



FREDERICK UNIVERSITY

School of Engineering and Applied Sciences

**PhD in Engineering
Regulations**

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Table of Contents

1. Introduction:.....	2
2. Program Bodies:.....	2
2.1 Doctoral Studies Committee:.....	2
2.2 Academic/Research Advisor:.....	3
2.3 Research Proposal Committee:.....	3
2.4 Doctoral Dissertation Committee:.....	4
3. Admission to the Program:	4
4. Program Structure:	5
4.1 Graduate Level Coursework:.....	7
4.2 PhD Qualifying Exam:	8
4.3 Research Proposal:.....	8
4.4 Doctoral Dissertation:	9
4.5 Dissertation Defense:	10
4.6 Paper Publications:.....	11
4.7 Graduate Seminars:	11

1. Introduction:

The highest academic degree in Frederick University is the doctor of Philosophy (PhD). The doctorate is awarded upon the completion of a program of advanced study, principally at the University, and the performance of significant original and innovative research work.

Frederick University's PhD in Engineering is supported and delivered by the four departments within the School of Engineering and Applied Sciences.

2. Program Bodies:

2.1 Doctoral Studies Committee:

The PhD program is overseen by the Doctoral Studies Committee. This is a five member committee appointed by the Board of the School of Engineering and Applied Sciences among the associate professors and the professors of the faculty members of the School. Each of the four departments of the School is represented by at least one member in the Doctoral Studies Committee. One of the five members is appointed by the Board of the School as the chairman of the committee who also acts as the Coordinator of the doctoral program. The tenure for the members of the Doctoral Studies Committee is two years.

The Doctoral Studies Committee has the overall responsibility of the quality assurance of the doctoral program. The Doctoral Studies Committee:

- (a) approves the regulations concerning the doctoral program of the School,
- (b) decides on the number of new admissions to the doctoral program,
- (c) decides, in consultation with the Department Boards, to the School Board the candidates to be admitted to the doctoral program,
- (d) assigns the academic advisors and approves the research advisors for doctoral students,
- (e) approves transfer credits or exemptions for new students,
- (f) approves the members of the Research Proposal Committee and the Doctoral Dissertation Committee, and

- (g) recommends to the Senate the award of the PhD degree to successful doctoral students.

2.2 Academic/Research Advisor:

Upon admission to the doctoral program, a student is assigned an Academic Advisor by the Doctoral Studies Committee. The academic advisor is a faculty member of the School from a discipline related to that of the student. The academic advisor advises the student on his/her academic plan, prior to the selection of the Research Advisor.

Before the end of the first academic year, each doctoral student must find a Research Advisor who will act as his/her permanent academic advisor. The research advisor can be the same person as the academic advisor. The research advisor must be an associate professor or a professor from the same area of research as the area of the dissertation of the student. The research advisor is approved by the Doctoral Studies Committee in consultation with the student and the suggested research advisor. The research advisor oversees the research work of the student and provides him/her with the appropriate guidance.

In the case that the research advisor leaves the University, he/she can continue act as the student's research advisor. In this case another faculty member is assigned by the Doctoral Studies Committee as a research co-advisor.

2.3 Research Proposal Committee:

Each student is assigned a Research Proposal Committee by the Doctoral Studies Committee, in consultation with the student's Research Advisor. This is a three-member committee that approves the research proposal of the student. The Research Proposal Committee consists of the student's research advisor, who acts as the chair of the committee, and two other members with extensive knowledge in the research area of the dissertation of the student. One member of this committee can be a faculty member of another university or research institution, or a qualified PhD holder. At least one of the three members of the committee must have successfully supervised PhD students in the past.

2.4 Doctoral Dissertation Committee:

This is a five-member committee proposed by the Doctoral Studies Committee in consultation with the student's research advisor, and approved by the Board of the School. This committee evaluates the dissertation of the student, and if successful, reports to the Doctoral Studies Committee for the recommendation of the PhD award. The Doctoral Dissertation Committee must be formed at the beginning of the final year of the student, and at least three months before the submission of the doctoral dissertation of the student.

The Doctoral Dissertation Committee must be comprised of three members from the faculty of the School, including the student's research advisor, and two external members from other universities, research institutions or qualified individuals. The external members must be PhD holders with extensive knowledge in the research area of the dissertation. The chairman of the committee is a faculty member of the School, other than the student's research advisor. The three members of the student's Research Proposal Committee can also be members of the Doctoral Proposal Committee.

3. Admission to the Program:

Admission to the doctoral program is done after the announcement of the position by the Board of the School. New PhD positions must be published in local and international press. Eligible applicants must hold a university degree granted by an institution recognized in the country where it operates. The degree must have been judged as equivalent to a University degree by the Cyprus Council for Recognition of Higher Education Qualifications. Applicants who do not hold their first degree at the time of application, but will hold such a degree before the commencement of the graduate program, are also eligible to apply but must submit a letter from their University's Registrar verifying that they are indeed eligible to graduate. The decision on their admission does not become official until the degree has been successfully produced.

