



Queen's
UNIVERSITY

2017

Enrichment Mini Course (EMC)

Course Descriptions & Instructor Biographies

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(Alphabetical by course title)

**All courses subject to change*

Anatomy of the Human Body

(Anatomical Science)

Course Description

Students will discuss the five major systems of the human body: the musculoskeletal, cardiovascular, respiratory, nervous, and gastrointestinal systems. Students will work with cadaveric specimens and plastinated models to reinforce their knowledge of the human body during an exclusive visit to the state-of-the-art [Anatomy Museum and Laboratory](#). Most importantly, students are exposed to a challenging and engaging learning environment, led by highly-regarded experts in the field of anatomy at Queen's University. **Specific Anatomy release forms must be signed before students arrive at ESU.*

Instructor Biography

Naomi Dussah holds an Honours Bachelor of Science in Health Sciences from the University of Ottawa and is currently a candidate in the Anatomical Sciences, Pattern II Master's Program at Queens' University. She is a teaching assistant for Anatomy and Pharmacology courses and an experienced tutor in various subjects for high school students. Naomi plays on the Queen's Varsity Soccer team and has been a competitive soccer coach for kids ages 12-18.

Darya Ali holds Honours Bachelor of Science in Cell Biology and Genetics with a minor in Psychology from the University of British Columbia and is currently a candidate in the Anatomical Sciences, Pattern II Master's Program at Queen's University. She is a teaching assistant for Anatomy and Microbiology courses as well as an experienced tutor in Genetics and Chemistry and has extensive experience running after school programs for both elementary and secondary school students.

Cancer Today

(Biomedical and Molecular Science)

Course Description

Cancer is a disease affecting millions of people in North America. In this course, students will study what cancer is, what causes a normal cell to become cancerous, how the disease is treated, and what new approaches are being researched. Information will be shared through lectures and hands-on activities, such as DNA modeling, reviewing real cancer cases, and cancer risk assessment. In-depth discussions about genetic counselling, interviews with cancer survivors and advice for career paths from clinical and basic science faculty are offered in this course.

Instructor Biography

The **Cancer Today** course will be instructed by a team of three experienced graduate students specially selected and supervised by [Dr. Bruce Elliott](#). Dr. Elliott is a professor in the Department of Biomedical and Molecular Science and has coordinated and supervised this popular ESU course since 2004. He is a collaborator at the [Queen's University Cancer Research Institute](#) and members of his research group are involved in Molecular, cellular, genetic and translational studies in various areas of cancer biology. Find more information at http://qcri.queensu.ca/cancer_biology_genetics/research_topics

ChemisTrying to Solve Alkynes of Problems

(Chemistry)

Course Description

Are you ready to overreact, solve alkynes of problems, and go chempletely crazy for chemisTrying? This course aims to challenge grade 9 through 12 students to broaden their chemistry knowledge, apply it to the real world and explore the many career options chemistry has to offer. Through fun hands-on experiments, amusing demonstrations, and interesting discussions, students will be able to broaden their chemistry knowledge while working in a state-of-the-art university laboratory. Participate in fun games and activities, meet other chemists, discover, explore and learn – become a chemist for a week and see if it's a potential career path that you might follow!

Instructor Biography

Kate Konstantinova is a Concurrent Education student studying Chemistry and French. She has course experience in modern chemistry and is focused on molecular structure, physical chemistry thermodynamics, organic chemistry, analytical chemistry, inorganic chemistry and computational chemistry. Kate, a knowledgeable instructor working under the supervision of [Dr. Michael Mombourquette](#), is no stranger to ESU. She was a popular Student Supervisor who has decided to share her love for chemistry and teaching with ESU participants as an instructor this year. This course will be taught in the state-of-the-art [Chernoff Hall Chemistry Labs](#).

Creative Writing: The Secrets of Story

(Literature, Creative Writing)

Course Description

Are you an aspiring fiction writer? Here's your chance to master the techniques used by authors of such successful and popular stories as *The Hunger Games*, *Star Wars*, *Harry Potter*, *The Fault in Our Stars*, and other genre fiction classics. Regardless of what medium you want to write for (novels, screenplays, graphic novels, etc.) these story writing techniques will help you stir a reader's emotions while conveying meaning, values, and wisdom. This course covers the complete creative process, including finding story ideas, creating believable characters, structuring an emotionally compelling plot, and developing an effective writing style. In a few short days, you will write an original story treatment and be on your way to creating a full-length manuscript.

