
4.6 Candidacy Examination

4.6.1 Purpose

The purpose of the Candidacy Examination is to evaluate the student's capability to synthesize and integrate material as applied to the research focus area. It is expected that the student demonstrates a certain breadth of knowledge and is able to apply this knowledge to a problem.

4.6.2 Eligibility

The student must have

- filed a formal Program of Study and
- completed the courses recommended by the focus area

before registering for the exam. Usually, the student will register for the Candidacy Examination before the end of the second year of study.

4.6.3 Required Action

The candidate must complete and submit a *Request for Candidacy Examination Form* (see Appendix B, P. B-10) to the Program Coordinator no later than 30 days before the scheduled examination. The dissertation advisor and Program Director must sign this form.

4.6.4 Examination Format

The exam contains a written part followed by an oral part, usually taken within a three-week period of each other. Each focus area has its own specific format on how to administer the two parts of the Candidacy Examination and who is responsible for these parts. The details for each focus area are outlined in subsection 4.6.7.

4.6.5 Examination Outcome

The following outcomes are possible:

- pass
- repeat exam or part thereof after strengthening specific areas of weakness
- fail

The deliberations and vote concerning the outcome of the exam take place immediately following the oral exam. The examination outcome requires a 2/3rd majority of all members of the

examination committee for pass and fail. Any other vote results in a repeat of the exam or part thereof.

When the Candidacy Examination is completed, a *Record of Candidacy Examination Form* (see Appendix B, p. B-14) is signed by all members of the examination committee and forwarded to the Program Coordinator.

4.6.6 Repeat of Candidacy Examination

If the outcome of the first Candidacy Examination was “repeat exam or part thereof after strengthening specific areas of weakness,” the student may submit another request for a Candidacy Examination. This request is to be submitted no earlier than three months and usually no later than six months after completion of the first attempt. Only one repeat of the Candidacy Examination is permitted.

4.6.7 Specific Focus Area Guidelines

4.6.7.3 Electronics, Microwave, VLSI, and Nanotechnology

The Candidacy Exam will be administrated over the course of one business week. The selected topic area will be tested through a combination of written and oral components.

4.6.7.3.1 Examination Committee

The examination committee will consist of a team of three program faculty.

4.6.7.3.2 Examination Deadlines

A student must take the Candidacy Exam no later than one year after completion of his or her core courses and major course work in the Ph.D. program. The examination team of three program faculty must approve the selected courses for the exam at least two months prior to the date of the Candidacy Exam (see Section 4.6.7.3.3 below).

4.6.7.3.3 Examination Content

The Candidacy Exam consists of both written and oral components and will cover one of three topic areas taken from the list below. A candidate must take and pass exams in one of these three areas to pass the Candidacy Exam.

1. Microwave
2. Power Electronics
3. VLSI

The Candidacy Exam is intended to ensure that the Ph.D. candidate has sufficient understanding and background knowledge in the area of specialization. The advisor and the student will define the scope of the exam by selecting at least 3 courses from the list of major area courses in the

student's Program of Study. The examination team of three program faculty must approve the selected courses for the exam at least two months prior to the date of the Candidacy Exam.

4.6.7.3.4 Written Exam

The written component will consist of a minimum of 3 questions and will be prepared and approved by the examination team of three program faculty. The written component will be take-home exam, with a period of one week for completion.

4.6.7.3.5 Oral Exam

The examination team of three faculty members will also administer the oral component. The oral component will commence following the written component, which will provide the examination team with an opportunity to review the student's written responses. The examination committee will determine the outcome of the exam based on simultaneous consideration of both the written and oral components.