ELECTRICAL & COMPUTER ENGINEERING - MASTER OF SCIENCE (MS)

The Department of Electrical, Computer & Energy Engineering (ECEE) offers degree options tailored to both working engineers looking to advance their careers and to those looking to pursue a career in academia. Research and coursework is concentrated in six broad areas:

- Photonics and quantum engineering
- Learning, information, network, communication and data sciences
- Computer engineering
- Systems and controls
- Electromagnetics, RF and microwaves
- Power electronics

For more information, visit the department's Prospective Students (https://www.colorado.edu/ecee/academics/graduate-programs/master-science-electrical-engineering/degree-requirements/) webpage or the application requirements (https://www.colorado.edu/ecee/admissions/graduate-admissions/) webpage.

Distance Education Option

Students can take individual courses toward a master's degree or graduate certificate through distance education (online). For more information, connect with the individual graduate program directly.

Coursera Option

The Master of Science in Electrical & Computer Engineering is also available as a completely online master's degree (https://www.colorado.edu/ecee/msee/) through the Coursera platform.

Bachelor's–Accelerated Master's Degree Program

Students may earn this degree as part of the bachelor's–accelerated master's (BAM) degree program, which allows currently enrolled CU Boulder undergraduate students the opportunity to earn a bachelor's and master's degree in a shorter period of time.

For more information, see the Accelerated Master's tab (https://www.colorado.edu/ecee/undergraduate-program/degrees/bachelors-accelerated-masters-degree/) for the associated bachelor's degree(s):

- Electrical and Computer Engineering - Bachelor of Science (BS) (https://catalog.colorado.edu/undergraduate/colleges-schools/engineering-applied-science/programs-study/electrical-computer-energy-engineering/electrical-computer-engineering-bachelor-science-bs/#acceleratedmasterstext)
- Electrical Engineering - Bachelor of Science (BS) (https://catalog.colorado.edu/undergraduate/colleges-schools/engineering-applied-science/programs-study/electrical-computer-energy-engineering/electrical-engineering-bachelor-science-bs/#acceleratedmasterstext)

Requirements

- All MS students must complete a total of 30 credit hours of coursework (including thesis hours, if applicable) with a grade of C or better and a cumulative GPA of at least 3.00.
- At least 24 credit hours must be completed at the 5000 level or above, and at least 18 of those credits must be in sufficiently technical[1] ECEN courses.
- The remaining courses can also be ECEN 5000+ or in other STEM (Science, Tech, Engineering, Math) departments.
- *Optionally*, maximally 6 credit hours may be at the 4000+ level. However, all coursework from ECEN, TLEN/CYBR, EMEN and ATLS *must solely be* at the 5000+ level.

For more information, visit the department's Master of Science (http://www.colorado.edu/ecee/graduate-program/degrees-programs/master-science/) webpage.

Degree Plans

Plan I: Thesis Option

Students must complete 4–6 credit hours of MS thesis. The total number of combined hours of independent study and thesis research shall not exceed 9 hours. The Plan I project culminates with an oral presentation and written thesis.

Plan II: Non-Thesis Option

A maximum of 6 credit hours of independent study can be used toward the 30-credit-hour requirement. No thesis is required, and there is no cumulative examination.

Time Limit

All degree requirements must be completed within four years of the date of commencing coursework. Most students complete the degree in two years.

1 "Sufficiently technical" usually means the course requires at least one technical pre-requisite course, and that its primary focus is engineering/mathematical problem-solving rather than having a policy-based focus.

Learning Outcomes

By the completion of the program, students will:

- Gain the necessary understanding to interpret and explain results published within their field of study and enable them to address modern engineering challenges (thesis or non-thesis).
- Learn the necessary communication skills to help them gain meaningful employment within their chosen field of study (thesis or non-thesis).
- Acquire the experimental and/or analytical skills essential to a career in their chosen field of study (thesis or non-thesis).
- Learn to conduct scientific research effectively (thesis only).
- Learn communication skills essential to the dissemination of their technical findings (thesis only).