

MARQUETTE UNIVERSITY  
DEPARTMENT OF ELECTRICAL AND  
COMPUTER ENGINEERING

GRADUATE STUDENT  
HANDBOOK

OLIN ENGINEERING, ROOM 206  
P.O. BOX 1881  
MILWAUKEE, WI 53201-1881

January 2025

## TABLE OF CONTENTS

I.	INTRODUCTION .....	4
II.	GRADUATE STUDENT CLASSIFICATIONS .....	5
A.	Academic Status .....	5
B.	Admission Status .....	5
III.	GENERAL REQUIREMENTS.....	5
A.	Academic Load.....	5
B.	Course Designations .....	5
C.	Required Courses.....	5
D.	Department Colloquium .....	5
E.	Independent Study and Seminar Courses .....	6
F.	Undergraduate Students in Graduate Courses .....	6
G.	Continuous Enrollment.....	6

1.	Educational Background	13
2.	Application for Admission	13
B.	Program Requirements .....	14
1.	Course Requirements	14
2.	Doctoral Program Planning Form	15
3.	Doctoral Written Qualifying Examination	16
4.	Doctoral Committee Membership	16
5.	Doctoral Dissertation Outline and Proposal	16
6.	Final Examination	17
7.	Dissertation Document	17
8.	Graduate School Requirements	17
C.	Time Limitations .....	17
VII.	GRADING AND EVALUATION OF PERFORMANCE .....	17
A.	Grading System .....	17
B.	Academic Review .....	18
C.	Appeals .....	18
D.	Grade Appeals .....	18
E.	Academic Dishonesty .....	18
VIII.	FINANCIAL AID .....	18
A.	Scholarships.....	19
B.	Fellowships.....	19
C.		

## I. INTRODUCTION

The purpose of this handbook is to summarize and explain the various procedures, policies, and requirements as they apply to graduate students in Electrical and Computer Engineering (EECE). While much of the material presented here duplicates information available on the Marquette University Graduate School Website (*Graduate School Bulletin*), it is not intended that this handbook replace the information in the Graduate School *Bulletin*. Rather it is hoped that it provides a convenient and concise statement of the numerous procedures specifically as they apply to Electrical and Computer Engineering students.



## **E. Independent Study and Seminar Courses**

Independent study courses (EECE 6995 Independent Study) may be offered on occasion from individual faculty members. Independent study courses must be approved in advance using the *Approval for Independent Study Course 6995* form and an *Independent Study Course Contract (EECE 6995)* form. Students taking EECE 6995 courses must have a grade point average of at least 3.25 and a minimum of 6 completed credit hours at Marquette. Approval is required in advance from the course director, the student's advisor, and the DGS.

Independent study courses must be curricular in nature, covering specific material not available within existing courses. Independent study courses are specifically *not* allowed for research activities and experimental work.

Similarly, research seminar courses (EECE 6953 Research Seminar) may be offered on occasion from individual faculty members.

The total number of independent study (EECE 6995), research seminar (EECE 6953) credits and Cooperative Education (EECE 8986) that may be applied to one student's degree program(s) is limited to a maximum of 6 credit hours in the M.S. Plan A (Thesis option) program, a maximum of 6 credit hours in the Ph.D. program, and an overall maximum of 9 credit hours total for a combined M.S./Ph.D. program. Students in the M.S. Plan B (Course option) program cannot apply independent study or research seminar credits toward their degree program.

## **F. Undergraduate Students in Graduate Courses**

An undergraduate senior may, with appropriate permissions, register for a 5000-level graduate course for either undergraduate credit or future graduate credit. Refer to the Marquette University *Graduate Website* for details on obtaining approval.

## **G. Continuous Enrollment**

All graduate students admitted to a degree program must be continuously enrolled each semester (except summer sessions) to maintain graduate student status. Students are advised to consult with their advisors and the Marquette University *Graduate Website* for continuous enrollment processes and appropriate course designations.

## **H. Grade Point Average**

no grade less than a C. These courses are not used to meet regular degree requirements and are not included in graduate grade point average calculations, but their completion is necessary to be eligible for graduation.

**J.    Graduat1.0T/F4 14.0 Tf1 00 10.74 632.0 Tm00Gpn/F4 14.0 Tf1 00 133.22 6**





- (1) A completed application form and fee.
- (2) Transcripts from all current and previous colleges/universities, except Marquette.
- (3) Three letters of recommendation.

The total number of independent study (EECE 6995), research seminar (EECE 6953) and Cooperative Education (EECE 8986) credits that may be applied to one student's degree program(s) is limited to a maximum of 6 credit hours in the M.S. Plan A program.

