

Graduate Program Policies for Ph.D Degree

1. Introduction

The Graduate School Policy Manual and the University Catalog detail the rules that apply to the university as a whole with regard to graduate programs, as well as departmental-specific requirements. The manual and the catalog are available on the Internet at <http://www.fit.edu/>. The purpose of this document is to describe these policies as they relate to the Aerospace Engineering graduate programs and to make clear the departmental policies and procedures specific to the program.

2. Ph.D. in Aerospace Engineering

The doctor of philosophy degree program is offered for students who wish to carry out advanced research in any of the areas of specialization listed under the AE master of science program in the University Catalog. The degree is conferred primarily in recognition of creative accomplishment and the ability to investigate scientific or engineering problems independently, rather than for completion of a definite curriculum. The program consists of advanced studies and research leading to a significant contribution to the knowledge of a particular problem. The student may be expected to publish his/her work in scientific journals and international conferences before graduation.

2.1 Committee

At least 90 days prior to the comprehensive examination (see below) each student shall form a committee consisting of at least four members of the Graduate Faculty, and at least three of which, including the student's advisor, must be approved for doctoral-level advising. One member of the committee is the student's research advisor (who will chair the committee) and one other member must be from outside the MAE department. The remaining two members of the committee must be from within the MAE department. Additional persons may be committee members, provided they are members of the Graduate Faculty. An approval from the Office of the Graduate Programs is required if any person from outside the Graduate Faculty needs to be included in the committee.

1.2 Degree Requirements

To earn a Ph.D. degree in aerospace engineering, the student must complete *at least* 72 semester credit hours beyond the bachelor's degree, or *at least* 42 semester credit hours beyond the master's degree. The 42 credit hours beyond the master's degree are broken down as follows:

Coursework	18 credit hours (minimum)
Dissertation	24 credit hours (minimum)

The distribution of courses between the student's specialization and electives shall be determined by agreement between the student and the advisor, and approved by the committee. It will be up to the student's advisor and committee to determine whether

additional coursework and/or dissertation credit hours are needed to satisfactorily complete the degree program. Once the student begins registering for dissertation, he or she *must* register for dissertation in each successive semester (including summer) unless the student obtains a signed waiver for each semester that he or she does not register for dissertation and submits it to Office of Graduate Programs.

2.3 Program Plan

Prior to the completion of nine credit hours, the student must submit for approval a doctoral degree program plan to indicate the path chosen and the specific courses to be taken. This program plan is completed in consultation with the student's advisor, and with approval from the committee.

2.4 Comprehensive Exam

The purpose of the comprehensive examination is to cover the student's major field of study and related fields important to the major field. The examination is given when, in the judgment of the student's committee, the student has had sufficient preparation in his or her field of study by completing significant coursework. The first version of the comprehensive exam is *written*. It is to be prepared by the student's committee. Each committee member will author one portion of the exam. The student should be prepared to answer questions based on courses the student has taken as part of his or her degree program as approved by the committee. The student should also be prepared to answer questions of a fundamental nature, which might be *prerequisite* to the graduate courses mentioned earlier. Individual questions may be opened-book or closed-book, at the discretion of the author of the question. If the student passes the written portion of the exam, the student will schedule a meeting with his or her committee to allow the committee members to follow up with the oral portion of the exam. The oral portion of the exam must be scheduled at least two weeks prior to the exam date, and passed at least one year before the degree is conferred. Any dissertation credits taken prior to the comprehension exam will not count towards the minimum 24 dissertation credit requirement for graduation.

There are two possible outcomes to the comprehensive examination:

- Pass. The student must have unanimous approval from the committee.
- Fail. If the student fails, he or she may, at the discretion of a majority of the committee and after a suitable period of additional study, be given *one* opportunity to retake the examination. If the student fails the examination a second time, the student will not be admitted to candidacy, effectively ending his or her Ph.D. program.

2.5 Research Proposal Presentation

Upon successful completion of the comprehensive exam, the student must present to his or her committee a proposal for the research he or she plans to conduct. The committee must agree that the proposed research is of doctoral quality. Once the proposal is approved, the student will be admitted to candidacy, provided the student has an overall grade point average of 3.2 or greater.

2.4 Dissertation

The culmination of the research project is a written dissertation. The written dissertation must adhere to strict formatting guidelines that can be obtained from the Office of Graduate Programs. The student must provide five copies of the dissertation for binding to the Office of Graduate Programs. The student is responsible for printing and binding charges.

2.5 Dissertation Defense

The student must present their work to his or her committee during a two-hour defense. The defense must be scheduled at least two weeks before it is given to allow for room scheduling and to announce it to the entire Graduate Faculty and the committee. The defense may not be scheduled during the final week of classes nor during final exam week. Only members of the Graduate Faculty and/or committee may be present during the defense period. Prior to the defense, the student is expected to provide a draft copy of his or her dissertation to each member of the committee, allowing enough time for the committee members to read it and make comments. During the defense, the committee may ask the student questions about the research during or after the presentation. The committee may also request changes to the written dissertation. Upon successfully passing the defense to the satisfaction of all committee members and making all needed changes to the dissertation, each committee member and the MAE department head will sign the signature page in the dissertation. The dissertation (and all copies) are then presented to the Office of Graduate Programs for binding.