affected by archaeologists' investigation of research questions and interpretion of archaeological evidence. Readings include historically important key works as well as recent syntheses.

Prerequisites:
ANT200H5 and ANT201H5 and 1.0 credits from (ANT300H5 or ANT310H5 or ANT312H5 or ANT313H5 or ANT316H5 or ANT317H5 or ANT318H5 or ANT320H5 or ANT327H5)

Corequisites:

Exclusions:

Recommended Preparation:
ANT204H5 or ANT207H5

Notes:

Mode of Delivery:
In Person

Rationale:
(1) Theory courses are traditionally offered as 400-level seminars in most archaeology programs. In the past, the structure of the UTM curriculum and the number of qualified faculty did not allow sufficient student preparation and background courses to offer a course on archaeological theory in a 400-level seminar format. Instead, a 300-level lecture course was used to provide students with background in analysis, inference, and construction of narrative models of the past, so that they could go on to take a seminar course at the graduate level. Changes to the 200-level core courses in archaeology now allow us to introduce aspects of these topics and skills at that level, and additional 300-level courses regularly offered with a return to full archaeological staffing provide grounding in applications. We are now able to offer a more traditional 400-level seminar course, which should better prepare our graduates for both graduate school and applied careers.

At this point, the course is being proposed as mixed lecture and seminar, to ensure students received sufficient background grounding as well as opportunities for discussion.

(2) On a practical level, there is a scarcity of 400-level archaeology courses in our program, with only one other non-lab 400-level archaeology course in the curriculum, which causes problems for students trying to meet the requirements for 400-level courses.

Adding this 400 level course provides students with sufficient alternatives to complete their degrees while maintaining a focus in archaeology.

(3) The pre-requisites and recommended preparation are similar to other 400-level theory courses, and also reflect the background that has resulted in best success in the 300-level version (ANT314H5), based on surveys by the instructor.

Consultation:

Resources:
Resource form submitted.

Estimated Enrolment:
25

Instructor:
Heather Miller

1 Course Modification

ANT438H5: Rethinking Anthropology from a Community Perspective

Prerequisites:

Previous:
(ANT202H5 and ANT203H5) and 1.0 credit in a 300 level Biological Anthropology course

New:
(ANT202H5 and ANT203H5) and 1.0 credit in a 300 level Anthropology course

Rationale:
In this course we discuss topics applicable to all subfields in anthropology such as positionality, Critical Race Theory and pluralistic ontologies in the classroom. This course is specifically related to Decolonization and Community-engaged research. It is part of the Global Partnerships Classroom with Bridgewater State University in Massachusetts, and University of West Indies in Trinidad and Tobago, with partnering courses in "The Anthropology of Race, Class and Gender" and "Anthropology of the Caribbean II" respectively. Both of these courses are in the sociocultural stream at their respective departments. We wish to delete the word "biological" in the pre-req requirements since this course includes other subfields and not just the biological.

1 Course Retirement

ANT314H5: History of Archaeological Theory

Rationale:
We wish to retire this course since it has been replaced with a redesigned and more advance course ANT410H. As such, we will not teach ANT314H5 again in the future.

Biology

4 New Courses

BIO337Y5: Research Methods in Applied River Ecology

Contact Hours:
Lecture: 10 / **Practical:** 76

Description:

This course provides experiential learning in how to conduct ecological monitoring and research in river systems. It uses the Credit River as a living laboratory and students will have the opportunity to learn research skills including collecting field data, designing and analyzing research, and interpreting results. Lectures will discuss the biology of these systems and engage with community partners involved with the Credit River. Lectures will cover aspects of research, career development in riverine ecology, and include discussions with community partners. Students must be available to participate in a 5 all day field trips in fall term to visit the Credit River and collect data. Students not available for these Friday field trips should not register for this course. Ancillary fees for the course apply. Please check the Departmental website for full details.

Prerequisites:

BIO205H5

Corequisites:

Exclusions:

Enrolment Limits:

Recommended Preparation:

BIO333H5

Notes:

Mode of Delivery:
In Person

Rationale:
The goal of this course is to serve as a capstone course for Biology students with an interest in ecology, evolution, natural resource management, biomonitoring, and land/water-use planning. This course will meet several of the department's learning objectives (LOs) as listed below. We indicate how this course specifically meets this learning objectives throughout our description of the course using abbreviations LO # referencing the list of departmental learning objectives below:

LO 1) understanding how biological units interact in the biosphere

LO 2) how to use hypothesis-driven methods of scientific inquiry to answer biological questions and how to design effective and rigorous research and monitoring plans

LO 3) working with data collection and analysis that requires adapting to changing circumstances (something we are never short of in field work) and how to grapple with ambiguity in the results

LO 4) how to analyze and interpret data

LO 5) how to work collaboratively with other students and with other parts of the community including groups working to manage and protect freshwater systems

LO 6) how to communicate scientific results in both oral and written forms

LO 7) practice Biology with integrity and sensitivity to bioethical concerns of the discipline and society

LO 8) reflect on, develop, and implement professional work practices in the various roles associated with the disciplines of biology

Consultation:
Prof. Shannon McCauley, Prof. Bailey McMeans, Biology Associate Chair/Curriculum Chair, Biology Executive Committee, Biology Curriculum Committee.

Resources:
Resource form submitted.

Estimated Enrolment:
30

Instructor:
Prof. Shannon McCauley and Prof. Bailey McMeans. Prof. McCauley will teach in the fall term, Prof. McMeans will teach in the winter term.

BIO357H5: Invertebrate Biology and Evolution

Contact Hours:
Lecture: 24 / **Seminar:** 24

Description:

This course explores the incredible invertebrate diversity on our planet. In doing so, it covers a variety of approaches, tools, and concepts in evolutionary biology of invertebrates. The course provides an overview of major phyla, including their phylogeny and the key innovations that define them. It explores the mechanisms underpinning invertebrate diversification, with a strong focus on comparative biology and contemporary genomic methods.

Prerequisites:

BIO207H5

Corequisites:

Exclusions:

Recommended Preparation:

BIO342H5

Notes:

Mode of Delivery:
In Person

Rationale:
Invertebrates comprise 95% of all animal diversity and because they are some of the earliest diverging metazoan lineages, they are key to a holistic understanding of animal evolution. Studying invertebrate biology is critically important for undergraduates, not only because invertebrates represent a significant portion of biodiversity, but because they are both economically and ecologically important. In the department, we currently offer foundational courses in vertebrate biology and evolution, but we do not offer a complimentary or analogous course for invertebrates.

Consultation:
Instructor, Associate Chair, Biology Curriculum Committee

Resources:
Resource form submitted

Estimated Enrolment:
72

Instructor:
Prof. Kara Layton

BIO377H5: Immunology

Contact Hours:
Lecture: 36

Description:
This course focuses on the human immune system and its relationship to health and disease. It uncovers the mechanisms behind defense against pathogens and etiology of autoimmune diseases, allergies, and immunodeficiencies. It provides a detailed description of innate and adaptive immune responses, immune cells and organs, antigen presentation, cell-mediated effector responses, tolerance and autoimmunity.

Prerequisites:

BIO206H5 and BIO207H5

Corequisites:

Exclusions:

IMM340H1 or IMM341H1 or BIOC39H3

Recommended Preparation:

BIO315H5 or BIO372H5

Notes:

Mode of Delivery:
In Person

Rationale:
The department of Biology and the UTM campus in general, does not offer courses in immunology. In today's world, immunology is important due to the ongoing challenges by infectious diseases, emerging pathogens, and the development of immunotherapies and vaccines. Immunology is relevant and important to undergraduate students interested in pursuing careers in health professions and biomedical research. Equipping our students with a solid foundation in immunology not only enhances their career prospects but also contributes to addressing health issues.

Consultation:
Prof. Samira Ghorbanigazar, Assoc. Chair Biology, Biology Curriculum Committee

Resources:
Resource form submitted

Estimated Enrolment:
100

Instructor:
Prof. Samira Ghorbanigazar

BIO436H5: Labs in Animal Developmental Biology

Contact Hours:
Lecture: 12 / **Practical:** 36

Description:
During animal development, a fertilized egg becomes a complex multicellular organism, in which groups of cells are organized into specialized structures. In this course, cellular, molecular, and genetic experimental techniques will be used to understand key events during animal development. Topics, including axis formation, stem cell patterning, and regeneration, will be studied using classic developmental model organisms.

Prerequisites:

BIO380H5

Corequisites:

Exclusions:

Recommended Preparation:

Notes:

Mode of Delivery:
In Person

Rationale:
This proposed 4th year lab course will build off topics covered in BIO380: Human Development, which is a popular 3rd year course with a large enrollment (~280 students). In BIO380, students learn how genes and signaling mechanisms pattern the embryo and regulate the development of several organs and structures, including the brain and limbs. This new course will provide students with hands on experience investigating how genes control these developmental processes, focusing on gene expression analysis, loss- and gain-of-function genetics, and advanced imaging techniques. The techniques covered will also help to consolidate and build on skills developed in 2nd and 3rd year genetics, and molecular and cell biology courses including: BIO206, BIO207, BIO314, BIO315, BIO341 and BIO372.

The offering of another Biology lab course will give students a valuable opportunity to gain lab experience. When the instructor teaches BIO380, he usually has over 30 students asking to join his lab for an ROP or BIO481. Unfortunately, he only has the capacity to take one or two undergraduates into his lab per year. Therefore, for many students, offering this course will provide an experiential learning opportunity in a developmental biology lab that would otherwise be difficult to obtain.

Consultation:
Instructor, Associate Chair, Biology Curriculum Committee

Resources:
Resource form submitted.

Estimated Enrolment:
24

Instructor:
Prof. Ted Erclik

12 Course Modifications

BIO208H5: Biomechanics of Human Movement

Title:
Previous: Fundamentals of Human Anatomy and Physiology I
New: Biomechanics of Human Movement

Rationale:
For some time now the instructor has been teaching BIO208 differently than when it was first offered in the department, so the new title reflects the actual content of the course and how it has been taught for several years. The course description need not change only the title.

Consultation:
Prof. Hinic-Frlog, Associate Chair Biology, Biology Curriculum Committee

Instructor:
Prof. Sanja Hinic-Frlog

BIO209H5: Foundations of Human Physiology

Title:
Previous: Fundamentals of Human Anatomy and Physiology II
New: Foundations of Human Physiology

Prerequisites:
Previous:
BIO208H5

New:
BIO152H5 and BIO153H5

Rationale:
The instructor who teaches BIO209H5 also teaches BIO208H5, and she has been teaching the two courses as independent courses. Therefore BIO209 no longer requires BIO208 to be the prerequisite. The instructor has decided that first year Biology courses (BIO152H5 & BIO153H5) will be satisfactory prerequisites for this course. The change in title also reflects how the course has been taught the past few years.

Consultation:
Instructor (Prof. Hinic-Frlog), Biology Associate Chair, Biology Curriculum Committee

Instructor:
Prof. Sanja Hinic-Frlog

BIO312H5: Plant Physiology

Contact Hours:
Previous: Lecture: 24 / **Practical:** 27
New: Lecture: 24 / **Practical:** 32

Rationale:
The instructor was finding that students were not able to finish their labs on time and therefore the lab techs were having to extend the lab time in order for students to finish the lab work. The instructor has also introduced an in person pre-lab assessment at the beginning of each lab, so this is the other reason why the lab time needs to be extended a bit.

Consultation:
Course instructor, Associate Chair, Biology Curriculum Committee

Resources:
Resource form submitted

Instructor:
Prof. Ingo Ensminger

Proposal Status:
Under Review

BIO313H5: Methods and Experimental Design in Ecology

Prerequisites:

Previous:

BIO205H5 or BIO259H5 or STA215H5 or PSY201H5 or equivalent.

New:

BIO205H5 and one of the following courses: BIO259H5 or STA215H5 or PSY201H5 or equivalent.

Rationale:

This is a housekeeping change. A few years ago we deleted the co-requisites for this course and added the co-requisite courses to be part of the prerequisites (the stats courses). We made an error when we put this through a few years ago. The way it is currently in the calendar students only need BIO205 or one of the stats courses completed which is not correct. Students need BIO205 plus one of the stats courses for the prerequisites.

Consultation:

Instructor (Prof. Bailey McMeans), Biology Associate Chair, Biology Curriculum Committee.

Instructor:

Prof. Bailey McMeans

BIO353H5: Plant Development

Contact Hours:

Previous: Lecture: 24 / **Tutorial:** 10 / **Practical:** 15
New: Lecture: 24 / **Tutorial:** / **Practical:** 30

Rationale:

The instructor teaches activities and concepts in the tutorial section, but he would like to fit those activities and concepts into the lab sections. Both the instructor and the lab coordinator feel that it makes sense to do these activities in the lab. The other benefit may be that with the course only having a lecture and a lab, this might reduce the number of timetabling issues students have with trying to fit in three different teaching sections into their schedules.

Consultation:

Course instructor, Associate Chair, Biology Curriculum Committee

Resources:

Resource form submitted.

Instructor:

Prof. Steven Chatfield

BIO375H5: Medical Biotechnology

Title:

Previous: Introductory Medical Biotechnology
New: Medical Biotechnology

Description:

Previous:

This course reviews a full range of discoveries from medical biotechnology, which includes drugs, smart phone apps, and medical devices. The course reviews a range of biotechnology products with respect to: regulatory path for experiments to support for new biotechnologies; key science concepts behind the technology, patents, and the business context.

New:

This course explores a comprehensive array of discoveries in medical biotechnology, encompassing drugs, smartphone apps, generative artificial intelligence (including large language models and neural networks in general), data science, 3D printing and medical devices. It delves into a variety of biotechnology products, examining the regulatory pathways for experiments that support new biotechnologies, the fundamental scientific concepts underlying these technologies, patents, and their business context.

Rationale:

The department Chair and instructor of the course would like to make sure there are clear differences between the two biotechnology courses in the department (BIO375 & BIO374). The BIO375 course has also changed over the past several years and is no longer an introductory course, which is the main reason for the change in title and content.

Consultation:

Biology Chair, Prof. Jayson Parker, Associate Chair, Biology Curriculum Committee

Instructor:

Prof. Jayson Parker

BIO409H5: Laboratory in Animal Physiology

Contact Hours:
Previous: Lecture: 12 **/ Practical:** 48
New: Lecture: 12 **/ Practical:** 40

Rationale:
This is a very intensive lab course (each lab is four hours in length) and the instructor and Lab Manager (Lisa Cheung) for this course has always given the students a lab-free week for the weeks that they write their two term tests (2 x four-hour lab = 8 lab hours). So, in reality the instructor is not offering 48 lab hours, but rather 40 hours only. This is housekeeping and should have been changed years ago. The past few years we have had a sessional instructor teaching this course, so the Biology Lab Manager has brought this to our attention to change it for next year.

Consultation:
Biology Associate Chair, Biology Lab Manager (Lisa Cheung), Biology Curriculum Committee

Resources:
Resource form submitted

BIO477H5: The Human Genome and Cancer Biology

Mode of Delivery:
Previous: In Person
New: In Person; Online

Rationale:
BIO477H5 is one of two possible 4th year courses that is required for the Molecular Biology Specialist. It can also fulfill one of the 4th year course requirements for the Biotechnology and Biology Specialists and the Biology major.

The department would like to have the option of being able to offer this course with in-person or hybrid delivery

By offering the course twice in the same calendar year, it offers more enrolment options for students, while retaining the seminar course structure including student presentations.

The hybrid offering of the course will have the same general format, with two weekly lectures, using a combination of synchronous and asynchronous delivery. The 12-hour of seminar are for student presentations towards the end of the course.

On average at least one of the two weekly sessions will be taught synchronously, and the rest of the lectures will be delivered asynchronously. Assessments will be held in-person. There will also be a synchronous online office hour each week for students to ask questions. The midterm and final exam will be held in-person.

Regarding accessibility: the lectures will be recorded so that students can view and/or review the lectures at their own pace. Written transcripts for the Zoom cloud recordings will be enabled so that students will have typed transcripts of the lectures.

Active learning is primarily achieved through quizzes, assignments and student presentations that are delivered and assessed in the same way in all delivery modes. Quizzes will be conducted during the live classes using Socrative. During the synchronous lectures, the instructor will also periodically ask questions to engage the students and elicit feedback and student participation.

Resource implication: the requirement for physical space is reduced since all of the lectures and seminars are conducted online. Rooms will be needed for the mid-term test and final exam.

Consultation:
Biology Curriculum Committee

HSC401H5: Health and Science Communication Design

Prerequisites:
Previous:
HSC200H5 and one of the following courses: HSC300H5 or HSC301H5 or HSC302H5 or HSC307H5

New:
HSC200H5 and one of the following courses: HSC300H5 or HSC301H5 or HSC302H5 or HSC307H5 or HSC308H5

Rationale:
This is housekeeping, the department forgot to add this course last year to the list of course options.

Consultation:
Biology Curriculum Committee

Instructor:
Sometimes varies

HSC402H5: Digital Learning Environments in Biology and Health Science

Prerequisites:

Previous:
HSC200H5 and one of the following courses: HSC300H5 or HSC301H5 or HSC302H5 or HSC307H5

New:
HSC200H5 and one of the following courses: HSC300H5 or HSC301H5 or HSC302H5 or HSC307H5 or HSC308H5

Rationale:
This is housekeeping, the department forgot to add this course last year to the list of course options.

Consultation:
Biology Curriculum Committee

HSC404H5: Visualizing the Past

Prerequisites:
Previous:
(HSC200H5 and one of the following courses: HSC300H5 or HSC301H5 or HSC302H5 or HSC307H5) or permission of instructor

New:
(HSC200H5 and one of the following courses: HSC300H5 or HSC301H5 or HSC302H5 or HSC307H5, or HSC308H5) or permission of instructor

Rationale:
This is housekeeping, the department forgot to add this course last year to the list of course options.

Consultation:
Biology Curriculum Committee

HSC405H5: Digital Forensic Facial Approximation

Prerequisites:
Previous:

(HSC200H5 and one of the following courses: HSC300H5 or HSC301H5 or HSC302H5 or HSC307H5) or permission of instructor

New:

(HSC200H5 and one of the following courses: HSC300H5 or HSC301H5 or HSC302H5 or HSC307H5 or HSC308H5) or permission of instructor

Rationale:
This is housekeeping as we forgot to add the course last year as a course option to the 400 level courses.

Consultation:
Biology Curriculum Committee

1 Course Retirement

BIO434H5: Social and Developmental Determinants of Human Health

Rationale:
Instructor is no longer teaching at UTM BIO so retiring course.

5 Minor Program Mods

ERMAJ1149: Biology for Health Sciences - Major (Science)

Completion Requirements:

Previous:

8.5 credits are required including at least 2.0 at the 300/400 level.

1. BIO152H5, BIO153H5; CHM110H5, CHM120H5; (MAT132H5 and MAT134H5*) or (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or MAT137Y5

   *Note: (MAT132H5 and MAT134H5) - for Life Sciences is highly recommended.

2. BIO202H5, BIO206H5, BIO207H5, BIO208H5, BIO209H5, BIO259H5, BIO304H5, BIO310H5, BIO380H5
3. 1.0 credit from any of the courses listed below:

   Cell, Molecular, and Biotechnology Stream: BIO200H5, BIO314H5, BIO315H5, BIO324H5, BIO360H5, BIO368H5, BIO370Y5/ BIO371H5, BIO372H5, BIO374H5, BIO375H5, BIO404H5, BIO417H5, BIO419H5, BIO422H5, BIO475H5, BIO476H5, BIO477H5; JBC472H5

   Neuroscience Stream: BIO320H5, BIO360H5, BIO403H5, BIO408H5, BIO409H5, BIO411H5, BIO429H5

   Genes and Behaviour Stream: BIO315H5, BIO318Y5/ BIO328H5, BIO329H5, BIO341H5, BIO342H5, BIO347H5, BIO360H5, BIO361H5, BIO405H5, BIO407H5, BIO414H5, BIO422H5, BIO427H5, BIO443H5

New:

8.5 credits are required including at least 2.0 at the 300/400 level.

1. BIO152H5, BIO153H5; CHM110H5, CHM120H5; (MAT132H5 and MAT134H5*) or (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or MAT137Y5

   *Note: (MAT132H5 and MAT134H5) - for Life Sciences is highly recommended.

2. BIO202H5, BIO206H5, BIO207H5, BIO208H5, BIO209H5, BIO259H5, BIO304H5, BIO310H5, BIO380H5
3. 1.0 credit from any of the courses listed below:

   Cell, Molecular, and Biotechnology Stream: BIO200H5, BIO314H5, BIO315H5, BIO324H5, BIO360H5, BIO368H5, BIO370Y5/ BIO371H5, BIO372H5, BIO374H5, BIO375H5, BIO377H5, BIO404H5, BIO417H5, BIO419H5, BIO422H5, BIO436H5, BIO475H5, BIO476H5, BIO477H5; JBC472H5

   Neuroscience Stream: BIO320H5, BIO360H5, BIO403H5, BIO408H5, BIO409H5, BIO411H5, BIO429H5

   Genes and Behaviour Stream: BIO315H5, BIO318Y5/ BIO328H5, BIO329H5, BIO341H5, BIO342H5, BIO347H5, BIO360H5, BIO361H5, BIO405H5, BIO407H5, BIO414H5, BIO422H5, BIO427H5, BIO443H5

Rationale:

Adding new course as a course option to complete the program.

Consultations:

Instructor, Biology Curriculum Committee

ERSPE1020: Ecology and Evolution - Specialist (Science)

Completion Requirements:

Previous:

14.5 credits are required, including at least 6.0 credits at the 300/400 level, of which 1.0 credits must be at the 400 level.

First Year:

1. BIO152H5 and BIO153H5
2. CHM110H5 and CHM120H5
3. (MAT132H5 and MAT134H5) or (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or MAT137Y5
4. 1.0 credit from: CLA201H5 or ENV100Y5 or ERS101H5 or PHY136H5 or PHY137H5 or PSY100Y5 or WRI173H5 or WRI307H5

Note: (MAT132H5 and MAT134H5) Calculus for Life Sciences is highly recommended.

Second Year:

1. BIO202H5 and BIO203H5 and BIO205H5 and BIO206H5 and BIO207H5 and BIO259H5

Third and Fourth Years:

1. BIO313H5 and BIO342H5 and BIO360H5 and BIO443H5
2. 1.0 credit from courses in organismal biology: BIO325H5 or BIO326H5 or BIO339H5 or BIO353H5 or BIO354H5 or BIO356H5 or (BIO370Y5 or BIO371H5)
3. 0.5 credit from field courses: BIO332H5 or BIO416H5 or BIO444H5 other 2-week Ontario Universities Program in Field Biology (OUPFB) Courses
4. 2.0 credits from core ecology/evolutionary biology courses: BIO311H5 or BIO329H5 or BIO330H5 or BIO331H5 or BIO333H5 or BIO341H5 or BIO361H5 or BIO373H5 or BIO376H5 or BIO378H5 or BIO406H5 or BIO424H5 or BIO427H5 or BIO445H5 or BIO464H5 or GGR312H5 or JBH471H5
5. 1.0 credit from other UTM biology courses at the 300/ 400 level.
6. 1.0 credit from related courses from other departments: MAT222H5 or MAT232H5 or STA302H5 or STA322H5 or GGR227H5 or GGR278H5 or GGR305H5 or GGR307H5 or GGR309H5 or GGR311H5 or from courses listed in #4, #5 and #6

New:

14.5 credits are required, including at least 6.0 credits at the 300/400 level, of which 1.0 credits must be at the 400 level.

First Year:

1. BIO152H5 and BIO153H5
2. CHM110H5 and CHM120H5
3. (MAT132H5 and MAT134H5) or (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or MAT137Y5
4. 1.0 credit from: CLA201H5 or ENV100Y5 or ERS101H5 or PHY136H5 or PHY137H5 or PSY100Y5 or WRI173H5 or WRI307H5

Note: (MAT132H5 and MAT134H5) Calculus for Life Sciences is highly recommended.

Second Year:

1. BIO202H5 and BIO203H5 and BIO205H5 and BIO206H5 and BIO207H5 and BIO259H5

Third and Fourth Years:

1. BIO313H5 and BIO342H5 and BIO360H5 and BIO443H5
2. 1.0 credit from courses in organismal biology: BIO325H5 or BIO326H5 or BIO339H5 or BIO353H5 or BIO354H5 or BIO356H5 or (BIO370Y5 or BIO371H5)
3. 0.5 credit from field courses: BIO332H5 or BIO416H5 or BIO444H5 other 2-week Ontario Universities Program in Field Biology (OUPFB) Courses
4. 2.0 credits from core ecology/evolutionary biology courses: BIO311H5 or BIO329H5 or BIO330H5 or BIO331H5 or BIO333H5 or BIO337Y5Y or BIO341H5 or BIO357H5 or BIO361H5 or BIO373H5 or BIO376H5 or BIO378H5 or BIO406H5 or BIO424H5 or BIO427H5 or BIO445H5 or BIO464H5 or GGR312H5 or JBH471H5
5. 1.0 credit from other UTM biology courses at the 300/ 400 level.
6. 1.0 credit from related courses from other departments: MAT222H5 or MAT232H5 or STA302H5 or STA322H5 or GGR227H5 or GGR278H5 or GGR305H5 or GGR307H5 or GGR309H5 or GGR311H5 or from courses listed in #4, #5 and #6

Rationale:

Adding new courses as a course option for students to complete the program.

Consultations:

Instructors, Biology Curriculum Committee

ERSPE1118: Biotechnology - Specialist (Science)

Completion Requirements:

Previous:

15.0 credits are required, including at least 7.0 credits at the 300/400 level, of which 1.5 must be at the 400 level.

First Year: BIO152H5, BIO153H5; CHM110H5, CHM120H5; (MAT132H5 and MAT134H5*) or (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or MAT137Y5; MGM101H5, MGM102H5

***Note:** (MAT132H5 and MAT134H5) Calculus for Life Sciences is highly recommended.

Second Year: BIO200H5, BIO202H5/ BIO203H5, BIO206H5, BIO207H5, BIO259H5, CHM211H5, CHM242H5, CHM243H5

Third and Fourth Years:

1. BIO314H5, BIO315H5, BIO360H5, BIO370Y5, BIO372H5, BIO374H5, CHM311H5, CHM361H5, JBC472H5
2. 1.0 credit from: BIO304H5, BIO310H5, BIO312H5, BIO324H5, BIO341H5, BIO342H5, BIO347H5, BIO362H5, BIO368H5, BIO375H5, BIO380H5, BIO409H5, BIO429H5, CHM333H5 (note: CHM231H5 is a prerequisite for this course), CHM341H5, CHM345H5, CHM347H5, CHM362H5, CHM372H5, CHM373H5
3. 1.0 credit from UTM CHM/BIO courses at the 400 level.

Note: No substitute statistics course will be allowed for BIO360H5.

It is recommended that students in this program consider taking a research project or internship course in either Biology (BIO400Y5/BIO481Y5) or Chemistry (CPS489Y5) or JCB487Y5. Other 4th-year courses directly relevant to this program are BIO443H5, BIO476H5, BIO477H5, CHM414H5 and CHM462H5.

Students may take no more than 2.0 credits combined in ROP, Internship Program, or Individual Project / Thesis courses at the 300/400-level for credit toward their Biology program.

Students must consult with the Undergraduate Advisor before enrolling in any St. George course that they wish to use for credit toward any Biology program.

New:

15.0 credits are required, including at least 7.0 credits at the 300/400 level, of which 1.5 must be at the 400 level.

First Year: BIO152H5, BIO153H5; CHM110H5, CHM120H5; (MAT132H5 and MAT134H5*) or (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or MAT137Y5; MGM101H5, MGM102H5

***Note:** (MAT132H5 and MAT134H5) Calculus for Life Sciences is highly recommended.

Second Year: BIO200H5, BIO202H5/ BIO203H5, BIO206H5, BIO207H5, BIO259H5, CHM211H5, CHM242H5, CHM243H5

Third and Fourth Years:

1. BIO314H5, BIO315H5, BIO360H5, BIO370Y5, BIO372H5, BIO374H5, CHM311H5, CHM361H5, JBC472H5
2. 1.0 credit from: BIO304H5, BIO310H5, BIO312H5, BIO324H5, BIO341H5, BIO342H5, BIO347H5, BIO362H5, BIO368H5, BIO375H5, BIO377H5, BIO380H5, BIO409H5, BIO429H5, CHM333H5 (note: CHM231H5 is a prerequisite for this course), CHM341H5, CHM345H5, CHM347H5, CHM362H5, CHM372H5, CHM373H5
3. 1.0 credit from UTM CHM/BIO courses at the 400 level.

Note: No substitute statistics course will be allowed for BIO360H5.

It is recommended that students in this program consider taking a research project or internship course in either Biology (BIO400Y5/BIO481Y5) or Chemistry (CPS489Y5) or JCB487Y5. Other 4th-year courses directly relevant to this program are BIO443H5, BIO476H5, BIO477H5, CHM414H5 and CHM462H5.

Students may take no more than 2.0 credits combined in ROP, Internship Program, or Individual Project / Thesis courses at the 300/400-level for credit toward their Biology program.

Students must consult with the Undergraduate Advisor before enrolling in any St. George course that they wish to use for credit toward any Biology program.

Rationale:

Adding new course as a course option to complete the program.

Consultations:

Instructor, Biology Curriculum Committee

ERSPE1237: Molecular Biology - Specialist (Science)

Completion Requirements:

Previous:

15.0 credits are required.

First Year:

1. BIO152H5 and BIO153H5
2. CHM110H5 and CHM120H5
3. (MAT132H5 and MAT134H5) or (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or MAT137Y5.
4. 1.0 credit from: CLA201H5 or ENV100Y5 or (ERS101H5 or ERS120H5) or PHY136H5 or PHY137H5 or PSY100Y5 or WRI173H5 or WRI307H5

Note: (MAT132H5 and MAT134H5) Calculus for Life Sciences is highly recommended.

Second Year:

1. BIO206H5 and BIO207H5 and BIO259H5
2. 1.0 credit from BIO202H5 or BIO203H5 or BIO205H5
3. CHM242H5 and CHM243H5

Third Year:

1. BIO314H5 and BIO315H5 and BIO342H5 and BIO360H5 and BIO370Y5 and BIO372H5
2. CHM361H5 and CHM362H5 and CHM372H5 and CHM373H5
3. 0.5 credit from BIO304H5 or BIO310H5 or BIO324H5 or BIO341H5 or BIO347H5 or BIO362H5 or BIO368H5 or BIO374H5 or BIO375H5 or BIO380H5 or CHM347H5 or PHY332H5 or PHY333H5 or BCH335H1 or BCH340H1

Fourth Year:

1. BIO477H5 or BIO419H5**
2. 1.0 credit from BIO403H5 or BIO407H5 or BIO408H5 or BIO411H5 or BIO417H5 or BIO419H5 or BIO422H5 or BIO429H5 or BIO443H5 or BIO458H5 or BIO476H5 or BIO477H5 or BIO481Y5 or BCH441H1 or CHM444H5 or CHM462H5 or CPS489Y5 or JBC472H5 or JCB487Y5 or JCP463H5 or CSB435H1 or CSB450H1 or CSB459H1 or CSB472H1 or CSB473H1 or CSB474H1 or CSB475H1 or MGY425H1 or MGY428H1 or MGY440H1 or MGY445H1 or MGY451H1 or MGY452H1 or MGY470H1 or MIJ485H1

****Note:** that both BIO477H5 and BIO419H5 can be taken, but each will be counted only once in the total 1.5 credits required in this section.

New:

15.0 credits are required.

First Year:

1. BIO152H5 and BIO153H5
2. CHM110H5 and CHM120H5
3. (MAT132H5 and MAT134H5) or (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or MAT137Y5.
4. 1.0 credit from: CLA201H5 or ENV100Y5 or (ERS101H5 or ERS120H5) or PHY136H5 or PHY137H5 or PSY100Y5 or WRI173H5 or WRI307H5

Note: (MAT132H5 and MAT134H5) Calculus for Life Sciences is highly recommended.

Second Year:

1. BIO206H5 and BIO207H5 and BIO259H5
2. 1.0 credit from BIO202H5 or BIO203H5 or BIO205H5
3. CHM242H5 and CHM243H5

Third Year:

1. BIO314H5 and BIO315H5 and BIO342H5 and BIO360H5 and BIO370Y5 and BIO372H5
2. CHM361H5 and CHM362H5 and CHM372H5 and CHM373H5
3. 0.5 credit from BIO304H5 or BIO310H5 or BIO324H5 or BIO341H5 or BIO347H5 or BIO362H5 or BIO368H5 or BIO374H5 or BIO375H5 or BIO380H5 or CHM347H5 or PHY332H5 or PHY333H5 or BCH335H1 or BCH340H1

Fourth Year:

1. BIO477H5 or BIO419H5**
2. 1.0 credit from BIO377H5 or BIO403H5 or BIO407H5 or BIO408H5 or BIO411H5 or BIO417H5 or BIO419H5 or BIO422H5 or BIO429H5 or BIO436H5 or BIO443H5 or BIO458H5 or BIO476H5 or BIO477H5 or BIO481Y5 or BCH441H1 or CHM444H5 or CHM462H5 or CPS489Y5 or JBC472H5 or JCB487Y5 or JCP463H5 or CSB435H1 or CSB450H1 or CSB459H1 or CSB472H1 or CSB473H1 or CSB474H1 or CSB475H1 or MGY425H1 or MGY428H1 or MGY440H1 or MGY445H1 or MGY451H1 or MGY452H1 or MGY470H1 or MIJ485H1

****Note:** that both BIO477H5 and BIO419H5 can be taken, but each will be counted only once in the total 1.5 credits required in this section.

Rationale:

Adding new course as a course option to complete the program.

