

Master's Program Handbook

11/2023

*This document is available online at
<https://engineering.purdue.edu/ECE/Academics/Graduates/MASTERS/handbook>*



Elmore Family School of Electrical
and Computer Engineering

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1 Introduction

This handbook contains information about the Master's program offered by the School of Electrical and Computer Engineering (ECE) at Purdue. Included is relatively detailed information about degree requirements, minimum academic standards, registration, and plans of study. Also included is information about faculty advisors for non-thesis students, the thesis advisory committee, and the Master's thesis.

A strength of the academic component of the Master's program at Purdue is that each student creates his/her own [plan of study](#) (Section 6), a document that defines each student's academic program. Degree requirements afford flexibility for developing a plan of study that best suits each students' needs and professional objectives. The information in this handbook is intended to assist students in generating a plan of study with proper faculty supervision.

1.1 Research Areas and Core Courses

A student in the Master's program must select one of the seven [ECE research areas](https://engineering.purdue.edu/ECE/Research/Areas) (https://engineering.purdue.edu/ECE/Research/Areas) listed in Table 1.1 as his or her primary area. The primary area encompasses the body of knowledge each student chooses for his or her professional expertise.

Table 1.1 ECE Research Areas

Research Area	Core Course
Automatic Control (AC)	ECE 60200, Lumped System Theory
Communications Networks and Signal and Image Processing (CS)	ECE 60000, Random Variables and Signals
Computer Engineering (CE)	ECE 60800, Computational Models and Methods
Fields and Optics (FO)	ECE 60400, Electromagnetic Field Theory
Microelectronics and Nanotechnology (MN)	ECE 60600, Solid State Devices I
Power and Energy Devices and Systems (PE)	ECE 61000, Energy Conversion
VLSI and Circuit Design (VC)	ECE 55900, MOS VLSI Design

Core courses: Table 1.1 also lists the core courses associated with each of the seven ECE areas. All MS students must take the core course in their primary area.

Primary and related areas: Courses offered by a student's research area are primary-area courses. Courses offered by ECE research areas other than the student's primary area or qualified courses from other schools at Purdue are related-areas courses. Courses on a plan of study must be identified as primary-area or related-area courses.

1.2 MS Tracks

There are multiple tracks for students to earn a Master's degree. These are:

1. Thesis track
2. Project track
3. Course-only track
4. Online track

For qualifying Purdue ECE undergraduates, a fifth option is available:

5. 4+1 accelerated track

Transferring tracks: Students who enter the Master's program under one track may be eligible to transfer to another MS track; restrictions may exist for some students. Contact the ECE Graduate Office to discuss your situation.

Continue to a PhD: Students who wish to [continue graduate study for a PhD](#) (Section 9) must apply for admission to the PhD program.

Additional resources: In addition to this handbook, there are other resources available in the ECE Graduate Office, located in Room 140 of the MSEE Building, and on the [ECE Master's Student Guide](#) website (<https://engineering.purdue.edu/ECE/Academics/Graduates/MASTERS>).

2 Master's Degrees

The School of Electrical and Computer Engineering offers *one* Master of Science in Electrical and Computer Engineering (MSECE) degree, regardless of the track a student chooses to earn the degree.

Eligibility: Persons eligible for the MSECE degree shall have graduated with a Bachelor's degree in Electrical and Computer Engineering. Alternatively, students with Bachelor's degrees earned in fields of science or engineering other than Electrical and Computer Engineering may pursue graduate degrees in Electrical and Computer Engineering, but they are responsible for acquiring knowledge of the undergraduate material that form the prerequisites for the specific graduate courses in their plans of study.

3 Degree Requirements

Students must complete 30 credit hours of an approved combination of course work, thesis research, or project as specified by the track chosen to earn the MS degree; see details for each track below.

ECE course requirement: At least 15 of the credit hours must be Purdue ECE graduate-level credit hours.

Plan of study: All course credit hours must appear on the plan of study approved by the student's advisory committee for those in the thesis track or by a faculty advisor in all other cases. See more information in [Section 6, Master's Plan of Study](#).

3.1 Thesis Track Degree Requirements

This track provides students with a classical experience of writing a thesis document that solves a substantial ECE-related problem. This experience, combined with graduate courses that delve into related ECE topics, prepares students for careers in research or pursuing a doctoral degree.

Thesis-track students should see [Section 8, Master's Thesis and Final Examination](#) for additional information.

Core Course Requirement

Students must successfully complete a minimum of **two** core courses. One of these must be the student's primary area core course. The second core course adds breadth of ECE knowledge to the student. Regional campus courses or transfer courses do not satisfy the core course requirement.

Math Requirement

A minimum of three approved math credit hours are required for the thesis track. See [Appendix A](#) for approved courses that can be used to meet the math requirement.

Graduate Seminar Requirement

Students in the thesis track are required to take [ECE 69400, Graduate Seminar](#).

Research Credit Requirement

Students on the thesis track are required to register for ECE 69800 research (thesis) credits. Students should check with their major professor to determine the number of ECE 69800 hours appropriate for their program. ECE 69800 hours count toward the 15-credit-hour Purdue ECE graduate-level credits requirement. ECE 69600 and ECE 69700 credit hours cannot satisfy degree requirements for thesis track and cannot appear on a student's plan of study.

Summary of Course and Credit-Hour Requirements

Table 3.1 summarizes the preceding course and credit hour requirements for the thesis track.

