

ELECTRICAL AND COMPUTER ENGINEERING (PH.D.)

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

The degree of doctor of philosophy (Ph.D.) in electrical and computer engineering is conferred on qualified candidates who have passed the qualifying examination and candidacy examination in their field of study, who have completed an original investigation in this field and have embodied the results in an acceptable dissertation, and who have passed an oral examination in defense of the dissertation. The degree of Ph.D. is a research degree. It is not given merely for the completion of course credits. Detailed information can be found on the ECE departmental website.

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 have an advanced understanding of the mathematical methods, both analytical and computational, required to solve complex problems in the general field of electrical and computer engineering.
- 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 a specialized knowledge of their chosen field of advanced research relating to electrical and computer engineering.
- Students will be able to present advanced scientific ideas effectively in both written and oral form.
- Students will be well prepared for postgraduate study in electrical and computer engineering and related disciplines, as well as advanced careers in a multitude of fields ranging from scientific and technical to financial.