Consultations:

Instructors, Biology Curriculum Committee

ERSPE2364: Biology - Specialist (Science)

Completion Requirements:

Previous:

13.5 credits are required, including at least 6.0 credits at the 300/400 level, of which 1.0 credit must be at the 400 level.

First Year:

1. BIO152H5 and BIO153H5
2. CHM110H5 and CHM120H5
3. (MAT132H5 and MAT134H5) or (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or MAT137Y5
4. 1.0 credit from: CLA201H5 or ENV100Y5 or (ERS101H5 or ERS120H5) or PHY136H5 or PHY137H5 or PSY100Y5 or WRI173H5 or WRI307H5

Note: (MAT132H5 and MAT134H5) - Calculus for Life Sciences is highly recommended.

Second Year:

1. BIO202H5 and BIO203H5 and BIO205H5 and BIO206H5 and BIO207H5 and BIO259H5

Third and Fourth Years:

1. BIO313H5 or BIO314H5 or BIO409H5
2. BIO360H5
3. 5.5 additional UTM BIO credits. At least 5.0 of these credits must be at the 300 level or above, of which at least 1.0 must be at the 400 level

It is recommended that students in the specialist program include at least 0.5 credit from each of four of the following groups:

- **Ecology and Field Biology**: BIO311H5 or BIO312H5 or BIO313H5 or BIO329H5 or BIO330H5 or BIO331H5 or BIO333H5 or BIO373H5 or BIO376H5 or BIO378H5 or BIO412H5 or BIO416H5 or BIO424H5 or BIO444H5 or BIO464H5
- **Biology of Whole Organisms**: BIO325H5 or BIO326H5 or BIO329H5 or BIO353H5 or BIO354H5 or BIO356H5 or BIO376H5 or BIO378H5
- **Genetics and Evolution:** BIO329H5 or BIO341H5 or BIO342H5 or BIO347H5 or BIO407H5 or BIO422H5 or BIO427H5 or BIO443H5 or BIO445H5 or BIO464H5
- **Cell, Molecular and Developmental Biology**: BIO314H5 or BIO315H5 or BIO324H5 or BIO353H5 or BIO362H5 or (BIO370Y5 or BIO371H5) or BIO368H5 or BIO372H5 or BIO374H5 or BIO375H5 or BIO380H5 or BIO404H5 or BIO407H5 or BIO408H5 or BIO417H5 or BIO419H5 or BIO422H5 or BIO458H5 or BIO475H5 or BIO476H5 or BIO477H5
- **Physiology and Behaviour**: BIO208H5 or BIO304H5 or BIO310H5 or BIO312H5 or (BIO318Y5 or BIO328H5) or BIO320H5 or BIO324 or BIO368H5 or BIO405H5 or BIO408H5 or BIO409H5 or BIO410H5 or BIO411H5 or BIO414H5 or BIO429H5 or BIO434H5

Up to 1.0 credit may be taken from the following biology-related courses: GGR227H5 or GGR305H5 or GGR307H5 or GGR309H5 or GGR311H5 or GGR312H5 or CHM347H5 or CHM361H5 or CHM362H5 or CHM372H5 or CHM373H5 or PHY332H5 or PHY333H5 or PSY290H5 or PSY355H5 or PSY357H5 or PSY392H5 or PSY395H5 or PSY397H5 or ANT334H5 or ANT336H5 or ANT340H5.

Additional courses: BIO361H5 or BIO400Y5 or BIO481Y5 or JCB487Y5

New:

13.5 credits are required, including at least 6.0 credits at the 300/400 level, of which 1.0 credit must be at the 400 level.

First Year:

1. BIO152H5 and BIO153H5
2. CHM110H5 and CHM120H5
3. (MAT132H5 and MAT134H5) or (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or MAT137Y5
4. 1.0 credit from: CLA201H5 or ENV100Y5 or (ERS101H5 or ERS120H5) or PHY136H5 or PHY137H5 or PSY100Y5 or WRI173H5 or WRI307H5

Note: (MAT132H5 and MAT134H5) - Calculus for Life Sciences is highly recommended.

Second Year:

1. BIO202H5 and BIO203H5 and BIO205H5 and BIO206H5 and BIO207H5 and BIO259H5

Third and Fourth Years:

1. BIO313H5 or BIO314H5 or BIO409H5
2. BIO360H5
3. 5.5 additional UTM BIO credits. At least 5.0 of these credits must be at the 300 level or above, of which at least 1.0 must be at the 400 level

It is recommended that students in the specialist program include at least 0.5 credit from each of four of the following groups:

- **Ecology and Field Biology**: BIO311H5 or BIO312H5 or BIO313H5 or BIO329H5 or BIO330H5 or BIO331H5 or BIO333H5 or BIO337Y5Y or BIO373H5 or BIO376H5 or BIO378H5 or BIO412H5 or BIO416H5 or BIO424H5 or BIO444H5 or BIO464H5
- **Biology of Whole Organisms**: BIO325H5 or BIO326H5 or BIO329H5 or BIO353H5 or BIO354H5 or BIO356H5 or BIO376H5 or BIO378H5
- **Genetics and Evolution:** BIO329H5 or BIO341H5 or BIO342H5 or BIO347H5 or BIO357H5 or BIO407H5 or BIO422H5 or BIO427H5 or BIO443H5 or BIO445H5 or BIO464H5

- **Cell, Molecular and Developmental Biology**: BIO314H5 or BIO315H5 or BIO324H5 or BIO353H5 or BIO362H5 or (BIO370Y5 or BIO371H5) or BIO368H5 or BIO372H5 or BIO374H5 or BIO375H5 or BIO380H5 or BIO404H5 or BIO407H5 or BIO408H5 or BIO417H5 or BIO419H5 or BIO422H5 or BIO458H5 or BIO475H5 or BIO476H5 or BIO477H5
- **Physiology and Behaviour**: BIO208H5 or BIO304H5 or BIO310H5 or BIO312H5 or (BIO318Y5 or BIO328H5) or BIO320H5 or BIO324 or BIO368H5 or BIO405H5 or BIO408H5 or BIO409H5 or BIO410H5 or BIO411H5 or BIO414H5 or BIO429H5 or BIO434H5

Up to 1.0 credit may be taken from the following biology-related courses: GGR227H5 or GGR305H5 or GGR307H5 or GGR309H5 or GGR311H5 or GGR312H5 or CHM347H5 or CHM361H5 or CHM362H5 or CHM372H5 or CHM373H5 or PHY332H5 or PHY333H5 or PSY290H5 or PSY355H5 or PSY357H5 or PSY392H5 or PSY395H5 or PSY397H5 or ANT334H5 or ANT336H5 or ANT340H5.

Additional courses: BIO361H5 or BIO400Y5 or BIO481Y5 or JCB487Y5

Rationale:

Adding new courses as a course option for program.

Consultations:

Instructor, Biology Curriculum Committee

Chemical and Physical Sciences

1 New Course

ERS121H5: Earth as a Haven: Resources, Sustainability and Civilisation

Contact Hours:
Lecture: 24

Description:

Through many exceptionally unlikely coincidences, Planet Earth exists in the perfect location for life to flourish. Our civilization is the culmination of over 3.5 billion years of evolution, and we now have the power to change Earth's systems. This course will explore the reasons why Earth is the perfect planet for life to exist on, and how narrow the range of habitable conditions can be, and how life came to be. It will also discuss how our species evolved, and how the geology of Earth has helped and hindered the growth of civilisations. In particular, this course will cover water, energy and mining resources; how they are formed, how we utilize these resources, and how fragile they are, with an emphasis on sustainable utilization of these resources for the future.

Prerequisites:

Corequisites:

Exclusions:

Recommended Preparation:

Notes:

Mode of Delivery:
Online

Rationale:
Our Summer course offerings in the past have been ERS101: Planet Earth which has a lab component. Enrollments in this course have been shrinking post COVID. In Summer 2024, we also offered ERS111: Earth, Climate and Life as an online, lecture only course. Enrollments in this course were much higher than ERS101, showing that there is demand for online courses. The experience of instructors in Earth Science in running online labs is that learning goals are difficult to meet, and student feedback is generally more negative of online labs (vs in person labs). ERS111 also now has labs in the course (from 2024 onwards). In order to offer an online by design course without a lab component, a new 100 level course is needed. ERS121 is designed to cover aspects of Earth Science that are unique from either ERS111 and ERS101, with a focus on the connection between Earth Science and the growth of Civilisation, the use of resources (especially water resources such as groundwater) and sustainability.

Consultation:
Departmental Consultation undertaken

Resources:
Resource form submitted.

17 Course Modifications

AST325H5: Observational Astronomy

Contact Hours:
Previous: Lecture: 36
New: Lecture: 12 / **Practical:** 24

Rationale:
AST325 has been designed to be run as a project-based course with students working independently and in small groups on datasets provided by the instructor. The primary learning goals include developing skills in the reduction of telescope images, statistical analysis and model fitting, and assessment of uncertainty. One hour of lecture per week will be focused on introducing students to the skills they will need for the practical component. They will then develop these skills further by implementing the analysis of their data in scaffolded projects. Therefore, a practical session of 2 hours per week will support the project-based pedagogical style of the course.

Consultation:
Departmental consultation taken.

Resources:
Resource form submitted.

CHM323H5: Introduction to Computational Chemistry

Contact Hours:
Previous: Lecture: 12 / **Tutorial:** 36
New: Lecture: 12 / **Practical:** 36

Rationale:
Proposing to change the 36 hours of tutorial time to a practical designation. During this time, students are instructed on new course content and given time to apply the new knowledge in a practical environment while working toward completing assigned dry-laboratory modules. This is in much better alignment with a practical designation than with a tutorial. This change will also permit the practical hours of the course to contribute to the practical hours required by the program for CSC accreditation.

Consultation:
Chemistry Faculty were consulted

Resources:
Resource form submitted.

CHM361H5: Structural Biochemistry

Contact Hours:
Previous: Lecture: 24 / **Tutorial:** 12 / **Practical:** / **Seminar:**
New: Lecture: 36 / **Tutorial:** 12 / **Practical:** / **Seminar:**

Description:
Previous:

An introduction to the molecular anatomy and properties of the major cellular biomolecules: proteins, nucleic acids, carbohydrates and lipids. The course also covers the structural organization of membranes and other macromolecular complexes. Enzyme mechanisms and membrane transport phenomena will be examined in the context of quantitative analyses these processes and of structure/function relationships.

New:

An introduction to the molecular anatomy and properties of the major cellular biomolecules: proteins, nucleic acids, carbohydrates and lipids. The course also covers the structural organization of membranes and other macromolecular complexes. Enzyme mechanisms and membrane transport phenomena will be examined in the context of quantitative analyses these processes and of structure/function relationships. Lectures will focus on explaining concepts, with example practice problems. Tutorials will provide students with review of lecture material and the opportunity to work through questions from the text book and other sources.

Rationale:
The proposed change, which will increase the number of lecture hours from two to three per week will enable the instructor to include multiple examples and to go through many text book problems, a request from students in their student opinion surveys. Two lecture hours per week is not enough time to cover material and go through text book questions, given the amount of information needed to be covered in an advanced course in biochemistry. Additionally, a total of three hours of lecture is more in-line with similar courses offered from the Biochemistry Department at the St. George campus.

Consultation:
The Chemistry group in Chemical and Physical Sciences agrees to the proposed change. Additionally, the Department of Biology was also consulted on the proposed change, as CHM361 is a required course for some Biology program, and is also in favour.

Resources:
Resource form submitted.

CHM362H5: Metabolism and Bioenergetics

Contact Hours:

Previous: Lecture: 24 **/ Tutorial:** 12
New: Lecture: 36 **/ Tutorial:** 12

Description:

Previous:

Basic principles of biological energetics. Metabolic pathways for carbohydrate and lipid synthesis and degradation. Survey of amino acid and nucleotide metabolism. Integration and cellular regulation of metabolism. Intracellular signal transduction mechanisms.

New:

Basic principles of biological energetics. Metabolic pathways for carbohydrate and lipid synthesis and degradation. Survey of amino acid and nucleotide metabolism. Integration and cellular regulation of metabolism. Intracellular signal transduction mechanisms. Lectures will focus on explaining concepts, with example practice problems. Tutorials will provide students with review of lecture material and the opportunity to work through questions from the text book and other sources.

Rationale:

The proposed change, which will increase the number of lecture hours from two (24L) to three (36L) per week will enable the instructor to include multiple examples and to go through many text book problems, a request from students in their student opinion surveys.

Two lecture hours per week is not enough time to cover material and go through text book questions, given the amount of information needed to be covered in an advanced course in biochemistry. Additionally, a total of three hours of lecture is more in-line with similar courses offered from the Biochemistry Department at the St. George campus.

A sentence is added to the course description stressing the focus of lectures and tutorials.

Consultation:

The Chemistry group in Chemical and Physical Sciences agrees to the proposed change. Additionally, the Department of Biology was also consulted on the proposed change, as CHM362 is a required course for some Biology program, and is also in favour.

Resources:

Resource form submitted.

ERS225H5: Earth as a Laboratory: How Earth Scientists Study Our Planet (Field Course)

Title:

Previous: Field Methods
New: Earth as a Laboratory: How Earth Scientists Study Our Planet (Field Course)

Description:

Previous:

Fieldwork is at the heart of being a geologist. Skills gained during fieldwork are key as part of a Geologist's toolbox, and are highly regarded in a career. This course introduces fieldwork to students during a week-long fieldtrip in late August looking at outcrops of igneous, metamorphic and sedimentary rocks around Ontario. Skills taught will include basic geological observation, description and interpretation, the collection of field notes, geological measurements and presentation of the data. Enrolment approval into the course is by application only; Registration in ACORN is required; priority will be given to Earth Science Specialists, or Environmental Geoscience Specialists. Please see the UTM CPS Earth Science Fieldtrip page for more information. [66P]

New:

Fieldwork is at the heart of being an Earth Scientist. The Earth is a natural laboratory, and the best place to study it is outdoors on the outcrops. Skills gained during fieldwork are key as part of an Earth Scientist's toolbox, and are highly regarded in a career. This course introduces fieldwork to students during a week-long fieldtrip in late August looking at outcrops of igneous, metamorphic and sedimentary rocks around Ontario, teaching critical field methods employed by Earth Scientists to understand our planet. Methods taught will include basic geological observation, description and interpretation, the collection of field notes, geological measurements and presentation of collected data. Enrolment approval into the course is by application only, and requires an addition course fee which covers accomodation, transport, geological equipment and some food costs. Registration on ACORN is required; priority will be given to Earth Science Specialists and Majors. Please see the UTM CPS Earth Science Fieldtrip page for more information.

Rationale:

Course Title Changed - The change in name is to better attract students to the course, as "field methods" is too vague to adequately describe the course to students. Course description changed - Slight change to description to update in line with changes to Earth Science Programs, and a course name change. Removed reference to Environmental Geoscience, which is in the process of being removed/cancelled as a program. Changed reference from "Geologist" to "Earth Scientist". Added some additional information on extra course fees, and tweaked some aspects in line with course name change.

Consultation:

Departmental consultation undertaken

ERS301H5: Geochemistry

Description:

Previous:

Since the creation of the Solar System and Earth 4.5 billion years ago, Earth's natural processes have differentiated the chemical elements, generating distinct differences in composition between the oceans and the atmosphere, and Earth's crust, mantle and core. These differences allow Earth Scientists to understand and quantify these processes, as well as track the rocks and deposits formed out of these processes. This course will focus on the application of geochemistry to understand Earth processes, such as the generation of magma and volcanic eruptions, the formation of ore bodies and Earth surface processes. We will utilize the state-of-the-art equipment available at UTM, including Scanning Electron Microscopy and ICP-OES, to analyze rock samples to determine their origin based on their chemistry, giving students valuable skills in sample preparation and experimental practices.

New:

Since the creation of the Solar System and Earth 4.5 billion years ago, Earth's natural processes have differentiated the chemical elements, generating distinct differences in composition between the oceans and the atmosphere, and Earth's crust, mantle and core. These differences allow Earth Scientists to understand and quantify these processes, as well as track the rocks and deposits formed out of these processes. This course will focus on the application of geochemistry to understand Earth processes, such as the generation of magma and volcanic eruptions, the formation of ore bodies, the role of oxygen in ocean sediments, common analytical methods employed in Earth Science and the use of isotopes to track changes to Earth over time.

Rationale:

Course description changed - Last sentence is changed – removed part on use of equipment, and replaced with an expansion of the description of topics covered. The plan for Geochemistry was for students to be able to be trained and use analytical methods commonly used in Earth Science. However, the logistics of training a large group of students on equipment such as pXRF or the SEM EDS at UTM has been too much for current technical staff, and the equipment has also been offline when the course has been running. I would like to remove this as a listed description, as I cannot guarantee that I can achieve this every time the course is run.

Consultation:

Departmental Consultation undertaken

ERS303H5: Geophysics

Description:

Previous:

This course will focus on important geophysical concepts and methods that are used to understand the interior of the Earth and the theory of Plate Tectonics. Major topics include gravity, isostasy, magnetism, heat flow, and seismology. Students will learn to apply basic geophysical equations to address real-life geoscience problems. They will also be introduced to common applied-geophysical techniques used for subsurface sensing, with applications to resource exploration and engineering and environmental studies.

New:

How do Earth scientists explore the Earth's interior? What methods do they use to understand our planet's physical properties? This course will focus on key geophysical concepts and techniques essential for studying the interior of the Earth and the theory of Plate Tectonics. Major topics include gravity, isostasy, magnetism, heat flow, and seismology. Students will learn to apply fundamental geophysical equations to address real-life geoscience problems. They will also be introduced to commonly used applied-geophysical techniques for subsurface sensing, covering instrument operation, data collection and interpretation, as well as applications in resource exploration, engineering, and environmental studies.

Rationale:

Course description changed - The topics on geophysical surveying techniques and their applications will be expanded, including the running of simple gravity and magnetic surveys. The course description has been updated to reflect the changes.

Consultation:

Departmental Consultation undertaken

ERS315H5: Environmental Geology

Description:

Previous:

This course will focus on Earth processes as they relate to human activities. Topics include sustainability global climate change on short and long timescales; groundwater flow and contamination/human engineering of Earth processes; geological aspects of pollution and waste disposal; and environmental impact of extracting/using minerals, energy, soil, and other Earth resources. A field trip will give students a first-hand experience in aspects of human/planet interaction.

New:

Despite civilization's dependence on nature for energy, food, and water, human activity has severely affected the environment in recent centuries. Particularly, the use of energy is significantly impacting our planet via resource extraction, climate change and pollution of the atmo-, bio-, hydro-, and geosphere. While some environmental impacts will be diminished as part of the ongoing carbon-free energy transition, the use of alternative energies can also lead to negative environmental consequences. This course studies the relationship between fossil fuels, nuclear and renewable energy and environment on a broad scale discussing topics such as mining, water pollution, nuclear waste management, climate change, and geoengineering.

Rationale:

Course description changed - the Course description was written 15 years ago and needs to be updated to reflect current content of course, which over the years has transitioned to focus on topics dealing with Energy and Environment. Starting Winter 26 additional course topics with focus on energy (e.g. geothermal energy) will replace earlier topics.

Consultation:

Departmental Consultation undertaken

ERS325H5: Field Camp I

Description:

Previous:

This course, held on the north shore of Lake Huron in the summer, covers geological mapping skills, stratigraphic section measurements, and the recognition of rock types, fossils and geological structures in an authentic field-based learning environment in order to interpret ancient geological environments (approx. 12 days of field instruction). Students in this course receive an instructor lead introduction to the regional geology at whitefish falls, Ontario, before engaging in individual or small group projects in which geologic maps of a defined region will be assembled over 5-6 days of student-led field work. Students will complete an oral field examinations at the end of the field days. Students must pay a course fee, which includes transportation and accommodation at the camp, but does not include the cost of food nor does it cover any course fees charged by the Office of the Registrar.

Note: U of T Mississauga students must register in the Summer Session, and provide consent waivers and the course fee to the Undergraduate Assistant for Earth Sciences in the Department of Chemical and Physical Sciences. This field camp is usually held in early May. Registration and fee payment deadline: mid-March. For specific yearly course information, please see the UTM CPS Earth Science Fieldtrip page for more information on dates, required field gear and other information.

New:

This course, held on the north shore of Lake Huron in the summer, covers crucial geological field skill in an authentic field-based learning environment in order to interpret ancient geological environments. The course occurs over approx. 12 days of field instruction. The course covers an overview of the regional geology at Whitefish Falls, Ontario, including Manitoulin Island, Elliot Lake and Sudbury. Students will also before engaging in a small group mapping projects in which geologic maps of a defined region will be assembled over 5-6 days of student-led field work.

Note: U of T Mississauga students must register in the Summer Session, and provide consent waivers and the course fee to the Earth Science Lab & Field Coordinator in the Department of Chemical and Physical Sciences. This course fee is in addition to tuition, and covers accommodation, geological field gear and transport (but does not include any food). This field camp is usually held in early May. The registration deadline is in early March. For specific yearly course information, please see the UTM CPS Earth Science Fieldtrip page for more information on dates, required field gear and other information.

Rationale:

Course description changed - Course has been updated since 2022, and the description of the course also needs to be updated to reflect the changes to the course. Due to the variability in the course (e.g. land access changes from year to year), the instructor has removed some references to assignments which are not in the course every year.

Consultation:

Departmental Consultation undertaken

ERS401H5: Earth Resources

Description:

Previous:

The formation and global distribution of precious and industrial mineral deposits are introduced. Exploration methods and mining practices are discussed in terms of environmental effects and issues. Basic aspects of the economics and strategic importance of mineral reserves are also covered. Weekly field trips are included.

New:

Our modern civilisation is dependent on resources. These include energy resources (such as oil and natural gas), metallic resources (such as iron, copper or gold) or building resources (such as gravel or limestone). Resource deposits require specific conditions to form on Earth as a result of processes such as plate tectonics, magma differentiation and hydrothermal fluids. Exploration geologists target potential resource sites, while mining and engineering geologists seek to extract the resource via mines or rigs. This course will explore the processes which lead to ore or resource deposits forming in Earth's crust, explain the mechanisms through which we are able to extract those resources and convert them into useable metals or energy sources, and explore the economics which control the resource markets.

Rationale:

Course description changed since it has not been updated for many years (as course is usually taught by a sessional instructor). To update the course, and to give a more modern overview of the topic, the description needs to be updated.

Consultation:

Departmental Consultation undertaken

ERS403H5: Earthquake Seismology

Description:

Previous:

Why do earthquakes occur and how do they cause damage? What is a seismogram and what can it tell us about earthquakes and the Earth's structure? Earthquakes tend to strike suddenly and without warning. Because of their destructive power, tremendous efforts and monetary resources are dedicated to advancing earthquake science and designing effective hazard mitigation controls. This course will provide an overview of the physics of earthquakes and seismic wave propagation, and current seismic hazard mitigation plans and policies. Concepts covered in this course include stress and strain relations, elastic wave equation, body and surface waves, seismic instrumentation and data, global earth structure, earthquake location, seismic source theory, earthquake mechanics, ground motion, the seismic cycle and earthquake recurrence models, seismic hazard analysis, and human-induced earthquakes.

New:

Why do earthquakes occur and how do they cause damage? What is a seismogram and what can it tell us about earthquakes and the Earth's structure? Earthquakes tend to strike suddenly and without warning. Because of their destructive power, tremendous efforts and monetary resources are dedicated to advancing earthquake science and designing effective hazard mitigation controls. This course will provide an overview of the physics of earthquakes and seismic wave propagation, and current seismic hazard mitigation plans and policies. Concepts covered in this course include stress and strain relations, elastic wave equation, body and surface waves, seismic instrumentation and data, global earth structure, seismic source theory, earthquake mechanics, ground motion, earthquake recurrence models, seismic hazard analysis, and human-induced earthquakes. Students will learn to apply basic math and physics concepts to solve seismological problems. They will also gain hands-on experience in analyzing and interpreting seismic data using computational tools.

Rationale:

Course description changed - A series of Python exercises on seismic data processing and analysis has been added to the course. There are also slight adjustments to the topics covered. The course description has been updated to reflect these changes.

Consultation:

Departmental Consultation undertaken

ERS404H5: Volcanology

Title:

Previous: Volcanology and Geothermal Systems
New: Volcanology

Description:

Previous:

Volcanic eruptions are one of the most dangerous and volatile geological hazard. In the 20th Century, almost 100,000 people are believed to have been killed in volcanic eruptions, with another 4.7 million directly affected by them, but, at the end of the 20th century, over 500 million people lived within the hazard zone of a volcano worldwide; cities such as Tokyo, Mexico City, Naples and Seattle are besieged by the threat of nearby volcanoes. Volcanoes also provide fertile soils, near-unlimited geothermal power generation potential and are an intricate part of the Earth system. This course aims to study the mechanism through which volcanoes form, erupt and evolve, their impact on our society and the benefits they provide in the form of geothermal energy. This will be accomplished through discussion, lab and scenario based learning exercises that will take place over one weekend (approx. 16 hours).

New:

Volcanic eruptions are one of the most dangerous and volatile geological hazard. In the 20th Century, almost 100,000 people are believed to have been killed in volcanic eruptions, with another 4.7 million directly affected by them, but, at the end of the 20th century, over 500 million people lived within the hazard zone of a volcano worldwide; cities such as Tokyo, Mexico City, Naples and Seattle are besieged by the threat of nearby volcanoes. Volcanoes also provide fertile soils, near-unlimited geothermal power generation potential and are an intricate part of the Earth system. This course aims to study the mechanism through which volcanoes form on Earth and other rocky planets, the circumstances that trigger eruptions, the processes which cause eruptions to change and evolve, and their impact on our society.

Rationale:

Course Title Changed: As part of a redistribution of topics between courses, geothermal energy is now going to be taught as part of ERS315. ERS404 will focus solely on Volcanology, and so the name will change to reflect this.
Course Description changed: Last sentence changed, and specific reference to geothermal energy being taught in the course has been removed. As part of a redistribution of topics between courses, geothermal energy is now going to be taught as part of ERSXXX. ERS404 will focus solely on Volcanology, and so the description needs to be updated to reflect this. In addition, the description mentions a scenario based learning exercise. This exercise was meant to be developed in 2020, but the COVID pandemic meant that it was delayed for when the course was offered in 2021 and 2023. I plan to develop this as part of sabbatical leave in 2026-2027, and will reintroduce it to the description when it is ready.

Consultation:

Departmental Consultation undertaken

ERS425H5: Geology of North America

Description:

Previous:

This course will provide students with a first-hand field exposure to geologic outcrops in North America, where knowledge gained during classroom instruction throughout their studies can be applied to textbook examples of a variety of real-world geologic features. The course is structured around one major field trip during the fall break where student-led group work on rock outcrops is done, followed by the provision of individual presentations and the preparation of field reports. There is a nonrefundable fee associated with this course beyond tuition. Students must register on ROSI, on a first-come first-serve and non-refundable deposit basis. The deposit must be received by the Department within one week from the first day of enrollment or the student will be dropped automatically from the course. Students should contact the Department by March of the academic year preceding the course to find out more details about the specific field trip plans.

New:

This course will provide students with a first-hand field exposure to geologic outcrops in North America, where knowledge gained during classroom instruction throughout their studies can be applied to textbook examples of a variety of real-world geologic features. The course is structured around one major field trip during one of the Summer terms, where student-led work on rock outcrops is performed (including presentations while in the field) and the preparation of field reports after the trip. There is a nonrefundable course fee associated with this course beyond tuition, which covers accomodation and travel. Students must register on ROSI, on a first-come first-serve and non-refundable deposit basis. The deposit must be received by the Department within one week from the first day of enrollment or the student will be dropped automatically from the course. Information about the course will be released during the Winter term on the CPS Field Trip webpage.

Rationale:

Course description changed: Course is shifting from a Fall course to a Summer course, so description needs to be updated with this in mind. Slight changes to the description based on a change to the Summer semester.

Consultation:

Departmental Consultation undertaken

PHY241H5: Electromagnetism

Notes:

Previous:

1. Students who have completed PHY137H5 should speak with the Department of Chemical & Physical Sciences Academic Counsellor.

New:

Rationale:

Note has been removed since the transition year is over for accepting PHY137H5 as exception for the course prerequisite. The course requires preparation of calculus-based physics covered with PHY147 course.

PHY333H5: Physics of the Cell

Prerequisites:

Previous:

PHY255H5 and JCP221H5

New:

JCP221H5

Rationale:

Dropped prerequisite of PHY255H5 – Due to change of Biomedical Physics Specialist program to Biophysics Specialist program the emphasis to biomedical physics topics is reduced. Therefore, the prerequisite of PHY255H5 is not required for the course.

Consultation:

Physics faculty were consulted.

PHY351H5: Climate Physics

Contact Hours:
Previous: Lecture: 24 **/ Practical:** 24
New: Lecture: 24 **/ Practical:** 12

Prerequisites:
Previous:
(PHY242H5 or JCP221H5 or PHY245H5) and JCP265H5F

New:

(PHY136H5 and PHY137H5) or (PHY146H5 and PHY147H5) and 1.0 credit from any 200-level courses from PHY, ERS, AST, GGR, or ENV

Rationale:
Course Title Changed: As part of a redistribution of topics between courses, geothermal energy is now going to be taught as part of ERS315H5. ERS404H5 will focus solely on Volcanology, and so the name will change to reflect this.

Course Description changed: Last sentence changed, and specific reference to geothermal energy being taught in the course has been removed. As part of a redistribution of topics between courses, geothermal energy is now going to be taught as part of ERS courses. ERS404H5 will focus solely on Volcanology, and so the description needs to be updated to reflect this. In addition, the description mentions a scenario based learning exercise. This exercise was meant to be developed in 2020, but the COVID pandemic meant that it was delayed for when the course was offered in 2021 and 2023. The instructor plans to develop this as part of their sabbatical leave in 2026-2027, and will reintroduce it to the description when ready.

Resources required:
Resource form submitted.

JCP421H5: Quantum Mechanics II

New Course Code: PHY421H5

Title:
Previous: Quantum Mechanics II: Applications
New: Quantum Mechanics II

Exclusions:
Previous:
PHYC563H3 or PHY456H1

New:
JCP421H5 or PHYC563H3 or PHY456H1

Rationale:
The course designator is proposed to be changed from JCP to PHY, and the title is to be changed from "Quantum Mechanics II: Applications" to "Quantum Mechanics II".

The course has PHY325H5 as a prerequisite, which has its own prerequisites: PHY241H5 and PHY245H5. These courses are not required for chemistry programs. Chemistry students do not take JCP421H5. Therefore, to clarify for students, the course is proposed to be recoded to PHY421H5.

Consultation:
Since JCP was a joint course between Chemistry and Physics, both the Chemistry and Physics faculty were consulted and everyone agreed to the proposed change.

1 Course Retirement

PHY242H5: Thermal Physics and Fluid Mechanics

Rationale:

The PHY242H5 course is retired and substituted with JCP221H5. The JCP221H5 covers the same necessary content as PHY242H5. PHY242H5 was not offered for a number of years - last offered in 2018. It has been removed from Biophysics – Specialist and Physics-Major programs. Now we request to remove it from Physics-Minor program.

5 Minor Program Modifications

ERMIN1944: Physics - Minor (Science)

Completion Requirements:

Previous:

5.0 credits are required including at least 1.5 credits at the 300/400 level. Please note that a number of these courses have MAT pre-requisites and/ or co-requisites.

First Year: (PHY146H5 and PHY147H5) and [(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5

Second Year:

1.5 credits from: PHY241H5 or PHY242H5 or PHY245H5 or PHY299Y5 or JCP221H5 or JCP265H5

Higher Years:

1.5 credits from: JCP321H5 or JCP322H5 or JCP410H5 or JCP421H5 or JCP422H5 or JCP463H5 or PHY324H5 or PHY325H5 or PHY332H5 or PHY333H5 or PHY343H5 or PHY347H5 or PHY351H5 or PHY399Y5 or PHY426H5 or PHY451H5 or PHY473H5

NOTES:

1. Not all 300 and 400 level courses are offered every year. Please check the course timetable carefully each academic year.
2. Check all prerequisites and corequisites when registering for 200+ level courses.
3. Students who have completed PHY136H5 and PHY137H5 should speak with the Department of Chemical & Physical Sciences Academic Counsellor.

New:

5.0 credits are required including at least 1.5 credits at the 300/400 level. Please note that a number of these courses have MAT pre-requisites and/ or co-requisites.

First Year: (PHY146H5 and PHY147H5) and [(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5

Second Year:

1.5 credits from: PHY241H5 or PHY245H5 or PHY299Y5 or JCP221H5 or JCP265H5

Higher Years:

1.5 credits from: JCP321H5 or JCP322H5 or JCP410H5 or JCP421H5 or JCP422H5 or JCP463H5 or PHY324H5 or PHY325H5 or PHY332H5 or PHY333H5 or PHY343H5 or PHY347H5 or PHY351H5 or PHY399Y5 or PHY426H5 or PHY451H5 or PHY473H5

NOTES:

1. Not all 300 and 400 level courses are offered every year. Please check the course timetable carefully each academic year.
2. Check all prerequisites and corequisites when registering for 200+ level courses.
3. Students who have completed PHY136H5 and PHY137H5 should speak with the Department of Chemical & Physical Sciences Academic Counsellor.

Description of Proposed Changes:

PHY242H5 removed from Year 2 course requirement options.

Rationale:

The PHY242H5 course is retired and substituted with JCP221H5. The JCP221H5 covers the same necessary content as PHY242H5. PHY242H5 was not offered for a number of years - last offered in 2018. It has been removed from Biophysics – Specialist and Physics-Major programs. Now we request to remove it from Physics-Minor program.

ERSPE1025: Astronomical Sciences - Specialist (Science)

Enrolment Requirements:

Previous:

Limited Enrolment — Enrolment in this program limited.

