Five-Year Masters Program

The Department of Electrical and Computer Engineering offers a combined degree program allowing students to receive their Bachelors in Electrical Engineering or Computer Engineering alongside a Masters in Electrical Engineering in as little as five years.

This opportunity is open to high-achieving students (currently at least a 3.4 GPA) and takes additional planning with your Academic Advisor.

Five-Year Masters Program with your Academic Advisor.

and takes additional planning (currently at least a 3.4 GPA) high-achieving students.

This opportunity is open to as little as five years.

Electrical Engineering in as

Computer Engineering

Electrical Engineering or

to receive their Bachelors in

program allowing students

offers a combined degree

and Computer Engineering

The Department of Electrical

and Computer Engineering (ECE) students and faculty exemplify the University’s motto “Driven to Discover.” We are one of the leading international programs in electrical and computer engineering education and research.

ECE faculty and students serve as key sources of scientific and engineering talent, expertise, and innovative ideas for communication, software, electronics and biotechnology companies worldwide.

A recent survey of College of Science and Engineering (CSE) graduates, and ECE graduates in particular, reported more than 4,000 alumni-founded companies that are active today employing more than half a million people worldwide and generating $90 billion in annual revenue.

What is ECE?

Possible Choices for Electrical and Computer Engineering Emphases

- Biomedical Engineering
- Control Systems
- Telecommunications and Signal Processing
- Electric Energy Systems
- Renewable Energy
- Optics and Magnetics
- Microelectronics and Materials
- Nanotechnology
- Robotics and Embedded System Design
- Computer Networks

- Computer-Aided Design
- Computer Architecture and Software
- Medicine
- Management and Business
- The History of Science and Technology
- Mathematics
- Physics
- Actuarial Science
- Law
- Entrepreneurship

Some Things that Electrical and Computer Engineers Make

- Pacemakers and defibrillators
- X-ray, MRI, and Ultrasound scanners
- Blood analyzers on a chip
- Industrial Robots
- Aircraft and Space Vehicles
- Computer disk drives
- Cell Phones
- Speech recognizers and synthesizers
- Power stations
- Microprocessors

- Electric Vehicles
- Wind Turbine components
- Fiber optic communication
- Microoptical instruments
- Magnetic and Optical Storage
- Microchips
- Flat Panel Displays
- Network switches
- Operating Systems
- Distributed Computer Systems

Typical Coursework for Electrical Engineers

First Year
- Calculus – 2 Semesters
- Physics – 2 Semesters
- University Writing
- Computing Systems
- Intro to Electrical Engineering
- Liberal Education – 2 Semesters

Second Year
- Calculus – 2 Semesters
- General Chemistry
- Physics of Matter
- Digital System Design
- Microcontrollers
- Circuits and Electronics
- Linear Systems and Circuits
- Liberal Education

Third Year
- Analog & Digital Electronics
- Semiconductor Devices
- Signals & Systems
- Statistical Methods
- Circuits and Electronics
- Lab – 2 Semesters
- Transmission Lines
- Technical Elective
- Liberal Education – 2 Semesters

Fourth Year
- Senior Design Project
- Technical Electives – 7-9 courses
- Technical Labs – 2 courses
- Liberal Education

Typical Coursework for Computer Engineers

First Year
- Calculus – 2 Semesters
- Physics – 2 Semesters
- University Writing
- Computing Programming
- Intro to Electrical Engineering
- Liberal Education – 2 Semesters

Second Year
- Calculus – 2 Semesters
- Discrete Structures
- Computer Programming
- Digital System Design
- Microcontrollers
- Circuits and Electronics
- Line Systems and Circuits
- Liberal Education

Third Year
- Analog & Digital Electronics
- Algorithms & Data Structures
- Signals & Systems
- Statistical Methods
- Circuits and Electronics
- Lab – 2 Semesters
- Computer Architecture
- Technical Elective
- Liberal Education – 2 Semesters

Fourth Year
- Senior Design Project
- Technical Electives – 6-8 courses
- Technical Labs – 2 courses
- Operating Systems
- Liberal Education