ELECTRICAL AND COMPUTER ENGINEERING: RESEARCH, MS

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum degree requirements (https://guide.wisc.edu/graduate/#requirementstext) and policies (https://guide.wisc.edu/graduate/#policiestext), in addition to the program requirements listed below.

NAMED OPTION REQUIREMENTS

MODE OF INSTRUCTION

Face to Face	Evening/ Weekend	Online	Hybrid	Accelerated
Yes	No	No	No	No

Mode of Instruction Definitions

Accelerated: Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

Evening/Weekend: Courses meet on the UW–Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

Face-to-Face: Courses typically meet during weekdays on the UW-Madison Campus.

Hybrid: These programs combine face-to-face and online learning formats. Contact the program for more specific information.

Online: These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

CURRICULAR REQUIREMENTS

Requirement	Detail
Minimum Credit Requirement	30 credits
Minimum Residence Credit Requirement	23 credits
Minimum Graduate Coursework Requirement	15 credits must be graduate-level coursework. Refer to the Graduate School: Minimum Graduate Coursework (50%) Requirement policy: https://policy.wisc.edu/library/UW-1244 (https://policy.wisc.edu/library/UW-1244/).
Overall Graduate GPA Requirement	3.00 GPA required. Refer to the Graduate School: Grade Point Average (GPA) Requirement policy: https://policy.wisc.edu/library/UW-1203 (https://policy.wisc.edu/library/UW-1203/).
Other Grade Requirements	1. A grade of B or better in any course is acceptable. 2. A grade of BC in an E C E course is acceptable, provided the total cumulative GPA for E C E courses is greater than or equal to 3.00. 3. A grade of BC or C in a non-E C E course is acceptable only if approved by the Graduate Committee.
Assessments and Examinations	Students must complete either a thesis or project. Details about these two paths can be found below.
Language Requirements	Non-native speakers of English who enroll in the MS program must take the ESLAT test on arrival at the university and then take any recommended courses based on the exam results. In addition, if a student's advisor believes that his or her technical writing ability needs improvement, the student may be required to undertake remedial work.

REQUIRED COURSES

Non-Electrical and Computer Engineering (E C E) courses must be numbered 300 or above.

Code	Title	Credits
Specialization Courses		
At least 15 credits of courses numbered 700 or above.		
Departmental Courses		
At least 15 credits of Electrical and Computer Engineering (E C E) courses numbered 400 or above.		
Seminar		
One credit of seminar is required.		
E C E 610	Seminar in Electrical and Computer Engineering	
Research		
At least 3 credits of research are required. These credits can be used toward the ECE and "Graduate 50%" coursework requirements. [1]		
E C E 790	Master's Research	
Total Credits [2]		**30**

1. Students admitted into the ECE PhD program can use E C E 890 Pre-Dissertator's Research to satisfy the E C E 790 Master's Research requirement. The combined number of credits in E C E 790 Master's Research, E C E 890 Pre-Dissertator's Research, E C E 699 Advanced Independent Study, and E C E 999 Advanced Independent Study applied toward the degree may not exceed nine credits.
2. Audited and courses taken pass-fail do not count toward the MS degree. Additionally, E C E 702 (https://guide.wisc.edu/search/?P=E%20C%20E%20702) Graduate Cooperative Education Program (co-op/internship), E C E 611 Introduction to Doctoral Research in Electrical & Computer Engineering Seminar, and E C E 990 (https://guide.wisc.edu/search/?P=E%20C%20E%20990) Dissertator's Research do not count toward the MS degree requirements.

Students must choose one of the paths of study below to fulfill the requirements for the Research option degree:

Thesis Path

At the conclusion of the research program, a thesis must be prepared. If the thesis is formally defended, then a thesis committee must consist of at least three members, two of whom must be graduate faculty or former graduate faculty up to one year after resignation or retirement. If there is no formal defense, the thesis only needs to be approved by the student's graduate faculty advisor.

If depositing through Memorial Library, the thesis must:

1. conform to Graduate School and library formats (https://grad.wisc.edu/current-students/masters-guide/#what-you-need-to-do), and
2. be filed with the Memorial Library where it is cataloged and stacked for future reference (if required by the master's thesis committee).

If submitting to Minds@UW, an electronic copy must be sent to the program's Graduate Student Services Coordinator, who will deposit it into Minds@UW, Department of Electrical and Computer Engineering Thesis Collection. The Minds@UW system (https://minds.wisconsin.edu/) will provide a permanent URL, safe long-term archiving and is indexed by Google, Google Scholar and other specialty academic search engines.

At the conclusion of the thesis, all grades of P (Progress) and I (Incomplete) are changed to either S (Satisfactory) or U (Unsatisfactory).

In the final semester, the student is **required** to check in with the program's Graduate Student Services Coordinator to start the degree warrant process by the announced deadline.

Project Path

In the project path, students must complete a research project in consultation with a faculty advisor. At the conclusion of the project, a report is prepared. The research project is generally more limited in scope than a thesis and typically is not awarded as many credits. The report does not conform to Graduate School and library formats, but it must be typewritten. The student's advisor must approve the report. No library or Minds@UW copy is required, but a copy may be requested by the faculty.

In the final semester, the student is **required** to check in with the program's Graduate Student Services Coordinator to start the degree warrant process by the announced deadline.

Seminar Requirement (E C E 610)

All on-campus program graduate students must register for E C E 610 Seminar in Electrical and Computer Engineering during their first fall semester of graduate studies. MS-degree seeking students must complete one credit of E C E 610 in the fall semester of which they are entering the program. Students with a course conflict with E C E 610 may defer taking the seminar by one year with faculty advisor approval.

E C E 610 prepares students for success in graduate school and exposes them to areas within electrical and computer engineering as well as related fields, such as biotechnology, physics, computer science, mathematics, or business. Electrical and computer engineering is interdisciplinary in nature, so it is important that students be aware of advanced research and development in areas other than their own.