4.0 credits are required, including the following:

1. MAT102H5
2. (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or (MAT157H5 and MAT159H5) or MAT137Y5 or MAT157Y5
3. (PHY146H5 and PHY147H5) strongly recommended or (PHY136H5 and PHY137H5)
4. ISP100H5

Enrolment in the UTMCIP stream of this program is limited to students who have completed 4.0 credits, including:

1. AST110H5
2. MAT102H5
3. (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or (MAT157H5 and MAT159H5) or MAT135Y5 or MAT137Y5 or MAT157Y5
4. MAT223H5 or MAT240H5
5. (PHY136H5 and PHY137H5) or (PHY146H5 and PHY147H5)
6. ISP100H5

Students who have achieved a cumulative GPA of at least 3.0 are encouraged to apply. Students must be in good standing with no outstanding academic integrity cases.

New:

Limited Enrolment — Enrolment in this program limited.

4.0 credits are required, including the following:

1. MAT102H5
2. (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or (MAT157H5 and MAT159H5) or MAT137Y5 or MAT157Y5
3. (PHY146H5 and PHY147H5) strongly recommended or (PHY136H5 and PHY137H5)
4. ISP100H5

Enrolment in the UTMCIP stream of this program is limited to students who have completed 4.0 credits, including:

1. MAT102H5
2. (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or (MAT157H5 and MAT159H5) or MAT137Y5 or MAT157Y5
3. (PHY146H5 and PHY147H5) strongly recommended or (PHY136H5 and PHY137H5)
4. ISP100H5

Students who have achieved a cumulative GPA of at least 3.0 are encouraged to apply. Students must be in good standing with no outstanding academic integrity cases.

Description of Proposed Changes:

The coop entry requirements are corrected to match the regular post requirement.

Rationale:

An error was noticed in the coop entry requirements. This has been corrected now.

ERSPE1253: Environmental Geosciences - Specialist (Science)

Description

Previous:

Completion of this program is intended to fulfill the knowledge requirements for certification as a Professional Geoscientist (P. Geo.) in conformity with the stipulations of the Association of Professional Geoscientists of Ontario (APGO) and the Canadian Council of Professional Geoscientists (CCPG).

New:

Admissions to the Environmental Geosciences Specialist program are administratively suspended as of 2024. Students currently enrolled in the program will be allowed to continue.

Completion of this program is intended to fulfill the knowledge requirements for certification as a Professional Geoscientist (P. Geo.) in conformity with the stipulations of the Association of Professional Geoscientists of Ontario (APGO) and the Canadian Council of Professional Geoscientists (CCPG).

Description of Proposed Changes:

The Environmental Geosciences program is in the process of going through a major modification proposal to be closed. The Specialist program is still listed on the Academic Calendar. For the reasons of consistency and clarity for students, we would like to add a sentence on the Academic Calendar informing anyone looking at the page that the program is closed. The sentence to be included is "Admissions to the Geosciences program are administratively suspended as of 2024. Students currently enrolled in the program will be allowed to continue" under the title of the program on the Academic Calendar.

Rationale:

Students still inquire about the program with us and with the Office of the Registrar about this program, however it is no longer offered. It would be helpful to have a note there so there is no confusion about why the program is still listed on the Academic Calendar (since it is still in the process of closing).

ERSPE1376: Chemistry - Specialist (Science)

Completion Requirements:

Previous:

13.5 credits are required.

First Year:

1. CHM110H5 and CHM120H5
2. (MAT132H5 and MAT134H5) or (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or (MAT157H5 and MAT159H5) or MAT137Y5 or MAT157Y5
3. (PHY136H5 and PHY137H5) or (PHY146H5 and PHY147H5)
4. ISP100H5

Second Year:

1. CHM211H5 and CHM231H5 and CHM242H5 and CHM243H5
2. JCP221H5
3. MAT232H5

Third Year:

1. CHM311H5 and CHM331H5 and CHM361H5 and CHM394H5 and CHM396H5
2. CHM341H5 or CHM345H5
3. JCP321H5

Fourth Year:

1. (CHM395H5 and CHM397H5) or CHM399Y5 or CHM489Y5 or CPS489Y5 or CPS400Y5 or CPS401Y5 or JCB487Y5
2. 1.5 credits lecture courses from: CHM412H5 or CHM414H5 or CHM416H5 or CHM436H5 or CHM442H5 or CHM444H5 or CHM462H5 or JCP421H5 or JCP422H5 or JCP410H5 or JCP463H5
3. 1.0 credit from:CHM323H5 or CHM333H5 or CHM341H5 or CHM345H5 or CHM347H5 or CHM362H5 or CHM372H or CHM373H5 or CHM395H or CHM397H5 or CHM412H5 or CHM414H5 or CHM416H5 or CHM436H5 or CHM442H5 or CHM444H5 or CHM462H5 or CHM485H5 or CPS398H5 or FSC311H5 or JCP321H5 or JCP322H5 or JCP410H5 or JCP421H5 or JCP422H5 or JCP463H5

New:

14.0 credits are required.

First Year:

1. CHM110H5 and CHM120H5
2. (MAT132H5 and MAT134H5) or (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or (MAT157H5 and MAT159H5) or MAT137Y5 or MAT157Y5
3. (PHY136H5 and PHY137H5) or (PHY146H5 and PHY147H5)
4. ISP100H5

Second Year:

1. CHM211H5 and CHM231H5 and CHM242H5 and CHM243H5
2. JCP221H5
3. MAT232H5

Third Year:

1. CHM311H5 and CHM323H5 and CHM331H5 and CHM361H5 and CHM394H5 and CHM396H5
2. CHM341H5 or CHM345H5
3. JCP321H5

Fourth Year:

1. (CHM395H5 and CHM397H5) or CHM399Y5 or CHM489Y5 or CPS489Y5 or CPS400Y5 or CPS401Y5 or JCB487Y5
2. 1.5 credits lecture courses from: CHM412H5 or CHM414H5 or CHM416H5 or CHM436H5 or CHM442H5 or CHM444H5 or CHM462H5 or JCP421H5 or JCP422H5 or JCP410H5 or JCP463H5
3. 1.0 credit from:CHM323H5 or CHM333H5 or CHM341H5 or CHM345H5 or CHM347H5 or CHM362H5 or CHM372H or CHM373H5 or CHM395H or CHM397H5 or CHM412H5 or CHM414H5 or CHM416H5 or CHM436H5 or CHM442H5 or CHM444H5 or CHM462H5 or CHM485H5 or CPS398H5 or FSC311H5 or JCP321H5 or JCP322H5 or JCP410H5 or JCP421H5 or JCP422H5 or JCP463H5

Description of Proposed Changes:

0.5 Credit added to 3rd year requirement, that is, CHM323H5 Total credits from 13.5 to 14 due to the addition of CHM323H5 Note regarding MAT212H5 is removed since the course no longer exists

Rationale:

Proposing to make CHM323H5 – Introduction to Computational Chemistry a mandatory credit for the pure chemistry specialist program for two reasons: 1. Computational chemistry has now become a core skill for every chemistry sub-discipline which was noted in the 2017 external review, and 2. the PRA hours included

in the course are needed to make up for the shortfall in mandatory PRA time for the program to be accredited by the Canadian Society for Chemistry. This will increase the required credit for the program from 13.5 to 14.0, which is still less than the 14.5 credits required for the biological chemistry specialist program.

Consultations:

Chemistry Faculty were consulted

ERSPE1944: Biophysics - Specialist (Science)

Enrolment Requirements:

Previous:

Limited Enrolment – Enrolment in this program is based on completion of 4.0 credits, including:

1. PHY146H5 (with a minimum grade of 65%)
2. PHY147H5 (with a minimum grade of 65%)
3. [(MAT135H5 or MAT137H5 or MAT157H5) and (MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5
4. A minimum CGPA of 2.5

Enrolment in the UTMCIP stream of this program is limited to students who have completed 4.0 credits, including:

1. PHY146H5 (with a minimum grade of 65%) or PHY136H5 (with a minimum grade of 80%);
2. PHY147H5 (with a minimum grade of 65%) or PHY137H5 (with a minimum grade of 80%); and
3. [(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT135Y5 or MAT137Y5 or MAT157Y5

Students who have achieved a cumulative GPA of at least 3.0 are encouraged to apply. Students must be in good standing with no outstanding academic integrity cases.

New:

Limited Enrolment – Enrolment in this program is based on completion of 4.0 credits, including:

1. PHY146H5 (with a minimum grade of 65%)
2. PHY147H5 (with a minimum grade of 65%)
3. [(MAT135H5 or MAT137H5 or MAT157H5) and (MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5
4. A minimum CGPA of 2.5

Enrolment in the UTMCIP stream of this program is limited to students who have completed 4.0 credits, including:

1. PHY146H5 (with a minimum grade of 65%)
2. PHY147H5 (with a minimum grade of 65%)
3. [(MAT135H5 or MAT137H5 or MAT157H5) and (MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5

Students who have achieved a cumulative GPA of at least 3.0 are encouraged to apply. Students must be in good standing with no outstanding academic integrity cases.

Description of Proposed Changes:

Entry requirements to coop program corrected to match the regular entry requirements

Rationale:

An error was noticed in the entry requirements for the coop program. It did not match the regular entry requirements. It is now corrected.

Forensic Science

11 Course Modifications

FSC100H5: The Real CSI

Description:

Previous:

This class introduces the science of Crime Scene Investigation and related forensic specialities. Students will learn about the latest scientific developments in the field, contrasting these to popular portrayals of CSI in the media, and addressing the impact of popular portrayals on juror expectations, knowledge and misconceptions.

Note: This is a general first year course open to everyone. PLEASE NOTE: The required FSC Program 1st year introductory course is: FSC239Y5 Introduction to Forensic Science

New:

This class introduces the science of Crime Scene Investigation and related forensic specialties. Students will learn about the latest scientific developments in the field, contrasting these to popular portrayals of CSI in the media, and addressing the impact of popular portrayals on juror expectations, knowledge and misconceptions.

Note: FSC1 students should ***not*** enroll in FSC100H5. This is a general science course intended to contribute to satisfying a SCI breadth requirement for non-science students. Students intending to pursue a Forensic Science degree should instead enroll in the required 1st year introductory course FSC239Y5: Introduction to Forensic Science.

IMPORTANT: Students enrolled concurrently in both FSC100H5 and FSC239Y5 will be removed from FSC100H5.

Rationale:

Course descriptions has been changed to explicitly direct FSC1 students not to take it. It is a breadth requirement course for non-science students.

Even though FSC101 is an exclusion to FSC239 (it is a reductive version that covers significantly similar content), we cannot restrict it during FSC1 enrolment because these students have not completed FSC239 yet, skirting around the exclusion altogether. It is a waste of their time and money, and also a waste of our advisor's time to have to do prereq checks for 300 students.

If a student gets removed for being in FSC239, then drops FSC239, they are left with no option if FSC101 is then full. This language will hopefully reduce these instances by having them choose correctly from the start.

Consultation:

Forensic Curriculum Committee, September 23, 2024

FSC101H5: The Real Law & Order

Description:

Previous:

As a compliment to FSC100, this class transports students from the crime scene to the courtroom, to learn how forensic evidence and scientific methods hold up in court to become admissible. Students will discover the differences between approved and junk science, and see how emerging forensic sciences contribute to exonerations, addressing the impact of popular media portrayals on juror expectations, knowledge and misconceptions.

Note: This is a general first year course open to everyone. PLEASE NOTE: The required FSC Program 1st year introductory course is: FSC239Y5 Introduction to Forensic Science

New:

As a compliment to FSC100, this class transports students from the crime scene to the courtroom, to learn how forensic evidence and scientific methods hold up in court to become admissible. Students will discover the differences between approved and junk science, and see how emerging forensic sciences contribute to exonerations, addressing the impact of popular media portrayals on juror expectations, knowledge and misconceptions.

Note: FSC1 students should ***not*** enroll in FSC101H5. This is a general science course intended to contribute to satisfying a SCI breadth requirement for non-science students. Students intending to pursue a Forensic Science degree should instead enroll in the required 1st year introductory course FSC239Y5: Introduction to Forensic Science.

IMPORTANT: Students enrolled concurrently in both FSC101H5 and FSC239Y5 will be removed from FSC101H5.

Rationale:

Course descriptions has been changed to explicitly direct FSC1 students not to take it. It is a breadth requirement course for non-science students.

Even though FSC101 is an exclusion to FSC239 (it is a reductive version that covers significantly similar content), we cannot restrict it during FSC1 enrolment because these students have not completed FSC239 yet, skirting around the exclusion altogether. It is a waste of their time and money, and also a waste of our advisor's time to have to do prereq checks for all students.

If a student gets removed for being in FSC239, then drops FSC239, they are left with no option if FSC101 is then full. This language will hopefully reduce these instances by having them choose correctly from the start.

Consultation:

Forensic Curriculum Committee, September 23, 2024

FSC303H5: Techniques of Crime Scene Investigation

Description:

Previous:

This course will provide students with an introduction to forensic photography, crime scene processing, and forensic identification. Topics include, but are not limited to: fingerprint identification, chance impression evidence, physical evidence, crime scene and victim photography, and proper documentation of a crime scene. Students will gain an understanding of the basic "toolkit" required for crime scene processing, and learn the fundamentals of proper collection and analysis of physical evidence.

As an alternative to (FSC300H5, FSC302H5), this course satisfies the third year IDENT requirement needed for enrolment in FSC481Y5, FSC482H5, FSC483H5, and FSC485H5. Note: This course **does not** satisfy the IDENT requirement for FSC407H5.

New:

This course will provide students with an introduction to forensic photography, crime scene processing, and forensic identification. Topics include, but are not limited to: fingerprint identification, chance impression evidence, physical evidence, crime scene and victim photography, and proper documentation of a crime scene. Students will gain an understanding of the basic "toolkit" required for crime scene processing, and learn the fundamentals of proper collection and analysis of physical evidence.

As an alternative to (FSC300H5, FSC302H5), this course satisfies the third year IDENT requirement needed for non-IDENT capstone enrolment.

Note: This course **does not** satisfy the IDENT requirement for an IDENT placement. Students seeking a placement in police services **MUST** complete FSC302H5. Similarly, this course **does not** satisfy the IDENT requirement for FSC407H5.

Rationale:

To reduce over-enrolment and waitlists for our FSC300H5/FSC302H5 IDENT courses, and to ensure students are able to get the appropriate foundational theory prior to their capstone experience, we are encouraging students who do not have an interest in the IDENT field to instead take the rudimentary version, FSC303H5. We are changing the language to be more explicit and instructive to guide their choices appropriately and reduce ambiguity or confusion.

FSC335H5: Forensic Epistemology: Scientific Knowledge and the Legal System

Title:

Previous: Forensic Epistemology and Theory
New: Forensic Epistemology: Scientific Knowledge and the Legal System

Description:

Previous:

This course will explore and discuss the basic role of a forensic scientist and what it means to be scientifically informed.

New:

Epistemology is the study of the nature and limitations of human knowledge, exploring challenging questions such as: What makes some beliefs more justified than others? Why are we so compelled by the insights of modern science? Are there practical limitations to what we can know?
In *Forensic Epistemology*, we examine how such questions apply to practices within the legal system, from criminal investigations to sentencing and correctional management. The course focuses on how scientific knowledge can be used to improve decision-making around legal issues, while identifying the limitations of forensic science more broadly. Through discussions and case studies, we cover a wide range of topics: the validity and reliability of forensic identification techniques; the demarcation of science from non-science; the influence of cognitive biases in scientific research and criminal investigations; methods in critical and statistical inferential thinking; and standards in research methods and communication.

Rationale:

Course title and description are being changed to be more informative of the course content and to direct students appropriately into a non-laboratory path. This course may be taken by anyone, but will satisfy those more interested in graduate research and critiques of the legal system specifically, rather than its alternate counterpart FSC330, which explores best practices in a lab setting.

FSC340H5: Research Design

Prerequisites:

Previous:

FSC271H5

New:

FSC271H5

It is ***highly recommended*** that students complete FSC341H5 prior to enrolment in this course.

Rationale:

Students who have taken FSC341 (forensic statistics) has been better prepared for this course, compared to students taking other stats courses, so this change is designed to help students succeed in this course. However, FSC340 is not required for all forensic students, and FSC341 is one of several stats options they can choose, so this recommendation can help them choose.

Consultation:

Forensic Curriculum Committee, September 23, 2024

FSC341H5: Applied Forensic Statistics

Mode of Delivery:

Previous: In Person
New: In Person; Online

Rationale:

Course is being changed to flexible deliver (ie online only in the summer).

Forensic Statistics is designed to introduce students to basic analytic methods to evaluate and visualize quantitative data in forensic science. Many of the tools, techniques and statistical packages used would require computer access both during lectures and practicals. The software typically used for this course are open-source and available through an online portal, or through UofT licenses (e.g.: NVivo, R, PAST, and SPSS) to UofT students. In addition, the online environment would simulate international collaboration on large data sets and the associated research, better preparing students for future research projects.

Instructor expectations: Students would be provided with the links to download the relevant statistical software and have system capability to run these software through Quercus. Instruction would happen online synchronous through either recorded/live lectures and synchronous practical sessions.
Student experience: There would be minimum systems requirement for students in order to access the software, but they would be in line with UofT's Recommended Technology Requirements for Remote/Online Learning (https://www.viceprovoststudents.utoronto.ca/student-policies-guidelines/tech-requirements-online-learning/).

Summer enrollments in online courses in Anthropology and other departments' was very high in Summer 2024, whereas in Forensic Science the courses were roughly half-filled. By providing flexible delivery of the course, we would be meeting the preference of students and the online environment would simulate international collaboration on large data sets and the associated research.

Consultation:

Forensic Curriculum Committee, September 23, 2024

Resources:

Resource form submitted.

FSC407H5: Forensic Identification Field School

Prerequisites:

Previous:

(FSC239Y5 and FSC302H5) or Permission of Instructor. Students seeking to use FSC407H5 as their capstone placement: FSC302H5 and FSC340H5 and (ANT407H5 or BIO259H5 or FSC341H5 or STA215H5 or STA220H5 or PSY201H5) and enrolment in a Forensic Science Specialist Program and Permission of Instructor.

Course Application is required. See the Forensic Science Program website for details.

New:

(FSC239Y5 and FSC302H5) or Permission of Instructor.

Students seeking to use FSC407H5 as their capstone placement must have:

- Completion of FSC302H5
- Completion of (ANT407H5 or BIO259H5 or FSC341H5 or STA215H5 or STA220H5 or PSY201H5)
- Enrolment in a Forensic Science Specialist Program and Permission of Instructor.

Course Application is required. See the Forensic Science Program website for details.

Rationale:

Removed the Research Design prerequisite, as this course is not a research-based course. For students not planning careers in research, it would be beneficial for them to take other courses to fulfill degree requirements. This creates space in FSC340 so it can be offered once per year.

Consultation:

Forensic Science Curriculum Committee, September 23, 2024

FSC481Y5: Internship in Forensic Science

Prerequisites:

Previous:

FSC340H5 and (ANT407H5 or BIO259H5 or FSC341H5 or STA215H5 or STA220H5 or PSY201H5) and Enrolment in a Forensic Science Specialist Program and Permission of Instructor. Students seeking an IDENT capstone placement must also have completed FSC302H5.

Course application is required. See the Forensic Science Program website for details.

New:

- Completion of FSC340H5 or (PSY201H5 and PSY202H5)
- Completion of (ANT407H5 or BIO259H5 or FSC341H5 or STA215H5 or STA220H5 or PSY201H5)
- Enrolment in a Forensic Science Specialist Program and Permission of Instructor.
- Students seeking an IDENT capstone placement must also have completed FSC302H5.

Course application is required. See the Forensic Science Program website for details.

Enrolment Limits:

Previous:

Restricted to students enrolled in a Forensic Science Specialist program.

New:

Restricted to students enrolled in a Forensic Science Specialist program. Priority consideration for external placements will be given to students who hold a CGPA of 3.0 or higher ***and*** an SGPA of 3.0 or higher.

Rationale:

Added the Psychology research design courses (PSY201/PSY202) equivalent to the FSC340 prerequisite. ERSPE1505 students would otherwise have a "hidden prerequisite" in FSC340, which is not a program requirement for them.

Consultation:

Forensic Science Curriculum Committee, September 23, 2024

FSC483H5: Collaborative Research Internship

Prerequisites:

Previous:

FSC340H5 and (ANT407H5 or BIO259H5 or FSC341H5 or STA215H5 or STA220H5 or PSY201H5) and Enrolment in a Forensic Science Specialist Program and Permission of Instructor. Students seeking 'crime scene' related research must have completed FSC302H5 or FSC303H5.

Course application is required. See the Forensic Science Program website for details.

New:

- Completion of FSC340H5 or (PSY201H5 and PSY202H5)
- Completion of (ANT407H5 or BIO259H5 or FSC341H5 or STA215H5 or STA220H5 or PSY201H5)
- Enrolment in a Forensic Science Specialist Program and Permission of Instructor.
- Students seeking 'crime scene' related research must have completed FSC302H5 or FSC303H5.

Course application is required. See the Forensic Science Program website for details.

Rationale:

Added the Psychology research design courses (PSY201/PSY202) equivalent to the FSC340 prerequisite. ERSPE1505 students would otherwise have a "hidden prerequisite" in FSC340, which is not a program requirement for them.

Consultation:

Forensic Science Curriculum Committee, September 23, 2024

FSC484H5: Communicating Forensic Science

Prerequisites:

Previous:

FSC340H5 and (ANT407H5 or BIO259H5 or FSC341H5 or STA215H5 or STA220H5 or PSY201H5) and Enrolment in a Forensic Science Specialist Program and Permission of Instructor.

Course application is required. See the Forensic Science Program website for details.

New:

- Completion of FSC340H5 or (PSY201H5 and PSY202H5)
- Completion of (ANT407H5 or BIO259H5 or FSC341H5 or STA215H5 or STA220H5 or PSY201H5)
- Enrolment in a Forensic Science Specialist Program and Permission of Instructor.

Course application is required. See the Forensic Science Program website for details.

Rationale:

Added the Psychology research design courses (PSY201/PSY202) equivalent to the FSC340 prerequisite. ERSPE1505 students would otherwise have a "hidden prerequisite" in FSC340, which is not a program requirement for them.

Consultation:

Forensic Science Curriculum Committee, September 23, 2024

FSC485H5: Professional Opportunity in Forensic Science

Prerequisites:

Previous:

FSC340H5 and (ANT407H5 or BIO259H5 or FSC341H5 or STA215H5 or STA220H5 or PSY201H5) and Enrolment in a Forensic Science Specialist Program and Permission of the Instructor. Students seeking 'crime scene' related experiences must have completed FSC302H5 or FSC303H5.

Course application is required. See the Forensic Science Program website for details.

New:

- Completion of (ANT407H5 or BIO259H5 or FSC341H5 or STA215H5 or STA220H5 or PSY201H5)
- Enrolment in a Forensic Science Specialist Program and Permission of Instructor.
- Students seeking 'crime scene' related experiences must have completed FSC302H5 or FSC303H5.

Course application is required. See the Forensic Science Program website for details.

Rationale:

Removed the Research Design prerequisite, as this course is not a research-based course. For students not planning careers in research, it would be beneficial for them to take other courses to fulfill degree requirements. This creates space in FSC340 so it can be offered once per year.

Consultation:

Forensic Science Curriculum Committee, September 23, 2024

5 Minor Program Modifications

ERMAJ0205: Forensic Science - Major (Science)

Completion Requirements:
Previous:

Note: This program must be taken concurrently with a second Major program (see notes below).

8.5 credits are required including at least 2.0 at the 300/400 level.

First Year:

BIO152H5, BIO153H5
CHM110H5, CHM120H5
FSC239Y5
(MAT132H5, MAT134H5) / (MAT135H5, MAT136H5)
PHY136H5.

Students applying in 2025-2026 (and beyond) for program entry in the 2026-2027 Academic Year (and beyond) will also require completion of ISP100H5.

Second Year:

CHM242H5, CHM243H5
FSC271H5
Statistics Requirement: ANT407H5/BIO259H5/PSY201H5/FSC341H5*

Third Year:

IDENT Requirement: FSC303H5/FSC300H5
FSC330H5; FSC360H5

Fourth Year:

0.5 credit from the following: FSC302H5, FSC307H5, FSC311H5, FSC314H5, FSC315H5, FSC316H5, FSC320H5, FSC335H5, FSC340H5, FSC350H5, FSC351H5, FSC361H5, FSC370H5, FSC401H5, FSC402H5, FSC403H5, FSC406H5, FSC407H5, FSC416H5, FSC430H5, FSC489H5

**STA215H5 will no longer be accepted as an option to satisfy the Statistics requirement past September 2027*.

New:

Note: This program must be taken concurrently with a second Major program (see notes below).

9.0 credits are required including at least 2.0 at the 300/400 level.

First Year:

BIO152H5, BIO153H5
CHM110H5, CHM120H5
FSC239Y5
(MAT132H5, MAT134H5) / (MAT135H5, MAT136H5)
PHY136H5

Second Year:

CHM242H5, CHM243H5
FSC271H5
Statistics Requirement: ANT407H5/BIO259H5/PSY201H5/FSC341H5*

Third Year:

IDENT Requirement: FSC303H5/FSC300H5
FSC330H5/FSC335H5; FSC360H5

Fourth Year:

0.5 credit from the following: FSC302H5, FSC307H5, FSC311H5, FSC314H5, FSC315H5, FSC316H5, FSC320H5, FSC330H5, FSC335H5, FSC340H5, FSC350H5, FSC351H5, FSC361H5, FSC370H5, FSC401H5, FSC402H5, FSC403H5, FSC406H5, FSC407H5, FSC416H5, FSC430H5, FSC489H5

**STA215H5 will no longer be accepted as an option to satisfy the Statistics requirement past September 2027*.

Enrolment Requirements:

Previous:

Limited Enrolment — Admission into the Forensic Science Major program is by special application ONLY and **MUST** be completed in conjunction with a second approved Science Major (see Notes 'Second Major' below). To be considered for admission into the program, ALL students, including students admitted into the 1st year Forensic Science category, **MUST** submit a direct online FSC Application, upon completing the Minimum Program Requirements listed below.

Note: Meeting the minimum requirements *does not* guarantee admission into the program.

Application for admission into the program for ALL students can be found at: Program Application | Forensic Science (utoronto.ca)

Forensic Science is a Type 3 program, and applications are open for Round 1 ***only***. There is no Round 2 admission period.

Forensic Science Applications Open: **March 1 of each year**
Forensic Science Application Deadline: **May 1 of each year**

-

Minimum Requirements:

Completion of 4.0 credits; including 3.0 science credits.
Completion of FSC239Y5 with **70%** or better in the **first successful attempt**.
Completion of CHM110H5, CHM120H5 with **65%** or better.
Completion of (MAT132H5, MAT134H5) or (MAT135H5, MAT136H5)
Completion of PHY136H5
A minimum Cumulative Grade Point Average of at least **2.7**
The actual minimum CGPA requirement varies from year to year but is never lower than 2.7
Enrolment in an Approved Second Major (See Second Major Notes: 1).

Students applying in 2025-2026 (and beyond) for program entry in the 2026-2027 Academic Year (and beyond) will also require completion of ISP100H5.

New:

Limited Enrolment — Admission into the Forensic Science Major program is by special application **ONLY** and **MUST** be completed in conjunction with a second approved Science Major (see Notes 'Second Major' below). To be considered for admission into the program, ALL students, including students admitted into the 1st year Forensic Science category, **MUST** submit a direct online FSC Application, upon completing the Minimum Program Requirements listed below.

Note: Meeting the minimum requirements *does not* guarantee admission into the program.

Application for admission into the program for ALL students can be found at: Program Application | Forensic Science (utoronto.ca)

Forensic Science is a Type 3 program, and applications are open for Round 1 **only**. There is no Round 2 admission period.

Forensic Science Applications Open: **March 1 of each year**
Forensic Science Application Deadline: **May 1 of each year**

-

Minimum Requirements:

Completion of 4.0 credits; including 3.0 science credits.
Completion of FSC239Y5 with **70%** or better in the **first successful attempt**.
Completion of CHM110H5 and CHM120H5. Students must achieve a combined average of **65%** in these two courses, or a minimum of **65%** in CHM120H5.
Completion of (MAT132H5, MAT134H5) or (MAT135H5, MAT136H5)
Completion of PHY136H5
A minimum Cumulative Grade Point Average of at least **2.7**
The actual minimum CGPA requirement varies from year to year but is never lower than 2.7
Enrolment in an Approved Second Major (See Second Major Notes: 1).

Note: Students are strongly recommended to take ISP100H5 in their first year.

Description of Proposed Changes:

1. Biology for Health Science is being added to the list of pre-approved majors. Computer science is being removed.
2. Cleanup of ambiguous language in 'Enrolment Requirements' section.
3. ISP100H5 to remain as strongly recommended.
4. FSC330 and FSC335 are now alternative options to one another.

Rationale:

1. The program already approves ERMAJ1149 for students. "Biology for Health Sciences" did not exist when the pre-approval list was made for ERMAJ0205. Many students want to take it and have to wait for approval, so this will omit an unnecessary step. Students can better tailor their career or academic trajectory, especially those seeking pathology work.
For the Computer Science removal, we are unable to cater degree learning outcomes universally enough to have a pre-approval for computer science. We cannot guarantee course and learning control, as we do not have forensic computer science courses. Students can still propose this pairing but will need to get Chair approval for ERMAJ1688 as a second major.

2. Students were confused regarding the Chemistry course grade requirement- it has been rewritten more explicitly and with an alternate grade option.

3. ISP100H5 is will remain as strongly recommended for students to take.

4. The courses FSC330H5 and FSC335H5 have become options with one another, to be in line with other FSC degrees.

Consultation:

June 24 - Biology (Diane Matias)
September 23 - FSC Curriculum Committee

ERSPE1009: Forensic Chemistry - Specialist (Science)

Completion Requirements:
Previous:

A minimum of 16.5 credits are required.

First Year:

CHM110H5, CHM120H5
BIO152H5
FSC239Y5
(MAT132H5, MAT134H5) / (MAT135H5, MAT136H5)
PHY136H5, PHY137H5

Students applying in 2025-2026 (and beyond) for program entry in the 2026-2027 Academic Year (and beyond) will also require completion of ISP100H5.

Second Year:

Statistics Requirement: BIO259H5/FSC341H5/STA220H5
JCP221H5; CHM211H5, CHM231H5, CHM242H5, CHM243H5
FSC271H5

Third and Fourth Year:

IDENT Requirement: (FSC300H5, FSC302H5) / ((FSC210H5 or FSC370H5), FSC303H5)
CHM311H5, CHM331H5/CHM333H5, CHM361H5, CHM396H5, CHM397H5
FSC311H5, FSC330H5, FSC340H5, FSC360H5, FSC402H5, FSC403H5
CHM414H5, CHM416H5
Capstone Requirement: FSC481Y5 / (FSC482H5, FSC483H5) / (FSC482H5, FSC484H5) / (FSC482H5, FSC485H5) / (FSC482H5, FSC407H5)
Note: Students seeking an IDENT capstone placement must have FSC302H5 completed prior to their capstone year.

The following courses are highly recommended for students interested in *Forensic Toxicology*: BIO200H5, FSC370H5, FSC371H5

New:

A minimum of 16.5 credits are required.

First Year:

CHM110H5, CHM120H5
BIO152H5
FSC239Y5
(MAT132H5, MAT134H5) / (MAT135H5, MAT136H5)
PHY136H5, PHY137H5

Second Year:

Statistics Requirement: BIO259H5/FSC341H5/STA220H5
JCP221H5; CHM211H5, CHM231H5, CHM242H5, CHM243H5
FSC271H5

Third and Fourth Year:

IDENT Requirement: (FSC300H5, FSC302H5) / ((FSC210H5 or FSC370H5), FSC303H5)
CHM311H5, CHM331H5/CHM333H5, CHM361H5, CHM396H5, CHM397H5
FSC311H5, FSC330H5/FSC335H5, FSC340H5, FSC360H5, FSC402H5, FSC403H5
CHM414H5, CHM416H5
Capstone Requirement: FSC481Y5 / (FSC482H5, FSC483H5) / (FSC482H5, FSC484H5) / (FSC482H5, FSC485H5) / (FSC482H5, FSC407H5)
Note: Students seeking an IDENT capstone placement must have FSC302H5 completed prior to their capstone year.

The following courses are highly recommended for students interested in *Forensic Toxicology*: BIO200H5, FSC370H5, FSC371H5

Enrolment Requirements:
Previous:

Limited Enrolment — Admission into the Forensic Chemistry Specialist Program is by special application ***only***. To be considered for admission into the program, ALL students, including students admitted into the 1st year Forensic Science category, **must** submit a direct online application in addition to their ACORN request, upon completing the minimum program entry requirements.

Note: Meeting the minimum requirements does not guarantee admission into the program.

Application for admission into the program for ALL students can be found at: Program Application | Forensic Science (utoronto.ca)

Forensic Chemistry is a Type 3 program, and applications are open for Round 1 ***only***. There is no Round 2 admission period.

Forensic Science Applications Open: **March 1 of each year**
Forensic Science Application Deadline: **May 1 of each year**

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Minimum Requirements:

Completion of 4.0 credits; including 3.0 science credits.
Completion of CHM110H5 with **65% or better** and CHM120H5 with **65% or better**.
Completion of FSC239Y5 with **70% or better** in their **first successful attempt**.
Completion of (MAT132H5, MAT134H5) / (MAT135H5, MAT136H5)
Completion of PHY136H5
A minimum Cumulative Grade Point Average of at least **3.2**.
The actual minimum CGPA requirement varies from year to year but is never lower than 3.2

Students applying in 2025-2026 (and beyond) for program entry in the 2026-2027 Academic Year (and beyond) will also require completion of ISP100H5.

