Sample Courses
Mechanical Engineering

YEAR 2

Term A | Term B
---|---
AM 2270a | AM 2276b
MME 2202a | MME 2213b
MME 2204a | MME 2273b
MME 2259a | MME 2285b
MME 2200Q | SS 2343b
ES 2311F | ECE 2274b

YEAR 3

Term A | Term B
---|---
AM 3413a | MME 3303a
MME 3379a | MME 3334b
MME 3381a | MME 3360b
ECE 3374a | MME 3385b

YEAR 4

Term A | Term B
---|---
MME 4499 | Mechanical Engineering Design Project
Bus 2299E | Mechanical Engineering Design Project
Two 0.5 technical electives | Bus 2299E
One 0.5 non-technical elective taken from approved list | ES 4498G

Technical Elective List

- MME 4410: Mechanical and Materials Engineering Thesis
- MME 4422a/b: Internal Combustion Engines
- MME 4424a/b: Mechanical Properties of Materials
- MME 4425a/b: Mechanical Vibrations
- MME 4427a/b: Selected Topics in Mechanical Engineering III
- MME 4428a/b: Selected Topics in Mechanical Engineering IV
- MME 4429a/b: Nuclear Engineering
- MME 4430a/b: Pressure Vessel Design
- MME 4446a/b: Composite Materials
- MME 4452a/b: Robotics and Manufacturing Automation
- MME 4453a/b: Corrosion and Wear
- MME 4459a/b: Advanced CAE: Manufacturing Technologies

NOTE: Not all technical electives may be offered each year.
What is Mechanical Engineering?

Mechanical engineering applies the principles of physics and materials science for analysis, design, manufacturing, and maintenance of mechanical systems. Mechanical engineers use fundamental engineering concepts and contemporary design practices to design and develop new devices, materials, processes and systems, including smart materials, automotive and aerospace systems, conventional and alternative energy systems, and robotics and controls.

Western’s Mechanical Engineering Program

Common First Year

All first-year students complete a common first year. Courses include: Introductory Engineering Design and Innovation Studio, Applied Mathematics - Calculus, Chemistry, Applied Mathematics - Linear Algebra, Physics, Computer Programming Fundamentals, Properties of Materials, and Statics. Upon completing Western Engineering’s common first year, students apply to the Mechanical Engineering program.

Upper Years

Our second and third-year courses are designed to provide a strong knowledge base in the core areas of mechanical engineering. In fourth year, students specialize in an area of study by taking five advanced technical electives from the list provided on the back of this document. Students can use these courses to specialize in computer-aided design, energy conversion, automation and robotics, thermal and fluid engineering, biomechanical engineering, and more.

Fourth-year students also complete a major Mechanical Engineering Design Project, working closely with faculty members and industry partners. This capstone course is an opportunity for students to address real-world design problems using the concepts and practices they have learned.

For more information about our program, please visit: eng.uwo.ca/undergraduate/programs/mechanical.html

Individualize Your Mechanical Engineering Degree

Dual Degrees

A dual degree allows you to gain a competitive edge towards a rewarding career. You will have the engineering skills and knowledge to become a successful problem solver, prepared to address and find solutions to current and future problems around the world in a traditional engineering career or a profession of your choice. We offer the following dual degrees with our Mechanical Engineering program:

Mechanical Engineering and Business

After two years in Engineering, you can apply to the Ivey Business School. If admitted to Ivey, you will take a combination of HBA courses and Mechanical Engineering courses for the next three years. At the end of five years, you will graduate with both BESc and HBA degrees.

Mechanical Engineering and Law

After three years in Engineering, you can apply to Western Law after writing the LSAT examinations. For the next three years, you will take a combination of Law courses and Mechanical Engineering courses. At the end of six years, you will graduate with both BESc and LLB degrees.

Dual Degrees with Other Faculties

We also offer more than 50 other dual degrees involving a major module in faculties such as: Science, Music, Social Science or Arts & Humanities.

Practical Elements of Mechanical Engineering (PEME)

PEME is an externship developed by the Department of Mechanical and Materials Engineering at Western University in collaboration with Fanshawe College of Applied Arts and Technology. After first year, you can complete this four-month externship to earn an Ontario College Local Certificate, and, after completing a second, four-month term, an Ontario College Graduate Certificate. Practical courses include machining, welding, metrology, plus other mechanical engineering skills. The PEME Externship complements your technical knowledge with hands-on experience.

Internship and Co-op Programs

Our optional Internship and Summer Engineering Co-op Program provides you with opportunities to gain practical experience while earning a salary. The 12 to 16-month internship is available following your third year of study. Summer co-ops provide technical work experience during the summer months (May-August). You can complete a co-op every year or choose to complete just one during your time at Western.

Accelerated Master’s Program

This program is offered to third-year Western Engineering students. Applicants must have an average grade of 80 per cent or higher (based on their second and third-year courses). The Accelerated Master’s program provides you with the opportunity to receive a research master’s degree within one year of receiving your bachelor’s degree.

Career Opportunities

Sample Careers

- Heating and Refrigeration Engineer
- Automotive Engineer
- Mechanical Design Engineer
- Turbomachinery Engineer
- Manufacturing Engineer
- Control and Automation Engineer

Types of Employers

- Engineering Consulting Companies
- Motor Vehicle and Parts Manufacturers
- Aircraft and Parts Manufacturers
- Electric Power Companies
- Machinery and Equipment Manufacturers
- Petroleum and Process Industry