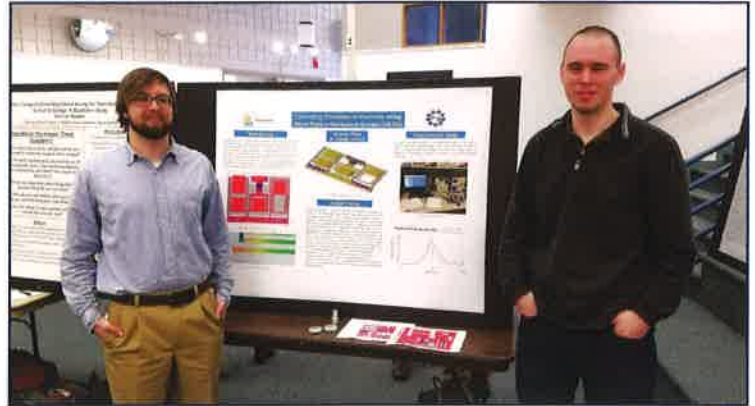


Electrical Engineering

The Electrical Engineering program was created at the University of Southern Maine (USM) in 1988 at the urging of businesses and engineering firms. The program now serves a broad range of engineering companies in the southern Maine region with a curriculum that engages students in all of the major areas of electrical engineering, including digital logic and microprocessors, circuits and electronics, communications and antennas, controls, power, and signal processing.

Our graduates are prepared to excel as engineers in technologically-intensive environments, succeed in post-baccalaureate and graduate studies, transfer their acquired skills to a variety of contexts and endeavors, and contribute to society as broadly educated, articulate, and ethical professionals and citizens.

The program is an outstanding value, with small classes taught by experienced and dedicated faculty, a curriculum that features extensive laboratory and hands-on experiences, and strong connections with



Engineering students Alexander Wilson (left), and Ryan Severn at the 2017 UROP Poster Presentations

local industry, providing substantial opportunities for internships and co-ops, as well as employment upon graduation.

The electrical engineering program may be augmented with a concentration in Computer Engineering.

PROGRAM HIGHLIGHTS

- **INTERNSHIPS** – Our location in southern Maine provides excellent opportunities for internships at local engineering firms, such as Texas Instruments, Bath Iron Works, IDEXX Laboratories, Lanco Assembly Systems, Portsmouth Naval Shipyard, ON Semiconductor, and numerous other firms in the state.
- **ACCREDITATION** – The Electrical Engineering program is accredited by the Engineering Accreditation Commission of ABET (Accreditation Board for Engineering and Technology).
- **STUDENTS** – The department hosts several student-run extracurricular groups, such as the Engineering Student Committee (ESC) which includes IEEE, ASME student chapters, and Women in STEM. USM's Engineers Without Borders (EWB) student chapter recently installed five solar water heaters for an orphanage in Guatemala.
- **HANDS-ON LEARNING** – The program encourages hands-on exploration of the learning environment and incorporates this exploration in most of its courses. The percentage of courses that require an open-ended design component is greater than that of many similar programs.

FEATURED FACULTY



Mustafa Guvench, Ph.D.

Professor

Case Western Reserve University, MS, Ph.D.

Professor Guvench's teaching and research interests and publications span the field of microelectronics, including analog CMOS integrated circuit design, MEMS and semiconductor device technologies, and applications. He has received awards and R&D funding from various government agencies and companies.

FEATURED ALUMNI



Nathan Lareau, '16

"USM engineering allowed me to receive an affordable education that has provided me with an excellent foundation while pursuing my goals in graduate school. Because of the small department size, I was able to develop student-teacher relationships that deepened my understanding of classroom topics and provided me with many worthwhile opportunities outside of the classroom, including publishing my first paper."

SCHOLARSHIPS

At USM, we provide scholarship aid to support our students, including first-year applicants, transfer students, continuing undergraduates, graduate students, and returning adults.

For information about scholarships offered at the University of Southern Maine, please visit usm.maine.edu/scholarships

FINANCIAL AID

Financial Aid is an essential element for keeping costs low while pursuing your college degree. Financial Aid is composed of a number of different programs designed to help you manage your costs and often reduce the price of your degree program. Please contact our knowledgeable Student Financial Services staff to help build a plan that works best for you and your family.

Email: usm.finaid@maine.edu Phone: 207-780-5250

RESEARCH

Students at USM have multiple opportunities to work closely with faculty and other students to go beyond the classroom to real-world learning experiences. Our experienced research faculty and staff take pride in our collaborative partnering with organizations and communities throughout the nation.

Learn more: usm.maine.edu/research

CAREER & EMPLOYMENT HUB

The Career & Employment Hub at USM gives students the opportunity to gain experience in the field, explore career directions, develop global citizenship skills, and give back to the community with a focus on career education and professional development for students and alumni.

Develop the skills, knowledge, and experiences needed to begin a successful career. Whether you need help with resume writing, interviewing skills, finding a job, networking, or have any other questions that you would like to discuss with a USM Career Advisor, please visit usm.maine.edu/careers or send an email to usmcareers@maine.edu.

CONTACT INFORMATION

For application assistance:

Office of Admissions
(207) 780-5670
admitusm@maine.edu
usm.maine.edu/admit

For more information about the Electrical Engineering program contact:

(207) 780-5287
usmengineering@maine.edu
usm.maine.edu/engineering

The University of Southern Maine is an equal opportunity/affirmative action institution.

SAMPLE COURSE OFFERINGS

These courses may be subject to change. For an up-to-date listing of core courses and additional courses, visit usm.maine.edu/catalogs

ELE 172 Digital Logic

Introduction to the design of binary logic circuits. Combinatorial and sequential logic systems. Design with small-, and medium-scale integrated circuits and programmable logic devices (PLDs). Registers, counters and random access memories (RAMs). The algorithmic state machine (ASM).

ELE 216 Circuits I: Steady-State Analysis

An examination of laws, theorems, and analysis techniques applied to DC and AC circuits operating in steady-state. Physical properties and modeling of sources, resistors, inductors, and capacitors. Phasors, impedance, AC power, magnetic coupling. Introduction of engineering standards applicable to electric circuits and components.

EGN 301 Junior Design Project and the Engineering Profession

The fundamental mission of engineering is design. Students, working in teams, learn the fundamentals of developing a specific problem statement, flowcharting, researching, project management, and design actualization, incorporating appropriate engineering standards and multiple realistic constraints. Professional issues such as ethics, intellectual property, interview skills, and resume preparation are explored. The student is challenged to consider the work of the engineer in the broader context of societal, personal, and professional responsibility.

ACCELERATED GRADUATE PATHWAY

Master's in Statistics (MS)

Master's in Business Administration (MBA)

For highly motivated undergraduate students who are already looking ahead to graduate school, USM offers a number of Accelerated Graduate Pathways that allow you to begin graduate study while completing your bachelor's degree, saving you time and money—which means you'll be ready for a career that much sooner, with your bachelor's and graduate degrees in hand.

CONCENTRATIONS, MINORS & CERTIFICATES

Concentration in Computer Engineering

Minor in Electrical Engineering

Apply Now
usm.maine.edu/apply

The University of Southern Maine is a member of The Common Application. Apply at commonapp.org