New:

Limited Enrolment — Admission into the Forensic Chemistry Specialist Program is by special application **only**. To be considered for admission into the program, ALL students, including students admitted into the 1st year Forensic Science category, **must** submit a direct online application in addition to their ACORN request, upon completing the minimum program entry requirements.

Note: Meeting the minimum requirements does not guarantee admission into the program.

Application for admission into the program for ALL students can be found at: Program Application | Forensic Science (utoronto.ca)

Forensic Chemistry is a Type 3 program, and applications are open for Round 1 **only**. There is no Round 2 admission period.

Forensic Science Applications Open: **March 1 of each year**
Forensic Science Application Deadline: **May 1 of each year**

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Minimum Requirements:

Completion of 4.0 credits; including 3.0 science credits.
Completion of CHM110H5 with **65% or better** and CHM120H5 with **65% or better**.
Completion of FSC239Y5 with **70% or better** in their **first successful attempt**.
Completion of (MAT132H5, MAT134H5) / (MAT135H5, MAT136H5)
Completion of PHY136H5
A minimum Cumulative Grade Point Average of at least **3.2**.
The actual minimum CGPA requirement varies from year to year but is never lower than 3.2

Note: Students are strongly recommended to take ISP100H5 in their first year.

Description of Proposed Changes:
Addition of FSC335H5 to optional course choice
ISP100H5 to remain as strongly recommended.

Rationale:
FSC335H5 is being added as an optional course to be inline with other Forensic Specialist degree course options.

Consultation:
FSC Curriculum Committee, Sept 23, 2024

ERSPE1338: Forensic Anthropology - Specialist (Science)

Completion Requirements:

Previous:

A minimum of 15.5 credits are required.

First Year:

ANT101H5, ANT102H5
BIO152H5, BIO153H5
FSC239Y5

Students applying in 2025-2026 (and beyond) for program entry in the 2026-2027 Academic Year (and beyond) will also require completion of ISP100H5.

Second Year:

Statistics Requirement (recommended completion prior to fourth year): ANT407H5 / FSC341H5
**STA215H5 will no longer be accepted as an option to satisfy the Statistics requirement past September 2027*.
ANT200H5, ANT202H5, ANT203H5, ANT205H5
FSC271H5

Third Year:

IDENT Requirement: (FSC300H5, FSC302H5) / (FSC210H5, FSC303H5)
ANT306H5, ANT312H5/ANT317H5, ANT334H5, ANT340H5
FSC316H5, FSC330H5, FSC335H5, FSC340H5, FSC360H5

Fourth Year:

Capstone Requirement: FSC481Y5 / (FSC482H5, FSC483H5) / (FSC482H5, FSC484H5) / (FSC482H5, FSC485H5) / (FSC482H5, FSC407H5)
Note: Students seeking an IDENT capstone placement must have FSC302H5 completed prior to their capstone year.
ANT415H5, ANT436H5/FSC307H5/FSC314H5, ANT439H5, ANT441H5
FSC401H5, FSC439H5

New:

A minimum of 15.5 credits are required.

First Year:

ANT101H5, ANT102H5
BIO152H5, BIO153H5
FSC239Y5

Second Year:

Statistics Requirement (recommended completion prior to 4th year): ANT407H5 / FSC341H5
**STA215H5 will no longer be accepted as an option to satisfy the Statistics requirement past September 2027*.
ANT200H5, ANT202H5, ANT203H5, ANT205H5
FSC271H5

Third Year:

IDENT Requirement: (FSC300H5, FSC302H5) / (FSC210H5, FSC303H5)
ANT306H5, ANT312H5/ANT317H5, ANT334H5, ANT340H5
FSC316H5, FSC330H5/FSC335H5, FSC340H5, FSC360H5

Fourth Year:

Capstone Requirement: FSC481Y5 / (FSC482H5, FSC483H5) / (FSC482H5, FSC484H5) / (FSC482H5, FSC485H5) / (FSC482H5, FSC407H5)
Note: Students seeking an IDENT capstone placement must have FSC302H5 completed prior to their capstone year.
ANT415H5, ANT436H5/FSC307H5/FSC314H5, ANT439H5, ANT441H5
FSC401H5, FSC439H5

Enrolment Requirements:

Previous:

Limited Enrolment — Admission into the Forensic Anthropology Specialist Program is by special application ***only***. To be considered for admission into the program, ALL students, including students admitted into the 1st year Forensic Science category, **MUST** submit a direct online application in addition to their ACORN request, upon completing the minimum program entry requirements.

Note: Meeting the minimum requirements *does not* guarantee admission into the program.

Application for admission into the program for ALL students can be found at: Program Application | Forensic Science (utoronto.ca)

Forensic Anthropology is a Type 3 program, and applications are open for Round 1 ***only***. There is no Round 2 admission period.

Forensic Science Applications Open: **March 1 of each year**
Forensic Science Application Deadline: **May 1 of each year**

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Minimum Requirements:

Completion of 4.0 credits; including 3.0 science credits.
Completion of FSC239Y5 with **70% or better** in their **first successful attempt**.
Completion of ANT101H5 with **75% or better** and ANT102H5 **with 75% or better**
Completion of BIO152H5 with **65% or better** and BIO153H5 with **65% or better**
A minimum Cumulative Grade Point Average of at least **3.2**
The actual minimum CGPA varies from year to year but is never lower than 3.2

Students applying in 2025-2026 (and beyond) for program entry in the 2026-2027 Academic Year (and beyond) will also require completion of ISP100H5.

Students applying to enroll **after second year** must have:

Admission category designation as 'FSC1'
Completed **8.0 credits**
Completed ANT200H5, ANT202H5, ANT203H5 and ANT205H5 with **75% or better in each.**
Completed FSC239Y5 with a **70% or better** in their **first** attempt.
A minimum cumulative Grade Point Average of at least **3.2**.

Students applying to this program in the 2024-2025 Academic Year (for program entry in the 2025-2026 Academic Year) will be required to have Grade 12(4U) Advanced Functions or equivalent.

New:

Limited Enrolment — Admission into the Forensic Anthropology Specialist Program is by special application **only**. To be considered for admission into the program, ALL students, including students admitted into the 1st year Forensic Science category, **MUST** submit a direct online application in addition to their ACORN request, upon completing the minimum program entry requirements.

Note: Meeting the minimum requirements *does not* guarantee admission into the program.

Application for admission into the program for ALL students can be found at: Program Application | Forensic Science (utoronto.ca)

Forensic Anthropology is a Type 3 program, and applications are open for Round 1 **only**. There is no Round 2 admission period.

Forensic Science Applications Open: **March 1 of each year**
Forensic Science Application Deadline: **May 1 of each year**

-

Minimum Requirements:

Completion of 4.0 credits; including 3.0 Science credits.
Completion of FSC239Y5 with **70% or better** in their **first successful attempt**.
Completion of ANT101H5 with **75% or better** and ANT102H5 **with 75% or better**
Completion of BIO152H5 with **65% or better** and BIO153H5 with **65% or better**
A minimum Cumulative Grade Point Average of at least **3.2**
The actual minimum CGPA varies from year to year but is never lower than 3.2

Note: Students are strongly recommended to take ISP100H5 in their first year.

Students applying to enroll **after second year** must have:

Admission category designation as 'FSC1'
Completed **8.0 credits**
Completed ANT200H5, ANT202H5, ANT203H5 and ANT205H5 with **75% or better in each.**
Completed FSC239Y5 with a **70% or better** in their **first** attempt.
A minimum cumulative Grade Point Average of at least **3.2**.

Description of Proposed Changes:

1. FSC330 and FSC335 are now alternative options to one another
2. ISP100H5 will remain as strongly recommended.
3. Removed note "Students applying to this program in the 2024-2025 Academic Year (for program entry in the 2025-2026 Academic Year) will be required to have Grade 12(4U) Advanced Functions or equivalent."

Rationale:

1. The courses FSC330H5 and FSC335H5 have become options with one another rather than both required.
2. Note is no longer necessary or relevant. All incoming students at this point require MHF4U.

Consultation:

FSC Curriculum Committee, Sept 23, 2024

ERSPE1410: Forensic Biology - Specialist (Science)

Completion Requirements:

Previous:

A minimum of 15.5 - 16.0 credits are required.

First Year:

BIO152H5, BIO153H5
CHM110H5, CHM120H5
FSC239Y5
(MAT132H5, MAT134H5) / (MAT135H5, MAT136H5)
PHY136H5

Students applying in 2025-2026 (and beyond) for program entry in the 2026-2027 Academic Year (and beyond) will also require completion of ISP100H5.

Second Year:

Statistics Requirement: BIO259H5 (strongly recommended) / FSC341H5
BIO206H5, BIO207H5
(BIO208H5, BIO209H5) / FSC316H5
CHM242H5, CHM243H5
FSC271H5

Third and Fourth Years:

IDENT Requirement: (FSC300H5, FSC302H5) / (FSC210H5, FSC303H5)
BIO362H5; CHM361H5; FSC315H5, FSC330H5, FSC335H5, FSC340H5, FSC360H5
Capstone Requirement: FSC481Y5 / (FSC482H5, FSC483H5) / (FSC482H5, FSC484H5) / (FSC482H5, FSC485H5) / (FSC482H5, FSC407H5)
Note: Students seeking an IDENT capstone placement must have FSC302H5 completed prior to their capstone year.
BIO458H5 / BIO372H5 / BIO341H5; FSC415H5, FSC416H5,
0.5 additional credits from: BIO341H5, BIO374H5, FSC307H5, FSC314H5, FSC350H5, FSC370H5, FSC371H5, FSC401H5, FSC402H5, FSC406H5, FSC407H5

New:

A minimum of 15.5-16.0 credits are required.

First Year:

BIO152H5, BIO153H5
CHM110H5, CHM120H5
FSC239Y5
(MAT132H5, MAT134H5) / (MAT135H5, MAT136H5)
PHY136H5

Second Year:

Statistics Requirement: BIO259H5 (strongly recommended) / FSC341H5
BIO206H5, BIO207H5
(BIO208H5, BIO209H5) / FSC316H5
CHM242H5, CHM243H5
FSC271H5

Third and Fourth Years:

IDENT Requirement: (FSC300H5, FSC302H5) / (FSC210H5, FSC303H5)
BIO362H5; CHM361H5; FSC315H5, FSC330H5/FSC335H5, FSC340H5, FSC360H5
Capstone Requirement: FSC481Y5 / (FSC482H5, FSC483H5) / (FSC482H5, FSC484H5) / (FSC482H5, FSC485H5) / (FSC482H5, FSC407H5)
Note: Students seeking an IDENT capstone placement must have FSC302H5 completed prior to their capstone year.
BIO458H5 / BIO372H5 / BIO341H5; FSC415H5, FSC416H5,
0.5 additional credits from: BIO341H5, BIO374H5, FSC307H5, FSC314H5, FSC330H5, FSC335H5, FSC350H5, FSC370H5, FSC371H5, FSC401H5, FSC402H5, FSC406H5, FSC407H5

Enrolment Requirements:

Previous:

Limited Enrolment — Admission into the Forensic Biology Specialist Program is by special application ***only***. To be considered for admission into the program, ALL students, including students admitted into the 1st year Forensic Science category, **MUST** submit a direct online application in addition to their ACORN request, upon completing the minimum program entry requirements.

Note: Meeting the minimum requirements *does not* guarantee admission into the program.

Application for admission into the program for ALL students can be found at: Program Application | Forensic Science (utoronto.ca)

Forensic Biology is a Type 3 program, and applications are open for Round 1 ***only***. There is no Round 2 admission period.

Forensic Science Applications Open: **March 1 of each year**
Forensic Science Application Deadline: **May 1 of each year**

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Minimum Requirements:

Completion of 4.0 credits; including 3.0 science credits
Completion of **FSC239Y5** with **70% or better** in their **first successful attempt**.
Completion of BIO152H5 with **75% or better** and BIO153H5 with **75% or better**
Completion of CHM110H5 with **65% or better** and CHM120H5 with **65% or better**
Completion of (MAT132H5, MAT134H5) / (MAT135H5, MAT136H5)
Completion of PHY136H5
A minimum Cumulative Grade Point Average of at least **3.2**.
The actual minimum CGPA requirement varies from year to year but is never lower than 3.2

Students applying in 2025-2026 (and beyond) for program entry in the 2026-2027 Academic Year (and beyond) will also require completion of ISP100H5.
New:

Limited Enrolment — Admission into the Forensic Biology Specialist Program is by special application **only**. To be considered for admission into the program, ALL students, including students admitted into the 1st year Forensic Science category, **MUST** submit a direct online application in addition to their ACORN request, upon completing the minimum program entry requirements.

Note: Meeting the minimum requirements *does not* guarantee admission into the program.

Application for admission into the program for ALL students can be found at: Program Application | Forensic Science (utoronto.ca)

Forensic Biology is a Type 3 program, and applications are open for Round 1 **only**. There is no Round 2 admission period.

Forensic Science Applications Open: **March 1 of each year**
Forensic Science Application Deadline: **May 1 of each year**

-

Minimum Requirements:

Completion of 4.0 credits; including 3.0 science credits
Completion of **FSC239Y5** with **70% or better** in their **first successful attempt**.
Completion of BIO152H5 with **75% or better** and BIO153H5 with **75% or better**
Completion of CHM110H5 with **65% or better** and CHM120H5 with **65% or better**
Completion of (MAT132H5, MAT134H5) / (MAT135H5, MAT136H5)
Completion of PHY136H5
A minimum Cumulative Grade Point Average of at least **3.2**.
The actual minimum CGPA requirement varies from year to year but is never lower than 3.2

Note: Students are strongly recommended to take ISP100H5 in their first year.

Description of Proposed Changes:
1. ISP100H5 to remain as strongly recommended.
2. FSC330H5 and FSC335H5 are now alternative options to one another.

Rationale:
The courses FSC330H5 and FSC335H5 have become options with one another rather than both required.

Consultation:
FSC Curriculum Committee, Sept 23, 2024

ERSPE1505: Forensic Psychology - Specialist (Science)

Completion Requirements:

Previous:

A minimum of 15.0 credits are required.

First Year:

BIO152H5, BIO153H5
FSC239Y5
PSY100Y5

Students applying in 2025-2026 (and beyond) for program entry in the 2026-2027 Academic Year (and beyond) will also require completion of ISP100H5.

Second Year:

Statistics Requirement: PSY201H5, PSY202H5
FSC271H5, FSC220H5
PSY210H5, PSY220H5, PSY230H5, PSY240H5, PSY270H5/PSY280H5/PSY290H5/JLP285H5

Third and Fourth Year:

IDENT Requirement: (FSC300H5, FSC302H5) / (FSC303H5, FSC316H5)
FSC320H5, FSC330H5, FSC335H5, FSC360H5, FSC370H5; PSY309H5, PSY328H5/PSY340H5/PSY341H5/PSY393H5, PSY344H5/PSY346H5
Capstone Requirement: FSC481Y5 / (FSC482H5, FSC483H5) / (FSC482H5, FSC484H5) / (FSC482H5, FSC485H5) / (FSC482H5, FSC407H5)
Note: Students seeking an IDENT capstone placement must have FSC302H5 completed prior to their capstone year.

0.5 credits from the following laboratory-based courses: PSY329H5, PSY369H5
0.5 credits from the following: FSC314H5, FSC350H5, FSC351H5, FSC361H5, FSC371H5, FSC401H5, FSC402H5, FSC403H5, FSC406H5, FSC407H5
0.5 credit from PSY 400 level series courses

New:

A minimum of 15.0 credits are required.

First Year:

BIO152H5, BIO153H5
FSC239Y5
PSY100Y5

Second Year:

Statistics Requirement: PSY201H5, PSY202H5
FSC271H5, FSC220H5
PSY210H5, PSY220H5, PSY230H5, PSY240H5, PSY270H5/PSY280H5/PSY290H5/JLP285H5

Third and Fourth Year:

IDENT Requirement: (FSC300H5, FSC302H5) / (FSC303H5, FSC316H5)
FSC320H5, FSC330H5/FSC335H5, FSC360H5, FSC370H5; PSY309H5, PSY328H5/PSY340H5/PSY341H5/PSY393H5, PSY344H5/PSY346H5
Capstone Requirement: FSC481Y5 / (FSC482H5, FSC483H5) / (FSC482H5, FSC484H5) / (FSC482H5, FSC485H5) / (FSC482H5, FSC407H5)
Note: Students seeking an IDENT capstone placement must have FSC302H5 completed prior to their capstone year.

0.5 credits from the following laboratory-based courses: PSY329H5, PSY369H5
0.5 credits from the following: FSC314H5, FSC330H5, FSC335H5, FSC350H5, FSC351H5, FSC361H5, FSC371H5, FSC401H5, FSC402H5, FSC403H5, FSC406H5, FSC407H5
0.5 credit from PSY 400 level series courses

Enrolment Requirements:

Previous:

Limited Enrolment — Admission into the Forensic Psychology Specialist Program is by special application ***only***. To be considered for admission into the program, ALL students, including students admitted into the 1st year Forensic Science category, **MUST** submit a direct online application in addition to their ACORN request, upon completing the minimum program entry requirements.

Note: Meeting the minimum requirements *does not* guarantee admission into the program.

Application for admission into the program for ALL students can be found at: Program Application | Forensic Science (utoronto.ca)

Forensic Psychology is a Type 3 program, and applications are open for Round 1 ***only***. There is no Round 2 admission period.

Forensic Science Applications Open: **March 1 of each year**
Forensic Science Application Deadline: **May 1 of each year**

-

Minimum Requirements:

Completion of 4.0 credits, including 3.0 science credits
Completion of PSY100Y5 with a minimum average of **75%** or better
Completion of BIO152H5 with **65% or better** and BIO153H5 with **65% or better**
Completion of FSC239Y5 with **70% or better** in their **first attempt**.
A minimum cumulative Grade Point Average of at least **3.2**.
The actual minimum CGPA requirement varies from year to year but is never lower than 3.2

Students applying in 2025-2026 (and beyond) for program entry in the 2026-2027 Academic Year (and beyond) will also require completion of ISP100H5.

Students applying to enroll after second year must also have:

Admission category designation as 'FSC1'
Completed **8.0 credits.**
Completed PSY201H5, PSY202H5 (or equivalent), FSC220H5, and at least an additional 1.0 credit in 200 series PSY courses with a minimum average of **77%** for those five half courses
Completed FSC239Y5 with a **70% or better** in their **first** attempt.
A minimum cumulative Grade Point Average of at least **3.2**.

New:

Limited Enrolment — Admission into the Forensic Psychology Specialist Program is by special application **only**. To be considered for admission into the program, ALL students, including students admitted into the 1st year Forensic Science category, **MUST** submit a direct online application in addition to their ACORN request, upon completing the minimum program entry requirements.

Note: Meeting the minimum requirements *does not* guarantee admission into the program.

Application for admission into the program for ALL students can be found at: Program Application | Forensic Science (utoronto.ca)

Forensic Psychology is a Type 3 program, and applications are open for Round 1 **only**. There is no Round 2 admission period.

Forensic Science Applications Open: **March 1 of each year**
Forensic Science Application Deadline: **May 1 of each year**

-

Minimum Requirements:

Completion of 4.0 credits, including 3.0 science credits
Completion of PSY100Y5 with a minimum average of **75%** or better
Completion of BIO152H5 with **65% or better** and BIO153H5 with **65% or better**
Completion of FSC239Y5 with **70% or better** in their **first attempt**.
A minimum cumulative Grade Point Average of at least **3.2**.
The actual minimum CGPA requirement varies from year to year but is never lower than 3.2

Note: Students are strongly recommended to take ISP100H5 in their first year.

Students applying to enroll after second year must also have:

Admission category designation as 'FSC1'
Completed **8.0 credits.**
Completed PSY201H5, PSY202H5 (or equivalent), FSC220H5, and at least an additional 1.0 credit in 200 series PSY courses with a minimum average of **77%** for those five half courses
Completed FSC239Y5 with a **70% or better** in their **first** attempt.
A minimum cumulative Grade Point Average of at least **3.2**.

Description of Proposed Changes:
1. ISP100H5 to remain as strongly recommended.
2. FSC330 and FSC335 are now alternative options to one another

Rationale:
The courses FSC330H5 and FSC335H5 have become options with one another rather than both required.

Consultation:
FSC Curriculum Committee, Sept 23, 2024

Geography, Geomatics and Environment

1 Course Modification

GGR379H5: Field Methods in Physical Geography

Description:

Previous:

This course is structured around one major field trip that will occur before fall-term courses begin, preparatory work, and approximately bi-weekly course meetings during the regular academic term to complete complementary work in computer and/or wet laboratories. Field projects will involve analyses and mapping of vegetation, soils, aquatic systems, hydrology, and/or geomorphology, and subsequent data analysis. Students will be required to write one major research paper and present projects to the class. Each student is required to pay the costs of his/her transportation and accommodation. Students must register on ACORN, on a first-come first-serve and non-refundable deposit basis. The deposit must be received by the Department within one week from the first day of enrollment or the student will be dropped automatically from the course. Students should contact the Department to find out more details about the specific fieldtrip plans. This course fulfills 7 field days.

New:

This course is structured around one major field trip that will occur before fall-term courses begin, preparatory work, and approximately bi-weekly course meetings during the regular academic term to complete complementary work in computer and/or wet laboratories. Field projects will involve analyses and mapping of vegetation, soils, aquatic systems, hydrology, and/or geomorphology, and subsequent data analysis. Students will be required to write one major research paper and present projects to the class. Each student is required to pay the costs of his/her transportation and accommodation. Students must register on ACORN, on a first-come first-serve and non-refundable deposit basis. The deposit must be received by the Department within one week from the first day of enrollment or the student will be dropped automatically from the course. Students should contact the Department to find out more details about the specific fieldtrip plans. This course fulfills 5 field days.

Rationale:

Academic calendar currently states that students earn 7 field days from this course, but this is an outdated number from a time when students were required to participate in a 7-day field trip. The course has changed over the years. Currently with the fieldwork that occurs over 5 days (Mon-Fri), only 5 field days should be credited.

Consultation:

Department of Geography, Geomatics, and Environment curriculum committee.

1 Program Modification

ERSPE1253: Environmental Geosciences - Specialist (Science)

Description

Previous:

Completion of this program is intended to fulfill the knowledge requirements for certification as a Professional Geoscientist (P. Geo.) in conformity with the stipulations of the Association of Professional Geoscientists of Ontario (APGO) and the Canadian Council of Professional Geoscientists (CCPG).

New:

Admissions to the Environmental Geosciences Specialist program are administratively suspended as of 2024. Students currently enrolled in the program will be allowed to continue.

Completion of this program is intended to fulfill the knowledge requirements for certification as a Professional Geoscientist (P. Geo.) in conformity with the stipulations of the Association of Professional Geoscientists of Ontario (APGO) and the Canadian Council of Professional Geoscientists (CCPG).

Description of Proposed Changes:

The Enviromental Geosciences program is in the process of going through a major modification proposal to be closed. The Specialist program is still listed on the Academic Calendar. For the reasons of consistency and clarity for students, we would like to add a sentence on the Academic Calendar informing anyone looking at the page that the program is closed. The sentence to be included is "Admissions to the Geosciences program are administratively suspended as of 2024. Students currently enrolled in the program will be allowed to continue" under the title of the program on the Academic Calendar.

Rationale:

Students still inquire about the program with us and with the Office of the Registrar about this program, however it is no longer offered. It would be helpful to have a note there so there is no confusion about why the program is still listed on the Academic Calendar (since it is still in the process of closing).

Consultation:

Has been recommended by Curriculum Review Specialists.

Mathematical and Computational Sciences

2 New Courses

CSC110Y5: Foundations of Computer Science 1

Contact Hours:
Lecture: 72 / **Practical:** 24

Description:

An introduction to the field of computer science that combines the tools and techniques of programming (using a modern programming language) with rigorous mathematical analysis and reasoning. Topics include data representations; program control flow (conditionals, loops, exceptions, functions); mathematical logic and formal proofs; algorithms and run-time analysis; and software engineering principles (formal specification and design, testing and verification). Prior programming experience is not required to succeed in this course.

Prerequisites:

Minimum 70% in Grade 12 Advanced Functions (MHF4U)

Corequisites:

Exclusions:

CSC108H1 or CSC110Y1 or CSC120H1 or CSCA08H3 or CSCA20H3 or CSC108H5 or CSC165H1 or CSCA67H3 or MAT102H5

Enrolment Limits:

Restricted to students in year of study 1 in the 1st Year Studies in Computer Science

Recommended Preparation:

Notes:

CSC110Y5 is only offered in the Fall term.

CSC110Y5 and the subsequent course, CSC111H5, are restricted to students in the first year Computer Science admission stream.

Other students planning to pursue studies in computer science should enrol in CSC108H5, CSC148H5, and MAT102H5.

Mode of Delivery:
In Person

Rationale:
The UTM CS program is aiming to create academically rigorous specialist programs that are only open to students in a specific first year stream. This course provides an opportunity for the department to create a strong foundation for the cohort of students intending to enroll in the specialist programs. Adding this course also puts UTM in alignment with the downtown, first-year-entry specialist program.

Reference: Artsci calendar entry: https://artsci.calendar.utoronto.ca/course/csc110y1

Consultation:
MCS internal, Office of the Registrar, and the FAS Department of Computer Science.

Resources:
Resource form submitted.

Estimated Enrolment:
180

CSC111H5: Foundations of Computer Science II

Contact Hours:
Lecture: 36 / **Practical:** 24

Description:

A continuation of CSC110Y5 that extends principles of programming and mathematical analysis to further topics in computer science. Topics include object-oriented programming (design principles, encapsulation, composition, and inheritance); binary representation of numbers; recursion and mathematical induction; abstract data types and data structures (stacks, queues, linked lists, trees, graphs); and the limitations of computation.

Prerequisites:

CSC110Y5 (70% or higher)

Corequisites:

Exclusions:

CSC148H1 or CSC111H1 or CSCA48H3 or CSC148H5

Enrolment Limits:

Restricted to students in year of study 1 in the 1st Year Studies in Computer Science

Recommended Preparation:

Notes:

This course and its prerequisite, CSC110Y5, are restricted to students in the first year Computer Science admission stream and are only offered in the Winter term.

Other students planning to pursue studies in computer science should enrol in CSC108H5, CSC148H5, and MAT102H5.

Mode of Delivery:
In Person

Rationale:
The UTM CS program is aiming to create academically rigorous specialist programs that are only open to students in a specific first year stream. This course provides an opportunity for the department to create a strong foundation for the cohort of students intending to enroll in the specialist programs. Adding this course also puts UTM in alignment with the downtown, first-year-entry specialist program.

Consultation:
MCS internal, Office of the Registrar, and the FAS Department of Computer Science.

Resources:
Resource form submitted.

Estimated Enrolment:
180

59 Course Modifications

CSC108H5: Introduction to Computer Programming

Exclusions:
Previous:
CSC108H1 or CSC120H1 or CSCA08H3 or CSCA20H3

New:

CSC108H1 or CSC110Y1 or CSC120H1 or CSCA08H3 or CSCA20H3 or CSC111Y5 or MGT201H5

Rationale:
--Exclusions have been updated to account for the newly proposed CSC110Y5 and the related course downtown.
--MGT201H5 is management's intro to programming (heavily overlaps CSC108H5). Also they have an exclusion on CSC108H5 already.

Consultation:
MCS internal only, with advice from the Department of Computer Science (FAS)

CSC148H5: Introduction to Computer Science

Exclusions:
Previous:
CSC148H1 or CSCA48H3 or CSC111H1

New:
CSC111H1 or CSC148H1 or CSCA48H3 or CSC111H5

Rationale:
Exclusions have been updated to account for the newly proposed CSC111H5 and the related course downtown.

Consultation:
MCS internal only, with advice from the Department of Computer Science (FAS)

CSC207H5: Software Design

Prerequisites:

Previous:

60% in CSC148H5 (Only CSC148H5 taken at the UTM campus will be accepted.)

New:

(60% or higher in CSC111H5) or (60% or higher in CSC148H5) (Only CSC111H5 or CSC148H5 taken at the UTM campus will be accepted.)

Enrolment Limits:

Previous:

New:

Priority is given to students enrolled in Computer Science Specialist, Information Security Specialist, Computer Science Major or CS minor programs.

Mode of Delivery:

Previous: In Person

New: In Person; Hybrid

Rationale:

--Computer Science Minor has been changed from type 1 program to type 2 program. We would like to give priority to students in our CS programs.

--The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

--Pre-requisites have been updated to account for the newly proposed CSC111H5 and related course downtown.

Consultation:

About pre-requisite changes: MCS internal only, with advice from the Department of Computer Science (FAS)

Resources:

Resource form submitted.

CSC209H5: Software Tools and Systems Programming

Enrolment Limits:

Previous:

New:
Priority is given to students enrolled in Computer Science Specialist, Information Security Specialist, Computer Science Major or CS minor programs.

Mode of Delivery:

Previous: In Person
New: In Person; Hybrid

Rationale:

Computer Science Minor has been changed from type 1 program to type 2 program. We would like to give priority to students in our CS programs.

The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change.

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures. Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:

Resource form submitted.

CSC236H5: Introduction to the Theory of Computation

Prerequisites:

Previous:
CSC148H5 and MAT102H5

New:
(60% or higher in CSC111H5) or ((60% or higher in CSC148H5) and (60% or higher in MAT102H5))

Enrolment Limits:

Previous:

New:
Priority is given to students enrolled in Computer Science Specialist, Information Security Specialist, Computer Science Major or CS minor programs.

Mode of Delivery:

Previous: In Person
New: In Person; Hybrid

Rationale:

--Computer Science Minor has been changed from type 1 program to type 2 program. We would like to give priority to students in our CS programs.

--The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

--pre-requisites have been updated to account for the newly proposed CSC111H5 and related course downtown. Minimum grade requirements have been added to reflect the requirements at StG.

Consultation:

About pre-requisite changes: MCS internal only, with advice from the Department of Computer Science (FAS)

Resources:

Resource for submitted.

CSC258H5: Computer Organization

Prerequisites:

Previous:
CSC148H5

New:
CSC148H5 or CSC111H5

Enrolment Limits:

Previous:

New:

Priority is given to students enrolled in Computer Science Specialist, Information Security Specialist, Computer Science Major or CS minor programs.

Mode of Delivery:

Previous: In Person
New: In Person; Hybrid

Rationale:

--Computer Science Minor has been changed from type 1 program to type 2 program. We would like to give priority to students in our CS programs.

--The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

--Exclusions have been updated to account for the newly proposed CSC111H5.

Resources:

Resource form submitted.

CSC263H5: Data Structures and Analysis

Enrolment Limits:
Previous:

New:

Priority is given to students enrolled in Computer Science Specialist, Information Security Specialist, Computer Science Major or CS minor programs.

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
Computer Science Minor has been changed from type 1 program to type 2 program. We would like to give priority to students in our CS programs.

The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures. Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:
Resource form submitted.

CSC309H5: Programming on the Web

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:
Resource form submitted.

CSC310H5: Information Theory

Prerequisites:
Previous:

CSC148H5 and MAT223H5 and (STA246H5 or STA256H5 or ECO227Y5)

New:

(CSC148H5 or CSC111H5) and MAT223H5 and (STA246H5 or STA256H5 or ECO227Y5)

Enrolment Limits:
Previous:

New:

Priority is given to students enrolled in Computer Science Specialist, Information Security Specialist, Bioinformatics Specialist or Computer Science Major programs.

Rationale:
--Adding Enrolment limits to this course.
--Exclusions have been updated to account for the newly proposed CSC111H5

CSC311H5: Introduction to Machine Learning

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:
Resource form submitted.

CSC322H5: Introduction to Algebraic Cryptography

Enrolment Limits:
Previous: Priority is given to students enrolled in Computer Science Specialist, Information Security Specialist, Bioinformatics Specialist, Computer Science Major and Statistics Specialist or Major programs.

New: Priority is given to students enrolled in Computer Science Specialist, Information Security Specialist, Bioinformatics Specialist, Computer Science Major and Applied Statistics Specialist or Major programs.

Rationale:
Housekeeping change so that STA program language reflects actual program names in Academic Calendar/curriculum.

CSC324H5: Principles of Programming Languages

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:

Resource form submitted.

CSC338H5: Numerical Methods

Prerequisites:

Previous:

CSC148H5 and (MAT134H5 or MAT136H5 or MAT137Y5 or MAT139H5 or MAT157Y5 or MAT159H5 or MAT233H5) and (MAT223H5 or MAT240H5) and (CSC263H5 or 1.0 MAT credit at the 200+ level)

New:

(CSC148H5 or CSC111H5) and (MAT134H5 or MAT136H5 or MAT137Y5 or MAT139H5 or MAT157Y5 or MAT159H5 or MAT233H5) and (MAT223H5 or MAT240H5) and (CSC263H5 or 1.0 MAT credit at the 200+ level)

Enrolment Limits:

Previous:
Priority is given to students enrolled in Computer Science Specialist, Information Security Specialist, Bioinformatics Specialist or Computer Science Major programs.

New:

Priority is given to students enrolled in Computer Science Specialist, Information Security Specialist, Bioinformatics Specialist or Computer Science Major or Mathematical Sciences – Major: Applied Mathematics programs.

Mode of Delivery:

Previous: In Person
New: In Person; Hybrid

Rationale:

--CSC338H5 is an Applied MAT major program course (one of a list in Higher Years #5 https://utm.calendar.utoronto.ca/section/Mathematical-Sciences#programs). The Applied Mathematics Major students are given the priority to take this course.
--The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

--Exclusions have been updated to account for the newly proposed CSC111H5.

Resources:

Resource form submitted.

