Course Descriptions & Schedule: Computer Science Stream

Please read carefully!

This document provide the descriptions and schedules for the Seminar Courses (Section A) and Elective Courses available to ESP students in the Computer Science stream for the 2024-2025 academic year. Please read the descriptions carefully before selecting your course preferences on your ***Course Selection Form***. Please note: All courses are subject to cancellation and/or change.

- All ESP students must register for one credit in a first-year seminar (see Section A below).
- All ESP students must register in two Elective Courses (see descriptions below in Section B)
  - Students registered in the Computer Science stream have set electives; according to requirements for this program (see your *Course Selection Form*).
  - Each elective will be supported by an ESP Workshop. See the *Course Schedule* for times.

Each elective course has a corresponding ESP workshop that will appear on your schedule as ESPW 1000.

Half-credit courses are marked with an asterisk (*) and are worth 0.5 credits and run during either the Fall or Winter semester. Full-credit courses are worth 1.0 credits and run during the entire Fall/Winter session. With each of your Elective Courses (Section B), you will also attend a two-hour weekly ESP Workshop. See the Student Guide for information about Workshops.

A Guide to Reading the Schedules

Course:	Name of the course and how many credits it's worth.
Code/Semester:	The course code and its semester. Some courses are full credits (Fall/Win) and run from Sept-Apr. Others are half credits and run in either the Fall (Sep-Dec) or Winter (Jan-Apr) sessions. For the First Year Seminars, some course codes are different for the same class. This is indicated by the / and you are welcome to select either course section based on your preferred day/time.
Day/Time:	M=Mon, T=Tues, W=Wed, **R=Thurs**, F=Fri. Classes may be held once per week for 3 hours or two times per week for 1.5 hours, or once per week for 2 hours plus a discussion group of 1 hour. For example, courses listed **MW are offered both Mon and Wed**, and classes **listed TR are offered Tues and Thurs** at the times listed. As well, the / represents two different times for different course codes (see above notes). Please read the times carefully.
Instructor:	Name of the Instructor/Professor.
Time Tutorial/Labs:	Some courses (usually those that have two hours per week for the lecture time) have discussion groups for 1 hour per week. These are led by Teaching Assistants assigned to the course and are a graded component of your courses. Groups are often offered at different times. We'll register you in just one of the discussion groups listed (one that has space available and works with your other course).
ESP Workshop:	This is the ESP Workshop assigned to the course with its day/time listed. It's there to help you succeed in the course and is an important and mandatory part of our program.
Facilitator:	Name of facilitator who runs the corresponding ESP workshop.

Course and Workshop Schedules

Note: you can add your name to a waitlist for classes that are full when you complete the Course Selection Form. Just mention this in the comments section at the end.

Section A: First Year Seminars (1.0 Credits)

Course: **Privilege, Power, Difference and Communication: Creating Social Change**
Code/Semester: FSYM 1900 C Fall/Winter
Day/Time: TR 10:05-11:25
Instructor: Beth Hughes

Course: **Selected Topics in Popular Culture**
Code/Semester: FYSM 1900F is Full
FYSM 1900 F Fall/Winter
Day/Time: W 11:35-14:25

Instructor: Susan Burhoe

Course: **Access to Legal Justice**
Code/Semester: FSYM 1900 I Fall/Winter
Day/Time: R 18:05-20:55
Instructor: Kory Smith

FYSM 1900 I is Full

Section B. Computer Science Stream Courses (2.0 Credits)

Course: **Introduction to Computer Science I**
Code/Semester: COMP 1005 A Fall
Day/Time: MW 10:05-11:25
Instructor: Farah Chanchary
Time Tutorial/Labs: A1 T 19:35-20:55 A2 M 18:05-19:25 A3 M 19:35-20:55
ESP Workshop: ESPW 1000 U | W 14:35-17:25
Facilitator: Manuel Lebron Flores.

