Course Descriptions
Science Stream

The following are descriptions of the courses available to ESP students in the Science stream for the 2022-2023 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 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.

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: Power of Persuasion
FYSM 1900 A and J (1.0 Credit) Fall/Winter
Instructor: Jennifer Gilbert

What do you think of when you hear the word ‘argument’? People yelling at each other? Trolls online? It’s true that arguments involve emotions, and those emotions can get out of hand. But that’s not what makes something an argument.

A persuasive argument will always involve an appeal to emotions; however, at its core and argument consists of a claim. A claim is a position taken up by a speaker, which they then may attempt to advance and defend.

The arguments we are exposed to shape our opinions and beliefs, our social structures, and everyday decisions in our lives. Learning how to engage with arguments and how to disagree productively with others has many benefits, from assisting our own decisions about how to live and how to act, to broadening our understanding of the world and other people, and even - sometimes - changing our minds or changing the minds of others.

Understanding arguments critically is enhanced by understanding what arguments are, how they work, and what makes an argument persuasive. In this course, you will learn a toolkit for analyzing arguments, based on ancient and modern knowledge from the field of Rhetoric.

We will:
- analyze written and spoken arguments, and also everyday visuals such as memes, ads, and videos
- identify what claim is being made and analyze what types of appeal are presented
• map out argument structure in order to look at the reasons underlying an argument’s claim, as well as the warrant for making the claim in the first place, and the evidence – if any is provided – that supports the reasons and warrant
• map out rhetorical situations to assess power and communication dynamics
• work in teams to debate issues
• you will develop and present your own arguments, and give feedback to others on their arguments

The knowledge and skills you gain from this course can make you a better and more persuasive speaker and writer. Most importantly, you can become a more analytical and critical thinker in a world increasingly flooded by misinformation.

In-class activities include lectures, discussions, and games. Assignments and evaluation include weekly quizzes, writing papers that incorporate research, as well as working in teams and individually to research issues and present arguments to the class.

A bit about Jen: She is an experienced university instructor in Rhetoric/Writing Studies and in Arts-Based Teaching and Learning. She specializes in strengthening students’ communications abilities through awareness and practice, using game-based, creative approaches – and good old-fashioned fun!

Selected Topic: The ultimate “how to succeed at university (not without trying)” psychology course – or – The things I wish I knew before I went to university and … bombed!
FYSM 1900 B (1.0 Credit) Fall/Winter
Instructor: Allan Blunt
Welcome one and all! As you have probably guessed, this is a psychology-based course about avoiding mistakes. I made so many mistakes when I went to university, I bombed first and second year. Many, many (many) years later after studying and teaching psychology, I thought it would be groovy (yep, I am child of 60s) if others could benefit a bit from what I now know about preventing those mistakes. With that goal in mind, I created what I think is the ultimate “how to succeed at university (not without trying)” course. It brings together ideas and research from various areas of my beloved field of psychology that can help you on your academic journey. Here’s a sample of some of the “groovy” topics: self-control, self-regulation & metacognition; procrastination, time management, planning, & goals; media multi-tasking distractions; memory, learning, encoding and retrieval; motivation, needs, and future selves; and emotion, anxiety and test anxiety. Of equal, or greater, importance to your academic journey are your career aspirations. Although a long way off for most of you, starting career exploration early can be of great benefit. It can provide motivational force while pursuing your degree and it can dramatically increase your employment prospects upon graduation. Given its significance, this class also includes career exploration modules aimed at getting you started on your career journey. In addition to the career and “groovy” topics, the class includes a couple of “snoozy” topics, namely, APA referencing/citations and academic integrity; although a bit of a snooze, they are very important for your academic life. One last thing, your progress in the class and mastery of the material will be evaluated with short writing assignments, synthesis papers, quizzes, tests, reflective/experiential in-class applications, and bonus career development assignments. I guess that’s pretty much everything. Good luck! Go Jays!