Each application for admission should include:

- A cover letter clearly stating the graduate degree the candidate wishes to apply for.

- A completed application form.
- A Curriculum Vitae indicating the student's education, academic and research experience, any publications, awards, etc.
- A short statement (at most two pages long) stating the reason the candidate wishes to join the program, the candidate's professional and research experience, future goals, etc.
- At least two letters of recommendation from academic or professional advisors.
- Copies of up to three representative publications, if any.
- Copies of all degrees and transcripts.
- Copies of any other supporting material, such as exams, honors, awards, etc.

The application material must be submitted in English. The criteria for the evaluation of the candidates are the following:

- Academic background
- Research background
- Recommendation letters
- Additional qualifications

Good knowledge of the English language is required.

4. Program Structure:

The doctoral program is based on the European Credit Transfer and Accumulation System (ECTS). To be awarded the PhD degree, the student must complete at least 240 ECTS credits of graduate level coursework, research work, and seminar attendance. The normal duration of the program is four years. The minimum time for the completion of the program is three years, while the maximum is eight years.

The program consists of graduate level coursework and research work. The requirements for the successful completion of the doctoral program and the award of the PhD degree in Engineering are the following:

- (a) Successful completion of 60 ECTS credits of graduate level coursework.
- (b) Passing the PhD qualifying exam.
- (c) Approval of the doctoral dissertation proposal.
- (d) Writing of a doctoral dissertation.
- (e) Successful defense of the doctoral dissertation.
- (f) Participation to research seminars including research talks and conferences.
- (g) Submission of at least two papers, preferably published in refereed international journals or conferences. At least one paper must be presented in a refereed international conference.

The graduate level coursework includes the attendance and successful completion of graduate level courses. These courses are individually assessed, with the student assigned a letter grade (A, B, C, D, E or F). The research work modules are assessed and graded with a Pass (P), a Fail (F), or a Satisfactory Work /Work-in-Progress (SP) letter grade. The dissertation is graded by the Dissertation Committee as Excellent, Very Good, Good or Fail.

The program structure is depicted in the table given below.

Program Structure

Semester 1	ECTS	Semester 2	ECTS
Graduate Level Courses	30	Graduate Level Courses	30

Semester 3	ECTS	Semester 4	ECTS
EAS601 - Research Methods I	7	EAS602 - Research Methods II	7
EAS61X – Advanced Topics I	7	EAS62X – Advanced Topics II	7
EAS701 - Research Planning I	12	EAS703 - Research Planning II	12
EAS702 - PhD Qualifying Exam	2	EAS704 - Research Proposal	2
EAS710 - Graduate Seminar I	2	EAS711 - Graduate Seminar II	2

Semester 5	ECTS	Semester 6	ECTS
EAS721 - Graduate Research I	26	EAS723 - Graduate Research II	26
EAS722 – Paper Preparation I	2	EAS724 - Paper Submission I	2
EAS712 - Graduate Seminar III	2	EAS713 - Graduate Seminar IV	2

Semester 7	ECTS	Semester 8	ECTS
EAS731 - Dissertation Writing I	26	EAS733 - Dissertation Writing II	26
EAS732 – Paper Preparation II	2	EAS734 - Paper Submission II	2
EAS714 - Graduate Seminar V	2	EAS715 - Graduate Seminar VI	2

4.1 Graduate Level Coursework:

During their first year, doctoral students are required to attend graduate Masters-level courses of at least 60 ECTS credits. Furthermore, doctoral students need to attend Doctorial-level courses of at least 28 credits. These include two courses in Research Methods (EAS601 and EAS602) and two courses in Advanced Topics (EAS61X and EAS62X). Courses in Advanced Topics can be replaced by directed independent study courses, after the approval of the student's academic advisor. Students may also replace the Advance Topics courses with graduate level courses offered by other accredited universities.

Students with a Masters degree in a field related to their dissertation can be fully or partially exempted from the graduate Master-level coursework requirement. Transfer students with graduate studies who did not complete a Masters degree, may also transfer to the doctoral program up to 30 ECTS credits. Transfer credits or exemption from this graduate level coursework requirement is subject to the approval of the Doctoral Studies Committee.

To satisfy the requirements of the graduate level courseware, a student must obtain a Cumulative Grade Point Average (CGPA) of 7.50/10 or above. A student with a CGPA less than 7.50 will need to repeat part of the graduate level coursework in order to improve his/her CGPA.

