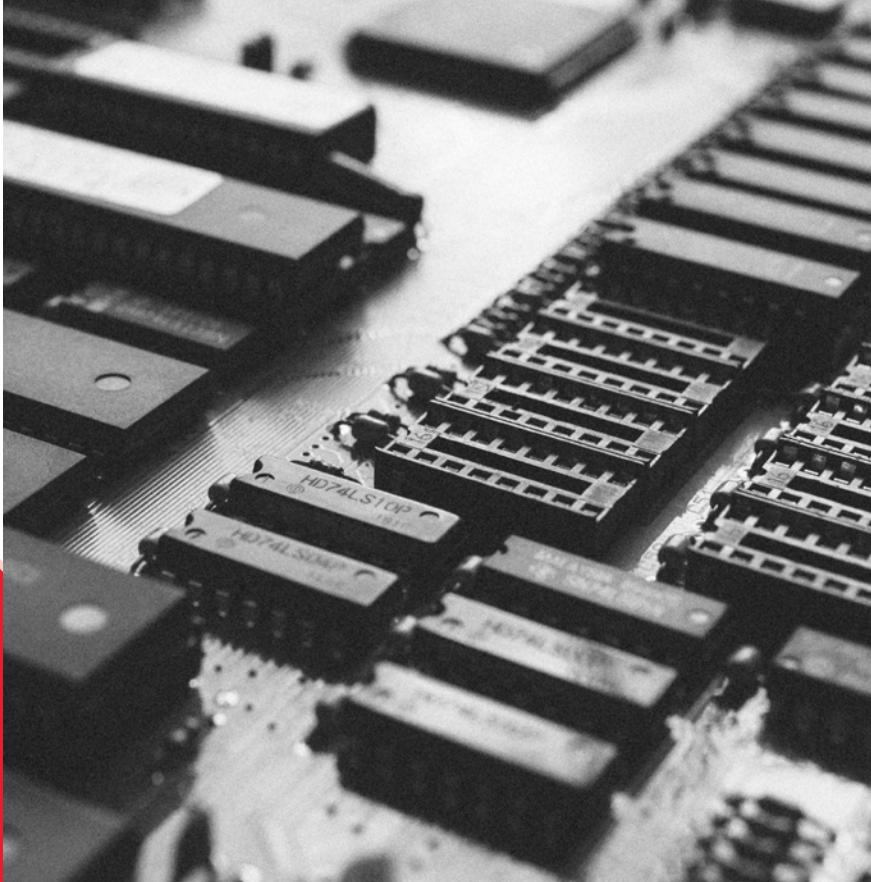
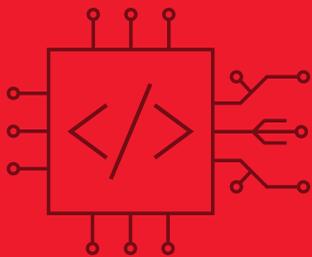


Bachelor of Engineering

Software Engineering Co-op

Faculty of Engineering



New! Software is going Co-op as of September 2021

The new Software Engineering Co-op Program will offer students the opportunity to focus their studies on the skills needed to design and develop complex software systems while participating in four (4) mandatory industrial work terms, leading to an accredited B.Eng. degree with a total of sixteen (16) months of paid professional work experience prior to graduation.

Co-operative education combines traditional, in-class education with supervised hands-on experience. Software Co-op students will alternate study and work-terms and take on increasingly challenging and interesting work that will help define their post-graduation goals.

What is software engineering?

Software engineers specify, design, develop, and test complex software used in a variety of applications such as flight navigation, video games, web and mobile applications, self-driving cars, autonomous robots, or

machine learning. They may perform similar functions as general computer programmers, but software engineers holistically apply the principles and techniques of computer science, engineering, and mathematical analysis to cover the entire lifecycle of engineering modern software applications. Software engineering is a major component of the growing Information Technology (IT) sector.

What are the benefits of co-op education?

Students in the Software Engineering Co-op Program will complete four, 4-month-long, paid work-terms in research and industrial settings locally, nationally, or internationally. During these work-terms, students perform technical engineering tasks and submit required assignments, for which they receive two university credits, a grade, and a formal evaluation by the employer.

