

Department of Electrical &
Computer Engineering

Graduate Student Handbook

2020-2021



FAMU-FSU
Engineering



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1 GRADUATE ADMISSIONS

On behalf of the Department of Electrical & Computer Engineering (ECE), thank you for your interest in the graduate program at the FAMU-FSU College of Engineering. The program offers both a Master of Science in electrical engineering (MSEE) and Doctorate of Philosophy (Ph.D.) in electrical engineering.

1.1 Graduate Application

To initiate the admission process and to request an application for Admissions to the graduate program, please contact directly the respective Office of Admissions of either FAMU or FSU. There is no departmental application.

- [FSU Online Application](#)
- [FAMU Application for U.S. Students](#)
- [FAMU Application for International Students](#)

Below is the contact information for you to begin your correspondence with the Office of Admissions:

Florida A&M University

[Office of Graduate Studies](#)

Foote-Hilyer Administration Center

Tallahassee, FL 32307-3200

USA

Phone: (850) 599-3796

Fax: (850) 599-3069

Florida State University

[Office of Admissions](#)

A2500 University Center

Tallahassee, FL 32306-2400

USA

Phone: (850) 644-3420

Fax: (850) 644-0197

1.2 Admission Requirements

The Department of Electrical and Computer Engineering has different admission requirements for the MS or Ph.D. programs. For information about the minimum GPA, GRE scores, and English proficiency (for international students) please visit these links below:

- [MS Thesis Program](#)
- [MS Non-Thesis Program](#)
- [PhD Program](#)

1.3 Supporting Documents

The following supporting documents must be submitted in order for your application to be considered complete:



1. *Official Transcripts*
 - An official transcript from each college or university attended must be submitted to the university. International applicants must include an English translation.
2. *Official GRE Score Report*
 - Request official GRE score report from [ETS](#)
 - Institutional Code for FAMU: 5215
 - Institutional Code for FSU: 5219
3. *Official English Proficiency Score Report (for international students only)*
 - Request official English proficiency score report from [ETS](#), [MELAB](#) or [IELTS](#).
 - TOEFL Institutional Code for FAMU: 5215
 - TOEFL Institutional Code for FSU: 5219
4. *Statement of Purpose*
 - Briefly describe your qualifications for graduate school and your long-term goals.
 - Please specify your research interests clearly. See our [research](#) page for more information.
5. *Resume*
 - Provide a detailed resume or CV.
6. *Letters of Recommendation*
 - Submit three letters of recommendation. The letters should be from individuals qualified to evaluate your academic performance/potential or relevant work experience. If you are applying to Florida State University, your letters of recommendation **MUST** be submitted electronically through the recommendations section of the online application.
7. *Florida Residency Form*
 - If you are a Florida resident, you must complete the Florida Residency Affidavit even if you were previously designated a Florida Resident by the University. If you do not complete this form, you will be classified as a non-Florida resident for tuition purposes.
 - [Florida A&M University Residency Form \(More Info\)](#)
 - [Florida State University Residency Form](#)
8. *Certification of Financial Responsibility (for international students only)*
 - The university is required by U.S. federal regulations to verify the financial resources of each international applicant prior to issuing the Certificate of Eligibility (Form I-20). All international applicants must complete this form even if you are anticipating financial support from the Department. Please note that the disclosure of available funds will not disqualify or limit any international applicant from receiving an assistantship or any other financial support from the Department.
 - [Florida A&M University CFR Form](#)
 - [Florida State University CFR Form](#)



1.4 Application Status and Admission Decision

FAMU applicants should contact the [School of Graduate Studies and Research](#) to check the status of their application. Please allow at least 10 business days before requesting a status update. The final admission decision will be sent via email.

FSU applicants can check the status of their application online at - <https://admissions.fsu.edu/StatusCheck/>

Please submit your on-line application to the University of your choice. All accompanying materials associated with your application will be sent directly to those Universities – FSU Graduate Admissions Office and FAMU Graduate Studies Office. Please do not return the application form or any accompanying materials to the department because it significantly delays the processing procedure for your application.

After the application has been processed through the Office of Admissions, it will be forwarded to the Department of Electrical & Computer Engineering to be evaluated. No decision will be made on your application until all required supporting materials, official transcripts, test scores, certification of financial responsibility form and proof of financial support, and your application fee have been received.

Application deadline dates for Florida A&M University are listed on the [graduate admissions deadlines](#) page.

For information concerning Florida State University admission visit the [FSU Graduate Bulletin Calendar](#). If you are accepted into the graduate program, the Office of the Admissions of the respective university will notify you of your admission.

Please allow at least 10 business days for new information to be reflected on the Online Status Check. The final admission decision will also be posted to the Online Status Check.

1.5 Financial Aid

Admission into the graduate program and the awarding of financial aid are two separate processes. Notification of admission may proceed notification of financial aid. See [Funding opportunities](#) page for additional details.

1.6 Application Deadlines

The ECE department application deadlines are **March 1st** for the Summer, **July 1** for the Fall, and **November 1st** for the Spring semester. International students are encouraged to apply earlier so that they can have sufficient time to get their visa.

To be considered for department financial assistances such as Teaching Assistantships, the last date for receiving complete application is **March 1** for Fall term. Generally, department funding such as Teaching Assistantships are not available for students starting in Spring and Summer.



1.7 Departmental Contacts

If you want to contact the Graduate Program Assistant or the Graduate Program Coordinator please make sure you read the information on this website first.

- *ECE Graduate Program Assistant:* Mrs. Melissa Jackson (jacksonmd@eng.famu.fsu.edu)
- *ECE Graduate Program Coordinator:* Dr. Md Omar Faruque (mfaruque@eng.famu.fsu.edu)

2 MASTER OF SCIENCE IN ELECTRICAL ENGINEERING (THESIS OPTION)

Depending on the university, interested students should also consult the FAMU or FSU Graduate Student Handbook.

2.1 Admissions

To be considered for admission, students must have earned a bachelor of science degree (or equivalent) in electrical engineering, or a closely related discipline, from an accredited college or University. The required grade point average (GPA) for this program is at least 3.0 on a 4.0 scale for all work attempted beyond 60 semester hours of undergraduate study and a minimum score of **148** for the quantitative section and **145** for the verbal section of the GRE test.

International students must also obtain at least:

1. 80 on the internet-based TOEFL exam,
2. 6.5 in the IELTS,
3. 55 in the Pearson's PTE academic examination, **or**
4. 77 in the MELAB examination.

Students with a bachelor's degree in a field other than electrical engineering may be required to complete a department- designated sequence of undergraduate courses with grades of B or better prior to attempting the graduate electrical engineering work.