4.2 PhD Qualifying Exam:

The purpose of the PhD Qualifying Exam is to ensure that the student has the required background knowledge as well as specialized knowledge to conduct research in his dissertation area and to cope with the requirements of the doctoral program.

Students must register for the PhD Qualifying Exam (EAS702) during the semester that follows the completion of the graduate level coursework. Students who hold a Masters degree and are fully exempted for the graduate level coursework must register for the PhD Qualifying Exam (EAS702) during their first semester in the program.

With the registration of the student in the PhD Qualifying Exam, his/her research advisor forms a three-member Qualifying Exam Committee in a manner similar to the used for the Research Proposal Committee. The qualifying exam committee must meet with the student, at least three months before the date of the qualifying exam, to define the content of the qualifying exam and specify the reading material. Such reading material could be chosen from undergraduate or graduate courses, texts and any other material considered important for the student's general area of research.

A student who fails the PhD Qualifying Exam is permitted a second and final examination at a date, within the semester that follows the semester of the first examination, decided by the Qualifying Exam Committee. Failure at the second examination will result in the permanent removal of the student from the doctoral program.

4.3 Research Proposal:

A student who passes the PhD qualifying exam can register for the Research Proposal (EAS704). A student must present to the Dissertation Proposal Committee a written dissertation proposal stating the proposed research work. The proposed research work must be original, innovative and will lead to new scientific knowledge. The proposal should also include the expected results and contributions, a complete review of the current state on knowledge in the

research area of the proposal, as well as any results already achieved and the methodology to be used.

The written proposal must be given to the Dissertation Proposal Committee members at least two weeks prior to the presentation of the proposal. The proposal presentation will be an oral presentation of the written statement by the student, and then a period in which he/she will be questioned on the proposal by the Proposal Committee. The presentation part of the proposal should not exceed 60 minutes.

Any student whose proposal is considered unsatisfactory will be invited to make any necessary changes and present the proposal at a later date specified by the Committee. Students will only be allowed to continue their research provided their proposal has been found acceptable. The proposal is approved by the Doctoral Studies Committee, after the recommendation of the Dissertation Proposal Committee.

4.4 Doctoral Dissertation:

The doctoral dissertation must include significant research findings in current scientific and/or technical topics through basic and/or applied research, which will lead to new scientific knowledge. The basic/applied research must be original, innovative, and of high academic caliber so that it can be judged acceptable for publication in internationally recognized academic conferences and journals.

Once the dissertation is ready, the Research Supervisor and student must submit a Doctoral Dissertation Submission request to the Doctoral Dissertation Committee. Three weeks prior to the defense date, the student must provide the title, abstract, short biography, and list of conference and journal publications and presentations to the School's secretary, for circulation around the university community. At least two weeks prior to the defense date, the student must provide copies of the doctoral dissertation to each of the member of the Doctoral Dissertation Committee.

4.5 Dissertation Defense:

The student must defend the scientific research findings and the quality of his/her doctoral dissertation during an oral defense which takes place before the Doctoral Dissertation Committee, and is open to the public.

The procedure for the defense comprises of three stages:

- An oral presentation of the dissertation in an open lecture lasting 30-45 minutes, with additional time available for questions from the public.
- Closed discussion of the dissertation between the student and the members of the Doctoral Dissertation Committee.
- Meeting of the Doctoral Dissertation Committee to make its final deliberation.

In case the Doctoral Dissertation Committee deems the defense satisfactory, it submits to the Department Council a written substantiated proposal, including, when appropriate, the suggestions to the student, for approval. Upon such approval, all necessary material is forwarded to the University Senate for ratification of the Ph.D. degree. The members of the Doctoral Dissertation Committee must sign the approved dissertation and submit to the School two original copies, one for the School records and one for the Library. An electronic version of the thesis in PDF format will also be submitted by the student for keeping in the Schools records and for dissemination.

In case the Doctoral Dissertation Committee proposes modifications, the final University Senate approval is given after a written assurance by the student's Research Advisor that the modifications have been carried out.

In the case of rejection of the dissertation, the Ph.D. candidate is entitled to ask for a repetition of the defense procedures for at most one more time. The terms of resubmission of the dissertation are set out in writing by the Doctoral Dissertation Committee.

4.6 Paper Publications:

The research work of the student must be published in at least two international refereed conferences or journals. A student satisfies this requirement with either the publication of the paper or the notification of acceptance. At least one of these papers must be presented in an international refereed conference.

4.7 Graduate Seminars:

Throughout their doctoral studies, students are required to attend research/scientific seminars, talks and conferences. This is achieved through the six Graduate Seminar courses (EAS710 to EAS715). To satisfy the requirements of each one of these courses the student must attend at least three talks, with a minimum of 24 talks for all six courses. One-day seminars count as two talks, while conferences count as two talks per day. Furthermore, a student is required to present his research work in at least one seminar series organized by the School.