Table 3.1: Summary of Course and Credit-Hour Requirements for Thesis Track

Required Core Courses (Credit Hours)	2 (6)
Required Math Credit Hours	3
Allowed 69600/69700 Credit Hours	0
Total Required Graduate-Level Purdue ECE Credit Hours	15 Includes ECE 69800
Required Credit Hours on Plan of Study	30 18-24 credit hours non-thesis

3.2 Project Track Degree Requirements

The project track was created to build technical and professional skills for students preparing for careers in industry. Based on input from industrial advisors, career-relevant skills developed in this program include technical depth in a chosen field, familiarity with concepts in related technical areas, and effective communication/presentation competencies. Principles of teamwork/leadership, and business concepts, such as intellectual property and entrepreneurship/intrapreneurship, are included in this track.

The unique feature of this track is the **Ideas to Innovation** project course sequence and a set of one-credit-hour courses designed to enhance the technical breadth of students in this track. Students in this track will select the concentration of **Innovative Technologies-Professional Masters (INVT)** in the plan of study.

Core Course Requirement

Students must successfully complete the core course in their primary area. Regional campus courses or transfer courses do not satisfy the core course requirement.

Math Requirement

A minimum of three approved math credit hours are required for the project track. See [Appendix A](#) for approved courses that can be used to meet the math requirement.

Ideas to Innovation Courses

All students in the project track must complete 9 credit hours of specific coursework, including Ideas to Innovation Design Project I & II (6 credits), a two-semester course sequence focused on an intensive design project and professional development exercises.

Students are expected to take Ideas to Innovation Design Project I during their first Fall semester and Ideas to Innovation Design Project II in the subsequent (Spring) semester. Through these courses, student teams consisting of members from different technical areas will complete a significant design project. Processes for project proposals, approvals of project concepts, design reviews, and final reports are modeled on those of leading technology innovation companies

Required project-track coursework:

- ECE 69500, Communication for Engineering Leaders (1 credit)
- Additional 2 credits of coursework from the following list:
 - Ideas to Innovation III (2 credits, Fall): Analyze your prototype design to determine how the design or process can be improved.
 - Ideas to Innovation, Ideation (2 credits, Spring): Learn the fundamentals of the ideation process and propose novel ideas for a big societal problem.
 - Ideas to Innovation, I2I Mentor (2 credits, Spring): Serve as a mentor/technical transfer agent to the following cohort of I2I students based on your project work in the previous term.
 - Ideas to Innovation, Intellectual Property Generation and Management (2 credits, Spring): Learn about intellectual property and patents.
 - IE 59000: Project Management (3 credits, Spring)
 - IE 54500: Engineering Economic Analysis (3 credits, Fall)
 - IE 54600: Economic Decisions in Engineering (3 credits, Spring)
 - SYS 50000: Perspectives on Systems (3 credits, Fall)
 - STAT 514: Design of Experiments (3 credits, Fall or Spring)

Waiver of Graduate Seminar Requirement

[ECE 69400, Graduate Seminar](#) is not required for the project track.

Summary of Course and Credit-Hour Requirements

Table 3.2 summarizes the preceding course and credit hour requirements for the project track.

Table 3.2: Summary of Course and Credit-Hour Requirements for Project Track

Required Core Courses (credit hours)	1 (3)
Technical Depth (including core course)	9-12
Breadth Credit Hours	6-9
Required Math Credit Hours	3
Required project-track coursework: <ul style="list-style-type: none"> • Ideas to Innovation I, and II • Communications for Engineering Leaders • A minimum of 2 credits of coursework from list shown above 	6 1 2
Total Required Graduate-Level Purdue ECE Credit Hours	15
Required Credit Hours on Plan of Study	30

Students entering the project track before Fall 2023: Students entering the project track before Fall 2023 have these curriculum requirements:

Required Core Courses (credit hours)	1 (3)
Technical Depth (including core course)	9-12

Breadth Credit Hours	6-9
Required Math Credit Hours	3
Required project-track coursework: <ul style="list-style-type: none"> • Ideas to Innovation I, II, and III • Communications for Engineering Leaders • ENTR 500, Entrepreneurship 	8 1 2
Total Required Graduate-Level Purdue ECE Credit Hours	15
Required Credit Hours on Plan of Study	30

3.3 Course-Only Track Degree Requirements

Students in course-only track satisfy degree requirements solely through academic courses on the WL campus. This track deepens a student’s understanding of ECE subject matter far beyond that of an undergraduate.

This track positions students well to [earn a PhD](#) (Section 9) in one of the ECE research areas, start a career in industry, or move into other professions such as medicine, business, finance, or law. Students following this track can take one-credit courses, pending availability.

Core Course Requirement

Students must successfully complete a minimum of **two** core courses. One of these must be the student’s primary area core course. The second core course adds breadth of ECE knowledge. Regional campus courses or transfer courses do not satisfy the core course requirement.

Math Requirement

A minimum of 6 approved math credit hours are required for the course-only track. See [Appendix A](#) for approved courses that can be used to meet the math requirement.

Graduate Seminar Requirement

Students in the course-only track are required to take [ECE 69400, Graduate Seminar](#).

Research Credit Requirement

Research is not required for this track. Up to three credit hours of ECE 69600 and/or ECE 69700 are allowed on the plan of study.

Summary of Course and Credit-Hour Requirements

Table 3.3 summarizes the preceding course and credit hour requirements for the course-only track.

Table 3.3: Summary of Course and Credit-Hour Requirements for Course-Only Track

Required Core Courses (credit hours)	2 (6)
Required Math Credit Hours	6
Allowed ECE 69600/69700 Credit Hours	3

Total Required Graduate-Level Purdue ECE Credit Hours	15
Required Credit Hours on Plan of Study	30

3.4 Online Track Degree Requirements

The online track provides students the opportunity to earn the MSECE degree from any location. Track requirements are identical to those of the course-only track for on-campus students. Students will acquire a deep understanding of an ECE research area while gaining breadth through one- and three-credit hour courses.

Similar to the course-only track, this track enables students to start careers in industry or pursue careers in medicine, business, finance, or law. [Application to the ECE PhD program](#) (Section 9) is possible provided the student can relocate to the WL campus.

