Course Descriptions
Engineering Stream

The following are descriptions of the courses available to ESP/IESP students in Engineering stream for the 2018-2019 academic year.

Please read the descriptions carefully before listing your Seminar preferences on your Course Selection Form. Please note: courses are subject to change.

- All ESP/IESP students must register for one First Year Seminar (Section A, below)
- First-year IESP students enroll in FYSM 1900 E
- All ESP/IESP students must register in two Elective Courses (see descriptions below in Section B)
  - Students registered in the Engineering stream have set electives; according to requirements for this program (see your Course Selection Form).
  - Each elective will be supported by an ESP/IESP 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:

First-Year Enriched Support Program Students should choose from these Seminars:

Selected Topic: Communication in Humans and Other Animals
FYSM 1900 C (1.0 Credit) Fall/Winter
Instructor: Petra Watzlawik-Li

To understand how humans and other animals communicate and think, we will look at research from disciplines such as psychology, neuroscience, cognitive science, sociology, biology and linguistics.

We will start by learning the design features of human language and how 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 also what happens when a child is kept from interacting (e.g. Genie the Wild Child).

Humans are not alone in the capacity for communication and cognition. You will be surprised at the communicative abilities and cognitive processes of many 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 (psychologists, neuroscientists, psychobiologists, behavioural ecologists, linguists, primatologists, etc.) to discover the most current information on animal cognition, learning, problem solving, social relationships, and tool design/use.

Finally, we will review the possible benefits of interspecies communication and look at how humans have learned to communicate with dogs (e.g. airport bomb sniffing dogs, therapy dogs), use horses for psychological therapy, and attempts at teaching primates language.
Did you know you could turn almost any interest into an academic research topic?

The goal of this course is for you to discover a topic you are passionate about and research it academically. But how do you truly discover or develop your passion? And how are passion and perseverance connected? To find out, you will read and learn about research that has been done in the field of psychology, sociology, and others. How do people become experts in anything (school, sports, music, etc.)? Is it natural talent or effort? How do coaches teach grit to teams? Does having a fixed or growth mindset matter?

This is a project spanning over the full course and you will receive a lot of feedback and support along the way. Who knows, maybe you will even find a new academic interest that you will major in!

The purpose of this course is to introduce students to the study of abnormal behaviour and forensic psychology. We will start by looking at how abnormal behaviour was perceived in ancient times, and by learning about how definitions of crime and appropriate punishments have changed throughout history. Next, we will spend some time learning about the criteria currently used in diagnosing abnormality and about how research is conducted in the field of psychology. From there, the focus of the course will shift to criminal behaviour and exploring how psychology contributes to the criminal justice system. We will spend some time discussing topics like the biggest risk factors for criminal behaviour and different types of offenders (think young, female, or mentally ill offenders, serial offenders, and psychopaths), as well as topics related to catching and imprisoning offenders such as risk assessments and eyewitness testimony. We will wrap up the course by considering what happens once offenders reach the end of their sentences. Can all offenders be rehabilitated and safely reintegrated into society? How do we decide which ones should be released and how do we ensure that they stay on the straight and narrow?

Now, on to the bit you really care about – how your grades will be assigned. Your grade in this seminar will be based on a series of tests, short assignments, and attendance. Over the course of the year you will be required to write 5 tests, and your best 4 will count towards your final grade (4 x 15% = 60% total). All tests will be comprised of multiple choice and short-answer questions, and all of the content will be drawn from the course lecture slides. You will also be required to complete 7 short (1-2 page) content-related assignments. Like with the tests, your lowest mark will be dropped, so the assignments will account for 30% of your final grade (6 x 5% each). The assignments are designed to give you the opportunity to practice different discipline-specific skills, as well as a chance to work on more general academic skills like critical thinking and writing. The remaining 10% of your grade is for class attendance. You will earn .5% per class you attend (up to a maximum of 10%), and given that there are more than 20 classes over the course of the year, there are a few ‘freebie’ absences thrown in there – use them wisely 😊!
academic tools for reading, researching, analysis and writing in any of the ESP streams – skills that are valuable for university and beyond.

