WHY LAWRENCE TECH?

Engineers are known for being systematic and analytical. At Lawrence Technological University, we believe it's just as important to nurture the creative side of engineering. After all, engineers are the problem-solvers who, behind the scenes, make the world run. As the engineering profession grows more inventive and entrepreneurial, we teach you to make the most of both hands-on experience and your own problem-solving flair.

Because engineers influence so many lives, Lawrence Tech encourages debate and discussion of ethical choices. The goal is to serve both our graduates and society. Communication skills are stressed — both report-writing and teamwork — as engineers often work with other disciplines, including non-engineers.

Co-op programs and industry-sponsored projects give you valuable contacts with leading companies and enable you to combine paid on-the-job experience with your studies. Active industry advisory boards work with each engineering department to ensure that courses reflect the latest concepts and techniques. The University's faculty bring strong professional credentials and business experience to the classroom, to promote a healthy real-world orientation. Classes are taught by experienced engineers (not graduate students).

Lawrence Tech students can take classes day or night, full- or part-time. This convenient schedule provides maximum flexibility to pursue employment and co-op opportunities.

Entrepreneurial Spirit

A new entrepreneurial program develops students’
entrepreneurial skills through team projects, case studies, guest speakers, and new elective courses.
The training is designed to foster what it takes to succeed in promoting one’s ideas, starting a business, or developing a new project within a large company.
Bachelor of Science in Civil Engineering

Civil engineers are key participants in the designs, construction, and maintenance of the infrastructure that takes for granted: buildings, highways, bridges, ports, waterways, airports. They work for construction firms, government agencies, testing or consulting firms, or build their own businesses. Civil engineers may specialize in design or computer modeling, supervise major construction projects, operate plants for companies or government, or manage environmental solutions.

The Lawrence Tech program emphasizes design, culminating in a two-semester team project the senior year. Seniors have designed an airport, a marina, a steel bridge, a subdivision, a NASCAR speedway—and a concrete canoe! Computer applications are integrated throughout the curriculum. Whether they are assessing how to rid construction sites of contamination or populace air-port noise, Lawrence Tech’s civil engineers use their analytical skills to solve modern society’s pressing problems.

—James Carol, BSc’99, Field Engineer, Barton Malow

Bachelor of Science in Electrical Engineering

Electrical engineers apply electrical, digital and analog electronics, and magnetic theory to design and operate electrical machines, communication systems, hardware, and software. They work on motor vehicles, power plants, computers, and electro-optical devices; they may deal with motors, lasers, radar, or medical equipment. Subspecialties range from tiny consumer electronic devices to the massive power-generating equipment used by utility companies. The Lawrence Tech program offers three concentrations to choose from: computer, electronics, and electrical and power systems. A cooperative industry work-study program allows students to alternate courses with job experience or to do both simultaneously.

In the two-semester capstone senior project, students apply their accumulated knowledge. They’ve designed an award-winning hybrid electric car, a thermal monitoring system for the Detroit Zoo’s Reptile House, a robot that turns down your stereo when the phone rings, a photosensitive robot, and a car that can talk with you.

—Amy M. Garby, BSEE’93, Lincoln LS Electrical Program Management Team Leader, Ford Motor Company

Bachelor of Science in Computer Engineering

The computer revolution is far from over, and computer engineers continue to be in great demand. They design technology for a wide variety of consumer, industrial, and military applications. Automobiles, consumer electronics, communication systems, aerospace, robotics; there are a few of the industries that hire large numbers of computer engineers. They need expertise in both hardware and software — and in calculating the trade-offs between the two that make for the best system design.

To integrate these two aspects of computer engineering, Lawrence Tech students receive a strong background in both electrical engineering and computer science — hardware and programming.

The capstone project spans two semesters: the design, construction, and testing of a computer-engineering project. Seniors have built computer controls for a jet engine; a computer-controlled fire infernal, a fire-fighting robot model; and a unique keyless door entry system.

—Doug Callahan, BSME’93, MBA ‘99, Director of Engineering and New Product Development, MPC

Bachelor of Science in Mechanical Engineering

An engineering technologist applies the ideas and designs of engineers to the design of products. As a supervisor now, I know that graduates from Lawrence Tech are going to be self-starters.

One of the best aspects of my experience at Lawrence Tech was my senior project working on the hybrid electric competition vehicle, a team project with contact to many outside companies. I attribute much of my success at Ford Motor Company to that invaluable, hands-on experience.

—Julie A. Dickey, BSEE’94, Mechanical Engineering Technology

Bachelor of Science in Engineering Technology

Wherever machines are the solution or you will find mechanical engineers. They design and build machines and the devices that power them. The MI degree is versatile: graduates work in the auto industry, aerospace, acoustics, machine design, heating and air conditioning, fluids and hydraulics, stress analysis, computer-aided design, manufacturing systems, biomedical engineering, environmental engineering and other fields.