Core Course Requirement

Students must successfully complete a minimum of **two** core courses. One of these must be the student's primary area core course. The second core course adds breadth of ECE knowledge to the student. Regional campus courses or transfer courses do not satisfy the core course requirement.

Math Requirement

A minimum of six approved math credit hours are required for the course-only track. See [Appendix A](#) for approved courses that can be used to meet the math requirement. Note that not all of these courses are offered online.

Waiver of Graduate Seminar Requirement

[ECE 69400, Graduate Seminar](#) is not required for the online track.

Research Credit Requirement

Research is not allowed for students in the online track.

Summary of Course and Credit-Hour Requirements

Table 3.4 summarizes the preceding course and credit hour requirements for the online track.

Table 3.4: Summary of Course and Credit-Hour Requirements for Online Track

Required Core Courses (Credit Hours)	2 (6)
Required Math Credit Hours	6
Allowed ECE 69600/69700 Credit Hours	0
Total Required Graduate-Level Purdue ECE Credit Hours	15
Required Credit Hours on Plan of Study	30

3.5 “4+1” BS/MS Track Requirements

Purdue ECE undergraduates who qualify may earn an MS degree in two academic semesters (Fall and Spring) after their BS graduation. Students accepted into this track may double count up to 12 credit hours of graduate-level courses toward both BS and MS degree requirements. Eligible courses, taken when a student is an **undergraduate and after the student has been admitted to the 4+1 program**, include all 50000- and 60000-level ECE courses.

This track is designed for students to satisfy MS degree requirements in two semesters assuming the student follows a course-only path to the MS degree. The information below is provided based on the assumption of a course-only approach.

Approval to double count up to 12 credit hours, however, applies to all MS tracks. Purdue students choosing to pursue the thesis track or project track for the MS degree must understand that time to completion of MS requirements may take longer than one academic year (Fall and Spring semesters) because thesis research and project execution timelines may push graduation beyond two semesters.

Core Course Requirement

Students must successfully complete a minimum of **two** core courses. One of these must be the student's primary area core course. The second core course adds breadth of ECE knowledge. Regional campus courses or transfer courses do not satisfy the core course requirement.

Math Requirement

A minimum of six approved math credit hours are required for the course-only track. See [Appendix A](#) for approved courses that can be used to meet the math requirement.

Graduate Seminar Requirement

Students in the 4+1 course-only track are required to take [ECE 69400, Graduate Seminar](#).

Research Credit Requirement

Research is not required for this track. ECE 69600 and ECE 69700 credit hours are allowed on the plan of study.

Qualification Criteria for Program Acceptance

Purdue ECE undergraduates with a 3.5 GPA after semester 4 (sophomore year) may apply for the 4+1 BS/MS program. Provisional acceptance is based on the student maintaining at least a 3.4 GPA in their undergraduate courses at the time of graduation and a grade of B or higher on the graduate level courses taken as an undergraduate. **Grades below B on graduate-level courses may not be double counted.**

Summary of Course and Credit-Hour Requirements

Table 3.5 summarizes the preceding course and credit hour requirements for the 4+1 course-only track.

Table 3.5: Summary of Course and Credit-Hour Requirements for 4+1 Course-Only Track

Required Core Courses (Credit Hours)	2 (6)
Required Math Credit Hours	6
Allowed ECE 69600/69700 Credit Hours	3
Total Required Graduate-Level Purdue ECE Credit Hours	15
Required Credit Hours on Plan of Study	30

3.6 MSECE Concentrations

Innovative Technologies

Students in the MSECE project track are in the Innovative Technologies (INVT) concentration.

Microelectronics and Advanced Semiconductors

A concentration in microelectronics and advanced semiconductors is also available to ECE graduate students.

Full details on the coursework required to earn the concentration is available on the webpage [Graduate Concentration in Microelectronics and Advanced Semiconductors](https://engineering.purdue.edu/ECE/Academics/Graduates/MASTERS/microelectronics-and-semiconductors) (<https://engineering.purdue.edu/ECE/Academics/Graduates/MASTERS/microelectronics-and-semiconductors>)

Multiple Concentrations

MSECE students may have a maximum of two concentrations.

3.7 Other Requirements

Graduate Seminar Requirement

ECE graduate students in the thesis, course-only, and 4+1 tracks must satisfactorily complete one semester of [ECE 69400, Graduate Seminar](#). This course carries no credit but a grade of Satisfactory or Unsatisfactory is assigned at the end of the semester.

ECE 69400 should not be listed on the plan of study. Also, it is strongly recommended that students take ECE 69400 during their first year.

Students in the project track receive information similar to that disseminated in ECE 69400 in their Ideas to Innovation course sequence. Students in the online track are typically employed in career jobs and the professional development component of ECE 69400 would be redundant.

Responsible Conduct of Research Course Requirement

All ECE graduate students must satisfactorily complete the Responsible Conduct of Research course as instructed in the ECE online orientation. This is an online course offered through [Collaborative Institutional Training Initiative \(CITI\)](#).

Written English Requirement

All ECE graduate students must demonstrate acceptable proficiency in written English before admission. Methods that may be used to fulfill the English requirement are detailed in [Appendix C](#).

Undergraduate Credit Hours

Graduate students may take undergraduate courses if space allows, but these may be included on the plan of study only in special situations and if a grade of B- or better is received.

Undergraduate courses on the plan of study must be specifically approved by the student's major professor or faculty advisor **and** the ECE Associate Head for Graduate Programs. See [Appendix B](#) for preapproved undergraduate courses that may appear on a graduate degree plan of study.

4 Minimum Academic Standards

MSECE students are subject to both ECE academic standards and University academic standards.