In selecting their coursework, all students should refer to requirements for all degree-programs as listed under each focus area, which can be found in the most recent EECE graduate programs focus area table at <https://www.marquette.edu/electrical-computer-engineering/degree-specializations.php>. With prior approval, a maximum of 8 semester hours of course work from other institutions or other programs may be transferred into a student's master's program. A course will be considered for transfer credit only if the grade is B or better and the course is acceptable for graduate credit at the institution at which it was taken. Students applying for transfer of credit must complete a *Request for Transfer of Credit* form available from the Graduate School and provide materials (Official course outlines and syllabus) for those courses.

## **2. Thesis Requirements**

By the end of the second semester, each Plan A master's degree student must submit an outline

Students who fail this examination on their first attempt are permitted to take it a second time, with department approval. It is the obligation of the student to arrange a time and place on campus for the comprehensive examination suitable for all committee members, and to meet all appropriate deadlines indicated in the Graduate School academic calendar.

#### **4. Master's Committee Membership**

Each master's committee consists of at least three members, mutually selected by the student and his/her advisor. The advisor is the committee director and must have a regular faculty appointment in EECE at Marquette University. At least two members of the committee (including the director) must have regular faculty appointments in EECE at Marquette University. Any committee member from outside the University needs to meet the Graduate School committee requirements.

### **D. Plan B (Course Option)**

#### **1. Course Requirements**

Thirty (30) semester hours, at least 21 of which must be in EECE, are required. At least 18 credits of the total program coursework and at least 12 credits of the EECE coursework must be taken at the strictly graduate level (6000 level).

Students in the M.S. Plan B program may not apply independent study (EECE 6995) or research seminar (EECE 6953) credits. Special permission by the DGS could be given for a maximum of three cooperative education (EECE 8986) credits toward their degree program. The remaining courses must be selected in consultation with the student's faculty advisor from among those that are eligible for graduate credit. Course requirements for all degree-program (master's and doctoral) students are listed under each focus area, which can be found in the most recent EECE graduate programs focus area table at [www.marquette.edu/electrical-computer-engineering/degree-specializations.php](http://www.marquette.edu/electrical-computer-engineering/degree-specializations.php). In addition, as noted in Section III.E, independent study and research seminar credits are not permitted in this program option. Courses must form a cohesive overall plan of study as determined mutually by each student and his or her advisor.

The regulations for transfer of credit from other institutions or programs are the same as those for Plan A, except that, with approval, up to 9 semester hours may be transferred.

#### **2. Written Comprehensive Exam Requirements**

Students in the Master's Course Option program must successfully pass a written comprehensive examination prior to graduation. The exam covers materials listed in the most recent EECE graduate programs focus area



**F. General Electric Healthcare Master's Program**

This program is available only to employees of G.E. Healthcare Edison program and includes the

- (3) Three letters of recommendation
- (4) GRE Scores (general test only).
- (5) A statement of purpose indicating the student's reasons for seeking a doctoral degree and declaring the student's general area of interest.
- (6) (For international applicants only) TOEFL score or other acceptable proof of English proficiency.

Admission is not official until the student is notified in writing of acceptance by the Graduate school.

Admission is valid for one year beyond the desired entry date requested on the application for admission. It is strongly recommended that the applicant identify a dissertation/research advisor.

## B. Program Requirements

### 1. Course Requirements

***Ph.D. (with M.S.) program:*** requires a total of 24 post-master's credit hours of coursework, plus an additional 12 dissertation credits. (A master's degree is considered to be the equivalent of 24 coursework credits, so that this course work requirement is the equivalent of 48 credits beyond the bachelor's degree, exclusive of dissertation credits.) Other requirements include:

Completion of a Doctoral Program Planning Form by end of first year of fulltime studies with help of research advisor

Completion of the doctoral written qualifying examination (WQE) by the end of the third semester of study. The requirements of the WQE, discussed in detail in Section VI.B.3, should be considered carefully in selecting an appropriate program of study

Course requirements are listed and determined by the selected focus area

At least 24 of the credits of course work must be taken at Marquette University

At least 12 credits of the 24 credits (after the 24 credits hours for the M.S. degree) must be from regular 6000 – level courses. (Regular 6000-level courses exclude independent study (EECE 6995), research seminar (EECE 6953) and Cooperative Education (EECE 8986).) Please also see the course requirements for the M.S. degree.

At least 18 of the 24 credits of course work must be taken in EECE

The total number of independent study (EECE 6995), research seminar (EECE 6953) credits and cooperative education (EECE 8986) that may be applied to one student's degree program(s) is limited to a maximum of 6 credit hours in the Ph.D. program

EECE 6952 Department colloquium is required each semester for all full-time students

EECE 8999 Doctoral Dissertation

Students must successfully complete a dissertation together with a public dissertation defense of their work

Completion of all



Changes to the program of study may be made using the *Doctoral Program Planning Form Amendment*.

### **3. Doctoral Written Qualifying Examination**

Doctoral students are required to take the EECE Doctoral Written Qualifying Examination, (WQE) by the end of their third semester of study. The WQE is a written exam, administered once a year in January, which the student must pass to become a doctoral candidate and continue in the program.

