Department of Electrical and Computer Engineering
Rules and Procedures for the Ph.D. Written Qualifying Examination

This document sets forth the procedures to be followed in creating, administering, and taking the Ph.D. Written Qualifying Examination (WQE), which constitutes the Doctoral Qualifying Examination for the Department of Electrical and Computer Engineering.

I. Responsibility for the WQE

Overall responsibility for the WQE rests with the EECE Graduate Committee. The committee determines the goals and form of the WQE, sets the level of performance students must achieve in order to pass, and reviews the results after each offering. Questions regarding the WQE should be directed to the committee through the Director of Graduate Studies (DGS).

The Ph.D. Written Qualifying Examination Committee is composed of the members of the Graduate Committee, the research advisors of WQE applicants and the department chair.

The EECE graduate office handles the registration of students for the WQE, distributes the “Preliminary WQE Topics and References” and the “Final WQE Topics and References” to those who have registered, maintains a file of study materials and sample exams for the students to use in their review and preparation, and reports the results of the WQE to the students.

II. General Structure of the WQE

1. The WQE is a ten-hour (maximum) closed book examination, administered in two parts.

2. Only basic scientific calculators are allowed during the WQE, with no formula or symbolic memory, matrix mathematics, or programming capabilities.

3. The WQE consists of four parts
a) the required EECE graduate courses, Mathematics and Methods in Engineering
and Random Variables and Stochastic Processes, (maximum 3 hours),
b) a selected major area (maximum 3 hours), and
c) two selected minors from the department approved list (maximum 2 hours each).

4. The questions will consist of problems from undergraduate curriculum, elective courses,
and first year graduate level courses.

5. The tentative topics, from which the WQE questions will be written, are listed in
“Preliminary WQE Topics and References”.

6. The “Final WQE Topics and References” will be distributed after the topics to be covered
in the WQE have been determined. Students will be advised on topics from each area
and on text materials needed for preparation.

III. Timetable and Procedures for the WQE

1. The WQE is given twice a year, the first one in August, and the second in January (before
the beginning of the Spring Semester).

2. At the beginning of each semester, graduate students who wish to register for the WQE at
its next offering should notify the DGS or EECE graduate office. Students who are
required to take the WQE at its next offering will be notified and registered
automatically. The graduate office will query all registered students for their selected
major and minor areas. Students must designate one major area and two minor areas in
accordance with their plans of study.

3. The Department Chair will select who writes the exam questions for each area, with
recommendations from the WQE committee. The names of faculty writing questions will
never be revealed to any students.
4. The DGS will collect the exam questions and solutions from fellow faculty no later than four weeks before the WQE date. Questions must be accompanied with solutions.

5. The EECE Graduate Committee will compile and review exam questions and solutions.

6. Following the offering of the exam, faculty who have composed the WQE questions must grade them within two weeks after the start of the semester. *Students will be informed of exam results within three weeks after the exam.*

**IV. Results of the WQE**

1. A passing grade is a total score of 75% or better with a weight of 30%, 30%, 20%, and 20% given to the required, major, and each of the two minor areas, respectively.

2. Doctoral students who pass the WQE may continue in the Ph.D. program and will be advanced to doctoral candidacy upon completion of residency and course requirements.

3. Doctoral students who fail the first WQE attempt must retake it at the next offering.

4. Doctoral students who fail the second WQE attempt will have their Ph.D. program terminated at the end of the current semester.

5. All students taking the Ph.D. WQE will be notified in writing of the results of the exam within 3 weeks after the exam.