“Got questions?” Please email me and come for a chat and coffee. beth.hughes@carleton.ca

Selected Topic: A Procrastinator’s Guide to the Psychology of Academic Success
FYSM 1900 I (1.0 Credit) Fall/Win
Instructor: Allan Blunt

I am a procrastinator, hence the title. And as a procrastinator, I have learned how to deal with the distracting voice in my head that whispers — you can do it later, buddy…. loads of time to go, Al … you’ll feel more like doing it tomorrow, old buddy … and you know you work better under pressure anyway. Sound kind of familiar? If it does, maybe you should think about taking this course. Because in this course we will discuss lots of research and ideas that can help you learn faster, better, smarter, and just maybe — reduce procrastination. So, what are these exciting, life-changing topics, you ask (with a wee bit of sarcasm). Well, here’s a list of many of them: academic self-regulation, metacognition, monkey mind and time management, dealing with distractions and cognitive load, making memories stick, anxiety and test-taking, searching for self-identity, goal setting done right, creating emotions that matter, boredom and mind-wandering, willpower over temptations, and some others I am currently developing.

Wow, that sounds amazing, you say (without a trace of sarcasm). Yep, you’re right — it is! I have pulled together tons of research to help me (and you) achieve my guiding goals: to help you become a more effective learner, and to help you succeed at university and at other things (because many of the ideas in this course can be applied to other areas of your life).

So, apart from all of the amazing content, how will I be graded, you ask (with a concerned tone). That’s a very fair question. You will be graded on the following: attendance (15% of grade — 22 classes, you can miss 4 without penalty); small application assignments (7.5% of grade — 14 applications, lowest 4 dropped); mini-reflections (7.5% — 6 one-page mini-reflections, lowest 2 dropped); term reflection papers (10% of grade — 2 five-page papers, lowest dropped); and tests (60% of grade — 6 short-answer/multiple-choice style tests, lowest 2 dropped). Nice that you drop the low grades, you say, but it sounds like a lot of work. Nah! The work is spread over both terms and my intention is not to overwhelm anybody, rather my intention is to help you transition to university. All of the material comes from the lecture modules. All of the slides have been developed by me and will be provided to you online — free of charge! As well, each module contains several practice questions for the tests (hint: sometimes practice questions appear on the tests). And there is no graded group work in this course — you are in control of your grade. Well, that’s it. If you have any questions about the content and requirements, you can pop by my office before you sign up or maybe I will see you at a registration session in July or August. Welcome to university and good luck! (The fine print: As an inherent procrastinator, I reserve the right to change any or all the above at the last minute. Cheers, Al)

First-Year IESP Students should choose:

Selected Topic: Indigenous Studies
FYSM 1900 E (1.0 Credit) Fall/Win
Instructor: Sheila Grantham

Aanii Kinawiya! (Hello Everyone!)

This seminar prioritizes narration and storytelling. Storytelling in an Indigenous context emphasizes the oral nature of language and speaks to many areas from which Indigenous knowledge systems are drawn, including stories of tricksters, the land, ceremonies, relationships, and clan systems. Storytelling can also be relayed through fiction and comics. Stories can take the form of a personal narrative and reveal personal and communal experiences that speak to the Indian Act, gender, education and child welfare. Within this course, we will draw upon a variety of literature, as well as oral teachings that privileges storytelling as a medium to relay Indigenous lived experiences, knowledges, research methods, and theories.

This course is a requirement for students in the Indigenous Enriched Support Program and is therefore reserved for IESP students.
Section B: Elective Courses

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

Chemistry: General Chemistry I (Fall)
*CHEM 1001 A [0.5 credit]
Prof. Robert Burk
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.
- There is no outline currently available for this course.
- Lecture three hours/week plus a lab three hours/week and a discussion group one hour/week.

Chemistry: General Chemistry II (Winter)
*CHEM 1002 A [0.5 credit]
Prof. Robert Burk
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.
- There is no outline currently available for this course.
- Lecture three hours/week plus a lab three hours/week and a discussion group one hour/week.

Math: Calculus for Engineering or Physics (Fall)
*MATH 1004 E [0.5 credit]
Prof. TBA
- The course outline below is an example from a previous year. Note: outline may be different this year: [http://carleton.ca/math/wp-content/uploads/MATH-1004H-W15.pdf](http://carleton.ca/math/wp-content/uploads/MATH-1004H-W15.pdf)
- Lecture three hours/week plus tutorial one hour/week.

Math: Linear Algebra for Engineering or Science (Winter)
*MATH 1104 I [0.5 credit]
Prof. TBA
Systems of linear equations; vector space of n-tuples, subspaces and 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.
- Lecture three hours/week plus tutorial one hour/week.