Students interested in obtaining a teaching assistantship should submit the [TA/Grader Application Form](#) as soon as they have been admitted to the program. Students who are not native speakers of English should take the speaking section of the TOEFL test (and have a score of 26 or higher) or the [SPEAK](#) test at FSU (and have a score of 45 or higher) in order to be eligible to apply to for a teaching assistantship. Students also need to take [PIE](#) training before starting their job as a teaching Assitant. More information about teaching assistantships can be found on the [TA/Grader Application Form](#).

2.2 Course Work Requirement

The students must complete a minimum of 30 credit hours of course work to obtain the degree. The 30 credit hours should satisfy:



1. 6 credit hours should be from the list of core courses (see the [Graduate Courses](#) link on the website).
2. At least 3 credit hours should consist of a course in advanced mathematics, typically a 5000 level course or above, or a departmental approved substitute.
3. At least 6 credit hours of EEL 6971 (MS thesis).
4. At least 15 credit hours should be from letter grade elective courses.
5. Supervisory Research or DIS courses can be taken but they will not be counted towards the degree credit

2.3 Graduate Seminar

All full-time MS degree students are required to enroll in the graduate seminar, EEL 6932, for each semester that they are enrolled in the graduate program. The details of the seminar are given under "Course Listing"

2.4 Advisor and Supervisory Committee

Each student must identify an adviser (also called major professor) by the end of the first semester of course work and is required to submit a plan of study by the time he or she has completed 12 credit hours of graduate studies. The plan of study must be approved by the departmental Graduate Coordinator and the student's adviser. The student's adviser also will assist the student in informing the Student's Supervisory Committee (also called Thesis committee).

The Supervisory Committee of a master's thesis student must have at least three faculty members from the student's home department with Graduate Faculty Status (GFS). Additional members may be added provided they have GFS in their home department. At least one Tallahassee campus faculty member with GFS must serve on a thesis committee chaired or co-chaired by a Panama City Campus faculty member. One Panama City Campus faculty member with GFS must be annually appointed by the ECE department chair to serve on the ECE graduate committee.

The chair of the Supervisory Committee should have the GFS status and must be granted the privilege of chairing master's level thesis committees prior to the student's thesis defense. Granting of this privilege requires an affirmative majority vote of the GFS faculty of the department and approval by the department chair.

2.5 Thesis

All master of science thesis program students must complete a written thesis. Upon completion of the thesis, an oral defense is required, which consists of a public presentation of the student's work to the department and the student's supervisory committee. Students must register for EEL 8976, Master's Thesis Defense, during the semester the student plans to graduate. The thesis should be made available to the major professor and the examining committee at least ten days before the date of the oral examination.

2.6 Master's Thesis Defense Announcement

It is the student's responsibility to post the thesis defense announcement within the department and the College of Engineering at least one week prior to the defense. The announcement should include: thesis title; student's name; student's department; major professor and committee members; date; time and location of the defense.



2.7 Transfer of Credits

A maximum of 6 credit hours of graduate courses not counted toward a previous degree from another regionally accredited graduate school may be transferred from another academic institution(s) to the student's current master's degree program, with the approval the ECE Departmental Graduate Committee. A grade of B or better is required on all transfer credits.

3 MASTER OF SCIENCE IN ELECTRICAL ENGINEERING (NON-THESIS OPTION)

Depending on the university, interested students should also consult the FAMU or FSU Graduate Student Bulletin/Handbook.

3.1 Admissions

To be considered for admission, students must have earned a bachelor of science degree (or equivalent) in electrical engineering, or a closely related discipline, from an accredited college or university. The required grade point average (GPA) for this program is at least 3.0 on a 4.0 scale for all work attempted beyond 60 semester hours of undergraduate study, and a minimum score of 148 for the quantitative section and 145 for the verbal section of the GRE test.

International students must also obtain at least:

1. 80 on the internet-based TOEFL exam,
2. 6.5 in the IELTS,
3. 55 in the Pearson's PTE academic examination, **or**
4. 77 in the MELAB examination.

Students with a bachelor's degree in a field other than electrical engineering may be required to complete a department- designated sequence of undergraduate courses with grades of B or better prior to attempting the graduate electrical engineering work. Students are advised to contact their advisor for selecting those courses.

Students interested in obtaining a teaching assistantship should submit the [TA/Grader Application Form](#) as soon as they have been admitted to the program. Students who are not native speakers of English should take the speaking section of the TOEFL test (and have a score of 26 or higher) or the [SPEAK](#) test at FSU (and have a score of 45 or higher) in order to be eligible to apply to for a teaching assistantship. More information about [teaching assistantships](#) can be found on the [TA/Grader Application Form](#).

Students interested in obtaining a research assistantship should contact individual faculty members for funding availabilities.

3.2 Course Work Requirement

The students must complete a minimum of 30 credit hours of course work to obtain the degree. The 30 credit hours should satisfy:

1. At least 6 credit hours should be from the list of core courses (see the Graduate Courses link on the left side).
2. At least 3 credit hours should consist of a course in advanced mathematics, typically a 5000



level course or above, or a departmental approved substitute.

3. At least 24 out of 30 credit hours should be in the Department of Electrical and Computer Engineering (EEL or EEE). The 24 credit hours in the Department of Electrical and Computer Engineering cannot include transfer courses.
4. No Directive Independent Studies (DIS) will be allowed for this degree.

3.3 Graduate Seminar Requirement

All full-time MS degree students are required to enroll in the graduate seminar, EEL 6932, for each semester that they are enrolled in the graduate program. The details of the seminar are given under "Course Listing".

3.4 Request for Non-Thesis

All students in the non-thesis MS degree program must submit a formal request to obtain an official approval from his/her advisor (if there is one) and the ECE Graduate Program Director to be exempt from the thesis requirement.

3.5 Master's Comprehensive Examination

All students in the non-thesis MS degree program must register for and successfully pass the Master's Comprehensive Exam, EEL 8966. The students must apply to take the examination in the Department of Electrical & Computer Engineering office by the end of the prior semester. A maximum of 2 attempts will be permitted.