Instructor Biography

Glen C. Strathy has been a freelance writer since 1999. He is the author of the award-winning middle-grade novel, *Dancing on the Inside* and co-author of two nonfiction books, including the bestselling business book, *The Coming Economic Collapse* (2006). He teaches creative writing at St. Lawrence College and his [website](#) offers tips and advice to aspiring authors. He earned a Master of Arts in English from Western University and a Bachelor of Education from Queen's University (Artist in Community Education Program) and is a member of the Professional Writers Association of Canada (PWAC) and the Society of Children's Book Writers and Illustrators (SCBWI).

Designing an Innovative Solution: Applying the Engineering Design Process

(Engineering and Applied Science)

Course Description

Are you interested in applying engineering design processes to create a solution to various problems? This course explores several different disciplines of Engineering offered by Queen's University such as Civil, Mechanical, Electrical, and Chemical. The students will have the opportunity to “be” a professional engineer and apply the new knowledge and skills to design as they build a prototype for each discipline. This course will also include tours through the engineering design spaces and research labs on Campus for students to interact with professional engineers in action. Students will participate in a Queen's Engineering student panel where they can ask questions about the profession, life at university and the Queen's engineering experience.

Instructor Biography

Designing an Innovative Solution is supervised by **Scott Compeau**, the Outreach Coordinator for Connections: [Queen's Faculty of Engineering and Applied Science Educational Outreach Program](#). Scott has a Master's degree specializing in Engineering Education with a thesis on high school students' perception of engineering.

Instructors for this course will be current engineering students, specially selected and supervised by Scott Compeau. Their experience in engineering and working with students will create an engaging environment where students will be encouraged to channel their inner engineer.

Discovering the Ancient World

(Classics)

Course Description

Are you interested in ancient civilizations and the myths of their heroes and gods? Would you like to divine the future, the same way that ancient people did? Or maybe you would like to learn about early warfare, when spears and chariots were used instead of guns and tanks, by studying their archaeological remains. In this program, you have the chance to explore the fascinating history and cultures of Greece and Rome, and even pick up the basics of an ancient language or two!

Instructor Biography

Nik Gill is a second year Master of Arts student in [Classics](#) at Queen's University. His research interests include ancient science and medicine, as well as magic and divination. He is also interested in the Greek and Latin languages, and the influence of ancient Mesopotamian cultures on Classical civilizations. Nik has presented at academic conferences at both McGill and Queen's, and has several years training in both Greek and Latin. He has also worked as a teaching assistant for the Classics department at Queen's for many years.

Alexandria McKellar is a first year Master of Arts student in [Classics](#) at Queen's University. Her research interests include field archaeology, surveying techniques, and the Latin language. She is also interested in both Etruscan and Egyptian funerary practices and rituals. She has participated in an archaeological excavation in Italy, and plans to attend more. Alexandria has worked as a teaching assistant for the Classics department, and has taught tutorials in several courses.

Geographic Information Systems: Solving Spatial Problems

(Geography)

Course Description

Kingston has been overrun by pirates and zombies and we need everyone's help! In this course, you will use GPS units and geographic information systems (GIS) to bury pirate treasure and survive a zombie apocalypse. Students will have the opportunity to explore campus through the eyes of a pirate and use GPS systems and GIS to create their own treasure maps. Next, the students will plan ahead and perform geospatial analysis to stake out the best places to wait out a zombie apocalypse using open data. This course will be an exciting introduction to GIS and how spatial analysis integrates into new and existing real-world applications.

Instructor Biography

Paulina Marczak holds a Bachelor of Environmental Studies from the University of Waterloo and has extensive teaching experience in a variety of academic contexts. Her strong background in introductory Geographic Information Systems and geospatial analysis was developed through multiple internships and leading group projects. She is the teaching assistant for introductory Geographic Information Systems course and a member of the [Canadian Institute of Geomatics](#). For her thesis, Paulina is comparing carbon quantification methods at the Queen's Biological Research Station.