The program emphasizes a spectrum of work experiences and students will benefit by:

- ▲ Improving their teamwork and

leadership skills

- ▲ Receiving individualized career counselling
- ▲ Gaining valuable paid work experience in software engineering
- ▲ Developing professional skills and gaining a better understanding of the workplace
- ▲ Discovering what career fits best through different job opportunities
- ▲ Meeting key people in the job market who can help facilitate placement after graduation

Skills learned and possible specializations

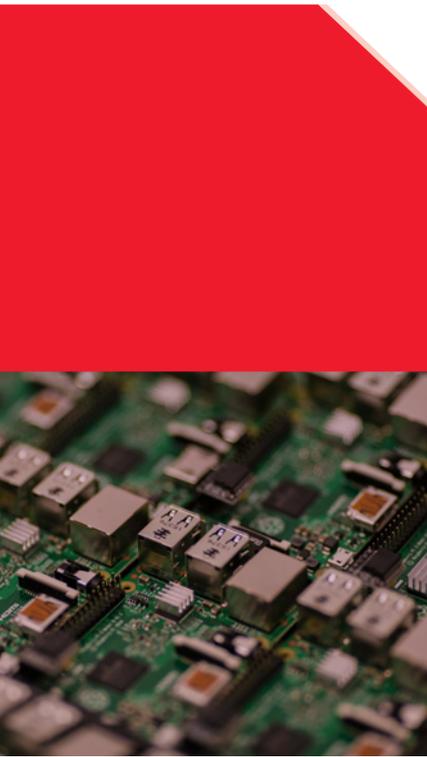
Expected student skills for 1st co-op term:

Developing software in Java, C/C++, Python, mastering integrated development environments (Eclipse, IntelliJ), implementing test cases, understanding modeling in UML, using code generators and modern version control systems (Git), designing simple



McGill

Faculty of Engineering



Software Engineering Research

Faculty members in the Department of Electrical and Computer Engineering have a strong research profile in various areas of software engineering including model-driven systems engineering, requirements engineering, cyber-physical systems, Internet-of-Things, cloud computing, advanced graphics, and many more. Cutting edge software engineering research also actively exploits recent advances of machine learning.



digital circuits, understanding the basics of shell scripts, and having a solid foundation in statistics and logics.

Expected student skills for 2nd co-op term:

Developing multi-tier web applications, deploying software as a service over a cloud platform, becoming familiarized with advanced technologies: microservices, RESTful API, modern web frontends (Vue.js / React), Android, JavaScript, understanding and contributing to continuous integration chains, understanding agile project planning, working as a team in a complex software engineering project, using database repositories and backends, and programing using more complex data and structures and algorithms.

Skills developed during the 3rd and 4th co-op terms include:

Specialization in one or more of the following areas: software as a service, computer games, cyber-physical systems (e.g. Internet-of-Things, safety-critical systems), and artificial intelligence and data science.

How do I apply?

Admissions information:

www.mcgill.ca/engineering/future-students/how-apply

What can I do when I graduate?

Students graduating from any of our programs are equipped to work in a wide variety of high-tech industries, including artificial intelligence, video games, Web applications and interfaces, information technologies, telecommunications, robotics, medical technologies, biomedicine, automotive industry, aerospace industry, microelectronics and electronic systems, power systems and energy.

Recent graduates from the program have gone on to careers in a variety of industries including:

Google
Software Developer

Amazon
Software Development Engineer

Microsoft
Software Design Engineer

CAE
Systems Engineer

Environment Canada
Software Developer

Morgan Stanley
Technical Associate

Student life and engagement

The Faculty of Engineering provides several opportunities to participate in a variety of clubs, activities, and student government. Below are a few groups students can join to connect with others and enhance their life outside of the classroom:

- ▲ **Electrical, Computer, & Software Engineering Student Society (ECSESS)**
- ▲ **Engineering Undergraduate Society (EUS)**
- ▲ **McGill Robotics**
- ▲ **McGill Artificial Intelligence Society**
- ▲ **GameDev McGill**
- ▲ **Hack4Impact**
- ▲ **Promoting Opportunities for Women in Engineering (POWE)**

Contact us

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