4.1 ECE Academic Standards

As a Master's student in ECE, you are expected to maintain the following standards throughout your academic program:

- Maintain a plan-of-study (POS) grade point average (GPA), based on your currently approved plan of study, of at least 3.00 out of 4.00, with no grade of less than C- on the POS.
- Earn grades of "Satisfactory" in thesis research credit hours (ECE 69800).
- Satisfactorily complete [ECE 69400, Graduate Seminar](#) (if required) and meet the [written English proficiency requirement](#) (Appendix C) within the first two semesters of your academic program.
- Make continuous and significant progress each semester toward completion of your degree requirements.
- Complete all degree requirements and graduate within three years after entering the ECE graduate program (except for online track students).

ECE academic probation: You will be placed on ECE academic probation if you complete any semester or summer session with a deficiency in any of the above standards. Should you remain on ECE academic probation at the end of the succeeding semester or summer session, you may be prohibited from registering for further graduate study. Students concerned about their academic progress should schedule an appointment with the ECE Graduate Programs Director or Master's Program Manager.

Plan of study GPA: As noted above, the cumulative plan-of-study GPA is calculated using the courses on your plan of study. However, transfer courses and graduate-level courses taken while an undergraduate student are not included in the computation (except for 4+1 track students). In the case of a deficiency in the cumulative plan-of-study GPA, courses may be repeated. If a course is repeated, only the most recent grade received will be used in computing the index, even if it is a lower grade.

Grades of D or F: University requirements state that no grade of D or F is allowed in a course on the plan of study. Any plan of study course in which a grade of D or F is received must be repeated and completed successfully; it cannot be dropped from the plan of study.

4.2 University Academic Standards

Academic Notice

A student at Purdue University shall be placed on university academic notice if his/her fall or spring semester or cumulative GPA at the end of any fall or spring semester is less than a 2.0.

A student on academic notice shall be removed from that standing at the end of the first subsequent fall or spring semester in which he/she achieves semester and cumulative GPAs equal to or greater than 2.0.

Any grade change due to a reporting error will result in a recalculation of the GPA and determination of academic standing.

Academic standing will not be assessed in summer sessions.

Dropping of Students for Academic Deficiency

A student on academic notice shall be dropped from the University at the close of any fall or spring semester in which his/her semester and cumulative GPA is less than a 2.0.

Any grade change due to a reporting error will result in a recalculation of the GPA and determination of drop status.

Readmission

A graduate student who is academically dropped from the University for the first time is not eligible to enroll for at least one fall or spring semester. A graduate student who is academically dropped for the second time is not eligible to enroll for at least one year.

A graduate student dropped by this rule must apply for readmission to the School of Electrical and Computer Engineering or other Purdue graduate program to which they want to apply. appropriate office or readmission committee for the Purdue campus of choice. The normal application fee would apply. A fee is assessed for processing the readmission application (Board of Trustees Minutes, June 5-6, 1970). Readmission is not guaranteed, but any student who gains readmission is readmitted on probation and is subject to stipulations in effect as a condition of readmission.

5 Master's Major Professor or Faculty Advisor

5.1 Thesis Track – Major Professor & Advisory Committee

For students in the thesis track, your Master's advisory committee shall consist of a minimum of three faculty members. The duties of this committee are to assist you in the preparation of the plan of study, advise you on research related to your Master's thesis, and conduct examinations on the Master's thesis.

Major professor: You must select a major professor who will serve as the Chair of the advisory committee. The major professor/student relationship must be a mutually acceptable one. With the advice and approval of your major professor, you will select the remaining members of your advisory committee.

For the following rules and guidelines on the composition and make-up of your advisory committee, tenure-track, courtesy, and research professors with regular graduate certification by West Lafayette ECE are to be regarded as members of the [West Lafayette ECE faculty](https://engineering.purdue.edu/ECE/People/Faculty) (<https://engineering.purdue.edu/ECE/People/Faculty>):

- The major professor must be a member of the West Lafayette ECE faculty and should be a member of the primary area that you have declared.
- If you have selected the thesis option and two advisors guide your research jointly, it may be advisable to have two co-chairs on your advisory committee rather than a single chair. At least one of these co-chairs must be a member of the West Lafayette ECE faculty and should be a member of the primary area that you have declared.
- At least one member of the advisory committee must be from your primary area, and another member should be from your ECE related area.
- A majority of your advisory committee must be composed of tenure-track professors with 50% or more appointment on the ECE faculty at the West Lafayette campus.
- A special member, defined as a person without regular graduate faculty certification, may be added as the fourth member of the committee. An up-to-date list of faculty members with regular graduate faculty certification and their faculty identifiers is included in the online plan of study system.
 - Faculty members at Purdue, including regional campuses, would have regular graduate faculty certification.
 - Faculty members from other universities, researchers from industry, and non-faculty research staff from Purdue have to be approved for special certification by the Graduate School for them to be members of the advisory committee.
 - You may initiate a request for special certification in the ECE Graduate Office. A current and complete vita for the special member has to be submitted along with your request.

The advisory committee, as agreed upon by you and your major professor, shall be presented to the ECE Associate Head of Graduate and Professional Programs and the Dean of the Graduate School for approval and formal appointment. The Dean may appoint additional members if it seems advisable. The advisory committee is established when the plan of study is approved. Changes to the advisory committee can be made online as a revision to your plan of study.

5.2 Project, Course-Only, Online, and 4+1 BS/MS Tracks: Faculty Advisor

Students in the project, course-only, online, and 4+1 tracks must select a single professor from the West Lafayette ECE faculty, who is in the student's primary area, as their faculty advisor.

The duties of the faculty advisor are to assist students in preparation of the plan of study and to approve plans of study. In some cases, such as project or online track students, a faculty advisor may be assigned to students.

6 Master's Degree Plan of Study

All Master's students must file a plan of study (POS):

- On-campus students: POS is due before the end of the first semester.
- Online students: POS is due around the time the student has completed nine credit hours.