Valerie Freemantle holds a Bachelor of Science in Environmental Science and has experience working with grades 6 to 12 students in both traditional classroom and experiential learning settings and in university course framework and content development. She is a member of the [Canadian Institute of Geomatics](#) and the [Ontario Association of Remote Sensing](#). In her graduate work Valerie is using satellite data to describe environmental change in the Canadian High Arctic.

Getting Intimate with Psychology: The Scientific Study of Relationships

(Psychology)

Course Description

Have you ever wondered what makes someone “hot”? Why partners fight the way they do? How about what makes us lonely? Or how to define and measure concepts like love and desire? In this course, we will answer these questions and more, covering everything from friendship to divorce. Topics include the evolutionary bases of attraction, how to ethically conduct controversial research, how to fight “fairly” with a partner, friendship across the ages and, finally, breakups. From a social standpoint, we will sample some of the most fascinating research in psychology. Students will learn through lecture, participation in well-known mini-experiments, and engaging discussions. By the end of the course, students will be confident in their analysis of all sorts of human interactions and relationships.

Instructor Biography

Alexandra Minuk holds an Honours Bachelor of Arts in Psychology and is currently completing her Bachelor of Education at Queen’s University. As a teacher candidate with a Psychology background, Allie is fascinated with how people learn and, as such, aims to make her lessons appealing to all learners. She uses the latest classroom technology to make learning engaging and experiential, offering students many opportunities to participate. Above all, Allie believes in barrier-free communication; she is a certified Autism Intervener and is currently learning American Sign Language and Braille. These experiences have caused her to consider the perspectives of all learners, making her a more effective educator. This course is supervised by Dr. Tara MacDonald. Dr. MacDonald conducts [research](#) in the areas of health decision-making, romantic relationships, and attitudes.

Know Your Rights

(Law, Sociology)

Course Description

Have you ever found yourself wondering, "Could I get in trouble for this?" "Is this legal?" or, "What are my rights in this situation?" *Know Your Rights!* gives you a crash course on all these burning questions. Learn how laws are made in Canada, and what the law says about Bullying, Sexting, Shoplifting, Marijuana, Police Stops and Searches, your Health, and more. This interactive course will engage you with legal processes in Canada, and leave you informed and armed with the right legal knowledge to make smart decisions.

Instructor Biography

Marsha Rampersaud is a PhD candidate in Sociology, with a research focus in socio-legal studies. She completed her Master of Arts in Sociology at Queen's University, an Honours Bachelor of Arts in Law and Society, and is currently Chair of the [Prison Literacy Initiative](#) and Chair of The [Elizabeth Fry Kingston](#) Board of Directors. In the past, Marsha has volunteered as a Researcher and Writer on the Public Legal Education Committee with the [Justice for Children and Youth](#) in Toronto.

Lego Robotics to the Rescue:

Using Lego Mindstorms to Solve Engineering Challenges

(Engineering, Robotics, Programming)

Course Description

**This is an introductory course designed for students who have had little or no exposure to Lego Robotics.* This course is designed for students who are interested in learning about coding, robotics, and Electrical and Computer Engineering. Students will apply the engineering design process and the Lego Mindstorms software to create solutions to various problems. The course will also briefly discuss other disciplines of Engineering offered by Queen's University. The students will have the opportunity to work in groups like professional engineers and apply their new knowledge and skills to design and build a prototype for each challenge. This course will also include tours through the Electrical and Computer design spaces, research labs, and a panel discussion with current Queen's University Engineering to provide an opportunity for students to ask questions about the profession.

Instructor Biography

Lego Robotics is supervised by **Scott Compeau**, the Outreach Coordinator for Connections: [Queen's Faculty of Engineering and Applied Science Educational Outreach Program](#). Scott has a Master's degree specializing in Engineering Education with a thesis on high school students' perception of engineering.

Instructors for this course will be current engineering students, specially selected and supervised by Scott Compeau. Their experience in engineering and working with students will create an engaging environment where students will be encouraged to channel their inner engineer.