For the EECE WQE rules click the following [www.marquette.edu/electrical-computer-engineering/documents/wqe-ms-comp-rules.pdf](http://www.marquette.edu/electrical-computer-engineering/documents/wqe-ms-comp-rules.pdf)

Copies of the rules and focus areas are posted on the departmental website and hard copies are available in the EECE department office.

Master's students taking the WQE exam do so voluntarily and will not have their M.S. programs affected by the results of the exam. Passing the exam does not automatically admit students to the doctoral program nor guarantee admittance; they must still apply and be accepted. However, if and when they are accepted, such students will have already met the WQE requirements and will be advanced to doctoral candidacy as soon as they identify a research advisor, complete a Doctoral Program Planning form, and meet course and residency requirements. Failing the exam while an M.S. student *does* count against the limit of two maximum attempts at the WQE.

#### **Eligibility for Ph.D. Written Qualifying Exam**

All EECE M.S. Thesis Option or Ph.D. graduate students are eligible to register for and take the Doctoral WQE at any time. It is highly recommended that Ph.D. students and M.S. students planning to apply to the Ph.D. program plan their coursework in accordance with the exam requirements and take the exam as soon as they have taken the recommended courses.

#### **Time Requirement for Doctoral Written Qualifying Exam**

Full-time Ph.D. students are required to take the WQE by the end of their third semester in the doctoral program.

### **4. Doctoral Committee Membership**

Each doctoral committee consists of at least five members, mutually selected by the student and his/her advisor. The advisor is the committee director and must have a regular faculty appointment in EECE at Marquette University. At least four members of the committee (including the director) must have regular or adjunct faculty appointments at MU and at least three must have regular primary faculty appointments in EECE at Marquette University.

### **5. Doctoral Dissertation Outline and Proposal**

Ph.D. candidates are required to complete an *Outline for Dissertation* and prTQ0Qq0.0000091e for Dissertati



*Dissertation, Thesis* form, by the dissertation advisor, the committee members, the DGS, and the Graduate School.

After the outline is approved the student may register for the required twelve hours of dissertation credit (EECE 8999).

## **6. Final Examination**

Upon completion of the dissertation work and formal dissertation document, a public oral final examination is given. The candidate must arrange a time and place on campus for the final examination and submit an *Announcement of Final Public Examination for Doctoral Degree* to the Graduate School at least four weeks in advance.

Approval of the dissertation final exam is conveyed by the committee using the *Dissertation Approval* form.

## **7. Dissertation Document**

Upon approval of the final dissertation document, an electronic copy must be submitted to the Graduate School. In addition, a *Dissertation Approval* form signed by the members of the committee must also be submitted to the Graduate School. Official approval requires approval of the dissertation director and committee members.

An acceptable doctoral dissertation must meet each of the following three conditions:

1. The dissertation must represent an original research contribution.
2. The dissertation must show a clear ability to do independent research.
3. The dissertation format must follow the Graduate School *Dissertation Directives*.

## **8. Graduate School**

## **B. Academic Review**

The department evaluates the academic performance of all students at the close of each semester

financial aid must follow Plan A. Five years B.S./M.S. students are not eligible to receive TA and RA-ships from the department. However, they may receive financial aid (only stipend) from individual faculty in their 5<sup>th</sup> year of study. Continued support is not guaranteed, but is based on academic performance, performance of assigned duties (for teaching and research assistants) and availability of funds. Master's students will normally be supported for no more than four semesters and doctoral students for no more than six semesters. Teaching and research assistants are expected to be involved with assigned duties and/or graduate research during the full term of their assistantships, not just when classes are in session.

Students seeking financial aid other than loans are required to submit an application for financial aid to the Graduate School no later than February 15 of the academic year prior to the one for which aid is being sought (November 15 for the spring semester and April 15 for summer sessions). See the Marquette University *Graduate School Website* for additional details.

### **A. Scholarships**

Tuition scholarships are available on a very limited basis through the EECE department. These cover tuition only and range from 1 to 9 credit hours per semester. No service is required of the student in return for a scholarship.

### **B. Fellowships**

Fellowships **typically** provide a stipend and, in some instances, tuition remission. Fellowships and traineeships may also be available from individual faculty members having external grants. Students are also urged to seek fellowship assistance available from various outside agencies, foundations, and other organizations.

### **C. Teaching Assistantships**

Teaching assistantships typically provide students with a stipend and 9 credit hours of tuition remission per semester. In return the students are expected to perform satisfactorily 20 hours of teaching-related assignments per week. Students with teaching assistantships are normally limited to a 9 credit-hour course load per semester.

### **D. Research Assistantships**

Research assistantships typically provide students with a stipend and 9 credit hours of tuition remission per semester. In return the students are expected to satisfactorily perform 20 hours of research-related assignments per week. Students with research assistantships are normally limited to a 9 credit-hour load per semester. Research assistantships may also be available from individual faculty members who have external research grants and contracts (stipend levels and tuition remission will