Course: **Elementary Calculus I**
Code/Semester: MATH 1007 A Fall
Day/Time: WF 8:35-9:55
Time Tutorial/Labs: AT F 11:35-12:25
Instructor: Brandon Fodden
ESP Workshop: ESPW 1000 W | T 14:35-17:25
OR
ESPW 1000 ZC | W 18:05-20:55
Facilitator: Jada O'Brien

Course: **Introduction to Computer Science II**
Code/Semester: COMP 1006 A Winter
Day/Time: TR 11:35-12:55
Instructor: Jason Hinek
Time Tutorial/Labs: A1 T 18:05-19:25 A2 W 19:35-20:55
ESP Workshop: ESPW 1000 U | M 14:35-17:25
Facilitator: Manuel Lebron Flores

Course: **Linear Algebra for Engineering or Science**
Code/Semester: MATH 1104 C Winter
Day/Time: TR 14:35-15:55
Time Tutorial/Labs: CT R 13:35-14:25
Instructor: Saban Alaca
ESP Workshop: ESPW 1000 ZD | F 8:35-11:25
OR
ESPW 1000 L | F 11:35-14:25
Facilitator: Jada O'Brien

Course and Workshop Descriptions

Section A: First Year Seminars (1.0 Credits)

All FYSMs are titled: "Selected Topics in the Study of Academic Discourse" but have different selected topics.

Privilege, Power, Difference and Communication: Creating Social Change
FYSM 1900 C (1.0 Credit) Fall/Win
Instructor: Beth Hughes

This course is about learning how to be successful in university by exploring ideas of social justice. Where did social injustices come from, who created them, and why do they exist? How can you make sense of conflicting media messages to have an informed understanding of social issues? How can you make change!

Unjust, oppressive social structures are created and reinforced by politicians, the wealthy, journalists, advertisers, news media and others with power. They bomb you constantly with conflicting messages about what society is, what it should be, and how you should participate—especially according to your identity, who you are as a person.

Part of the answer lies in understanding power, privilege, and difference. Our first "lit" class of the year examines slang and how it changes with social ideas. Other ideas covered include identity, racism, consent, addiction, disability, privilege, equity, power, and allyship. We will critique deeply racism, sexism, genderism, and ableism. Lastly, you get to choose a social issue of your choice: you get to analyze the power of individual action and social movements to communicate and create social change. Our class will go step-by-step, taking a thoughtful and planned approach to how all these ideas fit together.

So, join this class! The ideas are engaging, and you will have many opportunities to understand and develop strong academic skills that are important for any university student:

- academic writing, revising and editing,
- critical thinking and making arguments,
- researching and reading to understand,
- time management, including procrastination,
- early career exploration, and much more.

As L. Hansberry wrote (1959), I didn't make this world. It was given to me this way! Even so, transformation happens with the understandings and subsequent actions that come from education.

A bit about Beth: She is an award-winning founding member of both the Centre for Initiatives in Education and the Enriched Support Program. She is a scholar of language and culture who has extensive experience teaching at Carleton and in Asia and a particular interest in how language expresses and shapes social relations of power. Her innovative and playful teaching motivates students to think critically and collaboratively about social justice.

Selected Topic: Selected Topics in Popular Culture
FYSM 1900 F (1.0 Credit) Fall/Win
Instructor: Susan Burhoe

In this course we will explore how modern popular culture both reflects and shapes our experience of the world around us. You will be introduced to basic cultural theory and learn how scholars approach cultural "texts". How do we "read" a music video, an ad, or a TV crime show? How do the cultural products we consume influence our idea of what's normal? What's up with our fascination with zombies? Why do we care what celebrities do? What is our relationship to brand names? How does advertising influence our tastes and self-concept? What do our musical tastes "say" about our world view, who we are, what we identify with, and how we see ourselves?

We'll look at some of the debates around pop culture and analyze how they relate to competing social values and hierarchies. We will examine the stories that popular culture circulates with particular attention to ideas about race, gender, sexuality, and class. We'll explore the ways in which cultural "anxiety" about social change is reflected in debates about pop culture. Our emphasis will be on examining how various "entertainments" have shaped our ideas about ourselves and the world in the 20th and 21st centuries.

Weekly Topics may include:

- Diamonds are a Girl's Best Friend: Hollywood Glamour
- "Oh… the HORROR!": Comic Books and Moral Panic in the 50s
- I cast "detect evil": Dungeons & Dragons and Moral Panic
- Fight the Power: Music, Race, and Culture
- Apocalypse Now: Zombies, Contagion, and End-of-the-World Narratives
- Conspiracy Theories and Celebrity on Social Media
- Got Beef? Interpreting Hip Hop Feuds

We'll explore this material in lectures accompanied by film, TV, music, magazine, and internet clips, as well as through group discussion and activities. You will be graded on written reflections, test/exams, and a cumulative project that will ask you to analyze a popular culture topic of your choosing.

