# ELECTRICAL ENGINEERING, MS

**Degree:** Master of Science (MS)
**Field of Study:** Electrical Engineering

## Admission

Graduate students shall be admitted to one of three MS degree tracks (thesis-focused, project-focused, course-focused) upon recommendation of the faculty of the Department. Requirements for admission include a strong record of scholarship in a completed bachelor's degree program in a field of engineering, mathematical or physical sciences, and fluency in written and spoken English.

For a thesis-focused or project-focused track, the University requires all foreign applicants to show English proficiency by achieving a TOEFL score of at least 90 on the internet-based exam. For a course-focused track, a minimum TOEFL score of 80 is required. If there is any professional student-to-student interaction, e.g. as a teaching assistant, a lab instructor, or a tutor, then a minimum TOEFL score of 90 is required.

Submission of GRE scores for graduate applications is NOT required. Applications from students with a bachelor's degree in fields other than those listed above may be granted admission on a provisional basis. Such provisional students may be advanced to full standing upon completion of prerequisite conditions stipulated in the letter of admission.

## Registration

Course registration is performed through the Student Information System (SIS). Each semester before registration, students should update any personal information that may have changed by logging into SIS and editing the appropriate information. All registration holds must be lifted in order to successfully complete the registration process.

## Advising

Upon admission to the graduate program, each graduate student is assigned an academic advisor to assist in registration as well as planning a program of study (Academic Program). This is a temporary assignment made by the Department Chairperson based on the student's academic and research interests as identified at the time of application.

During the first semester in the program, it is strongly suggested that each student meet with various members of faculty to discuss academic objectives/goals and research opportunities. In order to complete the research component of their respective degree program, each student must identify a faculty member who is willing to serve as the student's research advisor. Students are expected to pick a research advisor by the end of their first semester in the program who will supervise their thesis or project. Each student, in consultation with their advisor, must submit an Academic Program preferably before completing 9 credit hours of coursework. This should specify all courses and thesis work that will be counted toward the 30 credit hour requirement.

The research advisor will also serve as the student's permanent academic advisor if they are a member of the department faculty. If, however, the research advisor is not a member of the department faculty, the student is required to find a permanent academic advisor from the department faculty. For students enrolled in an MS Thesis-Focused degree program, the research advisor is commonly known as the "thesis advisor".

Students may change advisors for a variety of reasons of which one of the most common is a change of the student's field of interest. It should be noted that a change in research advisor may require that the student start a new research project, which could result in delaying graduation. It is the responsibility of the student to inform the ECSE Office of Student Affairs in the event of a change in advisor. In addition, the student must file all appropriate forms with Graduate Studies.

## Appeals

Any decision by an academic advisor, thesis guidance committee or department associate chairperson may be appealed, in writing, to the department associate chairperson who shall present the appeal, with their recommendations, to the faculty at its next regular faculty meeting. The faculty's decision shall be final.

## Graduate Policies

For graduate policies and procedures, please review the School of Graduate Studies section of the General Bulletin.

## Program Requirements

### Thesis-Focused Track

The MS Thesis-Focused track is composed of two components:

a. graduate-level coursework and
b. a research-oriented thesis

Progression through the program is monitored by an Academic Program that is required to be filed through SIS. This contains a comprehensive list of all courses to be applied to the degree (including transfer courses) and must be approved by the student's academic advisor, Department Chairperson, and Dean of Graduate Studies.

At least 30 semester credit hours of coursework at the 400 level or above, of which a minimum of 18 credits must be from non-thesis related courses is required. Each Electrical Engineering MS Thesis-Focused student must complete at least 9 credit hours of ECSE 651 Thesis M.S., which is the course associated with MS thesis research. Each student must complete their approved Academic Program coursework with a cumulative grade point average of 3.0 or greater.

Completion of the MS Thesis-Focused track requires that the student submit a written thesis and make an oral presentation of the findings (hereafter known as the defense) to a thesis guidance committee. The thesis guidance committee shall consist of the student's research advisor and at least two additional faculty members recommended by the advisor. At least two members of the committee must be faculty members in the ECSE department. The chairperson of the guidance committee is normally the candidate's research advisor. The student is responsible for forming the thesis guidance committee. The student will work closely with their advisor to determine when the thesis is ready for review by the guidance committee. The student shall provide an announcement containing a title, abstract, date, time and location of the defense to the ECSE Office of Student Affairs for general distribution at least 10 days in advance of the thesis defense.

### Project-Focused Track

The MS Project-Focused track is composed of two components:

a. graduate-level coursework and
b. a research-oriented project

Progression through the program is monitored by an Academic Program that is required to be filed through SIS. The Academic Program contains a comprehensive list of all courses to be applied to the degree (including transfer courses) and must be approved by the student's academic advisor, Department Chairperson, and Dean of Graduate Studies.

The Academic Program must contain at least 30 semester credit hours of coursework at the 400 level or above, of which a minimum of 21 credits from courses other than ECSE 695 Project M.S. (which is the course associated with the MS research project) is required. Each Electrical Engineering MS Project-Focused student must complete at least 3 credit hours of ECSE 695 Project M.S.. Each student must complete their approved Academic Program coursework with a cumulative grade point average of 3.0 or greater.

Each candidate for the Electrical Engineering master's degree under a Project-Focused track must pass a comprehensive examination to be administered by a committee of department faculty. The examination committee should be composed of the student's academic advisor and at least two additional members of the department faculty. In such cases, the chairperson of the committee is normally the candidate's academic advisor. The examination may be written, oral, or a combination as determined by the committee. A student must be registered during the semester in which any part of the comprehensive examination is taken. If not registered for other courses, the student will be required to register for one semester hour of EXAM 600.

### Course-Focused Track

The Course-Focused MS track requirements consist of:

a. the completion of 30 hours of approved coursework at the 400 level or higher,
b. satisfactory completion of the culminating course-focused experience, i.e. passing the course ENGR 600 with requirements defined by the student's curricular program, and
c. additional requirements as specified by the program.

Students should consult with their academic advisor and/or department to determine the detailed requirements within this framework.