

Guidelines for PhD Qualifying Examination

General Exam Guidelines:

- The Ph.D. qualifying examination will be oral, and of 30 minute duration, and administered by a committee of 4 members of the EE faculty.
- A list of questions will be prepared by professors from each of 4 topic areas:
 - (1) *Circuit & Electronics*
 - (2) *Signals & Systems and Controls*
 - (3) *Semiconductor Devices*
 - (4) *Electromagnetics.*
- The list of questions will be posted on the EE's website at least 2 months prior to the exam date.
- Each student will be asked 4 questions, one from each topic, by the committee members.
- The questions will be randomly chosen by the students out of a pool of questions*.
- All questions will be within the breadth of Electrical Engineering knowledge and concepts taught in an undergraduate program. During the exam more in-depth (or specialized) concepts can be asked in the major area of research of the students.
- The exam will be given every major semester (Fall and Spring).

**The drawing will be made up of small pieces of paper with the number of a particular question written on it. There will be 4 jars of questions corresponding to each of the 4 sections.*

The Qualifying Examination Committee

- The committee will consist of 4 professors, one representing each area mentioned above.
- There will be a meeting of the Graduate Committee at the beginning of each semester to select the committee members.
- The committee will be rotated each semester as much as practicable.
- Each of the committee members will be given an evaluation form to evaluate each student.

The Process for Setting Up an Exam

- Ph.D. students should complete their qualifying exam within 3 semester of their enrollment.
- Each student will have 30 minutes to answer the 4 questions, which can either be conceptual or numerical, and might require some drawing and calculation.
- The exam is scheduled to be a one-day event, from 9:30 am to 5:30 pm.
- Students need to sign up to take the exam at the beginning of each semester. Each student will be assigned a time slot, in alphabetical order of their last names.

- Students will check in with Nat at the front office at least 15 minutes before their scheduled exam time. This will allow them to have time to draw their own questions and prepare for the answers.
- After the student get the questions, Nat will write down the question numbers on the students' evaluation forms and give them to the committee members prior to the exam, so that the committee has time to prepare and ask the questions.
- The committee members are expected to go over all the questions for their relevant sections before the exam to make evaluation process faster.

Evaluation Process

The oral qualifying examination is designed to evaluate the student's ability to integrate basic knowledge and concepts and to explore the student's understanding in Mathematics and Electrical Engineering problems. This will help the department determine if student is capable of carrying out advanced-level graduate research necessary to complete their PhD degree.

- Each student will be evaluated according to their responses to each of the 4 questions.
- Guidelines for an evaluation are as following:
 - An evaluation will be based on the major areas: knowledge of concepts, creativity & critical thinking skills, and oral (communication) skills.
 - The committee members should come up with a list of what they look for to test in each question.
- The committee will evaluate each student and write their comments on an evaluation form. The discussion among the committee will be done after each student leaves the exam room (during the 15 minute break). The results will be tabulated and each student will receive their results and feedback (recommendations) summary the next day after the exam.
- If the student passes, he/she will have to submit a PhD Qualifying Examination Verification Form to the Graduate School. If he/she fails, he/she will have one more chance to take the exam in the following semester.

Tentative Timeline

- April 24th: Exam Date
- April 25th: Result will be announced to the students.