

# ELECTRICAL AND COMPUTER ENGINEERING (M.S.)

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

## Description

Our graduate programs are quite flexible allowing the student a wide choice of courses as well as research topics. Many students work in the [UNH Interoperability Laboratory](#) and study computer telecommunications. Others work in such diverse fields as ergonomics in the workplace, automation of medical equipment, designing and improving the reliability of advanced integrated circuits, wireless communication systems, image processing, alternative energy systems, improvement of manufacturing equipment and modeling antenna patterns at airports.

## Requirements

Master of science in electrical and computer engineering (M.S. ECE) degree students must take a minimum of **30 graduate credits** including:

- 20 credit hours of graduate coursework, with at least 12 of those credit hours earned in 900-level courses
- 4 credits of ECE 900A Research and Development from Concept to Communication I & ECE 900B Research and Development from Concept to Communication 2
- 6 credits of thesis work (ECE 899 Master's Thesis)

Up to 12 credits earned in non-ECE courses numbered 700-799 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 800 or 900-level courses are allowed without petition, provided that they are approved by the student's academic adviser and that the student takes at least two 900-level courses (neither of which may be independent studies) within the department. A student wishing to take more than two courses (either 800 or 900 level) outside the department must petition the ECE Graduate Committee.

## 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.