This helps to ensure a logical curriculum early in the program, sets a clear pathway toward completion of the student's degree, and helps the school plan and monitor the overall ECE graduate program. For this reason, registration for subsequent semesters is not permitted until the plan of study has been filed.

If necessary, changes can be made to the plan of study at a later date, subject to the restrictions below.

The plan must be appropriate to meet the needs of the student's chosen field as determined by the advisory committee and faculty advisor and must be approved the ECE Associate Head of Graduate and Professional Programs and the Graduate School.

6.1 Preparing Your Plan of Study

Suggested steps in preparing your plan of study are as follows:

- a) Review the following:
 - Master's coursework requirements in this handbook; also see Subsection 6.3 if undergraduate, transfer, or excess course credit will be included on the plan of study.
 - [Course information that is available online](#) to determine which courses are of most interest to you and will enable you to meet your degree requirements.
 - [ECE Course Advanced Planning List](#) and the University Schedule of Classes to determine the semester(s) in which the chosen courses will be offered.
 - [ECE faculty directory](https://engineering.purdue.edu/ECE/People/Faculty) (<https://engineering.purdue.edu/ECE/People/Faculty>) to learn the specific interest areas of faculty members and to determine suitable candidates for your major professor, the person who will chair your advisory committee, or faculty advisor.
- b) Consult with your major professor or faculty advisor to develop a plan of study.
- c) Use the online Electronic Plan of Study program in myPurdue to compose a draft of your plan of study. See the [ECE Master's Student Guide](#) website (<https://engineering.purdue.edu/ECE/Academics/Graduates/MASTERS>) for a link to plan-of-study instructions. Additional helpful information for filling out the plan of study can be found in [Appendix D](#).
- d) Regarding the online Plan of Study program, enter all changes that resulted from your discussions with your major professor or faculty advisor. Submit your final plan electronically. Your plan of study will be automatically routed to the ECE Graduate Office

for initial screening before being sent to your advisory committee or faculty advisor, the ECE Associate Head of Graduate and Professional Programs, and the Graduate School for approvals. If your plan fails to gain any of the required approvals, the reason for the rejection will be explained in an e-mail message. You can then make any required changes and submit the revised plan for approval.

You may check on the status of the approval process at any stage. You will be sent an e-mail message when approval has been obtained from the Graduate School. The required approvals usually take several weeks.

6.2 Changing Your Plan of Study

As a student's program progresses, there may arise conditions that necessitate a change in the plan of study. Such changes, when based upon sound academic reasons, are encouraged. Some regulations have been found necessary in order to prevent abuses of this privilege. Specifically:

- A course may not be removed from the plan of study once a grade of D or lower has been received in a course.
- Use the Electronic Plan of Study program in myPurdue to submit a request to change your plan of study. Any change in courses, advisory committee membership, or faculty advisor on your current plan of study requires the approval of your advisory committee or faculty advisor and the ECE Associate Head of Graduate and Professional Programs.

If the ECE requirements for the Master's degree program are modified, there is no need for students to revise their previously approved plans of study to conform to the new rules. All approved plans of study remain valid. Students have the option to change their plan of study to conform to the new rules but are not required to do so.

6.3 Undergraduate, Transfer, and Excess Course Credits

Undergraduate Credits

Only preapproved undergraduate credits may be included on a plan of study; see [Section 3.7](#), Undergraduate Credit Hours and [Appendix B](#).

Transfer Credits

A maximum of six graduate-level credit hours earned at regional campuses of Purdue University or at an ABET-accredited university may be applied toward the Master's degree and entered on the Master's plan of study. However, regional campus courses or transfer courses may not be used to satisfy the core course requirement.

All courses transferred:

- Must be graduate-level courses.
- Must **not** have been used to meet the requirements for another degree unless part of the 4+1 Track.
- Must have been completed with a grade of B or better.

Grades from transfer courses are not included in computing the grade point average.

Excess Course Credits

Up to twelve credit hours of graduate-level courses taken at the West Lafayette (WL) campus of Purdue before a student was admitted to the ECE Master's program may be applied toward the Master's degree and entered on the Master's plan of study. Allowed courses include those taken:

- As excess undergraduate-degree credit.
- In non-degree status.
- While seeking a degree in another Purdue department or school, if you subsequently request to transfer to ECE.
- While seeking a degree in another Purdue department or school, if you subsequently request dual-degree status in ECE.
 - For dual-degree students seeking a PhD in another Purdue department or school and a Master's degree in ECE, the ECE Master's degree plan of study may not contain any courses offered by or dual-listed with the student's other department or school.
 - Students working toward two Master's degrees at Purdue may double-count up to 12 credit hours on their plans of study.

Special Approval Requirements

Without exception, all transfer and excess course credits used on the Master's plan of study must be specially approved by your advisory committee or your faculty advisor and by the ECE Associate Head of Graduate and Professional Programs.

Steps to follow in requesting approval to include such credits on the Master's plan of study are:

- a) Add the course to your plan of study.
- b) If a transfer course or a non-ECE course taken at Purdue, show a copy of the catalog description of the course to your advisory committee members and provide the catalog description to the ECE Graduate Office.

If you are transferring a course from another university, the ECE Graduate Office will also require an original transcript showing the grade earned and a statement from an official at the university where the course was taken certifying that the course was not used to fulfill requirements for any other degree.

7 Course Registration

7.1 First-Semester Registration

Incoming students must complete the online ECE orientation to obtain their registration PIN. General guidance on selecting courses is included in the orientation; students can also reach out to faculty members in their area to seek guidance on selecting courses.

Registration instructions: Detailed instruction on how to register are available in the [ECE Master's Student Guide](https://engineering.purdue.edu/ECE/Academics/Graduates/MASTERS) website (https://engineering.purdue.edu/ECE/Academics/Graduates/MASTERS).

