

EECS PhD Comprehensive Examination Guidelines

EECS Graduate and Research Committee

Graduate students accepted in the EECS doctoral program may take comprehensive exam as early as the last semester of their coursework, and no later than one calendar year after completing their coursework. The students should select five courses; three of which are 'major' courses selected from one of the field listed below and the remaining two courses are 'non-major' courses selected from one of the other fields listed below. These exams will be given in THREE sessions as follows:

- i. Session I – Major courses selected from one field, Part 1
- ii. Session II – Major courses (the same as Session I), Part 2
- iii. Session III – Non-major courses selected from one of the other fields

Each session is constituted by **combination of the problems of assigned courses** (three courses for sessions I and II, and two courses for session III), and is designed so that every session includes **eight problems that six of them must be completed by students.**

The suggested fields and their corresponding coordinators are as follows:

1. Signal Processing
2. Robotics and AI
3. Engineering Mathematics
4. Electromagnetics and Optics
5. Communication Systems and Networking
6. Information Security
7. Computer Architecture and Parallel Systems
8. Theory of Computation
9. Computer Graphics and Visualization
10. Computer Systems and Software Engineering
11. Medical Informatics and Instrumentation

All selections (major and non-major) and any exception must be approved by the academic advisor and the Chairman of the EECS Department. The fields are described below, and suggested lists of courses are specified for each field. These changes are effective for newly admitted/transferred Ph.D. students after the **Fall semester 2011**.

EECS Ph.D. COMPREHENSIVE EXAMINATION REGULATIONS

1. Graduate students accepted in the EECS doctoral programs should follow the academic regulations for doctoral degrees posted on the university web page.

<http://policies.cua.edu/academicgrad/doctoralfull.cfm>

2. Total of 54 credit hours coursework is required for the doctoral study. Up to 24 credit hours of graduate work earned at another institution in which the student received a grade of B or better may be applied toward course requirements for the doctoral degree upon recommendation of his/her academic advisor. The eligible credit hours must be officially transferred before the Ph.D. comprehensive examination.

3. Graduate students accepted in the EECS doctoral programs may take the comprehensive examination as early as the last semester of their coursework, and no later than one calendar year after completing their coursework.

4. The student initiates the process of the Ph.D. comprehensive examination by meeting with his/her academic advisor. Together, the student and his/her academic advisor will select five courses: 3 major courses and 2 non-major courses. The selected courses must be approved by the student's academic advisor and by the department chair before he/she can take the comprehensive exam.

5. Students must pass all three written examination sessions in order to pass their PhD comprehensive examination. Students who fail in any one of the three sessions may retake the whole examination within the next calendar year. Students who fail the comprehensive examination twice will be dismissed from the program.