In their senior year, Lawrence Tech students may concentrate in one of four subfields: automotive engineering, fluid power and mechanical system design, thermal system design, or environmental engineering technology. The curriculum also includes courses in electrical engineering.

Seniors receive a yearlong special project. One large team enters the Society of Automotive Engineers’ competition to build a prototype race car. Other teams have built SuperMega vehicles, off-road vehicles, child restraint systems, miniature roller coasters, and bike roof racks, or improved the design of wind tunnels and safety fences.

—James Carol, BSc’99, Field Engineer, Barton Malow

Through extracurricular activities, there are a lot of chances to network with industry members. Once my eyes were opened to the opportunities I had, it forced me to be more focused. In my classes, the encouragement for problem solving was always there and that’s what engineering is: take a problem and find a solution to it. The curriculum not only gives you theories and the format for problem solving but also encourages you to be in labs, classrooms, and on special projects. All my close friends now are fellow engineers from college.

—Amy M. Garby, BSEE’93, Lincoln LS Electrical Program Management Team Leader, Ford Motor Company

ADD'TIONAL COLLEGE OF ENGINEERING DEGREES:

- Master of Automotive Engineering
- Master of Engineering in Manufacturing Systems
- Associate of Science in Manufacturing Technology
- Electrical Engineering Technology
- Manufacturing Technology
- Mechanical Engineering Technology
Baccalaurate in Science in Computer Engineering

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Bachelor of Science in Mechanical Engineering

Bachelors in Technology

Mechanical engineers apply the ideas and designs of mechanical engineers. They design and build machines and the devices that power them. They are the practitioners. They make the project happen. Engineering technology courses stress practical applications of technical concepts more than theory. They are based on topics similar to engineering courses, which are based on calculi. Lawrence Tech offers four B.S. degrees in engineering technology subjects. These are designed for students who are just starting (in industrial management, technology management, or construction management) and are designed for those who already have an associate degree in a technical discipline (engineering technology). Most students are enrolled part-time at night. For those industry engineers, technology management majors tend to come up with some ingenious consumer gadgets: a tool to help children learn to skate; a training device to improve bull-throwing accuracy; a heated keyboard; a phone-activated car-starting system, an illuminated fishing pole; a device to cook food with a automobile muffler; an automated plant watering system.

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Engineering technology students first conceptualized by engineers. If the engineers are the innovators, then engineering technologies are the practitioners. They make the project happen.

Engineering technology courses stress practical applications of theoretical concepts more than theory. They are based on algorithms that most engineering courses, which are based on calculation.

The Lawrence Tech program offers four B.S. degrees in engineering technology subjects. These are designed for students who are just starting (in industrial management, technology management, or construction management) and one is designed for those who already hold an associate degree in a technical discipline (engineering technology). Most students are enrolled part-time at night.

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Bachelor of Science in Mechatronics Engineering

Mechatronics is a growing field that combines computer technology with mechanical engineering. Mechatronics is a unique combination of two fields: electrical and mechanical engineering.

Bachelor of Science in Manufacturing Systems

Manufacturing Systems Engineering focuses on the planning, operation, and control of manufacturing systems. It is a multidisciplinary field that integrates principles from mechanical, electrical, and computer engineering.

Bachelor of Science in Environmental Engineering

Environmental Engineering is a field that combines principles from civil, chemical, and biological engineering to address problems related to the environment.

Bachelor of Science in Construction Engineering

Construction Engineering is a field that combines principles from civil engineering and business management to address problems related to the construction industry.

Bachelor of Science in Aerospace Engineering

Aerospace Engineering is a field that combines principles from mechanical and aeronautical engineering to address problems related to the design and operation of aircraft and spacecraft.

Bachelor of Science in Electrical Engineering Technology

Electrical Engineering Technology is a field that combines principles from electrical engineering and business management to address problems related to the design and operation of electrical systems.

Bachelor of Science in Mechanical Engineering Technology

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Lawrence Technological University, enrolling nearly 5,000 students, is among Michigan’s largest independent universities. Nearly 50 degree programs are offered at the associate, baccalaureate, master’s, and doctoral levels through Colleges of Architecture and Design, Arts and Sciences, Engineering, and Management. The University’s full-service 115-acre campus in Southfield offers a complete range of modern academic, residential, and recreational facilities along with plenty of free parking. Lawrence Tech was founded in 1932.

NOTICE OF NON-DISCRIMINATORY POLICY

Lawrence Technological University adheres and conforms to all federal, state, and local civil rights regulations, statutes and ordinances. No person, student, faculty, or staff member will knowingly be discriminated against relative to the above statutes.

LAWRENCE TECHNOLOGICAL UNIVERSITY IS AN EQUAL OPPORTUNITY EMPLOYER.

Lawrence Tech’s new $20 million Technology and Learning Center provides state-of-the-art facilities for engineering education.