Electrical Engineering
Graduate Programs

Research areas

Bio-Energy & Energy Harvesting

Computational Electromagnetics

Computer Engineering & Embedded System Design

Computer Vision & Machine Learning

Control Systems

Electromechanical Systems

Microelectronics & RF Circuits

Neural Engineering & Electronics

Power Electronics

Renewable Energy, Sustainable Systems

Robotics & Artificial Intelligence

Signal Processing

Software Engineering

Space Physics & Plasma Electrodynamics

Electrical engineers today are involved in the development of technology, materials and products to improve the quality of life. A graduate degree from the Department of Electrical Engineering prepares students for high-level careers in industry or academia. At CU Denver, we offer a Master of Science in electrical engineering, a Master of Engineering and the engineering and applied science PhD degree.

Master of Science

Candidates must complete—within a seven-year period—an approved program of study consisting of at least 30 semester hours.

Students select a primary and a secondary area of concentration. At least four courses in the primary area of concentration and at least two courses in the secondary area of concentration are required. A seventh course may be selected from any area of concentration or may be a 3-credit independent study. An additional 9 credit hours are required and are allocated based on the plan of study chosen by the student; either master's thesis or course-only track.

Master's thesis track requires a minimum of 24 credit hours of graduate course work and 6 credit hours of master's thesis work.

The **course-only track** requires additional course work and seminar attendance in place of thesis work.

Master of Engineering

This broad-based degree program is designed for students who want to further their education in and beyond electrical engineering by taking up to half their courses in other areas of engineering or in related

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areas such as management, public policy, environmental science or computer science.

A minimum of 30 semester hours of academic work acceptable to the Advisory Committee are required for the master of engineering degree. At least 15 of these hours must be electrical engineering courses at the 5000 level or above, and must be taken through the CU Denver Department of Electrical Engineering. As many as 15 credit hours can be taken outside of electrical engineering, including a 3-credit-hour master of engineering project. The project should cover some area of creative investigation, may relate directly to the student's professional work and must be defended orally before the Advisory Committee.

Doctor of Philosophy

The multidisciplinary Doctor of Philosophy degree program in engineering and applied science is offered by the College of Engineering, Design and Computing and consists of a primary and secondary concentration. Applicants apply and enter the program through one of four departments, which is chosen based on the applicant's intended primary concentration of study. The four departments that serve as host departments are: Civil Engineering, Computer Science

and Engineering, Electrical Engineering and Mechanical Engineering.

The required secondary concentration can be chosen from any remaining department within the college, including the Department of Bioengineering. The secondary concentration may also be chosen from another CU Denver school or college.

Admission Requirements

Students interested in any of our graduate programs may contact the Department of Electrical Engineering at electrical@ucdenver.edu or 303-315-7520.

In addition to the online application, three recommendations are required, at least two of which should be from university faculty familiar with the student's academic ability. To be accepted as a "regular" degree student, applicants need a minimum 3.0 grade point average on a 4.0 scale. Satisfaction of minimum requirements does not guarantee admission. The grades obtained in the student's area of concentration are important factors in the consideration. Students who do not meet the requirements for direct admission may be admitted "conditionally," that is, they may be required to take or

repeat certain undergraduate courses before their admission to the program is official.

Students with an undergraduate degree other than electrical engineering (such as math, science or other field of engineering) are encouraged to apply. Such students who wish to pursue graduate study in electrical engineering must fulfill any prerequisite course requirements for any graduate course offered. They must also see their graduate faculty advisor to receive approval before registering for any class in electrical engineering. Students are expected to plan a program of study in consultation with their electrical engineering faculty advisor(s) during the first semester of study.

Graduate Record Exam (GRE)

Official GRE scores are required for all master's applicants, except those with an earned bachelor's degree from an ABET accredited program with a GPA ≥ 3.00, or an earned master's degree from an ABET accredited program with a GPA ≥ 3.50. GRE scores are required for application to the PhD program. Use Institution Code 4875, Department Code 1203 to submit scores directly.

For more information about the department, programs, faculty and research, visit **ucdenver. edu/electrical**.

How to apply

All electrical engineering graduate applicants must submit the following materials:

- Application form (available online)
- Application fee
- Statement of purpose— this may be included on your application form
- Transcripts—we require one official copy of each previous transcript
- References—we require three letters of recommendation

"Students with diverse backgrounds and interests will find a vibrant, stimulating program. Our goal is to help students build a solid foundation of knowledge and experience in engineering, science and research."

-Mark Golkowski, associate professor

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