CSC343H5: Introduction to Databases

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:
Resource form submitted.

CSC347H5: Introduction to Information Security

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:
Resource form submitted.

CSC358H5: Principles of Computer Networks

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:
Resource form submitted.

CSC363H5: Computational Complexity and Computability

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:
Resource form submitted.

CSC367H5: Parallel Programming

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:
Resource form submitted.

CSC369H5: Operating Systems

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:
Resource form submitted.

CSC373H5: Algorithm Design and Analysis

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:
Resource form submitted.

CSC384H5: Introduction to Artificial Intelligence

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:
Resource form submitted.

CSC389H5: Computing Education

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
reakdown of Contact Hours & Delivery Mode When taught in hybrid form:

We would run the lecture and tutorial online. The midterm exams and final exam would stay in person.

LEC: all lectures occur online synchronously or asynchronously. If asynchronously, the course will run as an online discussion each week, where students make and respond to their peers and instructors posts (the course was run this way by Dr. Zingaro in Winter 2018).

TUT: all tutorials run online synchronously.

Rationale for Change in Delivery Mode

The reasons we would like a hybrid version of the course are:
- This is a unique course across the three U of T campuses. We would like to encourage students from other campuses to join our UTM course and strengthen our tri-campus CS education community.
- We have successfully run this course online before, in Winter 2016 and Winter 2018, taught by Dr. Zingaro. He is a CS education researcher and online learning researcher, and will take a leadership role around this course.
- More opportunities to strengthen student writing and build community. This is a writing- and discussion-intensive course. One affordance of online learning components is to keep discussion going outside of lecture, rather than being restricted to a single discussion period per week.

There are no changes to our existing programs or curriculum map.

Course Objectives:

1. Overviewing Computer Science Education Research. What are the sub-areas of the field? What research methods and theories of learning are in use?
2. Exposure to and discussion of some of the most relevant areas of research in CSE, including student understanding, research-based pedagogical approaches, underrepresentation of women in CS courses, and assessment.
3. Experience reviewing an area of literature, conceiving a research problem, and writing a research proposal.

Our objectives will be met the same way whether the course is taught online or in person.

The course assessments are:

1. Personal Learning Goals and Achievement. This assignment involves two subparts: exploring learning goals and assessment of achievement. *No change for online version*
2. Participation in class discussions. *When taught asynchronously online, discussions happen asynchronously in the forum; when taught synchronously online, class will occur via Zoom*
3. Discussion moderation. *When taught online asynchronously, discussions and student moderation happen asynchronously in the forum; when taught synchronously online, class will occur via Zoom*
4. Research Critique (students critique a research paper). *No change for online version*
5. Research Proposal (main summative course assessment). *No change for online version*

Midterm exams and final exam will be in person regardless of delivery mode.

How will accessibility accommodations/design be built into the course and new delivery mode?

Synchronous Lectures will be recorded and posted for anyone to revisit the material. All other materials for the course will be posted online as well. We will happily accommodate students with accessibility accommodations around assignment deadlines (just as we do now), and midterms and exams are staying as-is so no changes needed there.

How will active learning techniques be applied to the course and new delivery mode?

When lectures are synchronous, we will use active learning techniques such as Peer Instruction (Dr. Zingaro's research expertise is in this area), student presentations, and Zoom breakout rooms. When the course runs asynchronously, students will actively engage through the discussion forum, weekly moderation, and creative presentations (e.g. in the past, students have created podcasts and YouTube videos).

How will academic integrity concerns be addressed in the course and new delivery mode?

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student submissions.

Resources:
Resource form submitted.

CSC404H5: Video Game Design

Enrolment Limits:
Previous:

New:

Priority is given to students enrolled in Computer Science Specialist, Information Security Specialist, Bioinformatics Specialist or Computer Science Major programs.

Rationale:
Adding enrollment limits to this course.

CSC413H5: Neural Networks and Deep Learning

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:
Resource form submitted.

CSC422H5: Cryptography and Computational Complexity

Enrolment Limits:
Previous:

New:

Priority is given to students enrolled in Computer Science Specialist, Information Security Specialist, Bioinformatics Specialist or Computer Science Major programs.

Rationale:
Adding enrolment limits to the course.

CSC478H5: Robotic Perception

Mode of Delivery:
Previous: In Person
New: In Person; Hybrid

Rationale:
The potential of offering "hybrid" sections in addition to "in-person" sections would provide flexibility for students, for instructors and for scheduling. The hybrid format would offer pedagogical benefits to some students, while in-person is preferred by others, so the flexibility of offering multiple learning modes might be beneficial to a larger group of students.

We have been ramping-up our preparation for online courses, including recently successfully offering sections of CSC108 and CSC420 online (in addition to two years of development in all courses during Covid). Our CS Associate Chair, Dr. Daniel Zingaro, has experience researching and teaching courses online for many years and will be a contact point for instructors wishing to offer hybrid sections.

Breakdown of contact hours: no change

How accessibility and academic integrity will be maintained: Same as currently.
Unless there are mitigating factors, lectures will be recorded and posted for anyone to revisit the material. Given the fast pace of our courses, and the amount that we have to cover in them, we see this as a strong benefit of the online lectures.
Assessments will not change, so there is no impact on academic integrity.

Accessibility regarding assessments will be managed as previously.
Regarding in-class accommodations they will be managed on a case-by-case basis (as they are currently).

We will continue to uphold academic integrity through the current combination of student awareness, manual grading of student-submitted work, and automated matching of student code and work.

Active learning techniques will be applied: Same as currently.

Change in course objectives: No changes.

Resources:
Resource form submitted.

CSC479H5: Advanced Algorithms for Robotics

Enrolment Limits:
Previous:

New:

Priority is given to students enrolled in Computer Science Specialist, Information Security Specialist, Bioinformatics Specialist or Computer Science Major programs.

Rationale:
Adding enrolment limits to the course

MAT236H5: Vector Calculus

Enrolment Limits:
Previous: Priority is given to students enrolled in Mathematics, Computer Science and Statistics Specialist or Major programs; Astronomical Sciences Specialist (ERSPE1025) and Astronomy Major (ERMAJ2204) programs.

New: Priority is given to students enrolled in Mathematical Sciences, Computer Science and Applied Statistics Specialist or Major programs; Astronomical Sciences Specialist (ERSPE1025), Astronomy Major (ERMAJ2204), Biophysics Specialist (ERSPE1944), Physics Major (ERMAJ1944) and Physics Minor (ERMIN1944) programs.

Prerequisites:
Previous:
MAT102H5 and (MAT223H5 or MAT240H5) and (MAT232H5 or MAT233H5)

New:

(MAT223H5 or MAT240H5) and (MAT232H5 or MAT233H5)

Rationale:
This course is required: as a co-requisite for PHY241H5 (which is a required course for Biophys Spec ERSPE1944, Physics major ERMAJ1944, standard option for Phy Minor ERMIN1944)) and required for Biophys Spec ERSPE1944 program. MAT102H5 to be removed from prerequisites to better reflect material that is needed to be successful in this course.

Consultation:
With MAT Faculty & leadership 17-Sep-24 & 27-Sep-24; With MCS on 24-Sep-24; With CPS dept 27-Sep-24.

MAT244H5: Differential Equations I

Enrolment Limits:
Previous: Priority is given to students enrolled in Mathematical Sciences, Computer Science and Applied Statistics Specialist or Major programs; Astronomical Sciences Specialist (ERSPE1025), Astronomy Major (ERMAJ2204), Biophysics Specialist (ERSPE1944), and Physics Major (ERMAJ1944).

New: Priority is given to students enrolled in Mathematical Sciences, Computer Science and Applied Statistics Specialist or Major programs; Astronomical Sciences Specialist (ERSPE1025), Astronomy Major (ERMAJ2204), Biophysics Specialist (ERSPE1944), Physics Major (ERMAJ1944), and Physics Minor (ERMIN1944).

Rationale:
This course is required as a prerequisite for JCP321H5, JCP410H5, JCP422H5 and a corequisite of PHY245H5 which is a standard course option for PHY minors.

Consultation:

With MAT Faculty & leadership 17-Sep-24 & 27-Sep-27; With MCS on 24-Sep-24. With CPS 27-Sep-24.

MAT264H5: Introduction to Numerical Analysis

Enrolment Limits:

Previous: Priority is given to students enrolled in the Mathematical Sciences, Computer Science and Applied Statistics Specialist or Major programs.

New: Priority is given to students enrolled in the Mathematical Sciences - Major: Applied Mathematics program.

Rationale:

For Winter 2025, the TT Enrolment Controls only include MAT Specialist and major programs, however this course is specifically designed for Mathematical Sciences – Major: Applied Mathematics students. Updating Enrolment Limits to reflect that. Confirmation from CSC colleagues that course not needed in CSC programs; also confirmed that course not needed in STA programs.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT301H5: Groups and Symmetries

Enrolment Limits:

Previous:

Priority is given to students enrolled in the Mathematics, Computer Science and Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in the Mathematical Sciences, Computer Science and Applied Statistics Specialist or Major programs.

Rationale:

Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT302H5: Introduction to Algebraic Cryptography

Enrolment Limits:

Previous:

Priority is given to students enrolled in the Mathematics, Computer Science and Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in the Mathematical Sciences, Computer Science and Applied Statistics Specialist or Major programs.

Rationale:

Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT305H5: Elementary Lie Theory

Enrolment Limits:

Previous:

Priority is given to students enrolled in the Mathematics, Computer Science and Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in the Mathematical Sciences, Computer Science and Applied Statistics Specialist or Major programs.

Rationale:

Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT307H5: Curves and Surfaces

Enrolment Limits:

Previous:

Priority is given to students enrolled in the Mathematics, Computer Science and Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in the Mathematical Sciences, Computer Science and Applied Statistics Specialist or Major programs.

Rationale:

Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT311H5: Partial Differential Equations

Prerequisites:

Previous:

MAT257Y5 or (MAT236H5 and MAT244H5)

New:

MAT257Y5 or (MAT102H5 and MAT236H5 and MAT244H5)

Enrolment Limits:

Previous:

Priority is given to students enrolled in Mathematics, Computer Science and Statistics Specialist or Major programs; Astronomical Sciences Specialist (ERSPE1025), Astronomy Major (ERMAJ2204).

New:

Priority is given to students enrolled in Mathematical Sciences and Applied Statistics Specialist or Major programs; Astronomical Sciences Specialist (ERSPE1025), Astronomy Major (ERMAJ2204).

Rationale:

Timetable Enrolment Controls do not include “Priority” for CSC programs (this has been confirmed by Academic Advisor in CSC, as those programs do not specifically need this course). Also, housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum. Regarding Prerequisite change – since MAT102H5 to be removed as prerequisite from MAT236H5, and this course requires background knowledge in proofs/from 102, then 102 being added here.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT322H5: Mathematical Modelling in Biology

Enrolment Limits:

Previous: Restricted at all times to students in the Mathematical Sciences Minor and Mathematical Sciences – Major: Applied Mathematics programs.

New: Restricted at all times to students in the Mathematical Sciences – Major: Applied Mathematics and Mathematical Sciences Minor programs.

Rationale:

This course is a program requirement for Mathematical Sciences – Major: Applied Mathematics so updating Enrolment Limits to reflect that, while ensuring that MAT minors still have access.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT332H5: Introduction to Nonlinear Dynamics and Chaos

Enrolment Limits:

Previous:

Priority is given to students enrolled in the Mathematics or Statistics Specialist or Major programs and Bioinformatic Specialist.

New:

Priority is given to students enrolled in the Mathematical Sciences or Applied Statistics Specialist or Major, Bioinformatics Specialist, Astronomical Sciences Specialist (ERSPE1025) and Astronomy Major (ERMAJ2204) programs.

Rationale:

Ast Sci Spec and Ast major need this course as program requirement, so updating the "Enrolment Limits" in Academic Calendar to allow access to students. Also, housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24. With CPS 27-Sep-24.

MAT334H5: Complex Variables

Enrolment Limits:

Previous: Priority is given to students enrolled in Mathematics, Computer Science and Statistics Specialist or Major programs; Astronomical Sciences Specialist (ERSPE1025), Astronomy Major (ERMAJ2204).

New: Priority is given to students enrolled in Mathematical Sciences and Applied Statistics Specialist or Major programs; Astronomical Sciences Specialist (ERSPE1025), Astronomy Major (ERMAJ2204).

Rationale:

Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum. Timetable Enrolment Controls do not include "Priority" for CSC programs (this has been confirmed by Academic Advisor in CSC, as those programs do not specifically need this course).

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT354H5: Complex Analysis

Enrolment Limits:

Previous:

Priority is given to students enrolled in the Mathematics or Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in the Mathematical Sciences or Applied Statistics Specialist or Major programs.

Rationale:

Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT386H5: Topics in Applied Mathematics

Enrolment Limits:

Previous:

Priority is given to students enrolled in the Mathematical Sciences or Applied Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in the Mathematical Sciences - Major: Applied Mathematics program.

Rationale:

This Topics course is a program requirement for Mathematical Sciences – Major: Applied Mathematics students. Updating Enrolment Limits to reflect that.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT387H5: Topics in Mathematics

Enrolment Limits:

Previous:

Priority is given to students enrolled in the Mathematical Sciences Specialist or Major programs.

New:

Restricted at all times to students enrolled in the Mathematical Sciences Minor program.

Rationale:

Topic will be designed for MAT minor students who have historically had limited access to 300+ level MAT courses. Updating Enrolment Limits to give access to MAT minors.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT388H5: Topics in Advanced Mathematics

Title:

Previous: Topics in Mathematics
New: Topics in Advanced Mathematics

Enrolment Limits:

Previous:

Priority is given to students enrolled in the Mathematics Specialist or Major programs.

New:

Priority is given to students enrolled in the Mathematical Sciences and Applied Statistics Specialist or Major programs.

Rationale:

Topic will be designed for MAT Specialist and major students. Title changed to reflect that. Housekeeping change to program names in Enrolment Limits so that they better reflect information in Academic Calendar/curriculum. Aim for consistency Enrolment Limits among most MAT Topics courses and aligned with those imposed on the timetable.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT406H5: Mathematical Introduction to Game Theory

Enrolment Limits:

Previous:

Priority is given to students enrolled in the Mathematics, Computer Science and Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in the Mathematical Sciences, Computer Science and Applied Statistics Specialist or Major programs.

Rationale:

Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT478H5: Topics in Mathematics

Enrolment Limits:

Previous:

Priority is given to students enrolled in the Mathematics Specialist or Major programs.

New:

Priority is given to students enrolled in the Mathematical Sciences or Applied Statistics Specialist or Major programs.

Rationale:

Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum and is consistent across most MAT Topics courses.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT486H5: Topics in Applied Mathematics

Enrolment Limits:

Previous:

Priority is given to students enrolled in the Mathematical Sciences or Applied Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in the Mathematical Sciences - Major: Applied Mathematics program.

Rationale:

This Topics course is a program requirement for Mathematical Sciences – Major: Applied Mathematics students. Updating Enrolment Limits to reflect that.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

MAT488H5: Topics in Advanced Mathematics

Title:

Previous: Topics in Mathematics
New: Topics in Advanced Mathematics

Enrolment Limits:

Previous:

Priority is given to students enrolled in the Mathematics Specialist or Major programs.

New:

Priority is given to students enrolled in the Mathematical Sciences or Applied Statistics Specialist or Major programs.

Rationale:

Topic will be designed for MAT Specialist and major students. Title changed to reflect that. Housekeeping change to program names in Enrolment Limits so that they better reflect information in Academic Calendar/curriculum. Aim for consistency in Enrolment Limits among most MAT Topics courses.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

STA260H5: Probability and Statistics II

Exclusions:
Previous:
STAB57H3 or STA261H5 or STA261H1 or STAC58H3 or STA238H1

New:
STA261H5 or STA238H1 or STA261H1 or STAB57H3 or STAC58H3

Mode of Delivery:
Previous:

New:
In Person

Rationale:
Added in-person delivery mode as the course was missing delivery modes, as well as reordered exclusions to be by-campus then alpha-numeric.

STA302H5: Regression Analysis

Enrolment Limits:
Previous:
Priority is given to students enrolled in Statistics Specialist or Major programs.

New:
Priority is given to students enrolled in Applied Statistics Specialist or Major programs and Mathematical Sciences - Major: Applied Mathematics program.

Rationale:
Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum. This course can count towards the Mathematical Sciences – Major: Applied Mathematics, so including that program in Enrolment Limits so students have priority access to enrolment.

Consultation:
With MCS dept on 24-Sep-24.

STA304H5: Surveys, Sampling and Observational Data

Enrolment Limits:
Previous:
Priority is given to students enrolled in Statistics Specialist or Major programs.

New:
Priority is given to students enrolled in Applied Statistics Specialist, Major or Minor programs.

Rationale:
Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum. STA minor added to Enrolment Limits as this program was added to “P” (Priority) Enrolment Control in June 2024 for 2024-2025 course enrolment, to facilitate access for STA minors active in program from 2023 or earlier. This course does not have STA260H5 as mandatory prerequisite. STA260H5 has been typically avoided by STA minors active in program from 2023 earlier.

Consultation:
With MCS dept on 24-Sep-24.

STA305H5: Experimental Design

Enrolment Limits:
Previous:
Priority is given to students enrolled in Statistics Specialist or Major programs.

New:
Priority is given to students enrolled in Applied Statistics Specialist or Major programs.

Rationale:
Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum.

Consultation:
With MCS dept on 24-Sep-24.

STA312H5: Topics in Statistics

Enrolment Limits:

Previous:

Priority is given to students enrolled in Applied Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in Applied Statistics Specialist or Major programs and Mathematical Sciences - Major: Applied Mathematics program.

Rationale:
This course can count towards the Mathematical Sciences – Major: Applied Mathematics, so including that program in Enrolment Limits so students have priority access to enrolment.

Consultation:
With MCS dept on 24-Sep-24.

STA313H5: Topics in Statistics

Enrolment Limits:

Previous:

Priority is given to students enrolled in Applied Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in Applied Statistics Specialist or Major programs and Mathematical Sciences - Major: Applied Mathematics program.

Rationale:
This course can count towards the Mathematical Sciences – Major: Applied Mathematics, so including that program in Enrolment Limits so students have priority access to enrolment.

Consultation:
With MCS dept on 24-Sep-24.

STA314H5: Introduction to Statistical Learning

Enrolment Limits:
Previous:
Priority is given to students enrolled in Statistics Specialist or Major programs.

New:
Priority is given to students enrolled in Applied Statistics Specialist or Major programs.

Rationale:
Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum.

Consultation:
With MCS dept on 24-Sep-24.

STA315H5: Advanced Statistical Learning

Enrolment Limits:
Previous:
Priority is given to students enrolled in Statistics Specialist or Major programs.

New:
Priority is given to students enrolled in Applied Statistics Specialist or Major programs.

Rationale:
Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum.

Consultation:
With MCS dept on 24-Sep-24.

STA348H5: Introduction to Stochastic Processes

Enrolment Limits:

Previous:

Priority is given to students enrolled in Applied Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in Applied Statistics Specialist or Major programs and Mathematical Sciences - Major: Applied Mathematics program.

Rationale:
This course can count towards the Mathematical Sciences – Major: Applied Mathematics, so including that program in Enrolment Limits so students have priority access to enrolment.

Consultation:
With MCS dept on 24-Sep-24.

STA360H5: Introduction to Bayesian Statistics

Enrolment Limits:

Previous:

Priority is given to students enrolled in Applied Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in Applied Statistics Specialist, Major or Minor programs.

Rationale:
Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum. STA minor added to Enrolment Limits as this program was added to "P" (Priority) Enrolment Control in June 2024 for 2024-2025 course enrolment, to facilitate access for STA minors active in program from 2023 or earlier. This course does not have STA260H5 as mandatory prerequisite. STA260H5 has been typically avoided by STA minors active in program from 2023 earlier.

Consultation:
With MCS dept on 24-Sep-24.

STA380H5: Computational Statistics

Enrolment Limits:
Previous:
Priority is given to students enrolled in Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in Applied Statistics Specialist or Major programs and Mathematical Sciences - Major: Applied Mathematics program.

Rationale:
Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum. This course can count towards the Mathematical Sciences – Major: Applied Mathematics, so including that program in Enrolment Limits so students have priority access to enrolment.

Consultation:
With MCS dept on 24-Sep-24.

STA413H5: Estimation and Testing

Enrolment Limits:
Previous:
Priority is given to students enrolled in Statistics Specialist or Major programs.

New:
Priority is given to students enrolled in Applied Statistics Specialist or Major programs.

Rationale:
Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum.

Consultation:
With MCS dept on 24-Sep-24.

STA431H5: Structural Equation Models

Enrolment Limits:
Previous:
Priority is given to students enrolled in Statistics Specialist or Major programs.

New:
Priority is given to students enrolled in Applied Statistics Specialist or Major programs.

Rationale:
Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum.

Consultation:
With MCS dept on 24-Sep-24.

STA437H5: Applied Multivariate Statistics

Enrolment Limits:

Previous:

Priority is given to students enrolled in Statistics Specialist or Major programs.

New:

Priority is given to students enrolled in Applied Statistics Specialist or Major programs.

Rationale:

Housekeeping change so that MAT, STA program language reflects actual program names in Academic Calendar/curriculum.

Consultation:

With MCS dept on 24-Sep-24.

1 Course Retirement

MAT382H5: Mathematics for Teachers

Rationale:

According to PCU course has not been offered since 2019; 2023-24 would have been 5 years since last offering, so we can remove this (retire) from Academic Calendar. The course code does not appear in any MCS programs.

Consultation:

This course appears in the Education Studies Minor. So, in late July 2024, Education Studies Minor undergraduate advisor and Program Coordinator were notified and acknowledged via email. With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

9 Program Modifications

ERMAJ1540: Applied Statistics - Major (Science)

Completion Requirements:

Previous:

7.0-8.0 credits are required.

First Year:

CSC108H5
MAT102H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5
MAT223H5 or MAT240H5
For students entering the program in 2025-2026 (and beyond): ISP100H5

Second Year:

MAT232H5 or MAT233H5 or MAT257Y5
STA256H5 and STA258H5 and STA260H5

Higher Years:

STA302H5 and STA304H5 and STA305H5
1.0 credit from any 300/400 level STA course or CSC322H5 or CSC311H5 or MAT302H5 or MAT311H5 or MAT332H5 or MAT334H5 or MAT344H5 or MAT337H5

NOTES:

MAT133Y5 is included in the credit count only if the student also completes MAT233H5 (in which case MAT232H5 is not required).
Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.
ECO220Y5 cannot be substituted for STA256H5 or STA258H5 and/or STA260H5.
ECO227Y5 can be substituted for STA256H5 and STA258H5, but not for STA260H5.
STA107H5 is highly recommended in first year, but it is not required.
MAT337H5 is highly recommended for students intending to pursue graduate level studies in statistics.
Students in the Applied Statistics Major may take at most 0.5 credit of Statistics Research Project Course(s) from STA378H5, STA398H5, STA478H5 and STA498H5.
STA246H5 will not be permitted as a pre-requisite for any other 200+ level STA courses. In addition, STA246H5 cannot be used towards any program(s) in Applied Statistics or Mathematics. The course is intended only for students in Computer Science programs who will not need STA256H5 for other program requirements.

New:

7.5 - 8.0 credits are required.

First Year:

CSC108H5
MAT102H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5
MAT223H5 or MAT240H5
ISP100H5

Second Year:

MAT232H5 or MAT233H5 or MAT257Y5
STA256H5 and STA258H5 and STA260H5

Higher Years:

STA302H5 and STA304H5 and STA305H5
1.0 credit from any 300/400 level STA course or CSC322H5 or CSC311H5 or MAT302H5 or MAT311H5 or MAT332H5 or MAT334H5 or MAT344H5 or MAT337H5

NOTES:

MAT133Y5 is included in the credit count only if the student also completes MAT233H5 (in which case MAT232H5 is not required).
Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.
ECO220Y5 cannot be substituted for STA256H5 or STA258H5 and/or STA260H5.
ECO227Y5 can be substituted for STA256H5 and STA258H5, but not for STA260H5.
STA107H5 is highly recommended in first year, but it is not required.

MAT337H5 is highly recommended for students intending to pursue graduate level studies in statistics.
Students in the Applied Statistics Major may take at most 0.5 credit of Statistics Research Project Course(s) from STA378H5, STA398H5, STA478H5 and STA498H5.
STA246H5 will not be permitted as a pre-requisite for any other 200+ level STA courses. In addition, STA246H5 cannot be used towards any program(s) in Applied Statistics or Mathematics. The course is intended only for students in Computer Science programs who will not need STA256H5 for other program requirements.

Enrolment Requirements:

Previous:

Limited Enrolment — Enrolment in the Major program is limited to students with a minimum of 4.0 credits, including:

For students applying in 2023-2024 for program entry in the 2024-2025 Academic Year:

STA107H5 (with a minimum grade of 60%) or STA256H5;
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT137Y5 or MAT157Y5 or MAT233H5; and
A minimum cumulative grade point average, to be determined annually.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR/NCR will not count as a part of the 4.0 credits required for program entry.

For students applying in 2024-2025 for program entry in the 2025-2026 Academic Year:

STA107H5 (with a minimum grade of 60%) or STA256H5;
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT137Y5 or MAT157Y5 or MAT233H5;
ISP100H5; and
A minimum cumulative grade point average, to be determined annually.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR/NCR will not count as a part of the 4.0 credits required for program entry.

New:

Limited Enrolment — Enrolment in the Major program is limited to students with a minimum of 4.0 credits, including:

STA107H5 (with a minimum grade of 60%) or STA256H5;
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT137Y5 or MAT157Y5 or MAT233H5;
ISP100H5; and
A minimum cumulative grade point average, to be determined annually.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry.

Description of Proposed Changes:

1) Remove irrelevant reference to “NCR”, since this is a failed course anyway and does not contribute towards completed credits at all; add clarity to language to make it transparent that MCS does not accept TCs towards the min 4.0 credits.

2) Removing two-part language for Limited Enrolment and bolded language in front of Program Requirement ISP100H5. Updating total credits in Completion Requirements.

Rationale:

1) Students still ask about this (and may not be understanding that “CR/NCR” also refers to Transfer Credits.) Also, there can be some misunderstanding by only including ‘CR/NCR’ as students may only see courses where they’ve made that selection as not counting towards POSt credit requirement; it is not explicit that we also mean “CR” to represent how TCs are noted on a transcript. Add this language so that we can take what has been common practice for years and turn it into transparent language. Using another SCI dept as an example (BIO), they make it crystal clear in two places that transfer credits are not counted in the minimum 4.0 credits.

2) Language only necessary in 2024-25 Academic Calendar (as transition period). Completion Requirements updated for accuracy.

Consultation:

Throughout March and early April 2024 with STA Associate Chair; 19-Apr-24 with MCS dept. With MCS dept on 24-Sep-24.

ERMAJ1688: Computer Science - Major (Science)

Completion Requirements:

Previous:
7.5-8.5 credits are required.

First Year:

CSC108H5 and CSC148H5 and ISP100H5
MAT102H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5 or MAT233H5

Second Year:

CSC207H5 and CSC236H5
1.0 credit from the following CSC209H5 or CSC258H5 or CSC263H5
MAT223H5 or MAT240H5
STA246H5 or STA256H5 or ECO227Y5

Higher Years:

2.0 credits from any 300/400 level CSC course or GGR335H5 or GGR337H5 or GGR437H5. At least 0.5 credit must come from 400-level courses and at least 0.5 credit must come from CSC369H5 or CSC311H5 or CSC338H5 or CSC347H5 or CSC376H5. No more than 0.5 credit of GGR courses may count to this requirement.

NOTE:

1. In addition to the course requirements above, students must complete an integrative learning experience. This requirement may be met by participating in the UTM Co-op Internship Program (UTMCIP)* or by completing one of the following half-courses: CSC318H5, CSC367H5, CSC375H5, CSC376H5, CSC409H5, CSC420H5, CSC427H5, CSC477H5, CSC490H5.

*Please be advised that the UTMCIP only applies to UTM Computer Science students entering Year of Study 2. For more information about the UTMCIP, please visit the Experiential and International Opportunities page of the UTM Academic Calendar.

2. Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.

New:

7.5-8.5 credits are required.

First Year:

(CSC108H5 and MAT102H5) or CSC110Y5
CSC148H5 or CSC111H5
ISP100H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5 or MAT233H5

Second Year:

CSC207H5 and CSC236H5
1.0 credit from the following: CSC209H5 or CSC258H5 or CSC263H5
MAT223H5 or MAT240H5
STA246H5 or STA256H5 or ECO227Y5

Higher Years:

2.0 credits from any 300/400 level CSC course or GGR335H5 or GGR337H5 or GGR437H5. At least 0.5 credit must come from 400-level courses and at least 0.5 credit must come from CSC369H5 or CSC311H5 or CSC338H5 or CSC347H5 or CSC376H5. No more than 0.5 credit of GGR courses may count to this requirement.

NOTE:

1. In addition to the course requirements above, students must complete an integrative learning experience. This requirement may be met by participating in the UTM Co-op Internship Program (UTMCIP)* or by completing one of the following half-courses: CSC318H5, CSC367H5, CSC375H5, CSC376H5, CSC409H5, CSC420H5, CSC427H5, CSC477H5, CSC490H5.

*Please be advised that the UTMCIP only applies to UTM Computer Science students entering Year of Study 2. For more information about the UTMCIP, please visit the Experiential and International Opportunities page of the UTM Academic Calendar.

2. Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.

Enrolment Requirements:

Previous:

Limited Enrolment — Enrolment in this program is limited to students with a minimum of 4.0 credits, including the following:

Submission of a supplemental application
CSC148H5 (see minimum grade note below)
MAT102H5 (see minimum grade note below)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5
A cumulative grade point average (CGPA), determined annually. It is never lower than 2.5
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry

Special Requirement: Beginning in the 2025-2026 application cycle, students must complete a supplemental application to be considered for the program. Supplemental application deadlines are the same date as the POSt application deadline on ACORN. More information, including information about the supplemental application form, is available on the Department of Mathematical and Computational Sciences website here.

NOTES:

The minimum grade required in CSC148H5 and MAT102H5 is determined annually. It is never lower than 60%. Only CSC148H5 and MAT102H5, taken at the UTM campus, will be accepted.

Transfer students who have completed any postsecondary studies outside of UTM (including studies at other divisions at the University of Toronto) are not eligible to pursue a Specialist and/ or Major in Computer Science at U of T Mississauga.

Due to the limited enrolment nature of this program, students are strongly advised to develop alternate plans if they need to instead enroll in other programs.

The Computer Science Major is a deregulated fees program and as such, tuition fees for students enrolled in this program are higher than for other regulated fee programs. Fees are charged on a program and not a per-course basis. See www.fees.utoronto.ca for more information on the fee structures.

Enrolment in the UTMCIP stream of this program is limited to students who have completed 4.0 credits, including:

CSC148H5 (a final grade of at least 60%)
MAT102H5 (a final grade of at least 60%)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5

Courses to take in Year of Study 2: Complete CSC207H5/CSC207H1/CSCB07H3 by the end of Year of Study 2 to remain eligible for the program.

Students who have achieved a cumulative GPA of at least 2.5 are encouraged to apply. Students must be in good standing with no outstanding academic integrity cases.

New:

Limited Enrolment

There are two pathways to entry, and a student must satisfy one.

For students admitted through the CMP1 admission category: Enrolment in this program is limited to students with a minimum of 4.0 credits, including the following:

CSC110Y1 (70%)
CSC111H1 (77%)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry.

For students admitted through other admission categories: Enrolment in this program is limited to students with a minimum of 4.0 credits, including the following:

Submission of a supplemental application
CSC148H5 (see minimum grade note below)
MAT102H5 (see minimum grade note below)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5
A cumulative grade point average (CGPA), determined annually. It is never lower than 2.5
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry

Special Requirement: Beginning in the 2026-2027 application cycle, students must complete a supplemental application to be considered for the program. Supplemental application deadlines are the same date as the POSt application deadline on ACORN. More information, including information about the supplemental application form, is available on the Department of Mathematical and Computational Sciences website here.

NOTES:

The minimum grade required in CSC148H5 and MAT102H5 is determined annually. It is never lower than 60%. Only CSC148H5 and MAT102H5, taken at the UTM campus, will be accepted.

Transfer students who have completed any postsecondary studies outside of UTM (including studies at other divisions at the University of Toronto) are not eligible to pursue a Specialist and/ or Major in Computer Science at U of T Mississauga.

Due to the limited enrolment nature of this program, students are strongly advised to develop alternate plans if they need to instead enroll in other programs.

The Computer Science Major is a deregulated fees program and as such, tuition fees for students enrolled in this program are higher than for other regulated fee programs. Fees are charged on a program and not a per-course basis. See www.fees.utoronto.ca for more information on the fee structures.

Enrolment in the UTMCIP stream of this program is limited to students who have completed 4.0 credits. For students who were admitted to UTM in the CMP1 stream, those 4.0 credits must include:

CSC110Y5 (a final grade of at least 70%)
CSC111H5 (a final grade of at least 77%)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5

For students who were admitted to UTM in any stream other than CMP1, those 4.0 credits must include:

CSC148H5 (a final grade of at least 60%)
MAT102H5 (a final grade of at least 60%)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5

Courses to take in Year of Study 2: Complete CSC207H5/CSC207H1/CSCB07H3 by the end of Year of Study 2 to remain eligible for the program.

Students who have achieved a cumulative GPA of at least 2.5 are encouraged to apply. Students must be in good standing with no outstanding academic integrity cases.

Description of Proposed Changes:

The changes to course requirements introduce a new stream of required first year courses and modify the program admissions requirements so that students from outside the CMP1 stream or students in the CMP1 stream who change their minds can apply.

Rationale:

MCS is hopeful that the first-year admissions stream will start in 2026-2027. As such, MCS would like the effective date to align with the supplemental application.