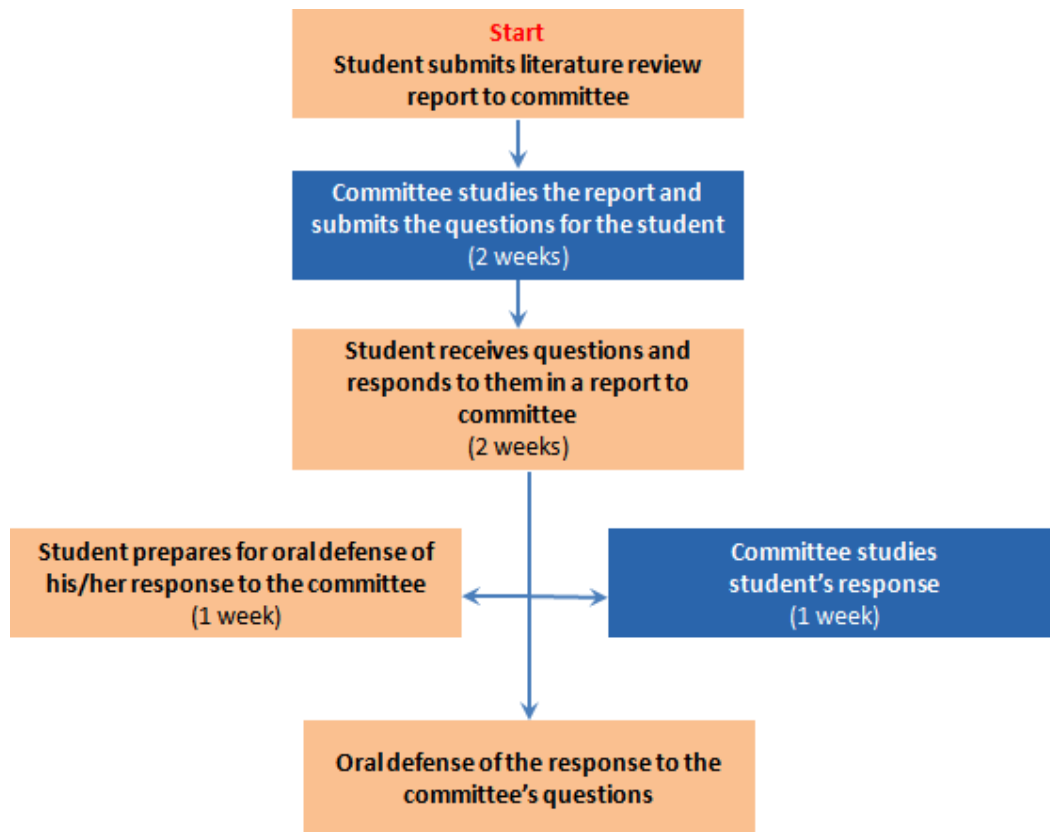
[Template for the Comprehensive Examination report](#)

The exam is taken over a five-week period. In preparing for the examination, the student shall present a 40-page literature review report to a committee demonstrating an understanding of the theoretical framework in a given area of research based on an in-depth literature review. In demonstrating an understanding of the literature, the student must include a discussion that identifies the state-of-the-art and knowledge gaps in that area. Upon submission of the literature review report, the committee will respond to the student with questions related to the report itself and the area of research. The following is a schedule of events for the successful completion of the examination:

- ✓ The student must make arrangements with the adviser to schedule a five-week time period for the examination. The examination committee should contain at least three faculties with GFS status from the ECE Department.
- ✓ With the consultation of the adviser, the student will submit a research review report to the examination committee. A Microsoft Word template of the report can be downloaded from [here](#). The topic of the report should be determined by the major adviser of the student. The student is encouraged to submit the research review report by the middle of the semester for which he/her registered for the examination. The student should abide by the IEEE plagiarism policy.
- ✓ The committee will submit written questions to the adviser for collection by the student two weeks after submission of the literature review report. These questions will relate to the report and the topic which was assigned to the student.



- ✓ The student will have two weeks to develop written responses to the questions in preparation of the oral exam. These responses will be submitted to the adviser, who will then distribute the responses to the committee members. The student should submit a complete set of answers to each committee member; the answers should be given as separate appendices to the original (or revised) report.
- ✓ The oral examination will be held within one week of submission of the written responses. This examination will be primarily related to the research area and the student's written responses. Appropriate related fundamental concepts may also be covered. During the final oral presentation, the student should give a short summary of the research report and address the questions of the committee on separate slides.
- ✓ Pass/fail is determined on the combined written and oral responses to committee questions. A majority of committee votes and a pass vote by the committee chair is required to pass.



3.6 Transfer of Credits

A maximum of 6 credit hours of letter-grade graduate coursework may be transferred from another academic institution(s) to the student's current master's degree program, with the approval of the ECE Departmental Graduate Committee. A grade of B or better is required on all transfer credits.

4 COMBINED 4+1 BACHELOR'S/MASTER'S PATHWAY PROGRAM



The Department of Electrical and Computer Engineering has implemented a combined Bachelor of Science and Master of Science (BS-MS) program Pathway based on the existing bachelor's and master's degree programs that cover the areas of Electrical and Computer Engineering. Combined bachelor's/master's pathways provide academically talented undergraduate students an opportunity to complete both a bachelor's and a master's degree. Upon approval, a combined bachelor's/master's pathway allows up to 12 graduate hours to be shared with, or double-counted toward, an undergraduate degree program. A student enrolled in a combined pathway will earn the baccalaureate degree upon completion of the undergraduate program and master's degree upon completion of the graduate program.

4.1 Purpose

This program is designed for students pursuing an undergraduate degree in Electrical Engineering who also wish to obtain a graduate degree in either Electrical Engineering or Computer Engineering. Well-qualified students who expect to have a GPA of 3.2 or better in engineering studies are invited to apply for the program during the spring semester of their third year in the College. Students who have graduated with this degree track have successfully been able to find jobs or have pursued advanced degrees in Electrical and Computer Engineering.

4.2 Application Procedure

Electrical and computer engineering students should meet with their academic advisers to determine the appropriateness of entering into the combined BS/MS electrical engineering pathway. Qualified students interested in the combined degree program outside the electrical engineering or computer engineering undergraduate majors should contact the department's Academic Program Coordinator.

Students should normally apply to participate in a combined degree program in their junior year, after completing 75 hours. If accepted, they should take the Graduate Record Examination in the first semester of their senior year (can be waived under certain conditions). Students should make a formal application for admission to graduate school during the last semester of their senior year. The application form is available [here](#).

4.3 Admissions Requirements

A student of senior standing or an upper-division honors student may carry graduate courses for undergraduate credit provided the student:

1. has earned either a grade point average (GPA) of 3.2 or better
2. carries a course load of no more than fifteen (15) semester hours; and

Students must have eligibility certified in the Office of the University Registrar before seeking approval of admission into this program. Students who wish to receive graduate credit for such course work must obtain approval of the dean, the department chair, and the instructor offering the course, prior to registration for the graduate course through a designated form available in the [website](#).

After approval, up to 12 semester hours may be counted toward a graduate degree provided the courses have not been counted toward a previous degree. Honors Program students must have completed 60 semester hours of credit 90 credit hours for non-Honors Program students) in their undergraduate programs and earned a minimum 3.2 GPA. Transfer students must have completed a minimum of two



semesters (24 hours) and earned a minimum 3.2 GPA. Interested students should contact the department's Academic Program Coordinator for specific information.

