Electrical and Computer Engineering

The Electrical and Computer Engineering Department (ECE) offers degrees in several areas: a Bachelor of Science and Master of Science in Electrical Engineering, a Ph.D. in Electrical Engineering; a Master of Engineering with an EE option; and a Bachelor of Science in Computer Engineering. The programs leading to the B.S. in Electrical Engineering and B.S. in Computer Engineering are both accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

The breadth and quality of each degree program are driven by the goals of the Electrical and Computer Engineering Department.

The mission of the Montana State University Electrical and Computer Engineering Department is to provide an excellent, diverse, and inclusive environment for the scholarly pursuits of education, discovery, and dissemination in electrical and computer engineering in support of Montana State University and the State of Montana. We strive to excel in teaching at both the undergraduate and graduate levels. We seek to attract and retain well-qualified undergraduate students and provide them with educational, research, and scholarship opportunities. We strive to train the next generation of academics and researchers by providing opportunities in world class research and experience in teaching. And, we seek to develop a competitive research program of regional, national, and international importance.

The goals of the Department are to:

1. Serve the State of Montana and the nation through education, research, and service to meet the mission of Montana State University and the College of Engineering.
2. Provide ABET accredited undergraduate programs in Electrical Engineering and Computer Engineering.
3. Be recognized by academic and industrial colleagues as delivering excellent undergraduate programs which provide students with a strong foundation in the contemporary and traditional areas of Electrical and Computer Engineering.
4. Encourage faculty members to maintain professional expertise through continued professional development so they can sustain excellence in teaching and advising and be competitive in research.
5. Provide excellent learning opportunities in lectures and modern laboratory facilities.
6. Provide graduate research opportunities which, coupled with undergraduate excellence, prepare students through advanced studies in current and emerging fields of state, national, and international importance.
7. Develop a competitive research program and disseminate new knowledge while mentoring graduate students completing requirements for advanced degrees.

Educational objectives for the BSEE and BSCpE degree programs are broad statements that describe what graduates are expected to attain within a few years after graduation.

In their first few years on the job, graduates of the Programs:

1. Pursue a professional career based on an education in the fundamentals of Electrical and Computer Engineering.
2. Engage in post-graduate education programs.
3. Provide a positive impact to the engineering community and to the community at large.

Internship Opportunities

Internships are encouraged for students seeking engineering experience during summer employment. A wide variety of engineering companies recruit undergraduate interns from MSU. A total of three credits of internship can be applied towards graduation as a professional elective at the rate of one credit per full-time summer engineering employment. An intern experience allows students to gain engineering industrial experience that complements their formal academic education. Students in the Electrical Engineering and the Computer Engineering degree programs are encouraged to investigate the possibilities of an internship experience according to opportunities announced each year. The MSU Career, Internship & Student Employment Services (http://www.montana.edu/careers/) office located in 177 Strand Union Building also helps students identify internship opportunities.

Research Opportunities

Students in the Electrical Engineering and the Computer Engineering degree programs are also encouraged to investigate opportunities to work under the supervision of an ECE faculty member in a research lab either during the summer or during the academic year. All members of the ECE faculty have active research programs which regularly involve undergraduate students. Hands-on research experience complements the student's formal academic education while providing familiarity with career opportunities in the research field. Students in the ECE department have opportunities for paid research positions in addition to receiving credit for conducting research by registering for EELE 290R or EELE 490R Undergraduate Research, or EELE 292 or EELE 492 Independent Study .

Graduate Program

Graduate school can provide an opportunity to gain education and experience in specialty areas that go beyond the scope or depth of the undergraduate curriculum, and offers advanced work in such areas as design, development work, research, and university-level teaching. The Electrical and Computer Engineering Department offers graduate programs leading to the research-based M.S. in Electrical Engineering, the coursework-only M.Eng. in Engineering with an EE option, and Ph.D. in Electrical Engineering. Our research provides excellent learning opportunities, including participation in interdisciplinary teams. A number of research and teaching assistantships are available on a competitive basis to qualified graduate students. Information regarding the ECE graduate program can be found at http://ece.montana.edu/research/ (http://ece.montana.edu/research/)

For more information about the department and its programs, see the Electrical and Computer Engineering Department home page at http://ece.montana.edu

Undergraduate Programs
- Computer Engineering (http://catalog.montana.edu/undergraduate/engineering/electrical-computer-engineering/computer-engineering/)
- Electrical Engineering (http://catalog.montana.edu/undergraduate/engineering/electrical-computer-engineering/electrical-engineering/)

Graduate Programs
- M.S. in Electrical Engineering (http://catalog.montana.edu/graduate/engineering/electrical-computer-engineering/)
- M.Eng in Electrical Engineering (http://catalog.montana.edu/graduate/engineering/electrical-computer-engineering/)
- Ph.D. in Electrical Engineering (http://catalog.montana.edu/graduate/engineering/electrical-computer-engineering/)