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 (1.0 Credit) Fall/Win
Instructor: Beth Hughes

You participate in an unjust society with oppressive social structures that you did not create. Where did these structures come from, who created them, and why do they exist? These structures are created and reinforced by politicians, the wealthy, journalists, advertisers, and others with power. They bombard us constantly with conflicting messages about what society is, what it should be, and how you should participate—especially according to your identity.

How can you make sense of these conflicting messages and have an informed understanding of social issues? Part of the answer lies in understanding the dynamics of power, privilege, and difference. To do this, our class scrutinizes examples from politics, pop culture, research, and history. Topics covered include slang, identity, racism, consent, persuasion, privilege, equity, and allyship. We will pull apart racism, sexism, genderism, and ableism. Lastly, based on an issue of your choice, you will 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.

Assignments in this class include creating an ePortfolio, reflections, short tests, readings, and in-class games; our class will use game-based learning to introduce theories. Participating fully in this class will give you many opportunities to develop stronger academic skills to be successful in your degree program. This course is useful and important for students in any of the ESP streams during their studies and to prepare for future employment. Welcome to Carleton university and ESP!

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 around the world; 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: Communication and Cognition in Animals
FYSM 1900 G (1.0 Credit) Fall/Win
Instructor: Petra Watzlawik-Li

Humans are not alone in the capacity for communication and cognition. You will be surprised at the communicative abilities and cognitive processes of many other animals (such as dolphins, elephants, canines (wolf and dog), chimpanzees and other primates, birds (parrots and crows), octopuses, etc.). We will delve into the world of researchers (e.g. comparative psychologists, neuroscientists, psychobiologists, behavioural ecologists, linguists, primatologists) to discover the most current information on animal cognition, learning, problem solving, social relationships, and tool design/use.

Before we start looking at other animals, we will have a quick look at human language. What are considered to be the design features of human language? And how do humans acquire language (hint: it’s not merely imitation)? We will review some of the cognitive processes, such as Theory of Mind (ToM) that go along with the stages of language acquisition and will also look at non-verbal communication such as body language and micro-expressions.

We will also try to understand why humans and other animals have such strong bonds and how that has resulted in service and therapy animals such as https://carleton.ca/wellness/dogs/

In this course you will get to practice the academic skills that you need to be successful at university (time management, summary writing, notetaking, research, and essay writing). You will also be presenting your research by creating a video similar to this one: https://youtu.be/-DjrHw_uMgg
This video is me, telling you a bit about this course. 😊

Don’t worry though, we will go through the steps for acquiring all of these skills and will be practicing them too!

A bit about Petra: She is an award-winning university instructor with a wide range of expertise teaching about language and communication. She has coordinated numerous educational programs, and was instrumental in establishing the Therapy Dog program at Carleton. She currently specializes in animal cognition and communication as well as how humans interact and bond with animals.

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.

General Chemistry I (Fall)
*CHEM 1001 A [0.5 credit]
Prof. David Brock
This math-intensive course covers introduction to periodicity, gas laws, equilibrium, bonding, electrochemistry, and organic chemistry. This is a specialist course for students intending to take second year chemistry.

- Lectures/tutorials four hours a week, laboratory three hours every other week.

General Chemistry II (Winter)
*CHEM 1002 A [0.5 credit]
Prof. David Brock
This math-intensive course covers an introduction to solution chemistry, acids and bases, thermodynamics, and kinetics. Specialist course for students intending to take second year chemistry.

- Lectures/tutorials four hours a week, laboratory three hours every other week.

Elementary Calculus I (Fall)
*MATH 1007 D [0.5 credit]
Prof. TBA

- Lectures three hours a week, tutorial one hour a week.

Linear Algebra I (Winter)
*MATH 1107 A [0.5 credit]
Prof. TBA
Systems of linear equations; vector space of n-tuples, subspaces, bases; matrix transformations, kernel, range; matrix algebra and determinants. Dot product. Complex numbers (including de Moivre's Theorem, and n-th roots). Eigenvalues, diagonalization and applications.

- Lectures three hours a week, tutorial one hour a week.