Electrical Engineering

WHY ELECTRICAL ENGINEERING?
Electrical engineering is an exciting, challenging, fast-growing profession with abundant job opportunities. As an electrical engineer, you’ll work at the forefront of technology to build the next generation of cell phones, electric cars, digital televisions, robots, satellites, microelectronic devices, solar, wind, and ocean energy and electric power systems, and microelectro-mechanical machines — pretty much anything that uses electricity. For example, electrical engineers design electronics circuits that power up cell phones and enable wireless communication.

WHAT’S THE DIFFERENCE BETWEEN ELECTRICAL AND COMPUTER ENGINEERING AND COMPUTER SCIENCE?
Our department offers bachelor of science degrees in both computer and electrical engineering. Computer engineering centers around hardware and hardware/software integration, including digital hardware design, microprocessors, microcontrollers and programming in a variety of languages. Electrical engineering focuses on electronics, energy conversion, communication theory, signal processing and electromagnetic field theory. In computer science, students learn the more formal theory of programs, languages and algorithms.

WHY STUDY ELECTRICAL ENGINEERING AT UM AINE?
At UMaine, engineering classes are small. Our programs in electrical and computer engineering (ECE) are accredited. UMaine’s College of Engineering offers a five-year B.S.–M.B.A. degree with the Maine Business School, as well as a minor in engineering leadership and management. We offer state-of-the-art teaching and research facilities. Undergraduates have the opportunity to do meaningful research alongside faculty. Professors with Ph.D. degrees, not graduate students, teach classes. We have a high placement rate in top graduate programs.

Since 2004, two UMaine ECE students have been named the nation’s Outstanding Electrical and Computer Engineering Student by the Eta Kappa Nu and Tau Beta Pi engineering honor societies. In the last 44 years, only 48 students have received this award, including UMaine’s first Eta Kappa Nu honoree in 1979.

Electrical and computer engineering student teams have competed in the IEEE Xtreme international programming competition. In 2011, UMaine teams placed No. 1 and No. 2 in the Northeast USA, which includes Maine, Massachusetts, Rhode Island, Connecticut, New Jersey, and New York.

WHAT CAN YOU DO WITH A DEGREE IN ELECTRICAL ENGINEERING?
Our graduates work in industries that include energy, wireless communications, health care, nanotechnology microelectronics and defense. Our students are in demand. With an average starting salary of more than $60,000, they are among the highest-paid graduates in four-year degree programs.

OUTSTANDING FACULTY
Our faculty are recognized nationally and internationally for their research. They receive major grant funding from such agencies as National Science Foundation, NASA, Department of Defense, Department of Energy, National Institutes of Health and many companies. Industrial sponsors include IBM, National Semiconductor, Fairchild Semiconductor, BAE Systems, Sappi and International Paper. In the last 10 years, two ECE professors have been named UMaine Distinguished Professors, the university’s highest faculty honor.
ABOUT UMAINE
The University of Maine, founded in Orono in 1865, is the state’s premier public university. It is among the most comprehensive higher education institutions in the Northeast and attracts students from across the U.S. and more than 65 countries. It currently enrolls 11,286 total undergraduate and graduate students who can directly participate in groundbreaking research working with world-class scholars. The University of Maine offers doctoral degrees in 35 fields, representing the humanities, sciences, engineering and education; master’s degrees in roughly 70 disciplines; 90 undergraduate majors and academic programs; and one of the oldest and most prestigious honors programs in the U.S. The university promotes environmental stewardship on its campus, with substantial efforts aimed at conserving energy, recycling and adhering to green building standards in new construction. For more information about UMaine, visit umaine.edu.

explore
Bachelor of Science in
Electrical Engineering
Computer Engineering
Minor in
Engineering Leadership and Management
Master of Science in
Electrical Engineering
Computer Engineering
Professional Science Master in
Engineering and Business
Ph.D. in
Electrical and Computer Engineering
Five-Year Master of
Business Administration

RESEARCH OPPORTUNITIES
There are far too many undergraduate research opportunities to list, but highlights include micro- and nanofabrication technology, coding and information theory, and wireless sensor networks.

INTERNSHIPS AND CO-OPS
Our students have the opportunity to work in organizations such as National Semiconductor, Fairchild Semiconductor, IBM, Analog Devices, Kepware Technologies, General Electric and NASA research centers, as well as industries such as pulp and paper and electric utilities.

SCHOLARSHIPS
We offer more than 70 scholarships and awards annually — 15 of which cover full tuition.

HOW DO I APPLY?
Visit go.umaine.edu for an application, as well as information about academics and life at UMaine.

I’ve known since I was young that I wanted to study electrical engineering because it would allow me to understand how all my toys — that I took apart — worked. I enjoyed working closely with my professors and learning the tricks of the trade rather than working problems from a book.”

— Anthony Nuzzo

Anthony Nuzzo, Electrical Engineering major, Class of 2013, Undergraduate Research Fellowship award winner 2012-13