Requirements: Graduation requirements include the satisfactory completion of one semester of [ECE 69400, Graduate Seminar](#) (except for project and online tracks) and demonstration of proficiency in written English. It is strongly recommended that you complete these during your first or second semester.

Confirming enrollment: Each semester, you must [confirm your enrollment in myPurdue](#). If you do not confirm your enrollment, [your registration will be cancelled](#), and you will need to register again. You might have to pay fees in advance of re-registering and may also be required to have signatures of instructors to re-enter your registration

7.2 Subsequent Semester Registrations

We encourage you to select your courses and to register as early as possible, since decisions to cancel low-enrollment courses may affect your course options.

Fall registration: Advanced registration for the Fall semester and Summer session begins around March 15 and ends respectively on the second Monday of Fall classes and the Friday before Summer session begins.

Spring registration: Registration for the Spring semester begins around October 15 and ends on the second Monday of Spring classes.

All current ECE graduate students must register and pay their tuition and fees during the registration period. Note that late registration incurs a substantial penalty fee.

Candidate Survey: If this is your final semester, complete the Candidate Survey you receive by email to be registered as a candidate. If you are not certain that you will finish your degree requirements, you are still advised to register as a candidate.

If you are not on the candidates' list, you will not graduate, even if you have completed all requirements.

After you have registered, check myPurdue to verify that your registration is correct. Report any errors to the ECE Graduate Office.

Exam-only and degree-only registration: Check with the ECE Graduate Office when registering for "Exam Only" or "Degree Only" to make certain that you qualify and have met all necessary requirements. Students in the thesis track must have been registered

for at least one credit hour of research in the previous semester. The deadline for “Exam Only” or “Degree Only” registration is one week before classes begin.

7.3 Academic Loads

To qualify for full-time student status in a Fall or Spring semester, you must satisfy one of the following criteria:

- Be registered for a minimum of 8 credit hours.
- Hold a research or teaching assistantship (1/4 time or greater) and be registered for at least 6 credit hours.

All international students must be full-time in order to maintain their visa status; direct questions to [Purdue ISS](https://www.purdue.edu/IPPU/ISS/ISSOffice/contactinfo.html) (<https://www.purdue.edu/IPPU/ISS/ISSOffice/contactinfo.html>).

ECE teaching assistants (TAs) may register for a maximum of 9 credit hours of non-thesis coursework.

As previously noted, the requirement for the Master’s degree is 30 academic credit hours. Your major professor or faculty advisor will help you to determine the proper number of research credit hours. International students registered for six credits and who hold an assistantship are considered full-time for visa purposes only.

7.4 Dropping and Adding Courses

To drop or add a course, see the instructions on the [ECE Master’s Student Guide](https://engineering.purdue.edu/ECE/Academics/Graduates/MASTERS) website (<https://engineering.purdue.edu/ECE/Academics/Graduates/MASTERS>). Subsequently, be sure to confirm that a dropped or added course have been officially recorded by checking your registration in myPurdue.

Dropped courses and grades:

- Courses dropped during the first two weeks of classes will not appear on your permanent record.
- Courses dropped during weeks 3 and 4 will be recorded as a “W” grade on your permanent record.
- Courses dropped during weeks 5 through 9 require the signature of both the instructor and the ECE associate head, the instructor must assign a grade of “W,” “WF,” or “WN.” The end of this period is the final deadline for withdrawing from a class.

Explanation of W grades:

- A “W” simply records the fact that the student withdrew after the second week of the semester.
- “WF” records that the student was failing a graded course. “WF” grades are not included in computing the GPA.
- A “WN” records failing status in a course being taken Pass/No Pass.

“W,” “WF,” and “WN” grades are recorded on your permanent record. More information on Purdue grading systems is available here: [Grading Systems](https://www.purdue.edu/registrar/faculty/grading/grading-systems.html) (<https://www.purdue.edu/registrar/faculty/grading/grading-systems.html>).

Adding Courses

Courses added during weeks 2 through 4 require the approval and signature of the instructor and personnel in the ECE Graduate Office.

Courses may be added during weeks 5 through 9, but only under extraordinary circumstances. Courses added after the fourth week require the approval and signature of the instructor and the ECE Associate Head of Graduate and Professional Programs and the head of the department where the course is offered for non-ECE courses.

Short courses: Courses that run less than 16 weeks have different drop/add deadlines. See the [schedule](#) of drop/add dates for these courses (<https://www.purdue.edu/registrar/calendars/index.html>) or contact the ECE Graduate Office for assistance.

8 Master’s Thesis and Final Examination

For students in the thesis track, a thesis must be prepared according to a preset format and processed (revised, signatures obtained, distributed) following specified procedures. Likewise, the student must present and defend his/her work in a Final Examination.

See [Appendix E](#) for the steps involved in scheduling the Final Examination and depositing your thesis.

9 Continuation for the ECE PhD

To continue graduate work toward a doctorate degree after completion of the Master’s degree, a student must be admitted to the ECE PhD program.

Admission is based on evaluation of the student’s potential for success at the PhD level. The GPA of a typical successful applicant is 3.6 or higher. At a minimum, the student must have a GPA of 3.3 and a positive recommendation from his/her advisory committee for thesis track or from the faculty advisor for other tracks.

Application forms for admission to the PhD program are available in the ECE Graduate Office and should be filed at the beginning of the final semester of the student’s Master’s program.

10 Petitions to the Graduate Committee

All graduate students have the right to petition for exceptions to any existing rule if they feel that the circumstances are sufficiently unusual to warrant special consideration.