If accepted, students should take the Graduate Record Examination (GRE) in the first semester of their senior year and they make formal application for admission to graduate school during the last semester of their senior year. The graduate coordinator will advise the students and remind them to submit their graduate application on time. After the senior year is completed students will return to complete their MS degree by taking the required graduate courses. The graduate coordinator will monitor if they have fulfilled the requirements (30 graduate credit hours) for the MS degree.

4.4 Program of Study

The BS in electrical or computer engineering has a total of 128 hours (including 12 hours of technical electives for electrical engineering, 6 hours of technical electives for computer engineering). In the BS/MS program, the student will be able to take 12 hours of graduate courses for which shared credit will be given as undergraduate technical electives or required courses, and graduate courses. The student must meet all of the MS course requirements which includes 6 hours of core courses and 3 hours of advanced math. In addition, for the MS Thesis degree the student must take at least 6 hours of EEL6971 (MS Thesis) and 15 hours of letter-graded graduate courses. For the MS Non-Thesis, the additional course requirement is 24 hours of letter-graded graduate courses. The 12 hours of shared credit courses can be core courses or graded graduate courses from an approved list of masters-level, EEx5xxx, courses (see below). The student must have all required prerequisites and approval from the instructor of the course to ensure the student is prepared to take the graduate-level course as an undergraduate student.

Eligible Applicants must have completed the following coursework before taking graduate course work:

1. MAC X311 or MAC X281
2. MAC X312 or MAC X282
3. MAC X313 or MAC X283
4. MAP X302 or MAC X305
5. CHM X045/X045L or CHMX045C or CHS X440
6. PHY X048/X048L or PHYX048C or PHYX043/X048L
7. PHY X049/X049L or PHYX049C or PHYX044/X049L
8. COPX220

A list of approved graduate courses that a student can take at the undergraduate level and may be double-counted is given below:

- EEL 5173: Signal and System Analysis
- EEL 5247: Power Conversion and Control
- EEL 5250: Power Systems Analysis
- EEL 5270: Power System Transients
- EEL 5315: Digital Integrated Circuit Design
- EEE 5317: Power Electronics
- EEL 5333: Solid State Sensors
- EEL 5378: Mixed Signal ICs



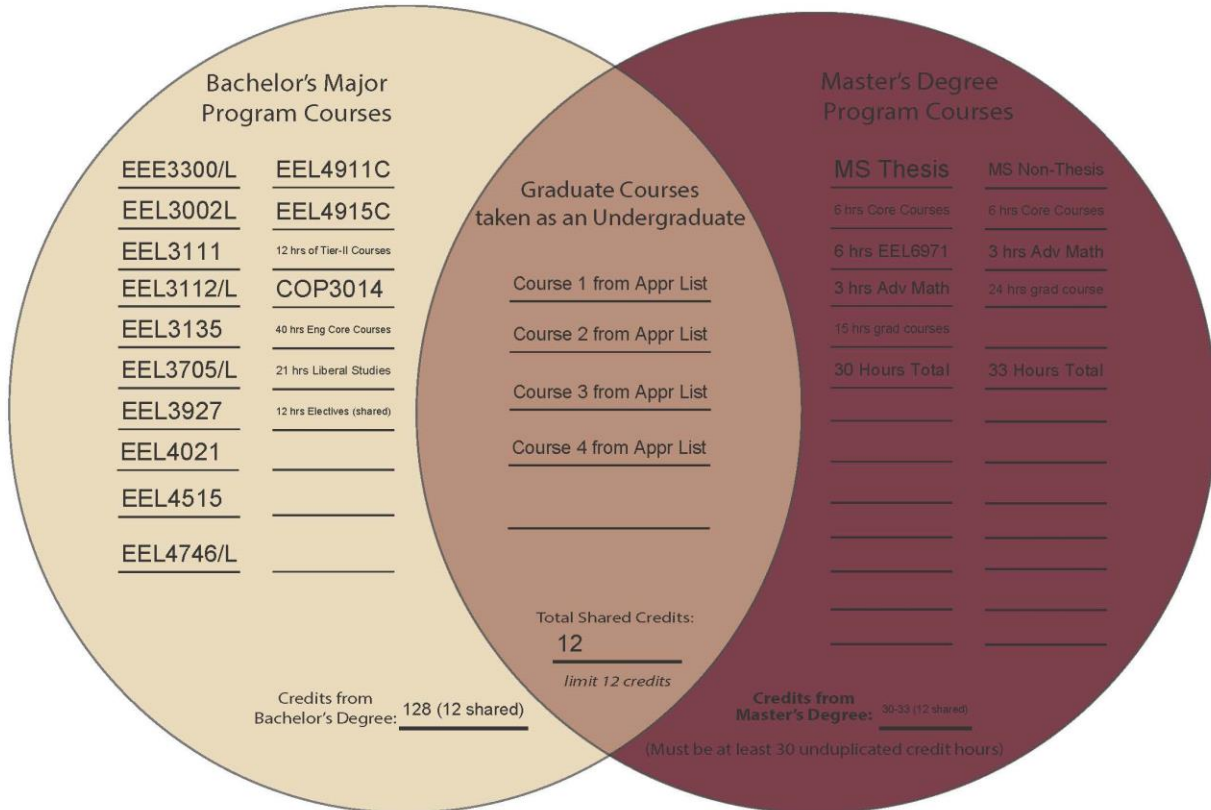
- EEL 5416: Sonar
- EEL 5443: Electromagnetics and Optics
- EEL 5454: Optical Sensors
- EEL 5465: Antenna Theory
- EEL 5486: Advanced Electromagnetic Theory
- EEL 5500: Digital Communication Theory
- EEL 5542: Random Processes
- EEL 5547: Radar
- EEL 5563: Optical Fiber Communications
- EEL 5590: Advanced Topics in Communication
- EEL 5591: Wireless Communications
- EEL 5617: Multivariable Control
- EEL 5630: Digital Control Systems
- EEL 5667: Robot Kinematics and Dynamics
- EEL 5707: ASIC Systems Design I
- EEL 5722: Digital signal processing with FPGA
- EEL 5764: Computer System Architecture
- EEL 5784: Computer Network Design and Analysis
- EEL 5812: Advanced Neural Networks
- EEL 5930r: Special Topics in Electrical Engineering
- EEL 5288: Integration of Distributed Generations

In order for this graduate-level course work to be double-counted towards the student's graduate program, a grade of B or better must be earned in the course. The work for the master's degree must be completed within **seven** years from the time the student first registers for graduate credit. Any graduate work transferred from another institution must have commenced not more than seven years prior to completion of the degree for the credits to be applicable to the master's degree.



