

WESTERN INTEGRATED ENGINEERING



Build: Systems Design, Modelling, Simulation, and Technical Analysis

Connect: Multidisciplinary Teams and Cross-Functional Subsystems

Lead: Innovation, Management, Entrepreneurship, and Commercialization

Why Integrated Engineering?

As industries rapidly evolve, innovation continues to dissolve the traditional boundaries between engineering disciplines.

Our program prepares students for this shift by fostering systems-level thinking and adaptability. Integrated Engineering takes a **multidisciplinary** approach where students learn the fundamentals of core engineering disciplines – mechanical, electrical, civil, chemical & systems – along with entrepreneurship, leadership, and innovation that involve **impact analyses, human-centered design, and sociotechnical skills**. Students also develop an understanding of business analysis, technology commercialization, and project management. This helps them recognize how technical decisions connect to **cost, performance, risk, and sustainability**.

In industry, this program equips students to **adapt and work across a wide variety of roles**, communicate across technical boundaries and support project progression across its lifecycle, including hands-on development, leading systems integration and decision making. Through our ELI and technical elective courses, students are encouraged to **build their specialized focus** in industries such as food, energy, manufacturing, automotive, consulting and more – and make **connections across disciplines**, fields of expertise and knowledge. We aim to look beyond single components and focus on **optimizing systems as a whole**.

Common Courses:



- IE 2298: Integrated System Engineering & Design
- MSE 2214: Thermodynamics I
- CEE 2220a Introduction to Structural Theory
- MSE 2213: Engineering Dynamics
- CBE 3322: Heat Transfer Operations
- ELI 3000: Managing the Innovation Process

Careers:



- Test Engineering
- Systems Engineer
- Water Resource Engineer
- Product Manager
- Technical Analyst
- Mechanical Designer
- Investment Analyst
- Consultant

Combine With:



- Co-op/Internship
- Ivey Dual
- Law Dual
- Combined Degree
- Certificates
- Minors



Western
Engineering

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