

**GUIDELINES FOR DOCTORAL STUDENTS
DEPARTMENT OF MECHANICAL ENGINEERING
THE UNIVERSITY OF AKRON**

September 2001

Initial Procedures

The Department Head will act as the faculty adviser for all incoming doctoral students, unless the student has already chosen a faculty adviser upon arrival. Graduate students entering with non-engineering degrees will be assigned to a graduate committee that will determine appropriate bridge-up courses. The bridge-up courses must be completed satisfactorily in addition to the doctoral course requirements. Within the first year of graduate study, the doctoral students will identify a faculty adviser, who will oversee that doctoral degree requirements are met.

Doctoral Degree Requirements

The University's and College of Engineering's Requirements for the Doctoral Degree and the following Mechanical Engineering academic requirements for the Doctoral Degree must be satisfied:

- Pass a departmental Qualifying Examination. The purpose of the qualifying examination is to determine admissibility to the doctoral program and any technical weakness.
- Identify an interdisciplinary field of study, a dissertation director, and an Interdisciplinary Doctoral Committee before completion of 18 credits of course work.
- Complete a formal Plan of Study that is acceptable to the Interdisciplinary Doctoral Committee. The Plan of Study must have at least 42 credits at the 600 and 700 level. The minimum total credit hours for the doctoral program is 96 credit hours.
- Satisfy the language requirement specified by the Interdisciplinary Doctoral Committee.
- Pass a Candidacy Examination. The purpose of the candidacy examination is to test the student's ability to conduct independent research.
- Present an acceptable Dissertation Proposal that describes the proposed research to the Interdisciplinary Doctoral Committee.
- Present and successfully defend the dissertation to the Interdisciplinary Doctoral Committee.

Qualifying Examination

The student must pass a Qualifying Examination before the Dissertation Director, the Interdisciplinary Doctoral Committee, and the courses for the Plan of Study are selected. The objective of the Qualifying Examination is to determine if the student has sufficient engineering background to qualify for doctoral studies. The Qualifying Examination must be taken by all first year graduate students. It is given in the spring semester of each academic year and consists of three examinations in Mathematics and six examinations in Mechanical Engineering (or in an area that is closely related to the candidate's field of study).

If the student fails the Qualifying Examination, the student may petition the Qualifying Examination Committee for a re-examination. One re-examination is permitted. If the student fails the second Qualifying Examination, the Dean of the College of Engineering shall forward the results of the Qualifying Examination along with the recommendation that the Dean of the Graduate School dismiss the student from the doctoral program in the College of Engineering.

Dissertation Director

After passing the Qualifying Examination, the student selects a Dissertation Director. Any graduate student who does not select a Dissertation Director in the first year of doctoral study may be dismissed from the doctoral program and, if on assistantship, shall not receive further assistantship support.

Interdisciplinary Doctoral Committee

After choosing the Dissertation Director, an Interdisciplinary Doctoral Committee is formed. The Interdisciplinary Doctoral Committee shall consist of a minimum of five full-time faculty members with a minimum of three from the College of Engineering and at least one from outside the College of Engineering.

Of the three members from the College of Engineering, one must be from a department different from that of the Dissertation Director and all three must have attained that graduate faculty status, as specified by the Graduate School, which permits the direction of doctoral students. The member from outside the College of Engineering must also have a status on the graduate faculty which allows him/her to direct doctoral dissertations. This member is selected so as to be maximally beneficial to the student in the design and conduct of the research, providing a perspective from a related discipline.

Any graduate student who does not form an Interdisciplinary Doctoral Committee in the first year of doctoral study may be dismissed from the doctoral program and, if on an assistantship, shall not receive further assistantship support.

Plan of Study

After consultation with the Dissertation Director, the doctoral student shall formally present a Plan of Study to the Interdisciplinary Doctoral Committee for recommendations and acceptance. The courses listed on the Plan of Study constitute the individualized curriculum that the doctoral student must satisfy to meet the course requirements for the doctoral degree. Since the Plan of Study is individualized, it may contain more credits than the minimum specified in the doctoral degree requirements.

Any graduate student who does not have an approved Plan of Study in the first year of doctoral study may be dismissed from the doctoral program and, if on an assistantship, shall not receive further assistantship support.

Credit Requirements

The Plan of Study must have at least 42 credits at the 600 and 700 level. The minimum total credit hours for the doctoral program is 96 credit hours.

Language Requirement

The Interdisciplinary Doctoral Committee may require the student to demonstrate proficiency in a foreign language. Demonstration of competence in appropriate research skills may serve as a substitute for the foreign language requirement.

Candidacy Examination

A Candidacy Examination is prepared and administered by the Interdisciplinary Doctoral Committee. The Interdisciplinary Doctoral Committee may combine the Candidacy Examination and the Dissertation Proposal as it sees fit.

If the doctoral student fails the Candidacy Examination, the doctoral student may submit a written petition to the Interdisciplinary Doctoral Committee for a re-examination. If the Committee concurs with the student's petition, then one re-examination is permitted within the time period specified by the Interdisciplinary Doctoral Committee.

If the Interdisciplinary Doctoral Committee rejects the petition for re-examination, or the student fails the re-examination, then the Dissertation Director shall notify the Dean of Engineering, in writing, that the student has failed the Candidacy Examination. The Dean of Engineering shall recommend to the Dean of the Graduate School that the student be dismissed from the doctoral program in engineering.

Dissertation Proposal

The Dissertation Proposal is a written description of the proposed research and should include a review of the previous work in this area, the significance of the investigation, the objectives, the methodology, and the expected results. The Interdisciplinary Doctoral Committee will also evaluate the doctoral student's ability to communicate the results of the investigations. The Interdisciplinary Doctoral Committee will give written recommendations on the dissertation proposal to the doctoral candidate.

Dissertation and Oral Defense

The dissertation and oral examination must be approved by the Interdisciplinary Doctoral Committee before the dissertation can be submitted to the Graduate School.

The doctoral candidate distributes complete, but preliminary, copies of the dissertation to each member of the Interdisciplinary Doctoral Committee at least two weeks prior to the Dissertation Defense. The doctoral candidate then makes an oral presentation of the dissertation. The Interdisciplinary Doctoral Committee evaluates the presentation, and examines the candidate to determine that the investigations meet scholarly standards that are appropriate for the doctorate degree. At the end of the final defense, all committee members are polled for their vote on the defense and the dissertation. No fail votes are allowed for the student to pass. A form is sent to the Graduate School indicating that the defense has been held and that the student has passed or failed.

The doctoral candidate incorporates any recommendations and corrections of the Interdisciplinary Doctoral Committee into the dissertation and prepares the final draft of the dissertation. Five copies of the completed and signed dissertation are required; two for the Graduate School, one for the department, one for the Dissertation Director, and one for the doctoral candidate. The five required copies of the dissertation are submitted to the College of Engineering for approval by the Dean of the College of Engineering.