This will enable MCS to maintain the total number of students admitted to the Computer Science specialist and major programs, by allowing entry into the major from outside of CMP1, while better preparing students aiming for a specialist program.

Consultation:

Office of the Dean, Office of the Registrar, and advice from the Department of Computer Science (FAS).

Resource Implications:

It is intended that the specialist and major programs (CS specialist and major, information security specialist) will continue to enroll the same number of students as currently, but fewer first year students may be admitted who have an interest in CS, as the expectation is that a larger fraction will transition from first year studies to a computing program.

ERMAJ2511: Mathematical Sciences - Major: Mathematics (Science)

Completion Requirements:

Previous:

8.0-8.5 credits are required.

First Year:

MAT102H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5
MAT223H5 or MAT240H5
For students entering the program in 2025-2026 (and beyond): ISP100H5

Second Year:

MAT202H5 and MAT244H5
[(MAT232H5 or MAT233H5) and MAT236H5] or MAT257Y5
MAT224H5 or MAT247H5

Higher Years:

MAT301H5 and (MAT334H5 or MAT354H5)
MAT337H5 or MAT392H5 or MAT405H5
MAT305H5 or MAT311H5 or MAT332H5
MAT302H5 or MAT315H5 or MAT344H5
STA256H5 or CSC363H5 or 0.5 credit of MAT at the 300/400 level, except MAT322H5
0.5 additional credits in MAT at the 400 level

NOTES:

MAT137H5 and MAT139H5 are recommended.
Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.
Mathematical Sciences Majors are strongly encouraged to enroll in MAT240H5 followed by MAT247H5.

New:

8.5 credits are required.

First Year:

MAT102H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5
MAT223H5 or MAT240H5
ISP100H5

Second Year:

MAT202H5 and MAT244H5
[(MAT232H5 or MAT233H5) and MAT236H5] or MAT257Y5
MAT224H5 or MAT247H5

Higher Years:

MAT301H5 and (MAT334H5 or MAT354H5)
MAT337H5 or MAT392H5 or MAT405H5
MAT305H5 or MAT311H5 or MAT332H5
MAT302H5 or MAT315H5 or MAT344H5
STA256H5 or CSC363H5 or 0.5 credit of MAT at the 300/400 level, except MAT322H5
0.5 additional credits in MAT at the 400 level

NOTES:

MAT137H5 and MAT139H5 are recommended.
Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.
Mathematical Sciences Majors are strongly encouraged to enroll in MAT240H5 followed by MAT247H5.

Enrolment Requirements:

Previous:

Limited Enrolment — Enrolment in the Major program is limited to students with a minimum of 4.0 credits, including:

For students applying in 2023-2024 for program entry in the 2024-2025 Academic Year:

MAT102H5 (minimum 60%);
[(MAT134H5 or MAT136H5 or MAT139H5 or MAT137Y5 or MAT233H5) (minimum 60%)] or MAT159H5 or MAT157Y5; and
A minimum cumulative grade point average (CGPA), to be determined annually.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR/NCR will not count as a part of the 4.0 credits required for program entry.

For students applying in 2024-2025 for program entry in the 2025-2026 Academic Year:

MAT102H5 (minimum 60%);
[(MAT134H5 or MAT136H5 or MAT139H5 or MAT137Y5 or MAT233H5) (minimum 60%)] or MAT159H5 or MAT157Y5;
ISP100H5; and
A minimum cumulative grade point average (CGPA), to be determined annually.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry.

Students cannot be simultaneously enrolled in **or** complete both the Mathematical Sciences – Major: Mathematics (ERMAJ2511) **and** the Mathematical Sciences – Major: Applied Mathematics (ERMAJ2512) programs.

New:

Limited Enrolment — Enrolment in the Major program is limited to students with a minimum of 4.0 credits, including:

MAT102H5 (minimum 60%);
[(MAT134H5 or MAT136H5 or MAT139H5 or MAT137Y5 or MAT233H5) (minimum 60%)] or MAT159H5 or MAT157Y5;
ISP100H5; and
A minimum cumulative grade point average (CGPA), to be determined annually.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry.

Students cannot be simultaneously enrolled in **or** complete both the Mathematical Sciences – Major: Mathematics (ERMAJ2511) **and** the Mathematical Sciences – Major: Applied Mathematics (ERMAJ2512) programs.

Description of Proposed Changes:
Removing two-part language for Limited Enrolment and bolded language in front of Program Requirement ISP100H5. Updating total credits in Completion Requirements.

Rationale:
Language only necessary in 2024-25 Academic Calendar (as transition period). Completion Requirements updated for accuracy.

Consultation:
With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

ERMAJ2512: Mathematical Sciences - Major: Applied Mathematics (Science)

Completion Requirements:

Previous:

8.0 credits are required.

First year:

MAT102H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or (MAT137Y5 or MAT157Y5)
MAT223H5 or MAT240H5

Second year:

MAT244H5
STA256H5
[(MAT232H5 or MAT233H5) and MAT236H5] or MAT257Y5
STA260H5
MAT264H5

Higher years:

MAT311H5
MAT322H5 or MAT332H5
MAT334H5 or MAT354H5
MAT386H5 or MAT406H5 or MAT486H5 or STA312H5 or STA313H5 or STA348H5 or STA380H5
MAT332H5 or MAT322H5 or STA302H5 or STA312H5 or STA313H5 or STA348H5 or STA380H5 or CSC338H5
0.5 additional credits in MAT at 300/400 level

NOTES:
MAT305H5 or MAT337H5 or MAT386H5 or MAT406H5 or MAT486H5 are recommended.

New:

8.5 credits are required.

First year:

MAT102H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or (MAT137Y5 or MAT157Y5)
MAT223H5 or MAT240H5
ISP100H5

Second year:

MAT244H5
STA256H5
[(MAT232H5 or MAT233H5) and MAT236H5] or MAT257Y5
STA260H5
MAT264H5

Higher years:

MAT311H5
MAT322H5 or MAT332H5
MAT334H5 or MAT354H5
MAT386H5 or MAT406H5 or MAT486H5 or STA312H5 or STA313H5 or STA348H5 or STA380H5
MAT332H5 or MAT322H5 or STA302H5 or STA312H5 or STA313H5 or STA348H5 or STA380H5 or CSC338H5
0.5 additional credits in MAT at 300/400 level

NOTES:
MAT305H5 or MAT337H5 or MAT386H5 or MAT406H5 or MAT486H5 are recommended.

Enrolment Requirements:

Previous:

Students will be able to apply for this Subject POSt starting in March 2025.

Limited Enrolment — Enrolment in the Major program is limited to students with a minimum of 4.0 credits, including:

- MAT102H5 (minimum 60%)
- A minimum 60% grade in MAT134H5 or MAT136H5 or MAT139H5 or MAT137Y5 or MAT233H5 or a minimum 50% in MAT159H5 or MAT157Y5; ISP100H5; and
- A minimum cumulative grade point average (CGPA), to be determined annually.
- All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry.

Students cannot be simultaneously enrolled in **or** complete both the Mathematical Sciences – Major: Mathematics (ERMAJ2511) **and** Mathematical Sciences – Major: Applied Mathematics (ERMAJ2512) programs.

New:

Limited Enrolment — Enrolment in the Major program is limited to students with a minimum of 4.0 credits, including:

- A minimum 60% grade in MAT102H5
- A minimum 60% grade in MAT134H5 or MAT136H5 or MAT139H5 or MAT137Y5 or MAT233H5 or a minimum 50% in MAT159H5 or MAT157Y5
- ISP100H5
- A minimum cumulative grade point average (CGPA), to be determined annually.
- All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry.

Students cannot be simultaneously enrolled in **or** complete both the Mathematical Sciences – Major: Mathematics (ERMAJ2511) **and** Mathematical Sciences – Major: Applied Mathematics (ERMAJ2512) programs.

Rationale:

Included ISP100H5 as #4 in First Year Completion Requirements as it is already in Enrolment/Entry Requirements. Credit count for completion requirements has been adjusted to 8.5 credits to account for this.

These changes are being made to ensure that the Academic Calendar to more accurately represent the delivery of the program by MCS.

ERMIN1688: Computer Science - Minor (Science)

Completion Requirements:

Previous:

4.0 credits are required.

First Year: CSC108H5 and CSC148H5 and MAT102H5

Second Year:
1. CSC207H5 and CSC236H5
2. One of CSC209H5 or CSC258H5 or CSC263H5

Third and Fourth Years: 1.0 credit from any 300/400 level CSC course (except for CSC392H5 and CSC393H5 and CSC492H5 and CSC493H5 and any CSC ROP courses) or GGR335H5 or GGR337H5 or GGR437H5. No more than 0.5 credit of GGR courses may count to this requirement.

NOTES:

Students in the CSC minor are limited to 1.5 credits of computer science courses at the 300/ 400-level. Enrolment in additional CSC courses is restricted to students in CSC specialist and major programs.
CSC Minor can take no more than one of CSC392H5 or CSC393H5 or CSC492H5 or CSC493H5 or any CSC ROP courses.

New:

4.0 credits are required.

First Year:

(CSC108H5 and MAT102H5) or CSC110Y5
CSC111H5 or CSC148H5

Second Year:

CSC207H5 and CSC236H5
One of CSC209H5 or CSC258H5 or CSC263H5

Third and Fourth Years: 1.0 credit from any 300/400 level CSC course (except for CSC392H5 and CSC393H5 and CSC492H5 and CSC493H5 and any CSC ROP courses) or GGR335H5 or GGR337H5 or GGR437H5. No more than 0.5 credit of GGR courses may count to this requirement.

NOTES:

Students in the CSC minor are limited to 1.5 credits of computer science courses at the 300/ 400-level. Enrolment in additional CSC courses is restricted to students in CSC specialist and major programs.
CSC Minors can take no more than one of CSC392H5 or CSC393H5 or CSC492H5 or CSC493H5 or any CSC ROP courses.

Enrolment Requirements:

Previous:

Limited Enrolment — Enrolment in this program is limited to students with a minimum of 4.0 credits, including the following:

CSC148H5 (see note below)
MAT102H5 (see note below)
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry.

NOTES:

The minimum grade required in CSC148H5 and MAT102H5 is determined annually. Only CSC148H5 and MAT102H5, taken at the UTM campus, will be accepted.
Due to the limited enrolment nature of this program, students are strongly advised to develop alternate plans if they need to instead enroll in other programs

Enrolment in the UTMCIP stream of this program is limited to students who have completed 4.0 credits, including:

CSC108H5 (a final grade of at least 60%)
CSC148H5 (a final grade of at least 60%)
MAT102H5 (a final grade of at least 60%)

Courses to take in Year of Study 2: Complete CSC207H5/CSC207H1/CSCB07H3 by the end of Year of Study 2 to remain eligible for the program.

Students who have achieved a cumulative GPA of at least 2.5 are encouraged to apply. Students must be in good standing with no outstanding academic integrity

cases.

*Please be advised that the UTMCIP only applies to UTM Computer Science students entering Year of Study 2. For more information about the UTMCIP, please visit the Experiential and International Opportunities page of the UTM Academic Calendar.

New:

Limited Enrolment — Enrolment in this program is limited to students with a minimum of 4.0 credits, including the following:

CSC148H5 or CSC111H5 (see note below)
MAT102H5 or CSC110Y5(see note below)
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry.

NOTES:

The minimum grade required in (CSC148H5 or CSC111H5) and (MAT102H5 or CSC110Y5) is determined annually. Only CSC148H5,CSC111H5, MAT102H5, and CSC110Y5 taken at the UTM campus, will be accepted.
Due to the limited enrolment nature of this program, students are strongly advised to develop alternate plans if they need to instead enroll in other programs

Enrolment in the UTMCIP stream of this program is limited to students who have completed 4.0 credits, including:

(CSC108H5 and MAT102H5) or CSC110Y5 (with final grade of at least 60%)
CSC148H5 or CSC111H5 (with final grade of at least 60%)

Courses to take in Year of Study 2: Complete CSC207H5/CSC207H1/CSCB07H3 by the end of Year of Study 2 to remain eligible for the program.

Students who have achieved a cumulative GPA of at least 2.5 are encouraged to apply. Students must be in good standing with no outstanding academic integrity cases.

*Please be advised that the UTMCIP only applies to UTM Computer Science students entering Year of Study 2. For more information about the UTMCIP, please visit the Experiential and International Opportunities page of the UTM Academic Calendar.

Description of Proposed Changes:

The changes to course requirements introduce a new stream of required first year courses and modify the program admissions requirements so that students from outside the CMP1 stream or students in the CMP1 stream who change their minds can apply.

Rationale:

This allows studentes in CMP1 to change their mind and enroll in the minor instead of a specialist or major.

Consultation:

Office of the Dean, Office of the Registrar, and advice from the Department of Computer Science (FAS).

ERSPE1038: Information Security - Specialist (Science)

Completion Requirements:

Previous:

12.0-13.5 credits are required.

First Year:

CSC108H5 and CSC148H5 and ISP100H5
MAT102H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5 or MAT233H5
MAT223H5 or MAT240H5

Second Year:

CSC207H5 and CSC209H5 and CSC236H5 and CSC258H5 and CSC263H5
MAT224H5 or MAT240H5
MAT232H5 or MAT257Y5
STA246H5 or STA256H5 or ECO227Y5

Third Year:

CSC343H5 and CSC347H5 and CSC363H5 and CSC369H5 and CSC373H5
MAT301H5 and MAT302H5

Fourth Year:

CSC358H5 or CSC458H5
1.0 credit from the following: CSC409H5 or CSC422H5 or CSC423H5 or CSC427H5 or CSC490H5 or CSC495H5

NOTES:

1. In addition to the course requirements above, students must complete an integrative learning experience. This requirement may be met by participating in the UTM Co-op Internship Program (UTMCIP)* or by completing one of the following half-courses: CSC318H5, CSC367H5, CSC375H5, CSC376H5, CSC409H5, CSC420H5, CSC427H5, CSC477H5, CSC490H5.

*Please be advised that the UTMCIP only applies to UTM Computer Science students entering Year of Study 2. For more information about the UTMCIP, please visit the Experiential and International Opportunities page of the UTM Academic Calendar.

2. Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.

New:

12.0-13.5 credits are required.

First Year:

For students admitted to UTM in the Fall/Winter 2025-2026 session or earlier:

CSC108H5 and CSC148H5 and ISP100H5
MAT102H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5 or MAT233H5
MAT223H5 or MAT240H5

For students admitted to UTM in the Year 1 Computer Science (CMP1) admission category after Fall/Winter 2025-26:

CSC110Y5 and CSC111H5
ISP100H5
(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5 or MAT233H5
MAT223H5 or MAT240H5

All students have the same upper year requirements:

Second Year:

CSC207H5 and CSC209H5 and CSC236H5 and CSC258H5 and CSC263H5

MAT224H5 or MAT240H5
MAT232H5 or MAT257Y5
STA246H5 or STA256H5 or ECO227Y5

Third Year:

CSC343H5 and CSC347H5 and CSC363H5 and CSC369H5 and CSC373H5
MAT301H5 and MAT302H5

Fourth Year:

CSC358H5 or CSC458H5
1.0 credit from the following: CSC409H5 or CSC422H5 or CSC423H5 or CSC427H5 or CSC490H5 or CSC495H5

NOTES:

1. In addition to the course requirements above, students must complete an integrative learning experience. This requirement may be met by participating in the UTM Co-op Internship Program (UTMCIP)* or by completing one of the following half-courses: CSC318H5, CSC367H5, CSC375H5, CSC376H5, CSC409H5, CSC420H5, CSC427H5, CSC477H5, CSC490H5.

*Please be advised that the UTMCIP only applies to UTM Computer Science students entering Year of Study 2. For more information about the UTMCIP, please visit the Experiential and International Opportunities page of the UTM Academic Calendar.

2. Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.

Enrolment Requirements:
Previous:

Limited Enrolment — Enrolment in this program is limited to students with a minimum of 4.0 credits, including the following:

Submission of a supplemental application
CSC148H5 (see minimum grade note below)
MAT102H5 (see minimum grade note below)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5
A cumulative grade point average (CGPA), determined annually. It is never lower than 2.5.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry

Special Requirement: Beginning in the 2025-2026 application cycle, students must complete a supplemental application to be considered for the program. Supplemental application deadlines are the same date as the POSt application deadline on ACORN. More information, including information about the supplemental application form, is available on the Department of Mathematical and Computational Sciences website here.

NOTES:

The minimum grade required in CSC148H5 and MAT102H5 is determined annually. It is never lower than 65%. Only CSC148H5 and MAT102H5, taken at the UTM campus, will be accepted.

Transfer students who have completed any postsecondary studies outside of UTM (including studies at other divisions at the University of Toronto) are not eligible to pursue a Specialist and/ or Major in Computer Science at U of T Mississauga.

Due to the limited enrolment nature of this program, students are strongly advised to develop alternate plans if they need to instead enroll in other programs.

The Information Security Specialist is a deregulated fees program and as such, tuition fees for students enrolled in this program are higher than for other regulated fee programs. Fees are charged on a program and not a per course basis. See www.fees.utoronto.ca for more information on the fee structures.

Enrolment in the UTMCIP stream of this program is limited to students who have completed 4.0 credits, including:

CSC148H5 (a final grade of at least 65%)
MAT102H5 (a final grade of at least 65%)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5

Courses to take in Year of Study 2: Complete CSC207H5/CSC207H1/CSCB07H3 by the end of Year of Study 2 to remain eligible for the program.

Students who have achieved a cumulative GPA of at least 2.5 are encouraged to apply. Students must be in good standing with no outstanding academic integrity cases.

New:

Limited Enrolment — Enrolment in this program is limited to students with a minimum of 4.0 credits who meet the requirements below.

Admission to the Specialist program in Computer Science is being changed as follows:

- **For students who were admitted to UTM (began their studies) in the Fall/Winter 2025-2026 session or earlier, the last opportunity to apply to the Information Security Specialist will be during the spring 2026 enrolment cycle. The requirements for admission are:**

Submission of a supplemental application
CSC148H5 (see minimum grade note below)
MAT102H5 (see minimum grade note below)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5
A cumulative grade point average (CGPA), determined annually. It is never lower than 2.5.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry

Special Requirement: Beginning in the 2026-2027 application cycle, students must complete a supplemental application to be considered for the program. Supplemental application deadlines are the same date as the POSt application deadline on ACORN. More information, including information about the supplemental application form, is available on the Department of Mathematical and Computational Sciences website here.

NOTES:

The minimum grade required in CSC148H5 and MAT102H5 is determined annually. It is never lower than 65%. Only CSC148H5 and MAT102H5, taken at the UTM campus, will be accepted.

Transfer students who have completed any postsecondary studies outside of UTM (including studies at other divisions at the University of Toronto) are not eligible to pursue a Specialist and/ or Major in Computer Science at U of T Mississauga.

Due to the limited enrolment nature of this program, students are strongly advised to develop alternate plans if they need to instead enroll in other programs.

- **For students who were admitted to UTM (began their studies) after the Fall/Winter 2025-26 session, only students in the Year 1 Computer Science admission category (CMP1) who meet the criteria of the Information Security program admission guarantee will be eligible to apply to the Information Security Specialist program.**

Students in the CMP1 admissions category have guaranteed admission to the Information Security Specialist, provided the following courses with the stated minimum grades are completed within 12 months of beginning their studies:

CSC110Y5 (70%)
CSC111H5 (77%)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry.

Students in other admission categories or students in the CMP1 category who do not complete the required courses in the stipulated timeframe are not eligible to apply to the Information Security Specialist program.

The Information Security Specialist is a deregulated fees program and as such, tuition fees for students enrolled in this program are higher than for other regulated fee programs. Fees are charged on a program and not a per course basis. See www.fees.utoronto.ca for more information on the fee structures.

Enrolment in the UTMCIP stream of this program is limited to students who have completed 4.0 credits. For students who were admitted to UTM (began their studies) in the Fall/Winter 2025-2026 session or earlier, those 4.0 credits must include:

CSC148H5 (a final grade of at least 65%)
MAT102H5 (a final grade of at least 65%)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5

For students who were admitted to UTM (began their studies) after the Fall/Winter 2025-26 session, the 4.0 credits must include:

CSC110Y5 (a final grade of at least 70%)
CSC111H5 (a final grade of at least 77%)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5

Courses to take in Year of Study 2: Complete CSC207H5/CSC207H1/CSCB07H3 by the end of Year of Study 2 to remain eligible for the program.

Students who have achieved a cumulative GPA of at least 2.5 are encouraged to apply. Students must be in good standing with no outstanding academic integrity cases.

Description of Proposed Changes:

The changes to course requirements introduce a new stream of required first year courses and modify the program admissions requirements so that only students in CMP1 can apply – while leaving the door open for students who are currently enrolled at UTM.

Rationale:

--Our justification is that we're also hopeful that the first-year admissions stream will start in 2026-2027, so we want that to happen at the same time as the supplemental application.
--About new admission stream: This allows us to better prepare specialist students for upper year studies in computing and improves the experience of non-specialist students who will not need to observe as many students with significant prior experience in their courses.

Consultation:

Office of the Dean, Office of the Registrar, and advice from the Department of Computer Science (FAS).

Resource Implications:

The addition of new CSC110Y5 and CSC111H5 courses will reduce enrollment in CSC108H5, MAT102H5, and CSC148H5 but will, simultaneously, require an instructor/coordinator for the new courses. The same total number of students will be served each year but the new courses represent additional workload in the form of 2 new units of coordination.

It is intended that the specialist and major programs (CS specialist and major, information security specialist) will continue to enroll the same number of students as currently, but fewer first year students may be admitted who have an interest in CS, as the expectation is that a larger fraction will transition from first year studies to a computing program.

ERSPE1540: Applied Statistics - Specialist (Science)

Completion Requirements:

Previous:

12.0-13.0 credits are required.

First Year:

CSC108H5
MAT102H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5
MAT223H5 or MAT240H5
For students entering the program in 2025-2026 (and beyond): ISP100H5

Second Year:

MAT232H5 or MAT233H5 or MAT257Y5
MAT244H5
STA256H5 and STA258H5 and STA260H5

Higher Years:

STA302H5 and STA304H5 and STA305H5 and STA348H5
2.0 credits of STA at the 300/400 level
2.0 credits from CSC322H5 or CSC311H5 or MAT302H5 or MAT311H5 or MAT332H5 or MAT334H5 or MAT344H5 or MAT337H5
1.0 credit of STA

NOTES:

MAT133Y5 is included in the credit count only if the student also completes MAT233H5 (in which case MAT232H5 is not required).
Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.
ECO220Y5 cannot be substituted for STA256H5 or STA258H5 or STA260H5.
ECO227Y5 can be substituted for STA256H5 and STA258H5, but not for STA260H5.
STA107H5 is highly recommended in first year, but it is not required.
MAT337H5 is highly recommended for students intending to pursue graduate level studies in statistics.
Students in the Applied Statistics Specialist may take at most 1.0 credit of Statistics Research Project Courses from STA378H5, STA398H5, STA478H5 and STA498H5.
STA246H5 will not be permitted as a pre-requisite for any other 200+ level STA courses. In addition, STA246H5 cannot be used towards any program(s) in Applied Statistics or Mathematics. The course is intended only for students in Computer Science programs who will not need STA256H5 for other program requirements.

New:

12.5 - 13.0 credits are required.

First Year:

CSC108H5
MAT102H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5
MAT223H5 or MAT240H5
ISP100H5

Second Year:

MAT232H5 or MAT233H5 or MAT257Y5
MAT244H5
STA256H5 and STA258H5 and STA260H5

Higher Years:

STA302H5 and STA304H5 and STA305H5 and STA348H5
2.0 credits of STA at the 300/400 level
2.0 credits from CSC322H5 or CSC311H5 or MAT302H5 or MAT311H5 or MAT332H5 or MAT334H5 or MAT344H5 or MAT337H5
1.0 credit of STA

NOTES:

MAT133Y5 is included in the credit count only if the student also completes MAT233H5 (in which case MAT232H5 is not required).
Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.
ECO220Y5 cannot be substituted for STA256H5 or STA258H5 or STA260H5.
ECO227Y5 can be substituted for STA256H5 and STA258H5, but not for STA260H5.
STA107H5 is highly recommended in first year, but it is not required.
MAT337H5 is highly recommended for students intending to pursue graduate level studies in statistics.
Students in the Applied Statistics Specialist may take at most 1.0 credit of Statistics Research Project Courses from STA378H5, STA398H5, STA478H5 and STA498H5.
STA246H5 will not be permitted as a pre-requisite for any other 200+ level STA courses. In addition, STA246H5 cannot be used towards any program(s) in Applied Statistics or Mathematics. The course is intended only for students in Computer Science programs who will not need STA256H5 for other program requirements.

Enrolment Requirements:

Previous:

Limited Enrolment — Enrolment in the Specialist program is limited to students with a minimum of 4.0 credits, including:

For students applying in 2023-2024 for program entry in the 2024-2025 Academic Year:

STA107H5 (with a minimum grade of 60%) or STA256H5;
MAT134H5 or MAT136H5 or MAT137Y5 or MAT139H5 or MAT233H5 (minimum 60%) or MAT157Y5 or MAT159H5; and
A minimum cumulative grade point average, to be determined annually.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR/NCR will not count as a part of the 4.0 credits required for program entry.

For students applying in 2024-2025 for program entry in the 2025-2026 Academic Year:

STA107H5 (with a minimum grade of 60%) or STA256H5;
MAT134H5 or MAT136H5 or MAT137Y5 or MAT139H5 or MAT233H5 (minimum 60%) or MAT157Y5 or MAT159H5;
ISP100H5; and
A minimum cumulative grade point average, to be determined annually.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR/NCR will not count as a part of the 4.0 credits required for program entry.

New:

Limited Enrolment — Enrolment in the Specialist program is limited to students with a minimum of 4.0 credits, including:

STA107H5 (with a minimum grade of 60%) or STA256H5;
MAT134H5 or MAT136H5 or MAT137Y5 or MAT139H5 or MAT233H5 (minimum 60%) or MAT157Y5 or MAT159H5;
ISP100H5; and
A minimum cumulative grade point average, to be determined annually.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry.

Description of Proposed Changes:

1) Remove irrelevant reference to “NCR”, since this is a failed course anyway and does not contribute towards completed credits at all; add clarity to language to make it transparent that MCS does not accept TCs towards the min 4.0 credits.
2) Removing two-part language for Limited Enrolment and bolded language in front of Program Requirement ISP100H5. Updating total credits in Completion Requirements.

Rationale:

1) Students still ask about this (and may not be understanding that “CR/NCR” also refers to Transfer Credits.) Also, there can be some misunderstanding by only including ‘CR/NCR’ as students may only see courses where they’ve made that selection as not counting towards POSt credit requirement; it is not explicit that we also mean “CR” to represent how TCs are noted on a transcript. Add this language so that we can take what has been common practice for years and turn it into transparent language. Using another SCI dept as an example (BIO), they make it crystal clear in two places that transfer credits are not counted in the minimum 4.0 credits.

2) Language only necessary in 2024-25 Academic Calendar (as transition period). Completion Requirements updated for accuracy.

Consultation:

Throughout March and early April 2024 with STA Associate Chair; 19-Apr-24 with MCS dept. With MCS dept on 24-Sep-24.

ERSPE1688: Computer Science - Specialist (Science)

Completion Requirements:

Previous:

12.0-13.0 credits are required.

First Year:

CSC108H5 and CSC148H5 and ISP100H5
MAT102H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5

Second Year:

CSC207H5 and CSC209H5 and CSC236H5 and CSC258H5 and CSC263H5
MAT223H5 or MAT240H5
MAT232H5 or MAT233H5 or MAT257Y5
STA246H5 or STA256H5 or ECO227Y5

Higher Years:

CSC311H5 and CSC343H5 and CSC363H5 and CSC369H5 and CSC373H5
CSC358H5 or CSC458H5
2.0 credits from any 300/400 level CSC course or GGR335H5 or GGR337H5 or GGR437H5. At least 1.0 credit must come from 400-level courses, and no more than 1.0 credit of GGR courses may count to this requirement.

NOTE:

1. In addition to the course requirements above, students must complete an integrative learning experience. This requirement may be met by participating in the UTM Co-op Internship Program (UTMCIP)* or by completing one of the following half-courses: CSC318H5, CSC367H5, CSC375H5, CSC376H5, CSC409H5, CSC420H5, CSC427H5, CSC477H5, CSC490H5.

*Please be advised that the UTMCIP only applies to UTM Computer Science students entering Year of Study 2. For more information about the UTMCIP, please visit the Experiential and International Opportunities page of the UTM Academic Calendar.

2. Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.

New:

12.0-13.0 credits are required.

First Year:

For students admitted to UTM in the Fall/Winter 2025-2026 session or earlier:

CSC108H5 and CSC148H5 and ISP100H5
MAT102H5
[(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5

For students admitted to UTM in the Year 1 Computer Science (CMP1) admission category after Fall/Winter 2025-26:

CSC110Y5 and CSC111H5
ISP100H5
(MAT132H5 or MAT135H5 or MAT137H5 or MAT157H5) and (MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5)] or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5

All students have the same upper year requirements:

Second Year:

CSC207H5 and CSC209H5 and CSC236H5 and CSC258H5 and CSC263H5
MAT223H5 or MAT240H5
MAT232H5 or MAT233H5 or MAT257Y5
STA246H5 or STA256H5 or ECO227Y5

Higher Years:

CSC311H5 and CSC343H5 and CSC363H5 and CSC369H5 and CSC373H5

CSC358H5 or CSC458H5
2.0 credits from any 300/400 level CSC course or GGR335H5 or GGR337H5 or GGR437H5. At least 1.0 credit must come from 400-level courses, and no more than 1.0 credit of GGR courses may count to this requirement.

NOTE:

1. In addition to the course requirements above, students must complete an integrative learning experience. This requirement may be met by participating in the UTM Co-op Internship Program (UTMCIP)* or by completing one of the following half-courses: CSC318H5, CSC367H5, CSC375H5, CSC376H5, CSC409H5, CSC420H5, CSC427H5, CSC477H5, CSC490H5.

*Please be advised that the UTMCIP only applies to UTM Computer Science students entering Year of Study 2. For more information about the UTMCIP, please visit the Experiential and International Opportunities page of the UTM Academic Calendar.

2. Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.

Enrolment Requirements:

Previous:

Limited Enrolment — Enrolment in this program is limited to students with a minimum of 4.0 credits, including the following:

Submission of a supplemental application
CSC148H5 (see minimum grade note below)
MAT102H5 (see minimum grade note below)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT157Y5 or MAT233H5
ISP100H5
A cumulative grade point average (CGPA), determined annually. It is never lower than 2.5
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry

Special Requirement: Beginning in the 2025-2026 application cycle, students must complete a supplemental application to be considered for the program. Supplemental application deadlines are the same date as the POSt application deadline on ACORN. More information, including information about the supplemental application form, is available on the Department of Mathematical and Computational Sciences website here.

NOTES:

The minimum grade required in CSC148H5 and MAT102H5 is determined annually. It is never lower than 65%. Only CSC148H5 and MAT102H5, taken at the UTM campus, will be accepted.

Transfer students who have completed any postsecondary studies outside of UTM (including studies at other divisions at the University of Toronto) are not eligible to pursue a Specialist and/ or Major in Computer Science at U of T Mississauga.

Due to the limited enrolment nature of this program, students are strongly advised to develop alternate plans if they need to instead enroll in other programs.

The Computer Science Specialist is a deregulated fees program and as such, tuition fees for students enrolled in this program are higher than for other regulated fee programs. Fees are charged on a program and not a per-course basis. See www.fees.utoronto.ca for more information on the fee structures.

Enrolment in the UTMCIP stream of this program is limited to students who have completed 4.0 credits, including:

CSC148H5 (a final grade of at least 65%)
MAT102H5 (a final grade of at least 65%)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5

Courses to take in Year of Study 2: Complete CSC207H5/CSC207H1/CSCB07H3 by the end of Year of Study 2 to remain eligible for the program.

Students who have achieved a cumulative GPA of at least 2.5 are encouraged to apply. Students must be in good standing with no outstanding academic integrity cases.

New:

Limited Enrolment — Enrolment in this program is limited to students with a minimum of 4.0 credits who meet the requirements below.

Admission to the Specialist program in Computer Science is being changed as follows:

- **For students who were admitted to UTM (began their studies) in the Fall/Winter 2025-2026 session or earlier, the last opportunity to apply to the Computer Science Specialist will be during the spring 2026 enrolment cycle. The requirements for admission are:**

Submission of a supplemental application
CSC148H5 (see minimum grade note below)

MAT102H5 (see minimum grade note below)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT157Y5 or MAT233H5
ISP100H5
A cumulative grade point average (CGPA), determined annually. It is never lower than 2.5
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry

Special Requirement: Beginning in the 2026-2027 application cycle, students must complete a supplemental application to be considered for the program. Supplemental application deadlines are the same date as the POSt application deadline on ACORN. More information, including information about the supplemental application form, is available on the Department of Mathematical and Computational Sciences website here.

NOTES:

The minimum grade required in CSC148H5 and MAT102H5 is determined annually. It is never lower than 65%. Only CSC148H5 and MAT102H5, taken at the UTM campus, will be accepted.

Transfer students who have completed any postsecondary studies outside of UTM (including studies at other divisions at the University of Toronto) are not eligible to pursue a Specialist and/ or Major in Computer Science at U of T Mississauga.

Due to the limited enrolment nature of this program, students are strongly advised to develop alternate plans if they need to instead enroll in other programs.

