

Electrical Engineering, PhD

The PhD program in electrical engineering offers students an opportunity for study in a broad range of areas in electrical engineering. Details on PhD requirements can be found in the *Graduate Program Guide*. A summary of requirements is given below.

Qualifying Exam and Degree Candidacy

The PhD qualifying exam is the examination for admissions to the doctoral programs in electrical engineering and in computer engineering. It is a written exam in the student's major area, and some concentrations include an oral exam. The exam has the dual purposes of serving as an indicator of the student's capability for successful completion of the PhD in electrical engineering or in computer engineering and of serving as a guide to the student's adviser in developing a suitable plan of study, tailored to the individual needs of the student. Students are tested on graduate course material as specified by the faculty in the chosen area.

A student who has matriculated into the PhD program is considered a predoctoral student, whether they are BS entry or Advanced Entry. Upon successful completion of the qualifying exam, the student is designated a PhD candidate. Predoctoral students must take the qualifying exam no later than the second spring after their matriculation in the PhD program. A student who fails the qualifying exam will be permitted to retake the exam only one more time.

Annual Review

PhD students are reviewed annually starting with their second year in the Department of Electrical and Computer Engineering (ECE). Students complete a form and submit a one-page report of their progress during the past year. Each student is evaluated and receives a grade of satisfactory, needs improvement, or unsatisfactory. Students who receive an unsatisfactory grade will meet with their adviser and the ECE department chair in order to receive feedback and set goals for the next year. Students who receive unsatisfactory grades in two consecutive years are terminated from the PhD program.

Residence Requirement

After reaching PhD candidacy, one year of full-time graduate work or two consecutive years of part-time graduate work satisfy the university residence requirement. In the latter case, the student's adviser must approve a detailed schedule in order to ensure that the student devotes at least half of the time to the requirements of the Graduate School of Engineering.

Dissertation

Within one year of passing the PhD qualifying exam, the PhD candidate must form a dissertation committee. A dissertation committee must have at least three members that hold a PhD or equivalent degree. At least two of the committee members must be tenured or tenure-track ECE faculty and the committee must include the student's adviser. The chair of the committee must be a tenured or tenure-track faculty member in the ECE department.

The dissertation committee must design an appropriate program of study that prepares the student to be a successful doctoral-level engineer as well as direct the candidate's dissertation research. The dissertation committee will approve the dissertation in final form.

DISSERTATION AND DISSERTATION CONTINUATION REGISTRATION

Upon successful completion of the PhD qualifying exam and the required coursework, the PhD candidate must register in two consecutive semesters for Dissertation Term 1 (EECE 9990) and Dissertation Term 2 (EECE 9991). Upon completion of this sequence, the student must register for Dissertation Continuation (EECE 9996) in every semester until the dissertation is completed. A student may not register for Continuation until he or she fulfills the two-semester sequence of Dissertation.

REGISTRATION REQUIREMENTS FOR PREDOCTORAL AND PHD CANDIDATE GRADUATE ASSISTANTS

The ECE department requires that predoctoral students and PhD candidates who hold research or teaching assistantships be registered full-time. Predoctoral PhD students may register for Research (EECE 9986) (zero credit, full-time equivalent) if needed to fulfill the registration requirement.

PHD PROPOSAL REVIEW

Each PhD candidate must demonstrate, by means of the proposal review, subject matter knowledge satisfactory for the award of the degree.

The proposal review is an oral presentation followed by a question-and-answer session administered by the student's dissertation adviser/committee. The proposal review will be given at the time the student submits his or her dissertation proposal to the dissertation adviser/committee for approval. As part of this exam, the dissertation adviser/committee will review the student's doctoral program and his or her performance in graduate courses, as well as examine the student on subject matter related to his or her graduate coursework and dissertation subject area.

FINAL DISSERTATION DEFENSE

The final dissertation defense will include the subject matter of the dissertation and significant developments in the field of the dissertation work. Other related fields may be included if recommended by the examining faculty. The dissertation defense must be scheduled at least six months after the PhD proposal review.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review (each fall semester after the student has been in the program for at least one year)
 Qualifying examination
 Dissertation committee
 Proposal stage review
 Dissertation defense

Core Requirements

Complete 32 semester hours of approved coursework—equivalent of MSECE degree. Then complete 16 semester hours, of which 8 must be graduate-level EECE courses. Consult your faculty research advisor for acceptable courses.

Dissertation

Code	Title	Hours
Complete the following two courses:		
EECE 9990	Dissertation Term 1	
EECE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
 Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review (each fall semester after the student has been in the program for at least one year)
 Qualifying examination
 Dissertation committee
 Proposal stage review
 Dissertation defense

Core Requirements

Complete 16 semester hours of approved coursework. At least 8 semester hours must be graduate-level EECE courses. Consult your faculty adviser for acceptable courses.

Dissertation

Code	Title	Hours
Complete the following two courses:		
EECE 9990	Dissertation Term 1	
EECE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

16 total semester hours required
 Minimum 3.000 GPA required