



# MECHATRONIC SYSTEMS ENGINEERING

## What is Mechatronic Systems Engineering?

Mechatronic Systems engineers combine mechanical, electrical, computer, control and systems design to create smart solutions to everyday problems. As a Western Mechatronic Systems engineering student, you will take fundamental courses in electrical, computer, and mechanical engineering, while simultaneously taking core Mechatronic Systems engineering courses that connect all of the programs.

Develop intelligent systems and devices



### CAREER POSSIBILITIES

Robotics and Automation

Aerospace

Research and Development

Controls and Systems Integration

Automotive

Medical Devices

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## JUSTIN LAM BESc. '18

Program Manager, **Microsoft**

- Propel Entrepreneurship client company & Propel Summer Incubator 2017
- Year-Long Internship
- Men's Varsity Rugby

“Western Engineering puts an emphasis on developing strong engineering design principles and practical experience through its co-op and internship programs. The program is highly collaborative and we always worked as a team to achieve more, together. Its partnership with Propel Entrepreneurship, and the many extracurricular clubs and activities available, provided me with the background necessary to succeed in the world of tech.”



# WESTERN'S MECHATRONIC SYSTEMS ENGINEERING

All Western Engineering students must complete a common first year. Courses include: Applied Mathematics — Calculus, Applied Mathematics — Linear Algebra, Business for Engineers, Chemistry, Computer Programming Fundamentals, Foundations of Engineering Practice, Physics, Properties of Materials and Statics. Upon completing Western Engineering's common first year, students apply to the Mechatronic Systems Engineering program.

## Mechatronic Systems Engineering

Our program is unique in its multi-year design focus. Throughout the program, students take core courses in Electrical and Computer Engineering (including basic circuit theory, computer design, software design, embedded computing and control systems) as well as core courses with a mechanical engineering focus (including dynamics, material properties, finite element methods, machine design, and thermodynamics).

As students progress through the program and gain new skills, they will have the opportunity to work through the entire design process, including mechanical, electronic and software subsystems. In fourth year, all students will work in small teams to tackle a comprehensive open-ended design project, building upon the overall undergraduate course material offered through the Mechatronic Systems Engineering program at Western.