- **For students who were admitted to UTM (began their studies) after the Fall/Winter 2025-26 session, only students in the Year 1 Computer Science admission category (CMP1) who meet the criteria of the Computer Science program admission guarantee will be eligible to apply to the Computer Science Specialist program.**

Students in the CMP1 admissions category have guaranteed admission to the Computer Science Specialist, provided the following courses with the stated minimum grades are completed within 12 months of beginning their studies:
CSC110Y5 (70%)
CSC111H5 (77%)
ISP100H5
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5 or MAT233H5
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry.

Students in other admission categories or students in the CMP1 category who do not complete the required courses in the stipulated timeframe are not eligible to apply to the Computer Science Specialist program.

The Computer Science Specialist is a deregulated fees program and as such, tuition fees for students enrolled in this program are higher than for other regulated fee programs. Fees are charged on a program and not a per-course basis. See www.fees.utoronto.ca for more information on the fee structures.

Enrolment in the UTMCIP stream of this program is limited to students who have completed 4.0 credits. *For students who were admitted to UTM (began their studies) in the Fall/Winter 2025-2026 session or earlier, those 4.0 credits must include:*

CSC148H5 (a final grade of at least 65%)
MAT102H5 (a final grade of at least 65%)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5

For students who were admitted to UTM (began their studies) after the Fall/Winter 2025-26 session, the 4.0 credits must include:

CSC110Y5 (a final grade of at least 70%)
CSC111H5 (a final grade of at least 77%)
MAT134H5 or MAT136H5 or MAT139H5 or MAT159H5 or MAT134Y5 or MAT135Y5 or MAT137Y5 or MAT157Y5 or MAT233H5
ISP100H5

Courses to take in Year of Study 2: Complete CSC207H5/CSC207H1/CSCB07H3 by the end of Year of Study 2 to remain eligible for the program.

Students who have achieved a cumulative GPA of at least 2.5 are encouraged to apply. Students must be in good standing with no outstanding academic integrity cases.

Description of Proposed Changes:
The changes to course requirements introduce a new stream of required first year courses and modify the program admissions requirements so that only students in CMP1 can apply – while leaving the door open for students who are currently enrolled at UTM.

Rationale:
--Our justification is that we're also hopeful that the first-year admissions stream will start in 2026-2027, so we want that to happen at the same time as the supplemental application.
--Introducing a new admission stream: This allows us to better prepare specialist students for upper year studies in computing and improves the experience of non-specialist students who will not need to observe as many students with significant prior experience in their courses.

Consultation:
Office of the Dean, Office of the Registrar, and advice from the Department of Computer Science (FAS).

Resource Implications:

The addition of new CSC110Y5 and CSC111H5 courses will reduce enrollment in CSC108H5, MAT102H5, and CSC148H5 but will, simultaneously, require an instructor/coordinator for the new courses. The same total number of students will be served each year but the new courses represent additional workload in the form of 2 new units of coordination.

It is intended that the specialist and major programs (CS specialist and major, information security specialist) will continue to enroll the same number of students as currently, but fewer first year students may be admitted who have an interest in CS, as the expectation is that a larger fraction will transition from first year studies to a computing program.

ERSPE2511: Mathematical Sciences - Specialist (Science)

Completion Requirements:

Previous:

13.5-14.0 credits are required.

First Year:

CSC108H5 and CSC148H5
MAT102H5 and MAT240H5
[(MAT137H5 or MAT157H5) and (MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5
For students entering the program in 2025-2026 (and beyond): ISP100H5

Second Year:

CSC236H5
MAT202H5 and MAT244H5 and MAT247H5 and MAT257Y5
STA256H5 and (STA258H5 or STA260H5)

Higher Years:

MAT301H5 and (MAT334H5 or MAT354H5) and MAT392H5
MAT302H5 or MAT315H5
2.0 additional credit from MAT302H5 or MAT309H5 or MAT311H5 or MAT315H5 or MAT332H5 or MAT337H5 or MAT344H5
1.0 additional credits in MAT at the 400 level (MAT401H5 is recommended)
1.0 additional credits at the 300/400 level in CSC or STA or MAT, except MAT322H5
0.5 additional credits in MAT at the 300+level, except MAT322H5

NOTES:

Mathematical Sciences Specialists are strongly encouraged to enroll in MAT157H5, MAT159H5, MAT257Y5, and MAT354H5.
Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.
Students may replace MAT257Y5 with [(MAT232H5 or MAT233H5) and MAT236H5], but if they do then MAT337H5 AND MAT405H5 are required as part of "Higher Years".
Students who do not feel ready for MAT257Y5 in their Second Year, may wish to take MAT232H5 that year, and then take MAT257Y5 in their Third Year.

New:

14.0 credits are required.

First Year:

CSC108H5 and CSC148H5
MAT102H5 and MAT240H5
[(MAT137H5 or MAT157H5) and (MAT139H5 or MAT159H5)] or MAT137Y5 or MAT157Y5
ISP100H5

Second Year:

CSC236H5
MAT202H5 and MAT244H5 and MAT247H5 and MAT257Y5
STA256H5 and (STA258H5 or STA260H5)

Higher Years:

MAT301H5 and (MAT334H5 or MAT354H5) and MAT392H5
MAT302H5 or MAT315H5
2.0 additional credit from MAT302H5 or MAT309H5 or MAT311H5 or MAT315H5 or MAT332H5 or MAT337H5 or MAT344H5
1.0 additional credits in MAT at the 400 level (MAT401H5 is recommended)
1.0 additional credits at the 300/400 level in CSC or STA or MAT, except MAT322H5
0.5 additional credits in MAT at the 300+level, except MAT322H5

NOTES:

Mathematical Sciences Specialists are strongly encouraged to enroll in MAT157H5, MAT159H5, MAT257Y5, and MAT354H5.
Students are strongly encouraged to familiarize themselves with the 100-level calculus pre-requisites to select the correct courses.
Students may replace MAT257Y5 with [(MAT232H5 or MAT233H5) and MAT236H5], but if they do then MAT337H5 AND MAT405H5 are required as part of "Higher Years".

Students who do not feel ready for MAT257Y5 in their Second Year, may wish to take MAT232H5 that year, and then take MAT257Y5 in their Third Year.

Enrolment Requirements:

Previous:

Limited Enrolment — Enrolment in the Specialist program is limited to students with a minimum of 4.0 credits, including:

For students applying in 2023-2024 for program entry in the 2024-2025 Academic Year:

MAT102H5 (minimum 65%);
MAT137Y5 or MAT139H5 (minimum 60%) or MAT157Y5 or MAT159H5; and
A minimum cumulative grade point average (CGPA), to be determined annually.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR/NCR will not count as a part of the 4.0 credits required for program entry.

For students applying in 2024-2025 for program entry in the 2025-2026 Academic Year:

MAT102H5 (minimum 65%);
MAT137Y5 or MAT139H5 (minimum 60%) or MAT157Y5 or MAT159H5;
ISP100H5; and
A minimum cumulative grade point average (CGPA), to be determined annually.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry.

New:

Limited Enrolment — Enrolment in the Specialist program is limited to students with a minimum of 4.0 credits, including:

MAT102H5 (minimum 65%);
MAT137Y5 or MAT139H5 (minimum 60%) or MAT157Y5 or MAT159H5;
ISP100H5; and
A minimum cumulative grade point average (CGPA), to be determined annually.
All students must complete 4.0 U of T credits before requesting this program. Courses with a grade of CR (including transfer credits) will not count as a part of the 4.0 credits required for program entry.

Description of Proposed Changes:

Removing two-part language for Limited Enrolment and bolded language in front of Program Requirement ISP100H5. Updating total credits in Completion Requirements.

Rationale:

Language only necessary in 2024-25 Academic Calendar (as transition period). Completion Requirements updated for accuracy.

Consultation:

With MAT Faculty & leadership 17-Sep-24; With MCS on 24-Sep-24.

Psychology

1 New Course

PSY394H5: Nervous System Diseases: from Cause to Clinical Trials

Contact Hours:
Lecture: 36

Description:
This course introduces students to the biological mechanisms underlying nervous system diseases through an in-depth examination of selected disorders. Beginning with Prion diseases (e.g., “Mad Cow Disease”), the course covers the biological foundations of nervous system diseases, using research articles, patient case studies, and clinical trials to explore how these diseases manifest and progress. By analyzing these elements, students will gain insight into the development of emerging therapies and scientific approaches to treating nervous system diseases.

Prerequisites:
PSY201H5 and PSY290H5

Corequisites:

Exclusions:

Recommended Preparation:

Notes:

Mode of Delivery:
In Person

Rationale:
Rationale:
This course would build upon PSY290H5 (Introduction to Neuroscience) to addresses a gap in the current psychology and neuroscience curriculum by focusing on the biological roots of nervous system diseases. The course will bridge the understanding of how psychological symptoms are tied to biological dysfunctions, making it ideal for students interested in neurological diseases. The course also emphasizes hands-on engagement with scientific research, allowing students to explore and present contemporary studies, fostering a comprehensive view of disease mechanisms and therapeutic strategies.

Related Courses:
PSY392 (Behavioural Epigenetics) and PSY397 (Neuroplasticity and Behaviour) are related courses that cover biological 'processes' that are often implicated in the diseases explored in this course. This course would provide our students with a firm understanding of relevant biological mechanisms and an introduction to the primary research literature underlying these mechanisms.Together, these courses provide a well-rounded foundation in the biological underpinnings of neurological and psychological conditions.

Consultation:
Psychology curriculum committee, psychology faculty

Resources:
Resource form submitted.

Estimated Enrolment:
65

Instructor:
Brandon Walters

14 Course Modifications

PSY330H5: Psychometrics: Basics of Measurement in Social and Personality Psychology

Title:
Previous: The Basics of Measurement in Social and Personality Psychology
New: Psychometrics: Basics of Measurement in Social and Personality Psychology

Rationale:
Updating course title to include “Psychometrics”. The name change serves to clearly convey the relationship to ‘’psychometrics”. Courses on psychometrics are a required prerequisite for entry to clinically-oriented graduate programs.

Consultation:
Psychology Curriculum Committee

PSY341H5: Abnormal Psychology: Disorders of Children and Adolescents

Prerequisites:
Previous:
PSY201H5 (or equivalent) or PSY210H5 and PSY240H5

New:
PSY201H5 (or equivalent) and PSY210H5 and PSY240H5

Rationale:
Correcting 'and/or' prerequisite error. Previous 'or' implies the interchangeability of two distinct prerequisites.

Consultation:
Psychology Curriculum Committee

PSY343H5: Theories of Psychotherapy

Mode of Delivery
Previous: In Person
New: In Person, Online (Summer only)

Rationale:
This request is to add PSY343H5 to the summer offering as an online-only course.

Online learning opens up many opportunities for students who move back home in the summers for financial reasons or to engage in activities such as volunteering or employment. Offering psychology courses online offers these students the flexibility to continue their degree program. In particular, PSY343H5 is a popular course many students would be interested in taking over the summer. The course generally has a long waitlist, and many students are not accommodated during the fall/winter terms. The primary/lead instructor for this course has previously been successfully delivered online and can be easily adapted to an online format again in the future (e.g., breakout room activities, group project presentations, online testing).

1. Goal Alignment:
Offering PSY343H5 (Theories of Psychotherapy) online during the summer aligns with the unit's dedication to increasing access to core courses, enabling students to balance academic progress with personal, financial, or professional commitments. As a critical course for students pursuing graduate studies in clinical psychology, PSY343H5 equips students with foundational theories that are directly relevant to clinical practice and research. Expanding the availability of this course helps students avoid delays in their studies and meet essential prerequisites for competitive graduate programs. This online summer format also addresses the high demand and longstanding waitlist for PSY343H5, making it more accessible to students.

Online offerings of PSY343H5 will maintain alignment with the course-specific and broader Program Learning Outcomes (PLOs) for Psychology Specialist and Major programs. The online format will continue to support all LO themes, including (1) ‘fostering core knowledge,’ (2) ‘developing core skills,’ and (3) ‘promoting responsibility and autonomous inquiry.’ This consistency guarantees that PSY343H5 will uphold curricular and pedagogical integrity across both online and in-person formats. In summary, this change is well-suited to the unit’s vision, learning outcomes, and curriculum map, providing stability across delivery modes and increased flexibility for students who may face scheduling or accessibility constraints.

2. Breakdown of Instructional Hours:
The online course will include a combination of live online lectures (led by the instructor), as well as student-led project presentations. All components of the course will take place online via Quercus and Zoom.

3. Equitable Achievement of Course Objectives:
The unit will take several steps to ensure that students taking the online version of PSY343H5 are neither at a pedagogical advantage nor a disadvantage compared to those attending the in-person version:

Consistency in Core Content: Both the in-person and online versions will cover the same core materials, objectives, and assessments, ensuring that all students engage with equivalent content regardless of the mode of delivery. The structure and outcomes of both versions will be aligned so that no essential learning experience is exclusive to one format. Parity in course engagement opportunities. The same course materials, including lecture slides and readings, will be available to both groups. Ensuring opportunities for interaction between students and the instructor in PSY343H5 is essential
to supporting key Learning Outcomes, such as ‘exploring interests in psychology through independent inquiry and research’ and ‘communicating psychological knowledge clearly and concisely.’ Core course activities that support these learning outcomes—including weekly check-ins and group project presentations—will be incorporated into both online and in-person formats to maintain consistency in these interactive components. Both versions will incorporate active learning components such as discussions and group projects. In the online course, interactive tools (e.g. breakout rooms and discussion tools) to replicate the inclass

collaborative experience, while in-person students will benefit from face-to-face interactions. Both groups will participate in guest speaker sessions, either live or via Zoom, ensuring exposure to the same external expertise.

Student Support: Both online and in-person students will have access to the same level of academic support, including office hours, discussion boards, and teaching assistant help. This ensures that students, regardless of their attendance mode, receive the guidance needed to succeed in this course.

4. Accessibility:
The online-only summer format increases accessibility for students. Course materials will be available in accessible digital formats, live lectures will be captioned and recorded, ensuring that students can participate in ways that meet their needs.

5. Active Learning and Academic Integrity:
Active learning will be emphasized through structured online discussions, weekly check-ins with the instructor, and collaborative group projects, encouraging engagement despite the remote setting.

Academic Integrity will be upheld in the online setting in the following ways:

PSY343H5 is well suited for application-based and critical-thinking test and exam questions (rather than simple recall), making it harder to rely on external sources. Case studies, scenario-based questions, and analysis exercises in tests will encourage unique responses.

Group projects in PSY343H5 can support academic integrity by fostering collaborative, original (and creative) work that requires students to engage directly with the material and with each other.

Weekly check-ins encourage students to review, understand, and apply course material incrementally. This habit of producing original responses strengthens their confidence in independently mastering the material in a progressive way, reducing the temptation to seek unauthorized assistance/ These course elements (both in-person and online) promote integrity while fostering collaborative skills
and original, thoughtful work.

6. Resource Implications:
Staffing should remain consistent, though the flexibility in delivery may reduce some logistical burdens, such as room scheduling (institutional resource implications) and additional travel requirements (reducing resource implication for students).

Consultation:
Psychology Curriculum Committee

Resources:
Resource form submitted.

PSY345H5: Exceptionality: Disability and Giftedness

Mode of Delivery:
Previous: In Person
New: In Person; Online

Rationale:
This course is typically offered twice per year (Fall and Winter semesters) and the instructor is interested in teaching PSY345H5 online during one of those semesters.

PSY345H5 Exceptionality: Disability and Giftedness is an interdisciplinary course that attracts a broad audience of students and professionals. It deals with the many factors that shape the disability experience and how society, through its laws and public institutions, attempts to accommodate and include such individuals. It also attracts many individuals who have disabilities themselves and often have difficulty attending in person. The course has been offered online several times during the pandemic. A Summer Abroad version of this course (PSY306Y0) was also offered with ten international guest speakers who took part via Zoom. The online modality provides many options both in terms of who can attend and from where, as well as having professionals take part by presenting to the class.

This course is normally offered twice per year and is well attended. It is applicable to the majority of our students, most of whom will not gain admission to PSY graduate programs but may end up in teachers college, MSW, OT and other rehab programs. Ideally, a wide range of courses would be rotated so that individuals who have difficulty attending in person can complete many of their program requirements remotely.

Because of the broad application and interest in EDI topics, it will attract individuals who work full-time in education and social services if offered online in the evening. When offered in person in the evening, many such mature students attended but often missed classes because of extensive family commitments after a full day of work. This can provide more equitable access both to this group as well as to individuals with mobility impairments and is of great interest to both groups. It is fitting that a course focusing on EDI is offered both online and in person to make it as accessible as possible. I'm prepared to provide lecture recordings to students who cannot attend. This will be available only to the evening/online students to preserve the integrity of the day/in-person option.

This course will be offered in Fall 'in-person' during the day and in Winter 'online' in the evenings.

1. Goal Alignment:
The shift to offering PSY345H5 (Exceptionality: Disability and Giftedness) online during the Winter semester supports the unit's vision of fostering inclusivity and accessibility in education. The course's focus on Exceptionality, Disability, and Giftedness aligns with the broader goal of promoting equity, diversity, and inclusion (EDI), both in content and delivery. By offering it online, the unit can engage a wider audience, including professionals and individuals with disabilities, reinforcing its commitment to making education accessible and impactful for diverse groups. The interdisciplinary nature of the course benefits students across various programs, including education, social work, and rehabilitation sciences. Moving to an online format in one semester provides greater accessibility without disrupting in-person offerings, enhancing student choice, and ensuring that individuals with varied career trajectories benefit from the course content.

Including PSY345H5 online course offerings will not affect Program Learning Outcomes (PLOs) related to the course or, more broadly, LOs related to Psychology Specialists and Major programs. Online offerings of PSY345H5 will continue to support all themes of our LO, including (1) 'fostering core knowledge', (2) 'fostering core skills', and (3) 'responsibility and autonomous inquiry'. This stability ensures that an online offering of PSY345H5 will maintain curricular and pedagogical consistency. In summary, this change supports and aligns well with the unit's vision, learning outcomes, and curriculum map, offering both stability between in-person and online offerings and flexibility to students who may not be able to attend in person due to scheduling or accessibility challenges.

2. Breakdown of Instructional Hours:
The online course will include a combination of live online lectures, asynchronous materials such as previously recorded lectures, and interactive sessions like discussions, guest speaker presentations, and case studies. Students will have the opportunity to engage with guest professionals remotely, expanding their learning experience with real-world insights while maintaining flexibility in how they engage with the material.

3. Equitable Achievement of Course Objectives:
The unit will take several steps to ensure that students taking the online version of PSY345H5 are neither at a pedagogical advantage nor disadvantage compared to those attending the in-person version:

Consistency in Core Content: Both the in-person and online versions will cover the same core materials, objectives, and assessments, ensuring that all students engage with equivalent content regardless of the mode of delivery. The structure and outcomes of both versions will be aligned so that no essential learning experience is exclusive to one format.

Balanced Access to Resources: The same course materials, including lecture slides, readings, and case studies, will be available to both groups. Online students will have access to recorded lectures, while in-person students will benefit from real-time interactions in a classroom setting. The recorded lectures are offered as a necessity for students who cannot attend live sessions due to work or personal commitments rather than as an additional resource.

Engagement Parity: Both versions will incorporate active learning components such as discussions and group projects. In the online course, interactive tools (e.g. breakout rooms and discussion tools) to replicate the in-class collaborative experience, while in-person students will benefit from face-to-face interactions. Both groups will participate in guest speaker sessions, either live or via Zoom, ensuring exposure to the same external expertise.

Equal Evaluation Standards: Assessments, such as exams, papers, and projects, will be equivalent in both versions, and the evaluation criteria will remain the same. Any open-book or case-based assessments will be structured to ensure fairness across formats. Online tools like plagiarism detection and instructor-proctored online exams will maintain academic integrity, ensuring the rigor of evaluations.

Student Support: Both online and in-person students will have access to the same level of academic support, including office hours, discussion boards, and teaching assistant help. This ensures that students, regardless of their attendance mode, receive the guidance needed to succeed in this course. Through these measures, the unit will maintain pedagogical equity between the two delivery modes, ensuring that all students have an equal opportunity to achieve the course objectives.

4. Accessibility:
Accessibility will be enhanced through online delivery, as the course will provide flexible attendance options for students with disabilities, mobility impairments, or those with complex schedules. The instructor can offer recorded lectures for students who cannot attend live sessions, and all materials will be provided in accessible formats, following best practices for online course delivery. Recorded lectures, guest speaker sessions, and flexible scheduling make the course accessible, ensuring all students can achieve the learning outcomes regardless of their circumstances.

5. Active Learning and Academic Integrity:

Active learning will be promoted through interactive online discussions, live Q&A sessions with guest speakers, and group projects that leverage online collaboration tools. To maintain academic integrity, assessments will be designed with a focus on critical thinking and application of course concepts, using open-book and case-based evaluations. Plagiarism detection tools and varied assessments throughout the course will further uphold academic standards.

6. Resource Implications:
Staffing should remain consistent, though the flexibility in delivery may reduce some logistical burdens, such as room scheduling (institutional resource implications) and additional travel requirements (reducing resource implication for students).

Consultation:
Psychology Curriculum Committee

Resources:
Resource form submitted.

PSY379H5: Cognitive Psychology Laboratory

Prerequisites:
Previous:
PSY201H5 and PSY202H5 (or equivalent) and (PSY270H5 or PSY274H5) and PSY309H5
New:

PSY201H5 and PSY202H5 (or equivalent) and PSY309H5 and (PSY270H5 or PSY274H5 or JLP285)

Rationale:
Updating course prerequisites to include recent changes to JLP course codes.

Consultation:
Psychology Curriculum Committee

PSY385H5: Human Factors: Applying Perceptual and Cognitive Research to the World

Prerequisites:
Previous:

PSY270H5 or PSY272H5 or PSY280H5 or PSY290H5.

New:

PSY201H5 and (PSY270H5 or PSY274H5 or PSY280H5 or PSY290H5 or JLP285H5).

Rationale:
Updating course prerequisites to remove PSY272H5 (non-existent course) and include PSY201 and JLP285.

Consultation:
Psychology Curriculum Committee

PSY387H5: Psychology of Music

Prerequisites:
Previous:
PSY201H5 (or equivalent) and (PSY210H5 or PSY270H5 or PSY274H5 or PSY280H5)

New:
PSY201H5 (or equivalent) and (PSY210H5 or PSY270H5 or PSY274H5 or PSY280H5 or JLP285H5)

Rationale:
Updating course prerequisites to include recent changes to JLP courses

PSY401H5: Knowledge Translation: Delivering Scientific Discovery to the Real-World

New Course Code: PSY401Y5

Contact Hours:
Previous: Seminar:36
New: Seminar: 72

Exclusions:
Previous:
New: PSY401H5

Credit Value:
Previous: fixed: 0.5
New: fixed: 1.0

Rationale:
PSY401 is presently a 0.5 credit year-long course, and we propose changing it to be a 1.0 credit year-long course.

The proposed change is based on several considerations following our initial offering of the course in 2023-2024
The amount of work expected of students is beyond comparable fourth-year research (i.e., ROP, IRP) courses worth 0.5 credits. Students are required to do the following, which brings the level of expectation closer to the 1.0 credit thesis course:

•Regular class attendance to engage in seminar-style discussions based on readings through the Fall term and some weeks in Winter term as well.
Background literature reviews
•Four class presentations to develop knowledge translation (KT) products.
•A 'news article' style assignment that involves conducting an interview with a researcher and submitting written work that goes through multiple stages of revision to produce pieces that are suitable for posting online.
•Produce a high-quality Knowledge Translation product suitable for use with target audiences. (Note: The KT products students are producing involve significant time investments and in many cases skill acquisition)
•Delivery of a final presentation at Undergraduate Research Day
•Produce a major paper that (1) summarizes background literature informing their knowledge translation product. (2) Explains the suitability of their KT product. (3) describe a study design for evaluating KT product effectiveness, including details about measures to be used, statistical analyses to be employed, and expected results

Making the 1.0 credits would also have several positive impacts:
o Students have remarked to the course instructor that a 0.5-credit year-long course discourages students from taking the course (e.g., because it limits ability to enroll in additional courses). So, making the course 1.0 credits over the full year would likely result in greater enthusiasm for the course from students.
o Some international students remarked that the spreading of 0.5 credits over two terms had the unforeseen consequence of creating problems when obtaining financial support from their home countries (two students from two different countries)
o Raising the number of credits the course is worth would provide a higher baseline level of dedicated TA hours/support. TA support for this course is integral for several reasons. The course instructor only receives 0.5 teaching credits but engagement with students occurs frequently over both terms; additional TA hours would provide relief and make teaching this course more equitable (i.e., align the associated workload with other 0.5 credit teaching load assignments). Also, an aim of the course is to ensure that individual faculty supervisors do not have an overly onerous role; the TA in this course (and course instructor) is available to help students navigate issues that arise. Thus, added TA support keeps the faculty instructors' workloads manageable, which makes their continued participation in this valuable course more feasible.

Consultation:
Psychology faculty meeting discussions and psychology curriculum meetings

Resources:
Teaching assistants

Estimated Enrolment:
14

Instructor:
Doug VanderLaan

PSY410H5: Special Topics in Developmental Psychology

Prerequisites:

Previous:

PSY210H5 and 1.0 credit from (PSY311H5 or PSY312H5 or PSY315H5 or PSY316H5 or PSY317H5 or PSY318H5 or PSY319H5 or PSY341H5 or PSY345H5 or PSY442Y5)

New:

PSY210H5 and 1.0 credit from (PSY311H5 or PSY312H5 or PSY315H5 or PSY316H5 or PSY317H5 or PSY318H5 or PSY319H5 or PSY341H5 or PSY345H5 or PSY442Y5 or JLP315)

Rationale:

Updating course prerequisites to include recent changes to JLP course codes.

Consultation:

Psychology curriculum committee

PSY415H5: Special Topics in Adult Development and Aging

Prerequisites:

Previous:

PSY313H5 and 1.0 credit from (PSY311H5 or PSY312H5 or PSY316H5 or PSY319H5 or PSY320H5 or PSY321H5 or PSY325H5 or PSY343H5 or PSY333H5 or PSY340H5 or PSY345H5 or PSY374H5 or PSY442Y5)

New:

PSY313H5 and 1.0 credit from (PSY311H5 or PSY312H5 or PSY316H5 or PSY319H5 or PSY320H5 or PSY321H5 or PSY325H5 or PSY343H5 or PSY333H5 or PSY340H5 or PSY345H5 or PSY374H5 or PSY442Y5 or JLP383)

Rationale:

Updating course prerequisites to include recent changes to JLP course codes.

Consultation:

Psychology curriculum committee

PSY471H5: Special Topics in Cognition

Prerequisites:

Previous:

PSY270H5 and 1.0 credit from (PSY312H5 or PSY315H5 or PSY360H5 or PSY362H5 or PSY372H5 or PSY374H5 or PSY379H5 or PSY393H5 or PSY397H5)

New:

PSY270H5 and 1.0 credit from (PSY312H5 or PSY315H5 or PSY362H5 or PSY371H5 or PSY372H5 or PSY374H5 or PSY379H5 or PSY385H5 or PSY387H5 or PSY389H5 or PSY393H5 or PSY397H5 or JLP315H5 or JLP383H5)

Rationale:

Updating course prerequisites, removing old (non-existing) courses, adding ‘new’ courses, and changes to JLP course codes). The ‘new’ courses provide adequate preparation for the course and will allow more students to meet enrolment requirements.

Consultation:

Psychology curriculum committee

PSY474H5: Special Topics in Human Communication

Prerequisites:

Previous:

1.0 300 level credit in Psychology including (PSY315H5 or PSY374H5) and one of (PSY312H5 or PSY315H5 or PSY316H5 or PSY319H5 or PSY374H5 or PSY379H5 or PSY384H5)

New:

1.0 300 level credit in Psychology including (PSY315H5 or PSY374H5 or JLP315H5 or JLP383H5 or JLP384H5) and one of (PSY312H5 or PSY315H5 or PSY316H5 or PSY319H5 or PSY374H5 or PSY379H5 or PSY384H5 or JLP315H5 or JLP383H5 or JLP384H5)

Rationale:

Updating course prerequisites to include recent changes to JLP course codes.

Consultation:

Psychology curriculum committe

PSY490H5: Advanced Topics in Neuroscience

Prerequisites:

Previous:

(PSY270H5 or PSY290H5) and 1.0 credit from (PSY346H5 or PSY351H5 PSY352H5 or PSY353H5 or PSY354H5 or PSY355H5 or PSY362H5 or PSY369H5 or PSY372H5 or PSY391H5 or PSY392H5 or PSY393H5 PSY395H5 or PSY397H5 or PSY398H5 or BIO304H5).

New:

(PSY270H5 or PSY290H5) and 1.0 credit from (PSY346H5 or PSY351H5 PSY352H5 or PSY353H5 or PSY354H5 or PSY355H5 or PSY362H5 or PSY369H5 or PSY372H5 or PSY391H5 or PSY392H5 or PSY393H5 or PSY394H5 or PSY395H5 or PSY397H5 or PSY398H5 or BIO304H5).

Rationale:

Inclusion of new course in list of prerequisites

Consultation:

Psychology curriculum committee

PSY495H5: Special Topics in Neuropsychology

Prerequisites:

Previous:

PSY290H5 and 1.0 credit from (PSY315H5 or PSY318H5 or PSY346H5 or PSY362H5 or PSY372H5 or PSY374H5 or PSY379H5 or PSY393H5 or PSY397H5)

New:

PSY290H5 and 1.0 credit from (PSY315H5 or PSY318H5 or PSY346H5 or PSY362H5 or PSY372H5 or PSY374H5 or PSY379H5 or PSY393H5 or PSY394H5 or PSY397H5 or JLP383H5)

Rationale:

Inclusion of new course and JLP updates to prerequisite list

Consultation:

Psychology curriculum committee

4 Minor Program Modifications

ERMAJ1160: Psychology - Major (Science)

Completion Requirements:

Previous:

6.5-7.0 credits in Psychology are required, including 2.0 at the 300/400 level.

First Year: PSY100Y5

Higher Years:

PSY201H5/ ECO220Y5/ ECO227Y5/ SOC350H5/ STA218H5/ STA220H5
PSY210H5, PSY290H5
one of the following: PSY270H5, PSY280H5, JLP285H5
one of the following: PSY220H5, PSY230H5, PSY240H5
1.5 credits from the following courses: 0.5 credit must be taken from each group:
- Biological Bases of Behaviour: PSY318H5, PSY346H5, PSY351H5, PSY352H5, PSY353H5, PSY354H5, PSY355H5, PSY362H5, PSY372H5, PSY391H5, PSY392H5, PSY393H5, PSY395H5, PSY397H5, PSY398H5; BIO304H5, BIO310H5, BIO318Y5, BIO328H5
- Perception/Cognition/Communication: PSY312H5, PSY316H5, PSY362H5, PSY371H5, PSY372H5, PSY385H5, PSY387H5, PSY393H5, PSY397H5, JLP315H5, JLP383H5, JLP384H5, JLP388H5
- Developmental/Abnormal/Social/Personality: PSY310H5, PSY311H5, PSY312H5, PSY313H5, PSY314H5, PSY316H5, PSY317H5, PSY318H5,PSY320H5, PSY321H5, PSY324H5, PSY325H5, PSY327H5, PSY328H5, PSY330H5, PSY331H5, PSY333H5, PSY340H5, PSY341H5, PSY343H5, PSY344H5, PSY345H5, PSY346H5, PSY353H5, JLP315H5

1.5 additional credits in Psychology. At least 0.5 must be at the 300/400 level

NOTE: A single course can be used to satisfy only one Psychology program requirement.

New:

6.5-7.0 credits in Psychology are required, including 2.0 at the 300/400 level.

First Year: PSY100Y5

Higher Years:

PSY201H5/ ECO220Y5/ ECO227Y5/ SOC350H5/ STA218H5/ STA220H5
PSY210H5, PSY290H5
one of the following: PSY270H5, PSY280H5, JLP285H5
one of the following: PSY220H5, PSY230H5, PSY240H5
1.5 credits from the following courses: 0.5 credit must be taken from each group:
- Biological Bases of Behaviour: PSY318H5, PSY346H5, PSY351H5, PSY352H5, PSY353H5, PSY354H5, PSY355H5, PSY362H5, PSY372H5, PSY391H5, PSY392H5, PSY393H5, PSY394H5, PSY395H5, PSY397H5, PSY398H5 BIO304H5, BIO310H5, BIO318Y5, BIO328H5
- Perception/Cognition/Communication: PSY312H5, PSY316H5, PSY362H5, PSY371H5, PSY372H5, PSY385H5, PSY387H5, PSY393H5, PSY397H5, JLP315H5, JLP383H5, JLP384H5, JLP388H5
- Developmental/Abnormal/Social/Personality: PSY310H5, PSY311H5, PSY312H5, PSY313H5, PSY314H5, PSY316H5, PSY317H5, PSY318H5,PSY320H5, PSY321H5, PSY324H5, PSY325H5, PSY327H5, PSY328H5, PSY330H5, PSY331H5, PSY333H5, PSY340H5, PSY341H5, PSY343H5, PSY344H5, PSY345H5, PSY346H5, PSY353H5, JLP315H5

1.5 additional credits in Psychology. At least 0.5 must be at the 300/400 level

NOTE: A single course can be used to satisfy only one Psychology program requirement.

Description of Proposed Changes:

Inclusion of proposed course (PSY394H5)

Consultations:

Psychology Curriculum Committee

ERSPE1160: Psychology - Specialist (Science)

Completion Requirements:

Previous:
10.0-11.0 credits in Psychology are required.