Combined BS to MS pathway in Electrical Engineering

Combined Bachelor's/Master's Pathway

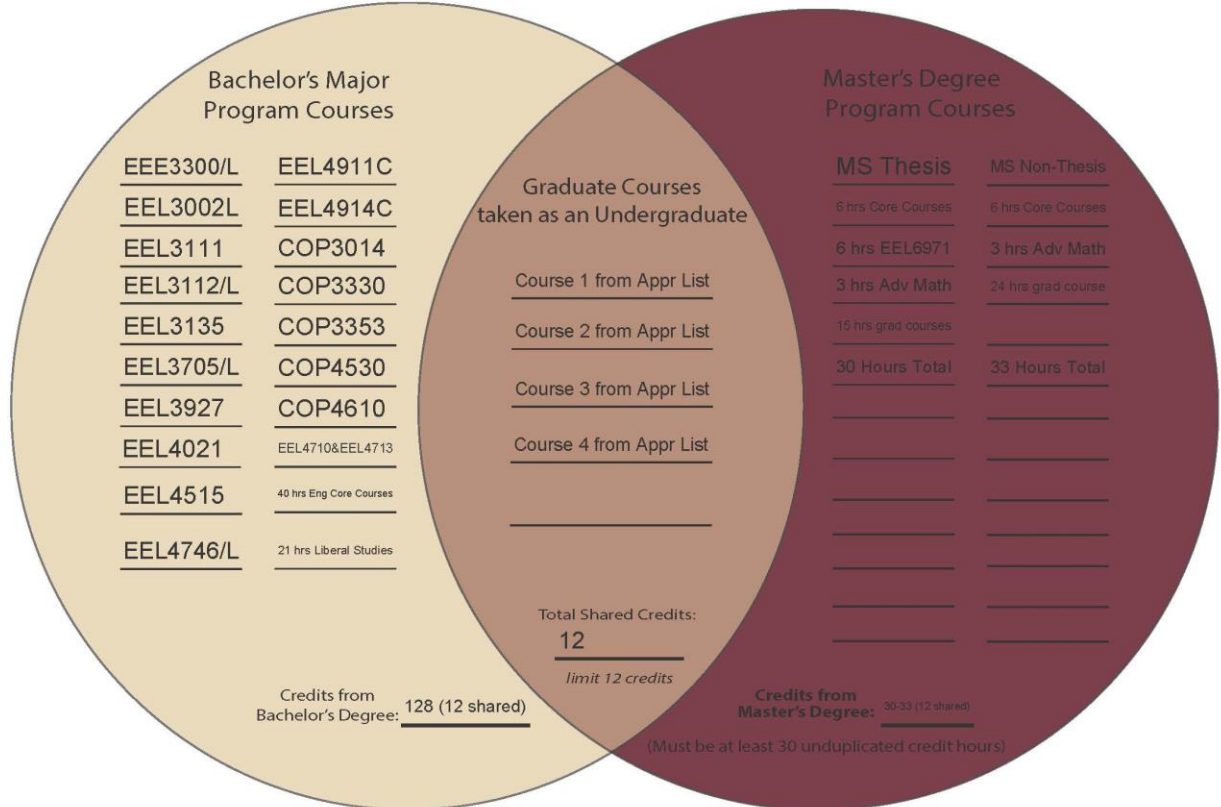


Total Combined Pathway Credit Hours: 146-149



Combined BS to MS pathway in Computer Engineering

Combined Bachelor's/Master's Pathway



Total Combined Pathway Credit Hours: 146-149

4.5 Time Limit for Completion of the Combined Degree

Both degrees must be completed within a total of **ten** (10) years. The work for the master's degree must be completed within seven (7) years from the time the student first registers for graduate credit.

5 DOCTOR OF PHILOSOPHY IN ELECTRICAL ENGINEERING

The Department offers a Doctor of Philosophy (Ph.D.) degree in Electrical Engineering. Depending on the university, interested students should also consult the respective university Graduate Student Handbook/bulletin.

5.1 Admissions

To be considered for admission, candidates must have earned a bachelor of science or a master degree (or equivalent) in electrical engineering, or in a closely related discipline, from an accredited college or university. A grade point average (GPA) of at least 3.3 on a 4.0 scale on all baccalaureate



course work and any graduate work attempted, and a minimum score of 151 for the quantitative section and 145 for the verbal section of the GRE test are required for applying into the program.

International candidates must also obtain at least:

1. 80 on the internet-based TOEF exam,
2. 6.5 in the IELTS,
3. 55 in the Pearson's PTE academic examination, **or**
4. 77 in the MELAB examination.

Students with a bachelor's degree in a field other than electrical engineering may be required to complete a department- designated sequence of undergraduate courses with grades of B or better prior to attempting the graduate electrical engineering work.

Students interested in obtaining a teaching assistantship should submit the [TA/Grader Application Form](#) as soon as they have been admitted to the program. Students who are not native speakers of English should take the speaking section of the TOEFL test (and have a score of 26 or higher) or the [SPEAK](#) test at FSU (and have a score of 45 or higher) in order to be eligible to apply to for a teaching assistantship. More information about teaching assistantships can be found on the [TA/Grader Application Form](#).

5.2 Course Work Requirement

The course work required depends on the previous degree obtained by the student. Thus, we distinguish 5 tracks:

1. BS-to-PhD: if the student has a BS degree in EE or related areas.
2. MS/EE-to-PhD: if the student has an MS degree in electrical engineering or equivalent.
3. MS-to-PhD: if the student has an MS degree in Physics, Mathematics, or other Engineering Fields.
4. MS/Thesis-to-PhD: if the student has an MS degree in EE from the FAMU-FSU College of Engineering and has graduated with the thesis option.
5. MS/NonThesis-to-PhD: if the student has an MS degree in EE from the FAMU-FSU College of Engineering and has graduated with the non-thesis option.

The default track for students enrolling in the Ph.D. program is BS-to-PhD. Ph.D. students that want to follow a different track need to fill in [Ph.D. Track Approval Form](#) at the beginning of their program. The number of minimum course credits required for each of the 5 tracks is summarized in the table below:

The list of core courses is given in the Graduate Courses section. At least 6 credit hours of the elective courses should be from the area of specialization in which the student is pursuing the degree.