Note: this course precludes additional credit for CIED 1001; it is reserved for students who have not taken CIED 1001 previously.

Access to Legal Justice
FYSM 1900 I (1.0 Credit) Fall/Win
Instructor: Kory Smith

In Canada, almost half of adults will experience a serious legal issue over the course of a three-year period. Yet, many of these individuals lack meaningful access to legal justice. Barriers related to financial cost, time, complexity, lack of information, and availability of legal services result in legal problems going unaddressed. Vulnerable and marginalized populations experience further barriers to accessing legal justice. Timely access to legal justice will help support the well-being of individuals and communities.

This interdisciplinary first-year seminar will provide you with theoretical and methodological tools to help you understand and respond to access to legal justice issues. You will explore questions from legal, sociological, historical, philosophical, and political perspectives. Questions that will be addressed include: What is justice? What is legal justice? What is access to legal justice? What are the causes and consequences of unmet legal needs? What are the experiences of justice system participants? What is the relationship between access to legal justice and inequality and oppression? What are some potential solutions to access to legal justice problems?

This course is designed to be as experiential as possible. Methods of instruction include interactive lecturing, class discussion, student presentations, field trips (COVID-permitting), and guest speakers. Assignments and in-class activities will be used to help you develop the following academic skills: studying, research, writing, and oral communication. Your grade in the course will be based on several different types of evaluation: attendance and participation, weekly journal entries, an essay proposal and annotated bibliography, an essay, and a presentation and presentation reflection.

Welcome to Carleton University and the Enriched Support Program! I wish you the best in your first year of university studies.

A bit about Kory: He is a settler lawyer practicing in the areas of Aboriginal and Indigenous law, constitutional law, and human rights law. He holds a Ph.D. and B.A from Carleton university and a law degree from the University of Ottawa.

Section B. Elective Computer Science Courses (2.0 Credits)

Introduction to Computer Science I (Fall)
COMP 1005 A [0.5 credit]
Prof. Farah Chanchary

Introduction to computer science and programming. Topics include: algorithm design; control structures; variables and types; linear collections; functions; debugging and testing. Special attention is given to procedural programming in a modern language, computational thinking skills, and problem decomposition.

- An example of a course outline from Fall 2022: https://service.scs.carleton.ca/sites/default/files/course_outlines/comp_1005_b_preliminary_course_outline-1.pdf
- Lectures three hours a week, tutorial one and a half hours a week.

Introduction to Computer Science II (Winter)
COMP 1006 A [0.5 credit]
Prof. Jason Hinek

A second course in programming emphasizing problem solving and computational thinking in an object-oriented language. Topics include abstraction, mutable data structures, methods, inheritance, polymorphism, recursion, program efficiency, testing and debugging.

- An example of a course outline from Winter 2023: https://service.scs.carleton.ca/sites/default/files/course_outlines/w23-1006b.pdf
- Lectures three hours a week, tutorial one and a half hours a week.

Elementary Calculus I (Fall)
MATH 1007 A [0.5 credit]
Prof. Brandon Fodden

Limits. Differentiation of the elementary functions, including trigonometric functions. Rules of differentiation. Applications of differentiation: max-min problems, curve sketching, approximations. Introduction to integration: definite and indefinite integrals, areas under curves, fundamental theorem of calculus.

- An example of a course outline from Fall 2022: https://carleton.ca/math/wp-content/uploads/MATH-1007A-F22.pdf
- Lectures three hours a week, tutorial one hour a week.

Linear Algebra for Engineering or Science (Winter)
MATH 1104 C [0.5 credit]
Prof. Sabana Alaca

Systems of linear equations. Matrix algebra. Determinants. Invertible matrix theorem. Cramer's rule. Vector space R^n; subspaces, bases. Eigenvalues, diagonalization. Linear transformations, kernel, range. Complex numbers (including De Moivre's theorem). Inner product spaces and orthogonality. Applications.

- An example of a course outline from Fall 2022: https://carleton.ca/math/wp-content/uploads/MATH-1104A-F22.pdf
- Lectures three hours a week, tutorial one hour a week