**Winter 2018 Jr. DEEP and Engineering High School Saturday Programs**

Registration will open on **Wednesday, December 13th at 7:00am.**

Please note that the links will not be active until **Wednesday, December 13th at 7:00am.\***

[To register for the Engineering High School Saturday Program click here!](https://campscui.active.com/orgs/EngineeringOutreachUniversityofToronto?season=2286707)

[To register for the U of T Engineering Academy Program click here!](https://campscui.active.com/orgs/EngineeringOutreachUniversityofToronto?season=2286707)\*

**Engineering Outreach High School Saturdays**

 Designed with student success in mind, the High School Saturday Program encourages students to begin to explore science, engineering, math and technology in a community-oriented, confidence-building environment. Classes are divided by grade. There will be a class in both Session One and Session Two for students in grades 9, 10, 11, and 12 during the 2017/2018 school year. Registration for Session One and Two are separate. Participants do not need to register for both sessions. Please read the course descriptions carefully to see which courses are offered to which grade group.

 All classes run from 1:30pm to 4:30pm, with a short break at halfway point at the instructor’s discretion. Students are welcome to arrive from 1:00pm onwards.

**Dates:**Session One | Saturday, January 13th, 20th, 27th  
Session Two | February 3rd, 10th, 24th

**Cost:** $175

**Schedule:\*** 1:00pm - 1:30pm | Drop-off/Registration (only on first Saturday)  
1:30pm - 4:30pm | Program time  
4:30pm  | Dismissal (participants are dismissed directly from class)

[To register for the Engineering High School Saturday Program click here!](https://campscui.active.com/orgs/EngineeringOutreachUniversityofToronto?season=2286707)

**Program Descriptions**

**Introduction to Programming in Engineering** Electrical Engineering is the cornerstone of modern technology, from controlling nuclear power plants to complex imaging techniques in MRI machines, Electrical Engineering allows us to design complex machines and systems. We will deep dive into practical circuitry and programming to mimic and program real life mechanisms. This interactive course will provide students the chance to test their math and physics skills to build something relevant to challenges that face society. This course serves as an introductory exposure for students to commonly used programming languages, as well as some practical implementation of Electrical Engineering applications.

*Session 1 (January 13, January 20, January 27): Grade 9*

*Session 2 (February 3, February 10, February 24): Grade 10*

**Biomedical Engineering** Biomedical Engineering is rooted in a strong understanding of mathematics. Students of engineering frequently use scripting languages, such as MATLAB, to study biological systems and interactions through modelling and simulations. Come join us this winter semester as we will learn how to use MATLAB in the context of different body systems. (No background knowledge of coding or scripting is required!) Additionally, students will explore the role of engineers in the biomedical-field by looking at their contributions – both present and future – in terms of diagnostics and treatment. Students will engage in interactive design activities which will introduce various engineering design principles and prototyping procedures.

*Session 1 (January 13, January 20, January 27): Grade 10*

*Session 2 (February 3, February 10, February 24): Grade 9*

**Engineering Design of Spacecraft** With a focus on communication in engineering and technical presentation skills, as well as the engineering design process as related to space exploration, students will investigate the science of rocket propulsion, orbital mechanics and interplanetary travel in addition to the current challenges facing the space industry.

*Session 1 (January 13, January 20, January 27): Grade 11*

*Session 2 (February 3, February 10, February 24): Grade 12*

**The Blueprint of Civil Engineering** Civil Engineering is more than just bridges – it is about connecting people, water, and resources to a network we call society. This course introduces students to the different aspects of Civil Engineering. Students will gain a better insight to the vast scope of Civil Engineering by exploring the different interactions between people and our environment.

*Session 1 (January 13, January 20, January 27): Grade 12*

*Session 2 (February 3, February 10, February 24): Grade 11*

**U of T Engineering Academy** U of T Engineering Academy is intended for motivated high school students to engage with the Ontario STEM curriculum in the lecture halls and labs of Canada’s leading engineering school. Students will get a head-start or preview of their upcoming courses in an engaging, hands-on, collaborative, and challenging manner.

**Dates:**Saturday, January 13th, 20th, 27th, February 3rd, 10th, 24th\*

*Please note that this program runs for 6 Saturdays as opposed to the Engineering High School Saturday Program which run for 3 Saturdays*

**Cost:** $350

**Schedule:** 1:00pm - 1:30pm | Drop-off/Registration (only on first Saturday)  
1:30pm - 4:30pm | Program time  
4:30pm  | Dismissal (participants are dismissed directly from class)

[To register for the U of T Engineering Academy Program click here!](https://campscui.active.com/orgs/EngineeringOutreachUniversityofToronto?season=2286707)

**Program Description**

**Magic of Calculus** Calculus enables us to describe and project almost anything that is in a state of change – whether it be the motion of a rocket sent into space, the growth of populations, or the data aggregation that makes artificial intelligence possible. In this course, students are introduced to the two revolutionary advances in mathematical thinking—differentiation, and integration. This program lays the foundations not just for Calculus, but also its applications in Physics and Engineering Science.

*Intended audience: Students who are currently taking or have completed Grade 11 Functions (MCR3U)*

*Double Session (January 13, January 20, January 27, February 3, February 10, February 24)*

**Creating an Active Account**

If this is your first time registering for one of our programs, you will be prompted to create an Active account. The account making process happens after registration. If you are successful in getting a spot in the course, you spot will be held for you as you create your account. There is no need to rush this process. There is no way to create an account before the registration date.

**Bursary**

If the fees for this program create a financial barrier, please consider applying for an Engineering Outreach [Bursary](http://outreach.engineering.utoronto.ca/files/2015/03/BursaryForm2015EngineeringOutreachFinal.pdf). You are eligible to apply if you are a Canadian citizen, permanent resident or protected person with demonstrated financial need. If you would like to apply for a bursary, please contact our office prior to registration for your next steps.

 When you are applying for a bursary please use the coupon code **BURSARY**at the check-out screen to bypass payment. Registration

**How to apply:** Register for the program you would like to attend and use the coupon code **BURSARY**

Download and complete the [**bursary application form**](http://outreach.engineering.utoronto.ca/files/2015/03/BursaryForm2015EngineeringOutreachFinal.pdf) (Form can also be found on our website) Submit the completed form along with your **2016 Notice of Assessment**to the email [**outreach@ecf.utoronto.ca**](mailto:outreach@ecf.utoronto.ca)Once the forms have been submitted to us, we will contact you with the results of bursary in the following weeks prior to the start of the program. Please note that if you are on a waitlist or have not registered for a course, your bursary application will not be assessed.

**Cancellation Policy** Any cancellations made between the time of registration and 2 weeks before the start of the program are eligible for a refund minus $50 administrative fee.

Any cancellations made within**2 weeks** of the start of the program are not eligible for a refund.

Engineering Outreach Office

Faculty of Applied Science & Engineering

University of Toronto

[35 St. George Street, Room 173, Toronto, ON M5S 1A4](https://maps.google.com/?q=35+St.+George+Street,+Room+173,+Toronto,+ON+M5S+1A4&entry=gmail&source=g)

T: [416-946-0816](file:///\\localhost\tel\(416)%20946-0816)   | [outreach.engineering.utoronto.ca](http://outreach.engineering.utoronto.ca/)