

DOCTOR OF PHILOSOPHY (PHD) DEGREE IN THE FIELD OF ELECTRICAL AND COMPUTER ENGINEERING

Program Learning Outcomes for the MS and PhD Degrees in the field of Electrical and Computer Engineering

Upon completing the MS and PhD degrees in the field of Electrical and Computer Engineering, students will be able to:

1. Identify and define relevant research topics in Electrical and Computer Engineering and conduct independent research with results that advance the state of the art in the field.
2. Lead research and design groups by communicating innovative ideas effectively.
3. Solve real-world problems by integrating knowledge gained in courses and through independent study.

Requirements for the MS and PhD Degrees in the field of Electrical and Computer Engineering

PhD Degree Program

For general university requirements, please see [Doctoral Degrees \(https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-doctoral-degrees/\)](https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-doctoral-degrees/). For additional requirements, regulations, and procedures for all graduate programs, please see [All Graduate Students \(https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-all-degrees/\)](https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-all-degrees/).

Students are admitted to the PhD program only in the fall semester. Electrical and Computer Engineering PhD students move through the program in stages, starting as a first-year student, advancing to MS candidate, PhD-qualified student, and PhD candidate; each advancement requires the approval of the Electrical and Computer Engineering Graduate Committee. The MS degree is a thesis master's degree. For general university requirements, please see [Thesis Master's Degrees \(https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-thesis-masters-degrees/\)](https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-thesis-masters-degrees/). For additional requirements, regulations, and procedures for all graduate programs, please see [All Graduate Students \(https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-all-degrees/\)](https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-all-degrees/).

The ECE Department offers a stand-alone thesis MS degree on a case-by-case basis. Otherwise, the MS degree is a precursor to the PhD degree for students who were not admitted to the program with a previous MS degree.

Students entering the PhD program with previous graduate work may follow a hybrid program developed in consultation with the faculty and the Graduate Committee. The first academic year concentrates on foundation coursework and developing a research area. Each student must successfully complete a project, ELEC 599, in the student's chosen area of research in lieu of an oral or written qualifying exam.

In addition to enabling the faculty to evaluate the student's research potential, the project encourages timely completion of the MS degree. The student must complete a master's thesis and successfully defend it in an oral examination. Students who have already acquired a master's degree elsewhere must also complete the ELEC 599 project, **after which acceptance of their previous master's degree will be determined by the Graduate Committee**. No course in which the student earned a grade lower than a B- (2.67 grade points) may count toward an MS or PhD.

A candidate for the PhD degree must demonstrate independent, original research in Electrical and Computer Engineering. After successful completion of all coursework, a student is eligible for PhD candidacy. The student then engages in full-time research, culminating in presentation of the PhD research proposal and then the completion and public defense of the PhD thesis. Details of the PhD program requirements, the phases of study, and a timetable may be found on the [Electrical and Computer Engineering website \(http://www.ece.rice.edu/\)](http://www.ece.rice.edu/).

The requirements listed in the General Announcements (GA) satisfy the minimum requirements for this degree program. In certain instances, courses (or requirements) not officially listed here may be substituted upon approval of the program's academic advisor, or where applicable, the department or program's Director of Graduate Studies. Course substitutions or any exceptions to the stated official curricular requirements must be approved by the [Office of Graduate and Postdoctoral Studies \(https://graduate.rice.edu/\)](https://graduate.rice.edu/). Students and their academic advisors should identify and clearly document the courses to be taken.

Summary

| Code | Title | Credit Hours |
|------|----------------------------------------------------------------------------------------------------|--------------|
| | Total Credit Hours Required for the PhD Degree in the field of Electrical and Computer Engineering | 90 |

Policies for the PhD Degree in the field of Electrical and Computer Engineering

Department of Electrical and Computer Engineering Graduate Program Handbook

The General Announcements (GA) is the official Rice curriculum. As an additional resource for students, the department of Electrical and Computer Engineering publishes a graduate program handbook, which can be found here: https://gradhandbooks.rice.edu/2023_24/Electrical_Computer_Engineering_Graduate_Handbook.pdf

Transfer Credit

For Rice University's policy regarding transfer credit, see [Transfer Credit \(https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-all-degrees/#transfer\)](https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-all-degrees/#transfer). Some departments and programs have additional restrictions on transfer credit. Students are encouraged to meet with their academic program's advisor when considering transfer credit possibilities.

Departmental Transfer Credit Guidelines

Students pursuing the PhD degree in the field of Electrical and Computer Engineering should be aware of the following departmental transfer credit guidelines:

- Requests for transfer credit will be considered by the program director on an individual case-by-case basis.

Additional Information

For additional information, please see the Electrical and Computer Engineering website: <https://www.ece.rice.edu/>

Opportunities for the PhD Degree in the field of Electrical and Computer Engineering

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