

ELECTRICAL AND COMPUTER ENGINEERING (M.S.)

<https://ceps.unh.edu/electrical-computer-engineering/program/ms/electrical-computer-engineering>

Description

Our graduate programs are flexible allowing the student a wide choice of courses as well as research topics. We will prepare students for professional skills such as working collaboratively, scholarly writing, and technical presentation and publications.

Our programs will provide the students the training needed to pursue a career both in industry and academia. The programs will increase the breadth and depth of the students' electrical and computer engineering knowledge and help them develop the specialized skills in areas including but not limited to biomedical engineering, human-computer interaction, wireless communication, integrated circuit design, cybersecurity, control system and robotics, sensor design, wearable electronics, image processing, Internet-of-Things, computer architecture, and medical instrumentation.

Students have internship opportunities such as UNH Interoperability Laboratory (IOL), Center of Coastal Mapping (CCOM), Institute for the study of Earth, Ocean, and Space (EOS), etc.

Requirements

Degree Requirements

Master of science in electrical and computer engineering (M.S. ECE) degree students must take a minimum of **31 graduate credits** including:

- 20 credit hours of graduate coursework, with at least 9 of those credit hours earned in 900-level courses
- 4 credits of ECE 900 Research and Development From Concept to Communication
- 6 credits of thesis work (ECE 899 Master's Thesis)
- 1 credit of ECE 910 Graduate Seminar

Up to 12 credits earned in 800 level non-ECE courses may be taken for graduate credit by ECE M.S. degree students provided the courses are petitioned and approved by the ECE Graduate Committee.

A student may petition that a maximum of 12 UNH graduate credits or a maximum of 8 non-UNH graduate credits taken prior to admission into the ECE master of science degree program be applied to fulfill the degree requirements.

Once the student has been admitted into the program, under certain circumstances it may be desirable to take courses outside the ECE department to attain the goals outlined in the student's program of study.

In these cases, up to two non-ECE 900-level courses are allowed without petition, but you need to have your thesis advisor's approval. Students need to take at least two 900-level courses (neither of which may be independent studies) within the department. Students must petition to the ECE Graduate Committee before course registration. To take more

than 2 non-ECE courses (either 800 or 900 level) students must submit a petition to the ECE Graduate Committee.

Accelerated Master's

This graduate program is approved to be taken on an accelerated basis in articulation with certain undergraduate degree programs.

General Accelerated Master's policy, note that some programs have additional requirements (e.g. higher grade expectations) compared to the policy.

Please see the Graduate School website and contact the department directly for more information.

Student Learning Outcomes

- Students will master the theoretical concepts or/and practical implementation in advanced aspects of biomedical engineering, human-computer interaction, wireless communication, integrated circuit design, cybersecurity, control system and robotics, sensor design, wearable electronics, image processing, Internet-of-Things, computer architecture, and medical instrumentation.
- Students will be proficient in collecting and analyzing data using contemporary laboratory equipment.
- As a result of our two-semester ECE900 courses, students will develop and demonstrate proficiency in the use of library searches along with interpreting and presenting technical information found in those searches.
- Students will have the professional skills such as working collaboratively, scholarly writing, and technical publications.
- Students will be well trained to pursue a career both in industry and academia.