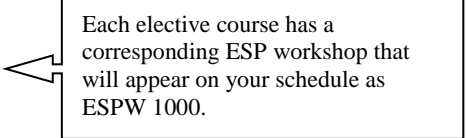


Course Descriptions

Computer Science Stream

The following are descriptions of the courses available to ESP students in the Computer Science stream for the 2023-2024 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 the *Course Selection Form*).
 - Each elective will be supported by an ESP Workshop. See the *Class and Workshop 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.

Section A: First Year Seminars

All First Year Seminars are titled: "Selected Topics in the Study of Academic Discourse" but have different selected topics. See the descriptions below:

Selected Topic: Student Leadership & Mental Health

FYSM 1900 A (1.0 Credit) Fall/Win

Instructor: Teddy Dancy

Student leaders come in all shapes and sizes, with unique experiences that make them leaders in their own way. This course will provide a chance for you to reshape and define what leadership means to you, showcase your own skill sets, learn about your transferrable skills and define yourself as a student leader.

We will also explore how mental health fits into this picture. Every student experiences mental health in a way that impacts their post-secondary experience whether positive or negative, and in turn their ability to achieve their goals. Managing risk and protective factors is an important skill to have when determining what type of student you will be each step of the way. It contributes to your ability to take your experiences and transfer them to new opportunities to help you reach your desired outcomes.

This course will provide an opportunity for self-reflection, development, and growth as new post-secondary students. With opportunities to showcase your experiences through a new lens, introspective exercises, and exploration of the foundational theories that impact who you are and who you will become, this course will be a chance to further develop the core academic skills needed to be successful students.

Students who participate in Student Leadership & Mental Health First Year Seminar will be able to:

- Identify a personal definition of leadership and define leadership approaches relating to post-secondary education
- Develop an understanding of the mental health continuum, and how mental health impacts the student experience
- Define the key components of the foundational theories of student development and adult learning and how it relates to their own and others' post-secondary goals
- Flip their perspective on the risk and protective factors that impact student success
- Understand how to provide and respond to peer feedback

Students will achieve these outcomes through the completion of a cuPortfolio, presentation, series of discussion posts/in class small group discussions, and one short paper each term.

A bit about Teddy: With degrees in Social Work and in Education, and work experience in a variety of roles supporting leadership development and mental health, Teddy is a compassionate educator who strongly believes in empowering individuals to activate their potential.

Selected Topic: Psychology of Academic Motivation and Success: A Procrastinator's Guide FYSM 1900 B/FYSM 1900 D (1.0 Credit) Fall/Winter

Instructor: Allan Blunt

Welcome to university! I am a procrastinator, hence the course title. As a procrastinator, I have learned how to deal with the devil voice in my head that whispers — “you can do it later, you’ll feel more like doing it tomorrow, and you work better under last minute pressure.” If that voice sounds familiar (or even it doesn’t), maybe you should think about taking this course. In this course we will review psychological research, theory, and ideas aimed at helping individuals become more effective students. Topics include: procrastination, self-control, willpower, learning, memory, self-identity, metacognition, appraisal theory, time management, goal theory, emotions/anxiety, and more. You will be asked to demonstrate your engagement in the course and your understanding of the concepts by completing review tests, term tests, short writing assignments, and applied exercises. In addition, you will develop research, writing and presentation skills by completing a research project (topic of your choosing) consisting of an annotated bibliography and 3-minute thesis presentation. If you have any questions about the course, just pop by my office. Cheers and good luck.

A bit about Al: He is an award-winning psychology educator and ‘child of the 60’s’. He has devoted his career to the education and advising of university students. He specializes in teaching about key psychological aspects of academic success, and creates experiences and assignments that facilitate self-improvement.

Selected Topic: Privilege, Power, Difference and Communication: Creating Social Change FYSM 1900 C / FYSM 1900 H (1.0 Credit) Fall/Winter

Instructor: Beth Hughes

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 that come from education.

A bit about Beth: She is a 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.

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Selected Topic: Academic Literacy: A Research Survival Course
FYSM 1900 I (1.0 Credit) Fall/Win
Instructor: Devron Colley

Some of the major challenges of science, social science, & business degrees in university can include reading dense texts, completing labs, complex math or problem-solving assignments, and understanding how to conduct research. A large component of your degree will be learning how to evaluate and organize the information from academic studies. We will launch you miles ahead by training you to be an effective student and eventual researcher. By the end of the course, you will be able to design and present a small study on a novel research topic of your choosing. This will be accomplished through a series of assignments including a research proposal, paper, and presentation. Other grading components include attendance, participation, analysis assignments, short reports, and quizzes.

You will learn to understand and apply the scientific method through exposure to peer-reviewed studies across physical, applied, and behavioural and social sciences. You will also learn basic methods for analysis in quantitative and qualitative research and get some practice with data analytics.

Topics include: summarizing and analyzing results; reporting findings; differentiating quantitative and qualitative methods and why they are used; the basics of research methodology and techniques; applying critical thinking to assess the effectiveness and limitations of research; and some of the ethical issues associated with conducting scientific and other research.

Our goal is to make research more interesting while developing skills you can apply in future studies and throughout your life!

A bit about Devron: Devron is a caring and skilled instructor with an MSc. in Chemistry and experience guiding students through challenging university studies. He takes an active approach to teaching and learning to make classes engaging and fun as well as informative.

Section B: Elective Courses

All elective courses listed below will be accompanied by a two hour/week ESP Workshop (this will appear on your schedule as ESPW 1000). Please see the *Class and Workshop Schedule* for day and time information; and read the **Student Guide** for a description of workshops.

Please note that all course outlines are examples and are subject to change for the current academic

Introduction to Computer Science I (Fall)

COMP 1005 A [0.5 credit]

Prof. Connor Leo Douglas Hillen

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 B [0.5 credit]****Prof. TBA**

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 D [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 G [0.5 credit]****Prof. Sabana Alaca**

Systems of linear equations. Matrix algebra. Determinants. Invertible matrix theorem. Cramer's rule. Vector space \mathbb{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.