

# COMPUTER ENGINEERING



LAKE SUPERIOR  
STATE UNIVERSITY

Sault Ste. Marie, Michigan

## Convergence of Ideas

*Computer engineers are at the forefront of the information revolution.* We design the micro-electronics inside your cell phone. We write the signal processing algorithms that auto zoom your cameras. We design the microprocessors inside your computer and program them too. We design the medical electronics inside your grandfather's pace maker.

Whenever you interact with an intelligent device such as a cell phone, GPS, or computer, or even a regular device like an automobile or television, there's a good chance that a computer engineer was significantly involved in the design. Our impact can be seen everywhere.

Computer engineering combines aspects of computer science with electrical engineering to meet the challenges of constantly changing information, communication, medical, power, and environmental societal needs. As a computer engineer you'll use your mind and your creative talents to solve all kinds of problems.

We prepare graduates for immediate entry into industry or graduate school.

Computer engineering students take physics, chemistry, and mathematics courses, core electrical engineering courses including electromagnetics, circuit design, electronic devices, digital electronics, microprocessor programming, embedded digital electronics, and signal processing



algorithms along with core computer science courses that include C++ programming, programming techniques, and discrete structures.

We emphasize the practical side of computer engineering with plenty of "hands-on" laboratory experience. More than 75% of our engineering classes have a laboratory component.

Design projects are found throughout the computer engineering curriculum. These include practical aspects of engineering such as use of engineering software, design, and communication of your ideas. A senior design project caps your curriculum. Projects can either be industrial, research oriented, or a cooperative education experience. There may be an opportunity to work with LSSU's Product Development Center.



Your senior-year design project puts you in a multidisciplinary engineering team, frequently teamed-up with a company from industry. Above, a project involved work with an engineering software company requiring research on a simulation package. At left, an automated system uses a touch-screen interface to a robotic arm equipped with vision sensors and a conveyor system.

Additional engineering courses may be used to specialize in one of the following areas, or options. Your option will appear on your transcript.

**Robotics and Automation:** You will gain a strong background in robotics, machine vision, sensors, communications, and automation. You will be able to design and implement automated manufacturing systems for a variety of industrial applications.

**Control Systems:** You will obtain a strong background in the design a controllers for practical mechanical systems. You will be able to design, develop, and test control systems used in the aerospace, automotive, medical, and automation industries.

School of Engineering & Technology

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