The first step is to request an appointment with the ECE Associate Head of Graduate and Professional Programs to see if a resolution can be found at that level. If not, the student may file a petition with the ECE Graduate Committee. The petition is to be delivered in writing to the Chair of the Graduate Committee and is to contain the approval (or disapproval) of each member of the student's advisory committee or faculty advisor.

Appendix A: Mathematics Requirement

The following courses have been approved for meeting the mathematics requirement.

Mathematics Courses

- Any 500- and 600-level math courses (MA), except seminar courses and teacher training courses

Statistics Courses

- Any 500- and 600-level statistics courses (STAT), except seminar courses

Computer Science Courses

- CS 51400, Numerical Analysis
- CS 51500, Numerical Linear Algebra
- CS 52000, Computational Methods in Analysis
- CS 61400, Numerical Solution of Ordinary Differential Equations
- CS 61500, Numerical Solution of Partial Differential Equations

Physics Courses

- Phys 60000, Methods of Theoretical Physics I
- Phys 60100, Methods of Theoretical Physics II

Note: Faculty-initiated requests for changes or exceptions to the above will be considered by the Graduate Committee after approval by the appropriate area. Student-initiated requests must follow the same procedure, with the additional first step of approval by the student's major professor.

Appendix B: Preapproved Undergraduate Courses

ECE 43700 Computer Design and Prototyping

Appendix C: English Requirement

Any one of the following methods may be used to fulfill the English requirement:

- Score a four or higher on the GRE Writing Assessment.
- Score 22 or higher on the Writing section of the Internet-Based TOEFL (iBT).

- Score 6 or higher on the Writing section of the IELTS.
- Pass [ENGL 62100, Written Communication for International Graduate Students](#), offered at Purdue University, with a grade of Pass (“P”).
- Successfully completed a one-semester-long composition course equivalent to ENGL 62100 or ENGL 10600 or 10800 from an English-medium university with a grade of B or better.
 - The ECE Graduate Office may require you to provide a course description or additional information about the course.

Appendix D: Completing the Master's Plan of Study

The information provided below may be helpful when filling out your plan of study in myPurdue. See the [ECE Master's Student Guide](https://engineering.purdue.edu/ECE/Academics/Graduates/MASTERS) website <https://engineering.purdue.edu/ECE/Academics/Graduates/MASTERS>) for a link to step-by-step plan-of-study instructions.

Research area: The space for indicating the research area may be filled in with a word or words descriptive of the thesis topic, e.g., Design of Robot Controllers. This is optional, and you may choose to leave it blank.

Concentration: The space for indicating the concentration is reserved for certain programs, including ECE's Innovative Technologies – Professional Master's and the concentration in Microelectronics and Advanced Semiconductors.

Courses/grades not included: Do not include any of the following on the plan of study:

- Courses used to fulfill the departmental English requirement.
- Courses with Pass/No pass grades
- Thesis research, ECE 69800, and [ECE 69400, Graduate Seminar](#)

Adding courses: For each course, use the appropriate link in the plan of study generator:

- Current or past Purdue courses.
- Transfer/undergraduate excess courses. See [Subsection 6.3, Excess Course Credits](#).
- Future Purdue courses.
- Only for students in the 4+1 BS/MS program: Purdue combined degree courses.

Primary and related area: Indicate each of the courses on your plan of study as primary area or related area courses. The primary area must be one of the seven areas of the ECE graduate program listed in Table 1 found in [Section 1](#).

Math courses: All Master's degrees require a specified number of hours of acceptable mathematics courses; see the degree requirements in [Section 3](#). Indicate these as related area Courses on your plan of study. For a list of approved courses, see [Appendix A](#).

Course titles: Be sure that course titles on the plan of study match those on your transcripts, especially on experimental courses (ECE 59500 and ECE 69500), Advanced ECE Projects (ECE 69600), and Directed Reading in ECE (ECE 69700).

Courses offered by more than one department: Courses that are offered by more than one department must appear with the number and title under which they were taken.

B or better: Do not mark that a "B" or better is required for any course on your plan of study. This is not a requirement for you for any course.

Transfer credits: Courses transferred from other schools should be listed on the plan of study with the same title and number as on the transcript from the school at which they were taken. Do not use the equivalent number from a Purdue course.

Advisory committee: The plan of study program will query you for the area of each of the members of your advisory committee (“Advisor in Area Of”). Even though the program tells you this is optional, ECE requires that you fill this in and abbreviate (e.g. AC, CE, etc.).

You will find a listing of the ECE faculty, including the primary research area or areas for each, on the on the [ECE faculty webpage](https://engineering.purdue.edu/ECE/People) (<https://engineering.purdue.edu/ECE/People>).

Draft review: Submit the plan of study as a “draft” for review by the ECE Graduate Office staff. Once approved as a draft, we will instruct you to submit the plan of study as “final” (outstanding).

Appendix E: Master's Thesis and Final Examination

Students in the Master's thesis track must follow the steps below for their final examination and to submit their thesis. The final examination is given after the thesis and all other requirements have been completed. The final examination covers primarily the thesis and related topics.

The main steps of this process are as follows; details are below.

1. Schedule the final examination with your advisory committee members.
2. Reserve a room for the final examination.
3. Submit Form 8 in myPurdue to officially schedule the final examination and submit an abstract.
4. Deliver a copy of the thesis to all committee members at least two weeks before the final examination.
5. Following your final examination, submit the Thesis Acceptance Form (Form 9) through myPurdue.
6. Deposit your thesis.

Step 1: Schedule your final examination with your advisory committee members.

At least 3 weeks before the desired date of the final examination, consult with all the members of your advisory committee to find a suitable date and time to hold the examination. Your examination must be held on the West Lafayette Purdue Campus or may, with approval of your advisory committee, be held virtually.

Final examination committee members: The final examination committee is typically the student's advisory committee. However, the Dean of the Graduate School reserves the right to appoint additional committee members.

