

# Department of Electrical and Computer Engineering

## Guidelines for PhD Program

Approved at the Department Council Meeting on October 25, 2024

This document provides internal guidelines for all PhD examinations except for the PhD thesis defence. Please refer to the Graduate Calendar for full regulations on the PhD thesis preparation and defence.

### **Courses in PhD Program:**

For graduation with a PhD degree in Electrical and Computer Engineering, the student should successfully complete 12 credits of courses and complete PhD examinations described below. Students are required to take at least two (2) courses from within the ECE Department, unless approved by the GPD based on the supervisor's request. External courses might be 3-credit courses. If there is a deficiency in the total number of credits for the coursework, the student is allowed to take 1-credit course or project.

### **PhD Examinations:**

For graduation with a PhD degree in Electrical and Computer Engineering, the student should successfully pass the comprehensive exam, the proposal exam, the doctoral seminar and the doctoral thesis defense. All these examinations require a written report and an oral defense. The membership of all the examination committees should be approved by the Graduate Program Director (GPD).

### **Comprehensive Exam:**

The comprehensive exam is for testing the students in the concepts of the research field and determining the ability of the student to perform research. PhD students are required to pass their PhD comprehensive exam within 16 months of their full-time studies. An extension may be granted based on the recommendation by the supervisor and the approval of the GPD.

### **Doctoral Research Proposal:**

PhD students are required to become PhD candidate by presenting their proposal for doctoral research and passing the proposal exam within 24 months of their full-time studies. An extension may be granted based on the recommendation by the supervisor and the approval by the GPD.

### **PhD Seminar:**

PhD seminar serves as a progress review for the PhD candidate. Students may register in the PhD seminar 4 months after becoming a PhD candidate. This seminar introduces students with research work of other PhD students as well. The ECE Department advertises PhD seminars among all ECE faculty members and students. Registered doctoral students in each term will be strongly encouraged to ask questions during the presentation sessions. At least one of the internal examiners and the supervisor attend the student's presentation and evaluate the student's progress.

### **Examining Committee Memberships:**

The examination committee for the comprehensive exam and the proposal exam should have at least one member as supervisor from the department, two members as internal examiners from the ECE Department and one examiner as external-to-the-program. Upon approval by the GPD, an affiliate professor or an external expert can serve on examination committee as an additional committee member with full voting rights but may not replace an internal or an external-to-the-program faculty member.

**Chair of the Examination Committees:**

For the comprehensive exam and the proposal exam, the supervisor is responsible to find a chair and introduce him/her to the GPD for approval. The chair of the exam must be an associate or a full professor. The chair may be an internal examiner (other than the supervisor), or another faculty member of ECE Department. The chair of the PhD Seminar is the thesis supervisor.

**Conflict of Interests:**

Any perceived conflict of interest between: (i) student and examiners and/or (ii) supervisor and examiners should be disclosed to the GPD prior to scheduling any of the examinations. Co-author(s) of work included in the thesis cannot serve as an examiner for that thesis except for the supervisor(s). There should be no conflict of interest between the external examiner and the thesis supervisor according to the regulations provided by the School of Graduate Studies.

**Affiliate Faculty Members:**

Affiliate faculty members of the department may co-supervise a PhD student but may not serve as an internal or an external-to-the-program examiner.

**Cross Appointed and Associate Faculty Members:**

Cross appointed and associate faculty members of the department may solely supervise a PhD student or may be an examiner external to the program but may not serve as an internal examiner.

**Time Limit:**

The nominal period for PhD studies is 4 years. Students are supposed to defend their thesis before being 6 years in the program. Students who cannot finish their PhD program within 6 years of full-time study from the time of original registration in the program, have to submit a request for time-limit extension. The request should include the progress of the student and detailed milestone for graduation which is approved by the supervisor. The students could ask for a 2-term extension for the 1st request, and a 1-term extension for the 2nd request.

**Supervision of students:**

As per the Graduate Calendar regulation, PhD students who do not have a supervisor will be withdrawn from their program. The Electrical and Computer Engineering Department allows PhD students to stay registered in the PhD program for 4 months in order to secure a new supervisor. In exceptional cases, an additional period of 4 months may be granted upon approval by the GPD if the student provides a valid justification.

**Direct entry to PhD:**

Direct entry to PhD is for undergraduate students with exceptional academic performance (CGPA of 3.9 or higher and strong research potential). Students with direct admission to PhD will need to take only three four-credit courses, like regular PhD students. However, the expected time to graduation and time limit for the program will be one year more than other PhD students (i.e., four years and five years, respectively). Admission is based on a recommendation by the supervisor and approval by the GPD and Associate Dean of Graduate Studies at GCS.

**PhD Fast-Track:**

Fast-tracking to PhD is for master's students (course-based or thesis-based) currently in the program (preferably the first year) demonstrating strong coursework performance (CGPA of 3.8 or higher) and research potential. Any course taken by the student during the first year of the master's program will count as part of the coursework requirement for the PhD program. Admission is based on a recommendation by the supervisor and approval by the GPD and Associate Dean of Graduate Studies at GCS.