



# INTEGRATED ENGINEERING

## What is Integrated Engineering?

Integrated engineers lead the application of innovation to complex real-world problems, operating at the intersection of technology and business. They have a broad foundation in engineering fundamentals across disciplines combined with leadership, entrepreneurship and innovation skills. They are ideally suited to lead interdisciplinary engineering and business teams to develop and implement practical solutions to tomorrow's challenges.

## Leading Innovation with Purpose



### CAREER POSSIBILITIES

- Product Development
- Cross-Discipline Research & Innovation
- Technology Startups / Entrepreneur
- Engineering Consulting
- Business Analytics

[engugrad@uwo.ca](mailto:engugrad@uwo.ca)  
[eng.uwo.ca/undergraduate/  
programs/integrated.html](http://eng.uwo.ca/undergraduate/programs/integrated.html)

## HAIDA LIU BSc. '16

E.I.T./Scientist, Kinectrics

- International Exchange, National University of Singapore
- Practical Elements of Mechanical Engineering Certificate

“ Instead of specialized knowledge in one discipline, I wanted to have more opportunities when I graduated. This is why I chose Integrated Engineering at Western. Through my four years, I accomplished various projects with advanced technical skills, such as 3D printing/CNC, bridge design and robotics programming. Currently, my work at Kinectrics involves a full range of mechanical lab services for power transmission and distribution components. With my background in Integrated, I am able to wear multiple hats in Mechanical/Electrical/Materials engineering and project management. ”



## WESTERN'S INTEGRATED 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 first year, students may apply to the Integrated Engineering program.

### Integrated Engineering

There is a strong need for broadly capable engineers who excel in leadership, whose toolbox holds the tools and knowledge of multiple engineering disciplines and who can lead innovative solutions to complex, real-world problems. To meet this need, the Integrated Engineering program incorporates fundamentals from several engineering disciplines rather than concentrating on one. Unique in Canada, Western's Integrated Engineering curriculum incorporates case-method engineering innovation courses plus core courses from civil, chemical, electrical and mechanical engineering. By participating in case-based courses, Integrated Engineering students develop skills in critical thinking and navigating ambiguity. Case-based courses include: New Venture Creation; Managing the Innovation Process; Engineering Leadership; and the Entrepreneurial Environment. The program prepares graduates to fill the technological innovation gap through work in almost any industry.