Program	Required credit hours, If the student already has				
	BS	MS/EE	MS/non-EE	MS from FAMU-FSU	
				MS/Thesis	MS/Non-thesis
Core Courses	6	6	6	0	0
Electives/Supervised research/Directed Individual Study (DIS)*	21	9	15**	3	3
Graduate Seminar (EEL 6932)	Every semester				
Dissertation Hours (EEL 6980)	24	24	24	24	24
Total	51	39	45	27	27
*A maximum of 9 credit hours of DIS (in a semester) can be registered but only 3 credit hours (over the entire program) would be counted towards the degree					
*A maximum of 5 credit hours of supervised research (over the entire program) can be registered but only 3 credit hours would be counted towards the degree					
**Up to 6 credit hours can be taken from 4000 level courses, however, they are not counted towards GPA					
Recommended timelines (semester)					
Pass Preliminary Exam (EEL 8964)	3 rd /4 th	2 nd /3 rd	2 nd /3 rd	1 st /2 nd	1 st /2 nd
Pass Prospectus Exam	6 th /7 th	4 th /5 th	5 th /6 th	4 th /5 th	4 th /5 th
Final defense	8 th /9 th	6 th /7 th	7 th /8 th	6 th /7 th	6 th /7 th

5.3 Graduate Seminar Requirements

All full-time Ph.D. candidates are required to enroll in the graduate seminar, EEL 6932, for each semester that they are enrolled in the graduate program. In addition, all the Ph.D. candidates need to make at least one oral presentation about their research in the Graduate Seminar, after passing the Ph.D. Preliminary Examination and before graduation. To register for the presentation, the Ph.D. students should contact the faculty in charge of the Graduate Seminar to set a date for the presentation by the end of the second week of their last semester. Students graduating in the summer semester should make the oral presentation during the Spring semester or before.

5.4 Adviser and Supervisory Committee

The Graduate Coordinator is by default the initial adviser of all incoming graduate students, however, students are strongly encouraged to select their adviser as soon as possible by filling in the [Adviser Form](#). The student should be in contact with the adviser on a regular basis and all the decisions related to the course works, and the plan of studies of the student should be approved by their adviser. The student's adviser also will assist the student in forming the Student's Supervisory Committee (also called dissertation committee) by the end of the first year of studies.

The Supervisory Committee of a doctoral' s degree program must have at least four members with Graduate Faculty Status (GFS). Three of the four members must be faculty members from the student's home department. The fourth member, the University Representative, must be a tenured member of the faculty holding GFS from outside the ECE department.

The chair of the Supervisory Committee must have experience in chairing a master's thesis committee or serving on a doctoral dissertation committee prior to earning the privilege of chairing a dissertation committee. Granting of this privilege requires an affirmative majority vote of the GFS faculty of the



department and approval by the department chair. Faculty holding this privilege will be reviewed periodically by the department chair. Those not meeting performance expectations may have this privilege revoked upon recommendation of the department chair, an affirmative majority vote of the GFS faculty of the department, and approval of the academic dean. FSU Panama City Campus faculty with GFS cannot serve as a chair of a doctoral dissertation committee.

The Supervisory Committee must be entered in GST as soon as students form their committee, and updated regularly as changes occur. No changes to the committee should occur after the second week of the semester of defense, except under emergency circumstances.

5.5 PhD Preliminary Examination

The Preliminary Examination is the final requirement for doctoral candidacy. This exam is taken over a five-week period. It must be successfully completed by the student's **fourth** semester (for the BS-to-PhD track), or third semester (for all the other tracks). The student is allowed to retake the exam only once.

- [Template for the Preliminary Examination report](#)

In the semester, the student intends to take the Preliminary Examination, he/she needs to register for the 0-credit hour EEL 8964 (Prelim Exam). This registration must be done only once.

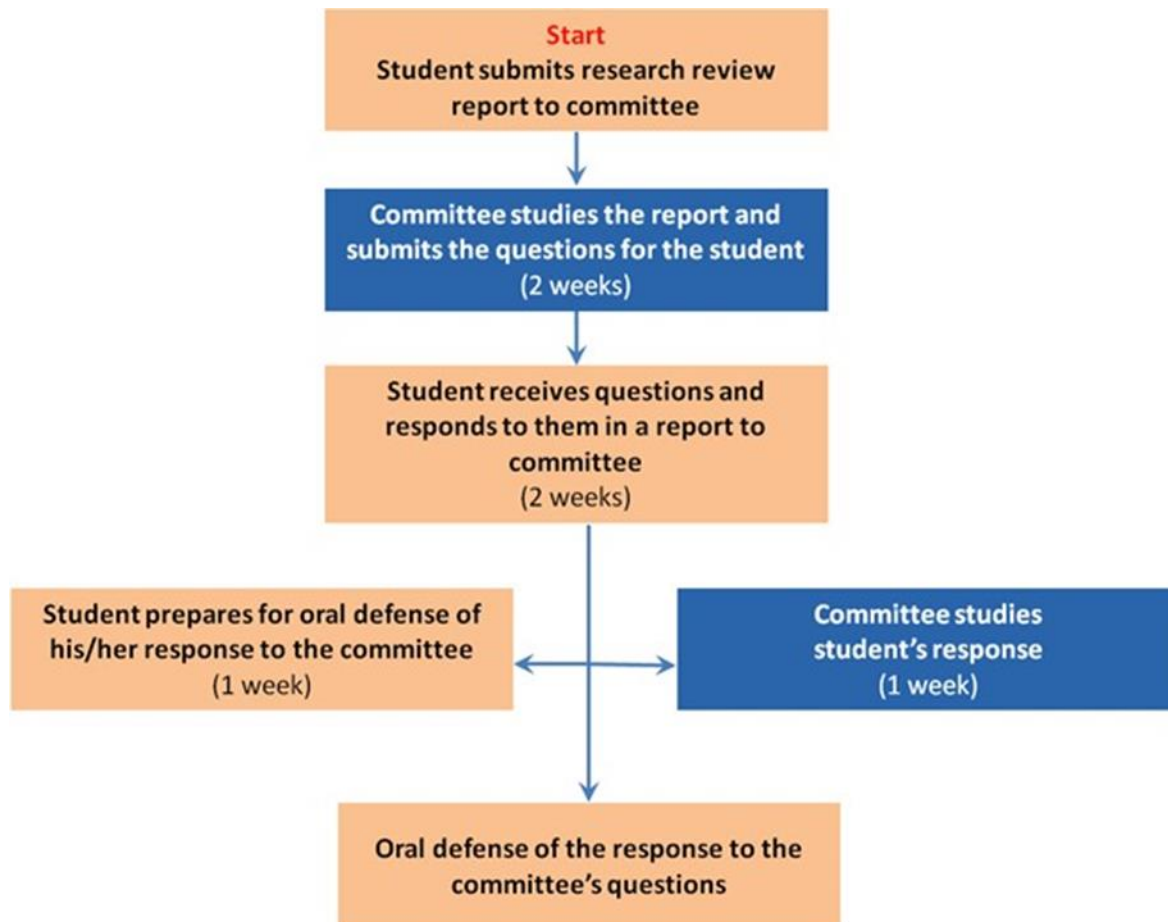
In preparing for the Preliminary Examination, the student shall present to the committee an approximately 40-page research review report demonstrating an understanding of the theoretical framework in the area of research based on an in-depth literature review. In demonstrating an understanding of the literature, the student must include a discussion that identifies the knowledge gaps in their research area. Upon submission of the research review report, the committee will respond to the student with questions based on the literature review and research area.

