ELECTRICAL ENGINEERING (M.ENGR.)

The Electrical Engineering Program offers Master of Science, Master of Engineering, and Ph.D. degrees. The Master of Science and Master of Engineering degrees may be earned through the Engineering Outreach off-campus program. These advanced degrees offer engineering students an opportunity to strengthen their knowledge of electrical engineering by taking graduate courses that focus on advanced subject matter and by participating in research.

Qualifications for Admittance

Candidates must have a bachelor's degree in electrical engineering with an undergraduate GPA of 3.00 or higher. International students who are required to take the TOEFL examination by the College of Graduate Studies must have a TOEFL score of at least 79 for the Internet-based Test (iBT) version, or 550 for the paper-based version. All candidates must submit scores from the general portion of the Graduate Record Examination.

Candidates who do not have a bachelor's degree in electrical engineering may be admitted to the graduate program if they meet the following minimum requirements in addition to the Electrical and Computer Engineering department and College of Graduate Studies admissions requirements:

1. A bachelor's degree in computer engineering, computer science, or another engineering discipline or in science such as mathematics or physics.
2. Demonstrated proficiency in the fundamentals of electrical engineering emphasized in the undergraduate curriculum. For each area of emphasis in electrical engineering, proficiency is demonstrated by successful completion of the following fundamental courses or their equivalents.[1]

Code	Title	Hours
Power Area [1]		
ECE 212	Electrical Circuits II	3
ECE 320	Energy Systems I	3
ECE 329	Background Study in Energy Systems	3
ECE 350	Signals and Systems I	3
ECE 359	Background Study in Signals and Systems Analysis	3
ECE 420	Energy Systems II	3
Electromagnetics Area [1]		
ECE 212	Electrical Circuits II	3
ECE 330	Electromagnetic Theory	3
ECE 350	Signals and Systems I	3
ECE 359	Background Study in Signals and Systems Analysis	3
ECE 432	Propagation of Wireless Signals	3
ENGR 210	Engineering Statics	3
MATH 170	Calculus I	4
MATH 175	Calculus II	4
MATH 275	Calculus III	3
MATH 310	Ordinary Differential Equations	3
PHYS 212	Engineering Physics II	3
PHYS 212L	Laboratory Physics II	1
Microelectronics Area [1]		
ECE 212	Electrical Circuits II	3
ECE 310	Microelectronics I	3
ECE 319	Background Study in Electronics	3
ECE 350	Signals and Systems I	3
ECE 359	Background Study in Signals and Systems Analysis	3
ECE 410	Microelectronics II	3
Systems Area		
ECE 350	Signals and Systems I	3
ECE 359	Background Study in Signals and Systems Analysis	3
MATH 330	Linear Algebra	3
STAT 301	Probability and Statistics	3

1 Does not count for graduate credit.

Students may petition the graduate committee for exceptions to the required background list if their advisor or interim advisor approves.

Master of Engineering. Major in Electrical Engineering.

General M.Engr. requirements apply, except that the department requires at least 30 credits of coursework. Students, with the assistance of their major professor, prepare their own program as soon as possible during their first semester and submit it to the faculty for approval. To be approved, programs must satisfy both the university requirements governing the M.Engr. degree and the following department requirements:

1. At least 18 credits in electrical engineering courses numbered 500 or above.
2. At least three electrical engineering courses in a given area for depth, two of which must be numbered 500 or above.
3. At least one course in each of two areas (outside the areas selected under item 2) to provide breadth.
4. Enrollment in ECE 591, Electrical Engineering Research Colloquium, during each semester of on-campus enrollment.

Please see the Electrical Engineering Graduate Student Handbook for details and program requirements on earning this degree.

1. The ability to use the results of applied research and other existing information necessary to carry an engineering project from conceptual through the design and production phases.
2. An in-depth knowledge of the degree subject matter, integrating and building upon the foundation provided by a relevant undergraduate degree.
3. The ability to use the results of applied research and other existing information necessary to carry an engineering project from conceptual through the design and production phases.
4. The ability to communicate professional work in an appropriate format.