Final examination timing:

- The final examination must be completed before the semester deadline (approximately one week before the last day of classes), but we strongly recommend you do not wait until this late date. See the Graduate School deadlines here: [Graduate School Calendar \(https://www.purdue.edu/gradschool/about/calendar/\)](https://www.purdue.edu/gradschool/about/calendar/).
- If you are registered for **Exam Only**, your final examination must be completed by the eighth week of classes in Fall or Spring or by the sixth week of summer session.

Step 2: Reserve a room for the final examination.

Once you have established the date of your final examination, reserve a room:

1. Go to the [Resource Allocation Tool](https://engineering.purdue.edu/ECN/Resources/Tools/RAT/Entities/ECE) (https://engineering.purdue.edu/ECN/Resources/Tools/RAT/Entities/ECE).
2. Enter the desired date and select a room.
3. Click **View Calendar**.
4. Scroll down to see the calendar.
5. After confirming the availability of the room, select **Request Reservation** in the left-hand navigation.

6. Select the room and enter a date and time; click **Continue**.
7. In the **Select an Administrator** list, select Elisheba Van Winkle.
8. Select a reason for the reservation (thesis defense) and then click **Request Reservation**.
 - You will receive an email confirmation.

If you are unable to reserve a room using the instructions above, send the request by email to Elisheba Van Winkle (vanwinke@purdue.edu).

On the day of the exam: If the room is locked, see an area secretary for a key. If the area secretary is not available, see the ECE Graduate Office (MSEE 140).

Step 3: Submit Form 8 in myPurdue to officially schedule the final examination and submit an abstract.

Follow these steps to submit Form 8 and your abstract:

1. Log into [myPurdue](#) and go to the **Plan of Study Generator** under the **Academics** tab.
2. Complete and submit the Form 8.
 - This request requires approvals from the Graduate Office, the chair of your advisory committee, and the Graduate School.
3. Send an abstract (250 words or less) of the thesis research clearly defining the problem and its significance to Matt Golden (goldenm@purdue.edu) in the ECE Graduate Office.

Late requests: Please be aware that late requests to schedule your final examination do not allow sufficient time to process your request and adequately publicize your examination date. Any requests to schedule a final examination less than three weeks in advance must be approved by Matt Golden and will be approved only in exceptional circumstances.

Final examination posting: The time and location of the final examination will be posted on the [ECE website](https://engineering.purdue.edu/ECE/Academics/Graduates/Exam_Postings) (https://engineering.purdue.edu/ECE/Academics/Graduates/Exam_Postings). University regulations permit visitors to attend the final examination. Such visitors are permitted to ask questions of the candidate after having been recognized by the major professor, but they may not be present while the committee deliberates on its decision.

Results: The advisory committee will report the results of the final examination through the Graduate School Web Database. No more than one dissenting vote is acceptable in certifying the candidate to receive the MSeCE degree. If the final examination is unsatisfactory, at least one semester or summer session must elapse before the final examination is repeated.

Step 4: Deliver a copy of your thesis to all committee members at least two weeks before the exam.

Preparing your thesis: Before beginning to write your thesis, you are strongly advised to review the information on the [Graduate School Thesis and Dissertation Office website](http://www.purdue.edu/gradschool/research/thesis/) (<http://www.purdue.edu/gradschool/research/thesis/>).

Templates: You must use the LaTeX (recommended) or MS Word [templates](https://www.purdue.edu/gradschool/research/thesis/templates.html) that the Graduate School provides (<https://www.purdue.edu/gradschool/research/thesis/templates.html>).

Step 5: Following your final examination, submit the Thesis Acceptance Form (Form 9) through myPurdue.

Follow these steps to submit Form 9:

1. Log into [myPurdue](#) and go to the **Plan of Study Generator** under the **Academics** tab.
2. Complete and submit for Form 9.

What happens next: Once you have submitted the Form 9, the Chair and committee members will be asked to approve the thesis. Be sure to discuss with your major professor whether your thesis should be confidential prior to submitting the request or if there will be a delay in the publication.

Your major professor will certify that they have used [iThenticate](#) software to check your thesis for plagiarism in the electronic Thesis Acceptance Form. They will also confirm confidentiality or **Embargo** (delayed publication of the thesis) if you have marked these.

Embargo and confidentiality: Students should consider an embargo over confidentiality in all cases. An embargo is commonly used when applying for patents, pending publications, or when proprietary rights are involved.

Confidentiality should only be used with ITAR/Export controlled or confidential sponsored information is included in the thesis. Indefinite confidentiality can only be requested when there is contract information on file with Sponsored Program Services. All indefinite requests will be subject to approval by the SPS office. All confidentiality requests will also be reviewed by Thesis Office staff to ensure this program is being utilized properly.

Report of the Final Examination: On the day of the final examination, your major professor and committee members will submit the **Report of the Final Examination** through the Graduate School Web Database.

Step 6: Deposit your thesis.

Follow the instructions on the Graduate School Thesis and Dissertation Office [Deposit Requirements webpage](#) to deposit your thesis.

For more detailed steps or questions about the on-line thesis deposit process, refer to the [Graduate School Thesis and Dissertation Office website](#) or [contact](#) staff in this office.

Thesis deposit time limit policy: Effective Fall 2020, students are required to deposit their theses and dissertations within three consecutive sessions of receiving a decision of PASS on their final examination (including the session in which the final examination was passed). The thesis or dissertation must be deposited no later than the end of the semester Deposit Deadline of the third consecutive session for full consideration of the sought degree. For example, a student who passes the final examination in a fall session has through the end of the semester Deposit Deadline of the following summer to deposit. To uphold the integrity of the defended research, if a student is unable to deposit their thesis or dissertation within three sessions, they must re-defend their research and deposit within the session they receive the decision of PASS on the second final examination to be conferred the degree.