

Information about the Computer Engineering PhD Program

Revised 2/12/2007

Be sure to follow Graduate School and Departmental rules. The following lists some of the required steps:

- a. Before the first and all subsequent registrations, receive advising from the advisor assigned to the student and draft a plan of study.
- b. In the first year, choose a permanent advisor in the research area and form a committee.
- c. Pursue the draft plan of study recommended by the committee.
- d. Prepare for and complete the Preliminary Examination.
- e. Develop a research proposal.
- f. Near the end of the coursework, prepare for the Qualifying Examination and prepare the research proposal presentation. Apply for admission to candidacy, and then take the Qualifying Examination and present the research proposal. Admission to candidacy may be recommended only when the student has successfully passed the Qualifying Examination, when the student's Supervisory Committee has approved the dissertation research proposal, and when the committee has approved the plan of study. Admission to candidacy is a prerequisite for EE 799 Dissertation Research.
- g. Complete the remainder of the coursework.
- h. Carry out the dissertation research and write the dissertation.
- i. Defend the dissertation.

Notes:

1. Students without a bachelor's degree related to Electrical or Computer Engineering Students having a bachelor's degree in a field not related to electrical or computer engineering are required to complete the listed prerequisite courses in the following areas, unless the student receives an exemption from the graduate program director based on presentation of adequate prior formal coursework or training.

- Programming Concepts (C, C++, or Java): EE 130
- Data Structures: EE 233
- Discrete Structures: EE 233
- Algorithm Analysis and Design: EE 130, EE 233
- Computer Architecture: EE 210, EE 337
- Probability and Statistics: EE 300
- Calculus: MA 125, 126, 227
- Linear Algebra: EE 300

2. The committee

The PhD "... committee should consist of at least five graduate faculty members, two of whom should be from outside the student's graduate specialization and each of whom should be able to bring some relevant insight and expertise to guide the student." Previous discussions with our graduate school have indicated that the required UAH faculty member

would count as one 'outside' member. Hence, the committee needs the fifth member to be from outside ECE.

3. The plan of study

The students and the advisor should complete a draft form (Plan of Study Comp Eng PhD.doc) for the Computer Engineering PhD plan of study before the first term of registration. As soon as possible, the committee should review and update the draft plan of study. The committee should approve and sign the plan of study at the Qualifying Examination. Once approved, the plan of study may be revised by having the committee sign a revised plan of study.

4. Credits more than seven years old.

"Credits more than seven years old may be used to satisfy Graduate School degree requirements only with the approval of the graduate committee program director and the Graduate Dean."

Suppose the PhD student received an MSEE some years ago. Some credits may be more than seven years old.

If the student wishes to use credits more than seven years old in their program of study, then please first form the committee, have the committee review the proposed plan of study, and have the committee write a brief justification of the use of credits more than seven years old and forward it to the Graduate program Director. In many cases the justification will be that the course material is essentially the same as it is now (as an example - random variables).

5. The Preliminary Examination

Students admitted to the doctoral program must pass a written Preliminary Examination testing the student's promise for successfully pursuing the Computer Engineering Ph.D. Program. The Preliminary Examination ensures that the candidate has a basic fundamental knowledge of electrical and computer engineering and adequate preparation to do doctoral level course work and research. A student must take this Examination after completing at least 24 semester hours, but not more than 42 hours of graduate work beyond the baccalaureate degree. For students entering the program with a master's degree in electrical or computer engineering, the Examination must be taken by the end of the third term of study. The graduate program director may grant a waiver to delay the Examination in some circumstances. If a student fails the Preliminary Examination, the examination may be repeated after a time lapse of at least three months. The Examination may be taken only twice.

Format. Questions cover advanced undergraduate and or first year graduate coursework, comparable to what might be included in the first year of an MS degree program. The format of the Examination is left to the discretion of the student's advisory committee. At least eight questions must be submitted for grading. At least three members of the student's advisory committee must participate by submitting questions for the Preliminary Examination.

6. The Qualifying Examination

Near the completion of the coursework but before the beginning of the dissertation research, the student should apply for admission to candidacy and take the Qualifying Examination. After the committee administers the written and oral parts of the Examination, the student should present and defend a formal dissertation research proposal. The committee should approve the plan of study at the time of the Qualifying Examination. Admission to candidacy may be recommended only when the student has successfully passed the Qualifying Examination, when the student's Supervisory Committee has approved the dissertation research proposal, and when the committee has approved the plan of study.