Let's Get Down to Business

(Business, Entrepreneurship)

Course Description

What is 'Business' exactly? In five days, we will explore the answer to this question. Using both theory and examples from real organizations, you will be introduced to some of the most important topics in Business: Strategy, Leadership, Accounting, Marketing, and Entrepreneurship. To bring the concepts to life, you will participate in simulations, team exercises, and have the chance to create and 'pitch' your own business idea. If your dream job includes a top floor corner office, or you want to be your own boss someday, this is the course for you!

Instructor Biography

Ian Wong is an entrepreneur in the creative arts industry. He works as a musician [composing piano pieces](#) and music for films and performs regularly in the community. His educational background includes a Bachelor of Commerce and a Master of Science in Management from the Smith School of Business at Queen's University. He also holds a Social Work degree from the University of Victoria, BC. For over ten years, he has delivered lectures on business plans, teamwork, and leadership at SHAD (an enrichment program for youth), and he acted as the Co-Director of the program at Queen's in 2010. His diverse experience includes working as a University Researcher, Employment Consultant, and Projects Officer.

Murder and Drugs: An Introduction to Canadian Criminal Law

(Law, Criminal Law)

Course Description

Criminal law is everywhere in pop culture—but how much do you really know about this complex and constantly evolving field? How can someone “get away with murder”? When are the police allowed to search a cell phone? Is the fact that someone was just “holding it for a friend” a valid defence for possession? These are just a few of the questions that will be addressed in this introduction to Canadian criminal law. With a focus on possession, assault, sexual assault, and murder, students will learn about the basic elements of crimes, defences, and the complex relationship between the Charter and police investigative powers. At the end of the course, students will have the chance to apply what they have learned in a mock murder trial.

Instructor Biography

Kate Withers is currently in her third year of the Juris Doctor program at Queen's University. She has completed a Bachelor of Arts at Dalhousie University and Masters of Public Administration at Queen's University. Her interests include family law, criminal law, and international law. Last summer she interned at the United Nations, and she will be clerking at the Superior Court of Justice. Other notable legal experiences include interning at the Superior Court of Justice, working as a Queen's Legal Aid caseworker, volunteering with [Pro Bono Students Canada](#), and serving on the [Queen's Law Journal Editorial Board](#). Additionally, she has worked for the Faculty of Law as a teaching assistant, research assistant, and tutor.

Pathology and Molecular Medicine

(Biomedical and Molecular Science)

Course Description

Pathology is the study of diseases and the structural and functional changes they cause. This course provides students with a thorough introduction to the field of Pathology and Molecular Medicine. Students will interact with graduate students, professors and doctors as they learn about genetics, cancer, neuropathology, pharmacology, toxicology and so much more. Students will have opportunities to solve their own diagnostic cases, perform simulated blood typing, and learn more about education and career options. Exclusive tours of the state-of-the-art Queen's University [Anatomy Museum and Laboratory](#) and the [Patient Simulation Lab](#) will extend learning and the student experience. **Specific Anatomy release forms must be signed before students arrive at ESU.*

Instructor Biography

Dr. Mackenzie Bowman is in her 7th year as the course coordinator, and has been an instructor since 2009. Dr. Bowman holds her PhD in Pathology and Molecular Medicine and is currently a Senior Scientist in the [Clinical and Molecular Hemostasis Research Group](#) at Queen's University. Instructors for this course are graduate students from the Department of Pathology and Molecular Medicine and are specially selected and supervised by Dr. Bowman:

Alison Michels, MD/PhD Candidate

Soundarya Selvam, PhD Candidate

Jesse Lai, PhD Candidate

Tori Candy, MSc Candidate

Catherine Crawford-Brown, MSc Candidate

Super Nurses Bootcamp

(Nursing Science)

Course Description

This course offers insights into the systems of the body and how nurses assess them in real-world healthcare settings. Topics will include common health conditions such as diabetes, asthma, and hypertension, as well as the importance of the nursing role. Students will have the opportunity to hone some of their practical skills and gain valuable experience in identifying signs and symptoms of potential disease. Fieldtrips to the [Patient Simulation Lab](#) and the [Clinical Education Centre](#) will provide students with the opportunity to apply skills learned in class. Students will also learn about the nursing profession and the variety of pathways available in this career stream including critical care, teaching, research, travel, and much more. This course is supervised by [Cheryl Pulling, RN, BNSc, MScN](#).