The following is a schedule of events for the successful completion of the Preliminary Examination:

- ✓ The student must make arrangements with the adviser to schedule a five-week time period for the examination. The examination committee should contain at least three faculties with GFS status from the ECE Department.
- ✓ With the consultation of the adviser, the student will submit a research review report to the examination committee. A Microsoft Word template of the report can be downloaded from [here](#). The topic of the report should be determined by the major adviser of the student. The student is encouraged to submit the research review report by the middle of the semester for which he/her registered for the Preliminary Examination. The student should abide by the IEEE plagiarism policy.
- ✓ The committee will submit written questions to the adviser for collection by the student two weeks after submission of the research review report. These questions will relate to the research review report.



- ✓ The student will have two weeks to develop written responses to the questions in preparation of the oral exam. These responses will be submitted to the adviser, who will then distribute the responses to the committee members. The student should submit a complete set of answers to each committee member; the answers should be given as separate appendices to the original (or revised) research review report.
- ✓ The oral examination will be held within one week of submission of the written responses. This examination will be primarily related to the research area and the student's written responses. Appropriate related fundamental concepts may also be covered. During the final oral presentation, the student should give a short summary of the research report and address the questions of the committee on separate slides.
- ✓ Pass/fail is determined on the combined written and oral responses to committee questions. A majority of committee votes and a pass vote by the committee chair is required to pass.
- ✓ After the examination is completed the [Preliminary Examination Report Form](#) should be filled and submitted to the ECE Graduate Coordinator. A student who passes the examination will be recognized as a candidate for the PhD Degree.





If a student fails the preliminary examination before being admitted to candidacy, a re-examination may be offered by the student's supervisory committee or other relevant decision making body within each department or unit, per that department or unit's doctoral student handbook. The Academic Dean's office should be notified of the outcome of any preliminary exam attempt.

Students can take the preliminary examination for admission to candidacy only two times. A second failure on the preliminary exam makes the student ineligible to continue in the degree program. The second attempt at the preliminary exam shall occur no sooner than six full class weeks after the results of the first attempt are shared with the student. For the purpose of this policy, a "full class week" is defined as a week with five days during which classes are held at FSU. Students must be registered separately for their first and second attempt, if necessary within the same semester, and must receive either a "pass" or a "fail" grade for each attempt.

An exception request regarding the timing of the re-examination can be submitted for consideration to the Academic Dean's Office by either the student or the supervisory committee. Students who allege that academic regulations and/or procedures were improperly applied for the re-examination of their preliminary exam may have their grievances addressed through the general academic appeals process. The full preliminary exam policy as listed here must be added to all doctoral student handbooks.

5.6 Prospectus Examination

After passing the Ph.D. Preliminary Examination, the student should pass the Prospectus Examination. This examination is usually passed by the end of the 3rd year and needs to take place at least 8 months before the graduation date. The student must submit a [Prospectus Examination Application/Approval Form](#) to the ECE Graduate Committee. The student's advisory committee administers this exam, which may be in the form of a written or a combination of written and oral examination. The content and scope of the exam are at the discretion of the committee. The Prospectus Examination represents the defense of the Dissertation Proposal.

5.7 Dissertation Defense Announcement

It is the student's responsibility to post the dissertation defense announcement within the department and the College of Engineering at least 2 weeks prior to the defense. The announcement should include dissertation title; student's name; student's department; major professor and committee members; date; time and location of the defense. Academic courtesy requires that the dissertation be submitted to each member of the supervisory committee at least 4 weeks before the date of the oral examination.

5.8 Dissertation & Defense



The Ph.D. dissertation must be an achievement in original research constituting a significant contribution to knowledge and represent a substantial scholarly effort on the part of the student. It is the responsibility of the major professor to supervise the preparation of the prospectus and the dissertation. The manuscript must be prepared according to the style and form prescribed by the department and must conform to the University requirements regarding format.

In the semester the student intends to defend, he/she needs to register for the 0-credit hour EEL 8985 (Dissertation Defense). The student must submit a [Ph.D. Presentation &-Defense Application/Approval Form](#) to the ECE Graduate Committee. Please refer to the Graduate Student Handbook from your university for further details. The defense of the dissertation will be oral. All committee members and the student must attend the entire defense in real time, either by being physically present or participating via distance technology.

5.9 Student Evaluations

Doctoral students are evaluated every year to assure that they have the opportunity for scholarly engagement and continue to make timely progress toward completion of the degree program. The evaluation usually takes place in the second part of the spring semester.

5.10 Transfer of Credits

A maximum of 6 credit hours of graduate courses not counted toward a previous degree from another regionally accredited graduate school may be transferred from another academic institution(s) to the student's current doctoral degree program, with the approval the ECE Departmental Graduate Committee. A grade of "B" or better is required on all transfer credits.

5.11 Scholarly Engagement Requirement

Doctoral students are required to interact with faculty and peers throughout their program. In particular, doctoral students are required to:

- ✓ enroll in courses and take a minimum number of credit hours as specified by the Ph.D. track;
- ✓ enroll and attend the weekly graduate seminar in ECE every semester;
- ✓ finally, publish or have accepted for publication at least one refereed article to a journal in their field of interest before their graduation will be approved (Journal Paper Submission Requirement).

In addition to the above requirements, doctoral students are strongly encouraged to attend seminars, symposia, and conferences, engage in collaborative study and research beyond the university campus, and utilizing the library, laboratories, and other facilities provided by the university. The purpose of the Scholarly Engagement Requirement is to ensure that doctoral students are active participants in the scholarly community. The goal is to prepare students to be scholars who can independently acquire, evaluate, and extend knowledge, as well as develop themselves as effective communicators and disseminators of knowledge.



6 FUNDING OPPORTUNITIES

6.1 Department-Offered Assistantships

The ECE Department has limited funding resources for graduate students. The Department uses two different mechanisms for funding students:

- Teaching assistantships
- Research assistantships

Teaching assistantships are usually offered at the beginning of each semester; they are recommended by the Graduate Committee and approved by the Department Chair. Research assistantships are offered by faculty members, and the funding commitment belongs to individual faculties. Students interested in research assistantships should contact directly the faculty members and not the Graduate Committee. Please note that the Department is not required to sustain the support if the faculty member withdraws support.

All the assistantships are contingent upon satisfactory performance and progress towards the MS or Ph.D. degrees. In addition to financial support from within the department, there are also various fellowships available from the College of Engineering, the university, industry, philanthropic organizations, and from several U.S. government agencies. Information is available through the graduate program office or from the Graduate School office. Many of these fellowships are restricted to U.S. citizens.