First Year: PSY100Y5

Second Year:

PSY201H5 and PSY202H5 (or equivalent)
PSY210H5 and PSY290H5
PSY270H5 or PSY280H5 or JLP285H5
PSY220H5 or PSY230H5 or PSY240H5
0.5 additional PSY credit at the 200-level

Third Year:

PSY309H5
One laboratory course from the following: PSY319H5 or PSY329H5 or PSY368H5 or PSY369H5 or PSY379H5 or PSY389H5
3.0 credits from the following courses (with a min. 0.5 credits from each grouping):

Biological Bases of Behaviour: PSY318H5 or PSY346H5 or PSY351H5 or PSY352H5 or PSY353H5 or PSY354H5 or PSY355H5 or PSY362H5 or PSY372H5 or PSY391H5 or PSY392H5 or PSY393H5 or PSY395H5 or PSY397H5 or PSY398H5 or BIO304H5 or BIO310H5 or BIO318Y5 or BIO328H5

Perception/Cognition/Communication: PSY312H5 or PSY316H5 or PSY362H5 or PSY371H5 or PSY372H5 or PSY385H5 or PSY387H5 or PSY393H5 or PSY397H5 or JLP315H5 or JLP383H5 or JLP384H5 or JLP388H5

Developmental/Abnormal/Social/Personality: PSY310H5 or PSY311H5 or PSY312H5 or PSY313H5 or PSY314H5 or PSY316H5 or PSY317H5 or PSY318H5 or PSY320H5 or PSY321H5 or PSY324H5 or PSY325H5 or PSY327H5 or PSY328H5 or PSY330H5 or PSY331H5 or PSY333H5 or PSY340H5 or PSY341H5 or PSY343H5 or PSY344H5 or PSY345H5 or PSY346H5 or PSY353H5 or JLP315H5

Fourth Year:

PSY400Y5 or PSY401H5 or PSY403H5 or PSY404H5 or PSY405H5 or PSY406H5 or PSY499H5 or PSY499Y5
1.0 credit from the following courses: PSY402H5 or PSY410H5 or PSY415H5 or PSY420H5 or PSY424H5 or PSY430H5 or PSY435H5 or PSY440H5 or PSY442Y5 or PSY471H5 or PSY480H5 or PSY490H5 or PSY495H5 or JLP481H5 or JLP483H5 or BIO403H5 or BIO407H5 or STA441H5

NOTE: A single course can be used to satisfy only one Psychology program requirement.

New:
10.0 credits are required.

1. 1.0 credit from PSY100Y5
2. 1.0 credit from PSY201H5 and PSY202H5 (or equivalent)
3. 0.5 credits from PSY210H5
4. 0.5 credits from PSY290H5
5. 0.5 credits from PSY270H5, PSY280H5, JLP285H5
6. 0.5 credits from PSY220H5, PSY230H5, PSY240H5
7. 0.5 credits from PSY309H5
8. 0.5 credits from the following laboratory courses: PSY319H5, PSY329H5, PSY368H5, PSY369H5, PSY379H5, PSY389H5
9. 0.5 credits at 300-level from Cluster A
10. 0.5 credits at 300-level from Cluster B
11. 0.5 credits at 300-level from Cluster C
12. 1.5 additional credits at 300/400-level from any of Clusters A, B, C, D
13. 1.0 additional credit at any level from Clusters A, B, C, D
14. 1.0 credit from the following courses: PSY402H5, PSY410H5, PSY415H5, PSY420H5, PSY424H5, PSY430H5, PSY435H5, PSY440H5, PSY442Y5, PSY471H5, PSY480H5, PSY490H5, PSY495H5, JLP481H5, JLP483H5, BIO403H5, BIO407H5, STA441H5

Psychology Specialist Clusters

Cluster A - Biological Bases of Behaviour:

PSY318H5, PSY346H5, PSY351H5, PSY352H5, PSY353H5, PSY354H5, PSY355H5, PSY362H5, PSY372H5, PSY391H5, PSY392H5, PSY393H5, PSY394H5, PSY395H5, PSY397H5, PSY398H5, BIO304H5, BIO310H5, BIO318Y5, BIO328H5

Cluster B - Perception/Cognition/Communication:

PSY270, PSY280, PSY312H5, PSY316H5, PSY362H5, PSY371H5, PSY372H5, PSY385H5, PSY387H5, PSY393H5, PSY397H5, JLP285H5, JLP315H5, JLP383H5, JLP384H5, JLP388H5

Cluster C - Developmental/Abnormal/Social/Personality:

PSY220H5, PSY230H5, PSY240H5,PSY310H5, PSY311H5, PSY312H5, PSY313H5, PSY314H5, PSY316H5, PSY317H5, PSY318H5, PSY320H5, PSY321H5,

PSY324H5, PSY325H5, PSY327H5, PSY328H5, PSY330H5, PSY331H5, PSY333H5, PSY340H5, PSY341H5, PSY343H5, PSY344H5, PSY345H5, PSY346H5, PSY353H5, JLP315H5

Cluster D - Research and Applications:

PSY299H5, PSY299Y5, PSY399H5, PSY399Y5, PSY400Y5, PSY401Y5, PSY403H5, PSY404H5, PSY405H5, PSY406H5, PSY499H5, PSY499Y5

Enrolment Requirements:

Previous:

Limited Enrolment — Enrolment in this program is limited to students who have:

completed Gr. 12(4U) Biology and Advanced Functions or equivalent;
completed 8.0 credits;
completed PSY201H5 and PSY202H5 (or equivalent) and at least 1.5 credits in 200-level PSY courses with a minimum average of 77% across the 2.5 credits; and a minimum CGPA of 3.0.

Students who do not meet these requirements and/or students who apply after third year must have a psychology average of at least 77% (based on a minimum of PSY201H5 and PSY202H5 and the next most recent 1.5 credits completed in psychology) as well as an AGPA of at least 3.0. These requirements are based on all courses taken during students' most recent academic year (including Summer, when applicable).

Please see the Psychology Department website (www.utm.utoronto.ca/psychology) for full enrolment requirement details.

New:

Limited Enrolment — Enrolment in this program is limited to students who have:

completed Gr. 12(4U) Biology and Advanced Functions or equivalent;
completed 8.0 credits;
completed PSY201H5 and PSY202H5 (or equivalent) and at least 1.5 credits in 200-level PSY courses with a minimum average of 77% across the 2.5 credits; and a minimum CGPA of 3.0.

Students who do not meet these requirements and/or students who apply after third year must have a psychology average of at least 77% (based on a minimum of PSY201H5 and PSY202H5 and the next most recent 1.5 credits completed in 200/300/400-level PSY/JLP courses) as well as an AGPA of at least 3.0. These requirements are based on all courses taken during students' most recent academic year (including Summer, when applicable).

Please see the Psychology Department website (www.utm.utoronto.ca/psychology) for full enrolment requirement details.

Description of Proposed Changes:

Revising the structure of Psychology Specialist program to 'include' but not 'require' a senior research project (e.g. Thesis, IRP, ROP) as a part of specialist program. The new course: PSY394H5 has also been updated in the list of courses in Cluster A

Rationale:

We have historically required that students in our Psychology and Neuroscience Specialist Program(s) of Study (POSts) complete a senior research experience (IRP/ROP/Thesis/Knowledge translation course). This requirement was premised based on the following considerations: the presumption is that Specialist POSt is for students who intend to pursue further studies in graduate school, students in specialist streams represent the ‘best’ students in our program, and low enrollment of students in our specialist streams allows us to accommodate all students. However, the landscape of our Specialist POSts has changed in recent years. Most apparent is the nearly doubling of students registered for our specialist programs. Historically, our Neuroscience and Specialist streams enrolments have been around 60-70 students. In recent years, enrolments have even doubled to 140-150 students.

Faculty have often expressed an interest in supervising excellent students in our Psychology Major stream. However, our practice of prioritizing Specialist enrolments in 400-level research courses has led to excellent students (in other Psychology POSts) NOT receiving admissions to capstone experiences, like the Thesis course.

We have also faced difficulties in providing a few students with a research placement who have little desire/motivation to pursue one. Unfortunately, when those students are provided a research placement (as required of their POSt), the outcomes are less than satisfactory for student and faculty supervisors.

Faculty have collectively proposed eliminating the research requirement from our Specialist POSts.

These changes will have no effect on ERSPE1160's Program Learning Outcomes (PLO):

Removing the senior research requirement in the Psychology Specialist and Neuroscience programs will not change Psychology and Neuroscience Program Learning Outcomes (PLOs) nor impact students' ability to achieve the PLOs. Critically, no Program Learning Outcome is uniquely fulfilled by completing a senior research project. Instead, a carefully designed combination of other program requirements—such as statistics, lab courses, and seminar courses continues to ensure that students achieve each of the PLOs. Through these varied and structured experiences, students build core knowledge, essential skills, and a foundation for independent and responsible inquiry.

Theme 1: Fostering Core Knowledge

1. Identify key concepts, principles, and theoretical approaches in psychology – A sequence of foundational and advanced courses ensures students master essential psychological concepts, fulfilling PLO 1.

2. Describe how developmental, experiential, and biological factors interact to shape mental processes and behaviour – Courses in developmental, cognitive, and biological psychology provide a comprehensive understanding of these interactions, achieving PLO 2.

3. Describe psychological research techniques and their assumptions – Research methodology and lab courses offer students hands-on experience with research techniques, fully addressing PLO 3.

4. Demonstrate awareness of the complexity of knowledge construction and the limits of available methods in scientific inquiry – The curriculum includes critical discussions on research limitations and assumptions, supporting PLO 4.

Theme 2: Fostering Core Skills

5. Analyze and interpret data using quantitative and/or qualitative techniques – Statistics and lab courses provide rigorous training in data analysis, allowing students to achieve PLO 5.

6. Access and interpret scientific literature – Students engage with primary research articles in seminar and lab courses, developing the skills needed to meet PLO 6.

7. Communicate clearly and concisely – Assignments, presentations, and group discussions across the curriculum foster communication skills, addressing PLO 7.

8. Use hypothesis-driven methods of scientific inquiry to answer psychological questions – lab courses and structured assignments enable students to apply scientific methods to psychological questions, fulfilling PLO 8.

9. Develop insights into the behaviour and mental processes of one's self and of others – through reflective assignments, case studies, and discussions in seminar courses, students gain insight into the behaviour and mental processes, achieving PLO 9.

10. Critically evaluate psychological research – Lab and seminar courses emphasize critical research analysis, supporting students' ability to meet PLO 10.

Theme 3: Responsibility and Autonomous Inquiry

11. Explore interests in psychology through independent inquiry and research – Students can pursue directed studies, elective research courses, and research placements to explore their interests independently, allowing them to achieve PLO 11 without a senior research requirement.

12. Demonstrate an understanding of the ethical concerns of the discipline – Ethics and research methodology courses ensure students develop a thorough understanding of ethical standards in psychology, addressing PLO 12.

13. Foster a strategy of lifelong inquiry for engaged citizenship – The curriculum encourages lifelong learning by emphasizing active inquiry, self-reflection, and engagement with diverse perspectives, meeting PLO 13.

A blend of essential program components—lecture courses, statistics, lab experiences, and seminar discussions—ensures that students in the Psychology Specialist and Neuroscience programs achieve all Program Learning Outcomes (PLOs). Each component reinforces core skills, knowledge, and the ability to engage in independent inquiry, providing a robust educational foundation even without a mandatory senior research project. Thus, the program remains fully aligned with the PLOs.

Consultations:

PSY Curriculum Committee.

ERSPE1883: Exceptionality in Human Learning - Specialist (Science)

Completion Requirements:

Previous:

13.0-15.0 credits are required, including at least 5.0 300/400-level credits of which 1.5 must be at the 400-level.

First Year: PSY100Y5 and (ANT101H5 and ANT102H5) or (BIO152H5 and BIO153H5) or 1.0 credit from the following courses (BIO202H5 or BIO205H5 or BIO206H5 or BIO207H5 or SOC100H5)

Second Year:

PSY201H5 or ECO220Y5 or ECO227Y5 or SOC350H5 or STA218H5 or STA220H5
PSY210H5 and PSY240H5
0.5 credit from the following: PSY202H5 (or equivalent) or PSY270H5 or PSY280H5 or PSY290H5 or JLP285H5

Higher Years:

3.0 credits from the following: PSY310H5 or PSY311H5 or PSY312H5 or PSY313H5 or PSY314H5 or PSY316H5 or PSY317H5 or PSY318H5 or PSY319H5 or PSY321H5 or PSY325H5 or PSY330H5 or PSY331H5 or PSY333H5 or PSY340H5 or PSY341H5 or PSY343H5 or PSY344H5 or PSY346H5 or PSY353H5 or PSY385H5 or PSY391H5 or PSY392H5 or PSY393H5 or JLP315H5 or JLP383H5 or JLP384H5 or JLP388H5
PSY442Y5 and at least 0.5 credit from the following: PSY400Y5 or PSY401H5 or PSY403H5 or PSY404H5 or PSY405H5 or PSY406H5 or PSY410H5 or PSY415H5 or PSY440H5 or PSY474H5 or PSY495H5 or PSY499H5 or PSY499Y5 or JLP481H5 or JLP483H5
One of the following:
- 2.0 credits from: ANT202H5 or ANT203H5 or ANT204H5 or ANT205H5 or ANT206H5 or ANT207H5 or ANT211H5 or ANT212H5 or ANT214H5 or ANT215H5 or ANT220H5 or ANT241H5 or ANT306H5 or ANT322H5 or ANT331H5 or ANT332H5 or ANT333H5 or ANT334H5 or ANT335H5 or ANT337H5 or ANT338H5 or ANT341H5 or ANT350H5 or ANT352H5 or ANT362H5 or ANT364H5 or ANT365H5 or ANT401H5 or ANT403H5 or ANT434H5 or ANT437H5 or ANT460H5 or ANT461H5 or ANT462H5
- 2.5 credits from: SOC205H5 or SOC209H5 or SOC211H5 or SOC216H5 or SOC219H5 or SOC224H5 or SOC227H5 or SOC240H5 or SOC244H5 or SOC263H5 or SOC275H5 or SOC304H5 or SOC307H5 or SOC310H5 or SOC316H5 or SOC323H5 or SOC332H5 or SOC333H5 or SOC341H5 or SOC352H5 or SOC356H5 or SOC359H5 or SOC371H5 or SOC375H5 or SOC380H5 or SOC456H5 or SOC457H5
- 2.0 credits from: BIO202H5 or BIO205H5 or BIO206H5 or BIO207H5 or BIO210Y5 or BIO315H5 or BIO341H5 or BIO370Y5 or BIO371H5 or BIO372H5 or BIO375H5 or BIO380H5 or BIO403H5 or BIO407H5 or BIO434H5 or BIO443H5 or BIO476H5 or BIO477H5 or ANT202H5 or ANT203H5 or ANT331H5 or ANT332H5 or ANT333H5 or ANT334H5

2.5 additional credits to be selected from the following (no more than 1.0 credit from any one discipline):

ANT - Any course in 3(a) not counted previously
SOC - Any course in 3(b) not counted previously
BIO - Any course in 3(c) not counted previously
CHM - CHM242H5 or CHM243H5 or CHM341H5 or CHM345H5 or CHM347H5 or CHM361H5 or CHM362H5
ENG - ENG234H5 or ENG384H5
FRE - FRE227Y5 or FRE355H5
HIS - HIS310H5 or HIS326Y5 or HIS338H5
LIN - LIN101H5 or LIN102H5 or LIN256H5 or LIN358H5 or LIN380H5 or JLP285H5
JAL - JAL253H5 or JAL355H5
PHL - PHL243H5 or PHL244H5 or PHL255H5 or PHL267H5 or PHL271H5 or PHL272H5 or PHL274H5 or PHL277Y5 or PHL282H5 or PHL283H5 or PHL290H5 or PHL350H5 or PHL355H5 or PHL357H5 or PHL358H5 or PHL367H5 or PHL370H5 or PHL374H5 or PHL376H5
RLG - RLG314H5
WGS - Any course

New:

13.0-15.0 credits are required, including at least 5.0 300/400-level credits of which 1.5 must be at the 400-level.

First Year: PSY100Y5 and (ANT101H5 and ANT102H5) or (BIO152H5 and BIO153H5) or 1.0 credit from the following courses (BIO202H5 or BIO205H5 or BIO206H5 or BIO207H5 or SOC100H5)

Second Year:

PSY201H5 or ECO220Y5 or ECO227Y5 or SOC350H5 or STA218H5 or STA220H5
PSY210H5 and PSY240H5
0.5 credit from the following: PSY202H5 (or equivalent) or PSY270H5 or PSY280H5 or PSY290H5 or JLP285H5

Higher Years:

3.0 credits from the following: PSY310H5 or PSY311H5 or PSY312H5 or PSY313H5 or PSY314H5 or PSY316H5 or PSY317H5 or PSY318H5 or PSY319H5 or PSY321H5 or PSY325H5 or PSY330H5 or PSY331H5 or PSY333H5 or PSY340H5 or PSY341H5 or PSY343H5 or PSY344H5 or PSY346H5 or PSY353H5 or PSY385H5 or PSY391H5 or PSY392H5 or PSY393H5 or JLP315H5 or JLP383H5 or JLP384H5 or JLP388H5
PSY442Y5 and at least 0.5 credit from the following: PSY400Y5 or PSY401H5 or PSY403H5 or PSY404H5 or PSY405H5 or PSY406H5 or PSY410H5 or PSY415H5 or PSY440H5 or PSY474H5 or PSY495H5 or PSY499H5 or PSY499Y5 or JLP481H5 or JLP483H5
One of the following:
- 2.0 credits from: ANT202H5 or ANT203H5 or ANT204H5 or ANT205H5 or ANT206H5 or ANT207H5 or ANT211H5 or ANT212H5 or ANT214H5 or ANT215H5 or ANT220H5 or ANT241H5 or ANT306H5 or ANT322H5 or ANT331H5 or ANT332H5 or ANT333H5 or ANT334H5 or ANT335H5 or ANT337H5 or ANT338H5 or ANT341H5 or ANT350H5 or ANT352H5 or ANT362H5 or ANT364H5 or ANT365H5 or ANT401H5 or ANT403H5 or ANT434H5 or ANT437H5 or ANT460H5 or ANT461H5 or ANT462H5

2.5 credits from: SOC205H5 or SOC209H5 or SOC211H5 or SOC216H5 or SOC219H5 or SOC224H5 or SOC227H5 or SOC240H5 or SOC244H5 or SOC263H5 or SOC275H5 or SOC304H5 or SOC307H5 or SOC310H5 or SOC316H5 or SOC323H5 or SOC332H5 or SOC333H5 or SOC341H5 or SOC352H5 or SOC356H5 or SOC359H5 or SOC371H5 or SOC375H5 or SOC380H5 or SOC456H5 or SOC457H5

2.0 credits from: BIO202H5 or BIO205H5 or BIO206H5 or BIO207H5 or BIO210Y5 or BIO315H5 or BIO341H5 or BIO370Y5 or BIO371H5 or BIO372H5 or BIO375H5 or BIO380H5 or BIO403H5 or BIO407H5 or BIO434H5 or BIO443H5 or BIO476H5 or BIO477H5 or ANT202H5 or ANT203H5 or ANT331H5 or ANT332H5 or ANT333H5 or ANT334H5

2.5 additional credits to be selected from the following (no more than 1.0 credit from any one discipline):

ANT - Any course in 3(a) not counted previously
SOC - Any course in 3(b) not counted previously
BIO - Any course in 3(c) not counted previously
CHM - CHM242H5 or CHM243H5 or CHM341H5 or CHM345H5 or CHM347H5 or CHM361H5 or CHM362H5
ENG - ENG234H5 or ENG384H5
FRE - FRE225Y5 or FRE355H5
HIS - HIS310H5 or HIS326Y5 or HIS338H5
LIN - LIN101H5 or LIN102H5 or LIN256H5 or LIN358H5 or LIN380H5 or JLP285H5
JAL - JAL253H5 or JAL355H5
PHL - PHL243H5 or PHL244H5 or PHL255H5 or PHL267H5 or PHL271H5 or PHL272H5 or PHL274H5 or PHL277Y5 or PHL282H5 or PHL283H5 or PHL290H5 or PHL350H5 or PHL355H5 or PHL357H5 or PHL358H5 or PHL367H5 or PHL370H5 or PHL374H5 or PHL376H5
RLG - RLG314H5
WGS - Any course

Enrolment Requirements:

Previous:

Limited Enrolment — Enrolment is limited to students who have:

1. completed Gr. 12(4U) Biology and Advanced Functions or equivalent;
2. completed 8.0 credits;
3. completed PSY201H5 (or equivalent), PSY210H5, PSY240H5 and at least 1.0 credit of 200-level ANT/BIO/SOC courses with a minimum average of 75% across the 2.5 credits; and
4. a minimum CGPA of 2.70.

Students who do not meet these requirements and/or students who apply after third year must have a psychology average of at least 75% (based on a minimum of PSY201H5 and the next most recent 1.5 credits completed in psychology) as well as an AGPA of at least 2.7. These requirements are based on all courses taken during students' most recent academic year (including Summer, when applicable).

New:

Limited Enrolment — Enrolment is limited to students who have:

1. completed Gr. 12(4U) Biology and Advanced Functions or equivalent;
2. completed 8.0 credits;
3. completed PSY201H5 (or equivalent), PSY210H5, PSY240H5 and at least 1.0 credit of 200-level ANT/BIO/SOC courses with a minimum average of 75% across the 2.5 credits; and
4. a minimum CGPA of 2.70.

Students who do not meet these requirements and/or students who apply after third year must have a psychology average of at least 75% (based on a minimum of PSY201H5 and the next most recent 1.5 credits completed in 200/300/400-level Psychology courses) as well as an AGPA of at least 2.7. These requirements are based on all courses taken during students' most recent academic year (including Summer, when applicable).

Description of Proposed Changes:

minor updates for clarity and correction of course code.

Rationale:

Previously listed FRE course does not exist.

Consultations:

Language Studies department brought this to our attention. Discussed at Psychology curriculum committee.

ERSPE2470: Neuroscience - Specialist (Science)

Completion Requirements:

Previous:

11.5-12.5 credits are required, including at least 3.0 credits at the 300/400 level and 1.0 credit at the 400 level.

First Year: PSY100Y5 and BIO152H5 and BIO153H5 and CHM110H5 and CHM120H5 and (MAT132H5 and MAT134H5) or (MAT135H5 and MAT136H5) or (or equivalent)

Second Year:

(PSY201H5 and PSY202H5) or (STA220H5 and STA221H5) or (BIO259H5 and BIO360H5) or equivalent
BIO202H5 and BIO206H5 and BIO207H5 and PSY290H5
one of the following: PSY210H5 or PSY270H5 or PSY280H5 or JLP285H5

Third Year: 1.0 credit from each of the following three areas:

Behavioural Neuroscience area: BIO318Y5 or BIO320H5 or BIO328H5 or PSY316H5 or PSY318H5 or PSY346H5 or PSY352H5 or PSY353H5 or PSY354H5 or PSY355H5 or PSY368H5 or PSY369H5 or PSY385H5 or PSY389H5 or PSY391H5 or PSY392H5 or PSY393H5 or PSY395H5 or PSY397H5 or PSY398H5
Molecular/Cellular Biology area: BIO314H5 or BIO315H5 or BIO341H5 or BIO347H5 or BIO372H5 or BIO407H5 or BIO476H5 or PSY355H5 or PSY392H5
Neurobiology area: BIO304H5 or BIO310H5 or BIO380H5 or BIO404H5 or BIO409H5 or PSY318H5 or PSY346H5 or PSY369H5 or PSY393H5 or PSY397H5

Fourth Year:

One seminar from the following: BIO403H5 or BIO404H5 or BIO406H5 or BIO407H5 or BIO408H5 or PSY471H5 or PSY480H5 or PSY490H5 or PSY495H5
One thesis/ research project from the following: BIO481Y5 or PSY400Y5 or PSY401H5 or PSY403H5 or PSY404H5 or PSY405H5 or PSY406H5 or PSY499H5 or PSY499Y5

NOTES:

1. Students intending to pursue the Neuroscience Specialist program should be aware of minimum grade prerequisite requirements for entry to BIO152H5 (minimum grade of 70% in Grade 12 SBI4U) and CHM110H5 (minimum grade of 70% in Grade 12 SCH4U)

2. In second year, students are encouraged to consider taking the following courses depending on their planned course of study:

- BIO202H5 - required for several courses in the Neurobiology area.
- PSY210H5 - required for several courses in the Behavioural Neuroscience area.

3. Students interested in taking PSY400Y5 in their last year are advised to take PSY309H5 in their third year.

New:
11.5 credits are required

1. 1.0 credit from PSY100Y5
2. 1.0 credit from BIO152H5 and BIO153H5
3. 1.0 credit from CHM110H5 and CHM120H5
4. 1.0 credit from the following combinations: (MAT132H5 and MAT134H5), (MAT135H5 and MAT136H5), (or equivalent)
5. 1.0 credit from the following combinations: (PSY201H5 and PSY202H5), (STA220H5 and STA221H5), (BIO259H5 and BIO360H5), (or equivalent)
6. 2.0 credits from all of BIO202H5 and BIO206H5 and BIO207H5 and PSY290H5
7. 0.5 credits from: PSY210H5, PSY270H5, PSY280H5, JLP285H5
8. 0.5 credits at 300-level from Cluster A
9. 0.5 credits at 300-level from Cluster B
10. 0.5 credits at 300-level from Cluster C
11. 1.5 additional credits at any level from Clusters A, B, C, D (*see notes below*)
12. 1.0 credit at 400-level from Cluster D, E

Neuroscience Specialist Clusters

Cluster A - Behavioural Neuroscience area: BIO318Y5, BIO320H5, BIO328H5, PSY316H5, PSY318H5, PSY346H5, PSY352H5, PSY353H5, PSY354H5, PSY355H5, PSY368H5, PSY369H5, PSY385H5, PSY389H5, PSY391H5, PSY392H5, PSY393H5, PSY394H5, PSY395H5, PSY397H5, PSY398H5

Cluster B - Molecular/Cellular Biology area:

BIO314H5, BIO315H5, BIO341H5, BIO347H5, BIO372H5, BIO407H5, BIO476H5, PSY355H5, PSY392H5

Cluster C - Neurobiology area:

BIO304H5, BIO310H5, BIO380H5, BIO404H5, BIO409H5, PSY318H5, PSY346H5, PSY369H5, PSY393H5, PSY394H5, PSY397H5

Cluster D - Research and Applications:

BIO481Y5, PSY399H5, PSY399Y5, PSY400Y5, PSY401Y5, PSY403H5, PSY404H5, PSY405H5, PSY406H5, PSY499H5, PSY499Y5

Cluster E - Seminar:

BIO403H5, BIO404H5, BIO406H5, BIO407H5, BIO408H5, PSY471H5, PSY480H5, PSY490H5, PSY495H5

Enrolment Requirements:

Previous:

Limited Enrolment — Enrolment is limited to students who have:

completed 8.0 credits;
successfully completed PSY100Y5, BIO152H5, BIO153H5, CHM110H5, CHM120H5 and (MAT132H5, MAT134H5) / (MAT135H5, MAT136H5)/ MAT135Y5/ MAT137Y5 (or equivalent);
completed PSY201H5, PSY202H5 (or equivalent), PSY290H5, and at least 0.5 credit from: BIO202H5/ BIO205H5/ BIO206H5/ BIO207H5/ PSY210H5/ PSY270H5/ PSY274H5/ PSY280H5 with a minimum average of 77%; and
a minimum AGPA of 3.0.

Students who do not meet these requirements and/or students who apply after third year must have a psychology and biology average of at least 77% (based on a minimum of PSY201H5 and PSY202H5 and the next most recent 1.5 credits completed in psychology and biology courses listed in the Neuroscience Specialist program) as well as an AGPA of at least 3.0. These requirements are based on all courses taken during students' most recent academic year (including Summer, when applicable).

New:

Limited Enrolment — Enrolment is limited to students who have:

completed 8.0 credits;
successfully completed PSY100Y5, BIO152H5, BIO153H5, CHM110H5, CHM120H5 and (MAT132H5, MAT134H5) / (MAT135H5, MAT136H5)/ MAT135Y5/ MAT137Y5 (or equivalent);
completed PSY201H5, PSY202H5 (or equivalent), PSY290H5, and at least 0.5 credit from: BIO202H5/ BIO205H5/ BIO206H5/ BIO207H5/ PSY210H5/ PSY270H5/ PSY274H5/ PSY280H5 with a minimum average of 77%; and
a minimum AGPA of 3.0.

Students who do not meet these requirements and/or students who apply after third year must have a psychology and biology average of at least 77% (based on a minimum of PSY201H5 and PSY202H5 and the next most recent 1.5 credits completed in psychology and biology courses listed in the Neuroscience Specialist program at the 200/300/400-level) as well as an AGPA of at least 3.0. These requirements are based on all courses taken during students' most recent academic year (including Summer, when applicable).

Description of Proposed Changes:

Removing 400-level research 'requirement' while still allowing those courses to count toward completing program requirements. Adding new PSY394H5 to list of courses.

Rationale:

We have historically required that students in our Psychology and Neuroscience Specialist Program(s) of Study (POSts) complete a senior research experience (IRP/ROP/Thesis/Knowledge translation course). This requirement was premised based on the following considerations: the presumption is that Specialist POSt is for students who intend to pursue further studies in graduate school, students in specialist streams represent the ‘best’ students in our program, and low enrolment of students in our specialist streams allows us to accommodate all students. However, the landscape of our Specialist POSts has changed in recent years. Most apparent is the nearly doubling of students registered for our specialist programs. For reference, historically, our Neuroscience and Specialist streams enrolments have been around 60-70 students. In recent years, enrolments have even doubled to 140-150 students.

Faculty have often expressed an interest in supervising excellent students in our Psychology Major stream. However, our practice of prioritizing Specialist enrolments in 400-level research courses has led to excellent students (in other Psychology POSts) NOT receiving admissions to capstone experiences, like the Thesis course.

We have also faced difficulties in providing a few students with a research placement who have little desire/motivation to pursue one. Unfortunately, when those students are provided a research placement (as required of their POSt), the outcomes are less than satisfactory for student and faculty supervisors.

Faculty have collectively proposed eliminating the research requirement from our Specialist POSts.

These changes will have no effect on ERSPE2470's Program Learning Outcomes (PLO):

Removing the senior research requirement in the Psychology Specialist and Neuroscience programs will not change Psychology and Neuroscience Program Learning Outcomes (PLOs) nor impact students' ability to achieve the PLOs. Critically, no Program Learning Outcome is uniquely fulfilled by completing a senior research

project. Instead, a carefully designed combination of other program requirements—such as statistics, lab courses, and seminar courses continues to ensure that students achieve each of the PLOs. Through these varied and structured experiences, students build core knowledge, essential skills, and a foundation for independent and responsible inquiry.

Theme 1: Fostering Core Knowledge

1. Identify key concepts, principles, and theoretical approaches in psychology – A sequence of foundational and advanced courses ensures students master essential psychological concepts, fulfilling PLO 1.

2. Describe how developmental, experiential, and biological factors interact to shape mental processes and behaviour – Courses in developmental, cognitive, and biological psychology provide a comprehensive understanding of these interactions, achieving PLO 2.

3. Describe psychological research techniques and their assumptions – Research methodology and lab courses offer students hands-on experience with research techniques, fully addressing PLO 3.

4. Demonstrate awareness of the complexity of knowledge construction and the limits of available methods in scientific inquiry – The curriculum includes critical discussions on research limitations and assumptions, supporting PLO 4.

Theme 2: Fostering Core Skills

5. Analyze and interpret data using quantitative and/or qualitative techniques – Statistics and lab courses provide rigorous training in data analysis, allowing students to achieve PLO 5.

6. Access and interpret scientific literature – Students engage with primary research articles in seminar and lab courses, developing the skills needed to meet PLO 6.

7. Communicate clearly and concisely – Assignments, presentations, and group discussions across the curriculum foster communication skills, addressing PLO 7.

8. Use hypothesis-driven methods of scientific inquiry to answer psychological questions – lab courses and structured assignments enable students to apply scientific methods to psychological questions, fulfilling PLO 8.

9. Develop insights into the behaviour and mental processes of one's self and of others – through reflective assignments, case studies, and discussions in seminar courses, students gain insight into the behaviour and mental processes, achieving PLO 9.

10. Critically evaluate psychological research – Lab and seminar courses emphasize critical research analysis, supporting students' ability to meet PLO 10.

Theme 3: Responsibility and Autonomous Inquiry

11. Explore interests in psychology through independent inquiry and research – Students can pursue directed studies, elective research courses, and research placements to explore their interests independently, allowing them to achieve PLO 11 without a senior research requirement.

12. Demonstrate an understanding of the ethical concerns of the discipline – Ethics and research methodology courses ensure students develop a thorough understanding of ethical standards in psychology, addressing PLO 12.

13. Foster a strategy of lifelong inquiry for engaged citizenship – The curriculum encourages lifelong learning by emphasizing active inquiry, self-reflection, and engagement with diverse perspectives, meeting PLO 13.

A blend of essential program components—lecture courses, statistics, lab experiences, and seminar discussions—ensures that students in the Psychology Specialist and Neuroscience programs achieve all Program Learning Outcomes (PLOs). Each component reinforces core skills, knowledge, and the ability to engage in independent inquiry, providing a robust educational foundation even without a mandatory senior research project. Thus, the program remains fully aligned with the PLOs.

Impact:

The changes present more options/flexibilities to students while still meeting the requirements of a Specialist program. We feel that this change will benefit students across all POSts as it will eliminate prioritization of research placements to Specialist students. Students in other POSts will now receive much more consideration than before. Furthermore, students who are not interested in research will not be obliged to complete a project as part of their studies.

We do wish to note that we provide ~180 research placements per year and we are still committed to providing students with the opportunity to participate in research!

We see a positive impact on students in other academic units who have previously been excluded from participating in research due to enrolment priorities.

Consultations:

PSY Curriculum Committee