Instructor Biography

[Ruixi Sheng](#) is an upper year Nursing Science student with extensive leadership and mentoring experience. She is currently the Vice President of Operations for the [Nursing Science Society](#), a contributor to the Nursing Science Society [Blog](#). In addition to her involvement with the Nursing Science Society, Ruixi has worked as a frosh orientation leader, a mentor for Queen's University Learning Strategies, and a Math and English tutor for [Kumon Learning](#). She also has previous ESU experience as a Student Supervisor and First Aid Coordinator demonstrating her passion for supporting the learning of students of all ages.

Bryn Routledge is an upper year [Nursing Science](#) student with extensive leadership experience and a passion for student leadership and growth. As part of the [Nursing Science Society](#), Bryn has worked as a 'Head Cape, Coordinator, and is currently Orientation Roundtable Logistics Director for Nursing Orientation Week. Bryn has also designed and facilitated leadership workshops for students aged 14- 19, as well as planned and implemented a two-hour long Study Buddies session for an Anatomy/Physiology Nursing course.

The Science Behind Emotions: Why We Feel the Way We Do

(Neuroscience)

Course Description

We experience a wide range of emotions every day, some are positive and some aren't. But where do these feelings come from, what is really going on inside our brains, and what happens when our emotions are out of control? In this course, we will be answering these questions by learning the basics in neuroscience such as what our brains are made out of, the circuits and structures, and how it controls and processes emotions. We will then talk about how problems in our emotional processing system could lead to different mood disorders such as depression and anxiety, and the current treatments for them. You will have a chance to play with brain models, role play as doctors and patients, visit the new [Providence Care Hospital](#) and chat with psychiatrists, and much more. You will also get to talk with current Neuroscience graduate students about their university experience and research through an interacting panel session. To finish off, we will touch on the stigma surrounding mental illnesses and how to raise awareness for a complete fun and informative week.

Instructor Biography

[Yu Qing Liu](#) is a 2nd year Master student in neuroscience whose research interests are in mood disorders, especially depression. She is studying the effects of Transcranial Magnetic Stimulation on cognition in depressed patients. She currently shares her fascination with neuroscience and psychology with other students by teaching an undergraduate psychology class and visiting grade 5 students to teach them about neuroscience.

Why Am I Sneezing? Allergies and the Immune System

(Immunology)

Course Description

Have you ever been interested in what happens to your body during an allergic reaction? Ever wondered why your nose becomes congested and your eyes become itchy when you breathe in tree pollen? We will explore the wonders of our immune system and why it is so important in those with allergies. From a clinical perspective, we will talk about several allergic diseases (such as hay fever), the diagnostic tests used by allergists, and how a proper diagnosis is made in clinical practice. We will also dive into the world of clinical trials and why they are so important in the development of allergy treatments (such as Claritin® and Reactine®). Students will work in teams to solve different clinical case studies and have the opportunity to tour the internationally recognized [Environmental Exposure Unit](#), a unique facility used to evaluate new treatments for hay fever. To spice things up, students will have the chance to test how well their lungs work in a laboratory exercise that is commonly used in hospitals for asthma diagnosis. Students will also have the opportunity to ask a panel consisting of university students, clinical staff, and doctors in the field about their experiences in allergy research and how they became involved. **Specific release forms must be signed before students arrive at ESU.*

Instructor Biography

Mark Tenn is a 2nd year Master of Science graduate student in [Dr. Anne Ellis'](#) laboratory at Queen's University. His current research focuses on the role of the skin in the development of hay fever and peanut allergy. He obtained a Bachelor of Health Sciences (Honours) degree from McMaster University, where he developed a firm understanding of the immune system, and took part in several research projects in allergic asthma and on drug development for food allergy treatment. Mark has also mentored several undergraduate students and has 3 years of classroom experience in teaching high school and undergraduate (1st and 2nd year) students in chemistry and immunology. Mark has extensive teaching experience working with undergraduate students and he joined the ESU team as instructor in 2016.