The Department offers three types of teaching assistantships:

- **Graduate Laboratory Teaching Assistantship (GLTA).** A GLTA assignment is made to a regular laboratory section that requires students to meet for a specified 2 or 3-hour time slot on a weekly basis. Recipients of GLTAs are expected to prepare and present lab lecture and pre-lab materials, assist students in conducting the laboratory, and collect and grade lab reports.
- **Graduate Grading Teaching Assistantship (GGTA).** A GGTA assignment is made to a regular lecture section for the purpose of grading student homework and other assignments. The GGTA is not expected to meet with students except as to explain the grading of a particular assignment when needed.
- **Graduate Special Teaching Assistantship (GSTA).** A GSTA assignment can be made for a variety of reasons. The GSTA recipient is assigned to a particular faculty member and is responsible for assisting the faculty member in executing one or more courses.

More details about the Department-Offered Assistantships can be found in the Graduate Teaching Assistant Handbook (Guidelines and Regulations). Below is some useful information:



- All the TAs are required to attend training on Sexual Harassment, Academic Honor Policy and the Federal Educational Rights and Privacy Act (FERPA). This training is usually done by the university at the beginning of the Fall semester. Sometimes, the university also offers a training session at the beginning of the Spring semester. More information about the university wide-standards for TAs is available [here](#).
- Students are encouraged to work with faculty on sponsored research projects.
- Continuation of assistantships and fellowships is contingent upon satisfactory academic performance, as well as satisfactory performance of assigned duties associated with the assistantship.
- Some assistantships are available in the summer but are not guaranteed. Efforts will be made to distribute summer support equitably, based on needs of the department and the qualification and seniority of students. Each year, the department establishes fixed pay rates for state-supported assistantships. The pay rates are a function of the type of assistantship, the number of hours per week assigned, and whether the student is a Master's or Ph.D. candidate. Rates for externally funded assistantships are at the discretion of the individual faculty providing support.
- If the department has committed an assistantship to a student at a particular biweekly rate, and a faculty researcher offers the student partial support, the Department reserves the right to reduce the level of support from state funds so as to maintain the same total biweekly or semester rate. (This reduction of state funding may be necessary due to overall budgetary constraints of the Department.)
- Individual faculty members are not empowered to offer teaching assistantships or grading positions to graduate students. This decision is determined by the department chairman.
- The Department maintains a list of all current students who have been awarded an assistantship by the department and of all non-supported students who have requested assistantship support. Faculty researchers will normally review this list and consult with the Graduate Program Coordinator before committing assistantship support to a student.

6.2 Award Policy for Department-Offered Assistantships

The Graduate Program Committee is in charge of assigning teaching assistantships to graduate students. The following items are used in making these assignments:

- Students who have a written financial commitment from the department have the highest priority.
- Doctoral students are usually given priority over master's students.
- How many times the student was awarded a TA position in the past. The department usually awards up to 4 semesters (20 h/semester) of TA to graduate students. After 4 semesters of receiving TA the chance the student will receive additional funding in the form of a TA is decreasing.



- Students with higher GPA have priority over students with lower GPA.
- Students whose focus area indicates a good match for a position also have priority.
- Adviser's recommendation and evaluation of the student.

In addition to the above items, the committee is also looking at if the student has passed the necessary exams for the completion of his or her degree in a timely manner. For instance, if the student has not passed the Preliminary or Prospectus Exams within the time limits recommended by the department, the student will lose priority when receiving a TA position. Therefore, it is particularly important for students to pass all their exams in a timely manner and not delay them to the end of the program.

To apply for a teaching assistantship students need to fill in the [TA/Grader Application Form](#) approximately 1 month before the start of the semester.

6.3 Funding opportunities for International Students

International students willing to apply for teaching assistantships should first take the speaking section of the TOEFL and get at least 26 in order to be eligible for a TA position. International students who have not obtained 26 on the speaking section of the TOEFL might be admitted in the MS or PhD Program but they cannot be awarded a teaching assistantship. In this case the student can either take the speaking section of the TOEFL while they are enrolled in the Program or pass the FSU-SPEAK test in order to become eligible for a TA position. These are a university-wide requirements and the Department cannot waive them.

If you are an international student interested to enroll to in one of our graduate programs and would like to obtain a **teaching assistantship** you need to first apply to our university in order for us to be able to review your application and decide if you will receive a teaching assistantship or not. Please do not send emails to the Graduate Program Director or Graduate Program Coordinator asking about your chances of getting teaching assistant. Due to the large number of emails that we receive with this inquiry we cannot reply to all of them.

If you are an international student interested to enroll to in one of our graduate programs and would like to obtain a **research assistantship** you need to contact individual faculties in our Department in order to see if they have any funding available. Please do not email the Graduate Program Director or the Graduate Program Coordinator asking about the availability of research assistantships since they do not have this information.

7 OFFICE OF GRADUATE FELLOWSHIPS AND AWARDS

Please read the [General Funding Opportunities](#) and [External Funding Opportunities](#) documents to find about funding resources.

7.1 Other funding opportunities



You can also consider the following funding opportunities. If you are an incoming or a current student in our Department we strongly encourage you to apply to one or more of these funding sources.

1. [Microsoft Research Graduate Women's Scholarship Program](#) One year scholarship program for outstanding women graduate students. Must apply during first year of graduate studies. Award includes \$15,000 with an additional \$2,000 travel allowance.
2. [National Science Foundation Graduate Research Fellowship Program](#) Students at the beginning stage of graduate study. Stipend, cost of education allowance, and Research Travel Allowance.
3. [Ford Foundation Fellowship Programs](#) Individuals committed to a career in teaching and research at the university level, especially those who will use diversity as a resource for enriching the education of all students. Programs for both pre-doctoral as well as dissertation level students. Annual stipend of \$20,000
4. [The National Defense Science and Engineering Graduate Fellowship Program](#) Doctoral students at the beginning of their studies receive full tuition and required fees, and \$30,500 stipend. Application scheduled to re-open in September, application usually due in December.
5. [Science, Mathematics, and Research for Transformation Defense Scholarship \(SMART\)](#) Aims to increase the number of scientists and engineers in the Department of Defense. Award amount between \$25,000 and \$38,000
6. [Department of Energy Computational Science Graduate Fellowship](#) M.S. students beyond their first year and first year Ph.D. students with a M.S. degree can apply for a \$36,000 fellowship.
7. [Women in Defense HORIZONS scholarship](#) Women graduate students interested in pursuing a career related to national security or defense.
8. [Anita Boyd](#) Female graduate students studying computer science or computer engineering. Recipients receive a \$10,000 award.
9. [IBM PhD Fellowship Awards Program](#) Ph.D. students who have an interest in solving problems that are important to IBM and fundamental to innovation.
10. [AAUW Fellowships and Grants](#) Fellowships and Grants offered to advance educational and professional opportunities for women in the United States and around the globe. Awards include American Fellowships, Career Development Grants, International Fellowships, Selected Professions Fellowships and Community Action Grants. See the website for details on each award.
11. [Funding opportunities at FSU](#)
12. [PIVOT](#)