

## Seven Eight Enrichment Days (SEEDS) Program Course Descriptions

*Courses listed alphabetically*

*\*All courses and instructors are subject to change*

Queen's ESU instructors are Queen's students, faculty, and community professionals who have demonstrated excellence in their field. They are eager to share their passion, knowledge, and enthusiasm with each of their students.

Queen's University Enrichment Studies Unit leverages the exceptional and unique resources, people, and facilities available at Queen's University to deliver safe, engaging, and industry-leading academic programming for elementary and secondary school students.

Course Title	Week Offered
Commerce: Introduction to Business Studies	Week 1
Engineering 101	Week 1
Engineering Today: Practice to Prototyping	Week 2
Foundational Anatomy	Week 1 & Week 2
Mathematics & Physics	Week 2
Pathology: From DNA to Forensics	Week 1 & Week 2
Start Up Academy: Business Crash Course	Week 2
Writing Stories You Want to Read	Week 1

### Commerce: Introduction to Business Studies

**Description**

The first step toward a career in business. Commerce: Introduction to Business Studies lays the foundation of business strategies and concepts and helps students foster their unique capacity for leadership, collaboration, and communication. You will learn from current and graduate students from the Smith School of Business delivering interactive activities, team project, challenges, and a cumulative case competition.

## Engineering 101

### Description

In this course, students will be introduced to all the main engineering disciplines. Students will apply their previous knowledge of math and science to open ended design problems, requiring abstract and technical thinking to showcase the engineering design cycle. Students will learn basic design tool, soldering, and machine skills, along with laboratory skills through chemical experiments. Electrical engineering will be explored through computer programming, hardware design, and the physical construction of electronic circuits. Engineering 101 will showcase the diverse field that is engineering! Throughout this course, participants will learn more about the following engineering disciplines offered by the Faculty of Engineering and Applied Science at Queen's: Chemical, Electrical/Computer, Mechanical, Civil and Mining.

## Engineering Today: Practice to Prototyping

### Description

Have you ever wanted to design your own prototype? Thinking about engineering as a possible future career? In this introductory course, you will explore the world of engineering and apply the design process to create sustainable solutions to various problems we face in modern society. You will learn about the different disciplines of engineering and how they work together to solve the global complex challenge of harnessing renewable energy sources. From wind turbines to solar vehicles, you will also work in teams to apply your newfound knowledge and skills to design and build prototypes to solve various sustainable design challenges.

## Foundational Anatomy

### Description

Learn all about the human body, inside and out! Each day, you will review one the five major systems of the body: musculoskeletal, cardiovascular, respiratory, nervous, and gastrointestinal. Throughout the week, you will work with online models of specimens, engage with classmates to solve anatomical mysteries, and have access to exclusive video and lecture content developed by highly regarded anatomists at Queen's. Most importantly, you will be exposed to a challenging and engaging learning environment in which you will take your first steps in becoming an expert in anatomy!

## Mathematics & Physics

### Description

Students will Monitor and collect data, hypothesize, theorize, and perform mathematical modelling to describe our results. we will use analytical techniques and modelling to share results, argue our findings, and explore the structure of mathematical problems that are at the heart of how the world works.

## Pathology: From DNA to Forensics

### Description

Do you dream of becoming a Crime Scene Investigator? Want to investigate a mock crime scene? Then this course is for you! You will learn about the human body, diseases, DNA, and genetics through hands-on activities including: a genetics testing lab, dragon genetics lab, blood typing (with simulated blood), and examining plastinated specimens. You will also learn forensics skills such as fingerprinting, and handwriting analysis. Are you ready to solve the case?

## Start Up Academy: Business Crash Course

### Description

From Ideation, iteration, prototyping, to MVP, funding, and scale. Students will learn the fundamentals of the “start-up” by critiquing and applying new venture development strategies. We will apply our creativity, our passion, and entrepreneurial spirit to learning all about Starting Up!

## Writing Stories You Want to Read

### Description

Do you aspire to write original stories that take readers to exciting new worlds or help them discover valuable life lessons? Do you dream of writing the next Hunger Games, Percy Jackson, or Harry Potter? This course shows you the secrets to creating great stories, including how to find and develop story ideas, create memorable characters, build an emotional roller coaster of a plot, design a story world, and write your adventure with flair.