Degree Programs, Courses and Curriculum

ECE Degree Programs

The Electrical and Computer Engineering (ECE) Department offers two undergraduate programs:

(1) Bachelor of Science in Electrical Engineering (BSEE)
(2) Bachelor of Science in Computer Engineering (BSCPE)

Both programs are accredited by ABET.

2014-2015 Catalog

Beginning Fall 2014, there are new BSEE and BSCPE degree programs. Taking courses in either program is organized into two phases. The first two years are the ECE Base. The ECE Base provides fundamental skills in math, science, and electrical engineering, and is identical for BSEE and BSCpE majors. In addition, all students take 42 semester hours of core curriculum designed to provide a strong liberal arts education essential in an educated person.

BSEE Degree Program
In the last two years of the BSEE degree plan, students must choose one of six Concentration Areas. The Concentration Area allows the student to choose a subset of Electrical Engineering that is of particular interest to the student, while still encouraging the student to take courses in related areas.

All students in the BSEE program must submit a Degree Plan for Electrical Engineering (available in the Department) prior to enrolling in their first Concentration or ECE Elective. The student will then be assigned a Faculty Advisor in the chosen Concentration Area. Following the initial advising session with the Faculty Advisor, the student may proceed to enroll in Elective courses.

BSCpE Degree Program

In the last two years of the BSCpE degree plan, students specialize in Computer Engineering, including a mix of Electrical Engineering and Computer Science courses.

All students in the BSCpE program must submit a Degree Plan for Computer Engineering (available in the Department) prior to enrolling in their first Computer Engineering or Computer Science Elective. The student will then be assigned a Faculty Advisor in the Computer Engineering area. Following the initial advising session with the Faculty Advisor, the student may proceed to enroll in Elective courses.

Please refer to the curriculum flowcharts for further details on the two degree plans.

ECE First-Year Experience

At the UH Cullen College of Engineering?s Department of Electrical and Computer Engineering (ECE), undergraduates learn how to apply complex engineering theories to the real world as soon as they enter the college. Through the ECE Department?s First-Year Experience, freshmen engage in hands-on, project-based activities while studying topics in electronics and computer engineering even in the very first semester. These courses foster a deeper learning and increased engagement among students; but more importantly, they?re fun! In the ECE Department, we don?t just want our undergraduates to learn engineering ? we want them to learn engineering so that they can build and program a laser-shooting robot!

Nano Engineering Minor Option (NEMO Program)

The high technology revolution, driven by the breathtaking successes of semiconductor integrated circuits, has transformed world economies and will continue shaping the human enterprise for generations to come. A number of nanotechnology initiatives has facilitated a transition into the era of nanoscale integrated systems. The innovative ideas resulting from these nanotechnology initiatives are being rapidly commercialized and new knowledge is being created. There exists a critical need to supplement traditional in-discipline training with interdisciplinary nanoengineering curriculum to address the needs of both emerging nanotechnology enterprises and rapidly forming nanoscale industries.

The NEMO program provides the structured curriculum, research opportunities, funding, and resources for undergraduate students to acquire additional skills that will broadly prepare them for professional and scientific careers in the 21st century. For further information click here.
Accelerated B.S./Graduate Degree Program and Accelerated M.S. Fellowship

Students who wish to pursue a graduate degree following the BSEE or BSCPE may choose to enroll in the Accelerated BS/Graduate Degree Program. Students in this program may complete up to 6 graduate credit hours in their undergraduate degrees that can be used toward both the Bachelor’s and the Master’s degrees. This allows students to begin their Master’s program with 6 credit hours already completed, leaving only 8 courses (24 credit hours) remaining. The Master’s degree can then be completed on a full-time basis in 2 long semesters. For further information click here.

Students who are accepted into the Accelerated B.S./Graduate Degree Program also have the opportunity to apply for the Accelerated Master’s Fellowship (AMF).

The AMF ranges from $2,500 to $5,000 per semester for up to two semesters of study with a maximum of $10,000 per award based on available funding. The AMF is a competitive fellowship based on the academic records and accomplishments of the applicant. The AMF is contingent upon the availability of funding, and the College reserves the right to make no awards in a semester.

The deadline to apply for the Fellowship for Spring 2018 admission is October 15, 2017. Students must be approved by their department to participate, have taken 2 graduate-level courses, and must also apply to the graduate program before they can be considered for the award.

Application for the Accelerated Master’s Fellowship