1 Common Course Requirements

Required Research-Course Registration
Consistent with the research emphasis in the PhD program, all PhD students are required to register for at least one credit hour of ECE 692 (Introduction to Graduate Research) or ECE 699 (PhD Thesis Research) in their first and second semesters in the PhD program. In each subsequent semester, students must enroll in at least one credit hour of ECE 699.

Mathematics and Related-Area Course Requirement
During a student’s Master’s and PhD programs (if entering the PhD program with an MS degree) or during the student’s direct PhD program, a student must complete a minimum of 5 graduate-level courses outside the student’s Primary Area. The group of courses is to consist of either 3 math courses and 2 related-area courses or 2 math courses and 3 related-area courses. The “math-courses” taken at Purdue are to be from the approved mathematics, statistics, computer science, and physics courses listed in Appendix B of the PhD Handbook.

2 Course Requirements for PhD Students with an MS

Non-Thesis Graduate-Level Course Requirement
A minimum of 4, non-thesis, graduate-level courses is required on the plan of study. Two of the courses are to be ECE 611 or higher-numbered ECE courses. The courses meeting this requirement can simultaneously be used to meet the previously described mathematics and related-area course requirement. ECE 696 (Advanced Projects) and ECE 697 (Directed Reading) are not to appear on the plan of study and cannot be used to fulfill this requirement.

3 Course and Credit-Hour Requirements for Direct PhD Students

Non-Thesis Course Requirements
The plan of study is to contain a minimum of 36 non-thesis credit hours, of which there must be at least 2 ECE core courses, 2 ECE courses numbered 611 or higher, and 3 additional graduate-level ECE courses. ECE 696 (Advanced Projects) and ECE 697 (Directed Reading) are not to appear on the plan of study and cannot be used to fulfill this requirement.

Undergraduate Credit Hours
A maximum of 6 credit hours of two advanced-level (300- or 400-level) undergraduate courses taken in the first calendar year of a direct PhD student’s program are allowed on the plan of study.

• Students must request permission to include undergraduate courses on their PhD POS. They are required to provide a short written academic justification for the inclusion of the undergraduate courses.
• Undergraduate courses on the POS must be specifically approved by the student’s advisory committee and the ECE Graduate Coordinator.
• Credit for undergraduate courses may not be transferred from another institution. The Graduate School requires that the course(s) be taken while the student is enrolled in the Graduate Program, and that the student must earn a grade of “B” or better in these courses to fulfill graduation requirements.
• The computation of a student’s GPA will include the grades earned in these undergraduate level courses.

Summary of Course Requirements

<table>
<thead>
<tr>
<th></th>
<th>PhD (with MS)</th>
<th>Direct PhD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Thesis Course Requirement in PhD Program</td>
<td>4 courses (12 hours), 2 ECE courses numbered ≥ 611, 2 other graduate-level courses. (The courses here can simultaneously meet the Math and Related-Area course requirement.)</td>
<td>36 hrs (non-thesis) with 21 ECE non-thesis graduate-level credit hours consisting of 2 core courses, 2 ECE 611 or above and 3 other graduate level courses.</td>
</tr>
<tr>
<td>Required Core Courses</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Required Math and Related-Area Courses</td>
<td>Either 3 Math and 2 Related-Area(^1) courses or 2 Math and 3 Related-Area courses. (This requirement can be partially or totally fulfilled with coursework taken previously in the Master’s program.)</td>
<td>Either 3 Math and 2 Related-Area(^1) courses or 2 Math and 3 Related-Area courses.</td>
</tr>
<tr>
<td>Allowed 696/697 Credit Hours</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Allowed Undergraduate Credit Hours</td>
<td>0</td>
<td>6 hrs</td>
</tr>
</tbody>
</table>

4 Other Requirements

English Requirement
All ECE graduate students must demonstrate acceptable proficiency in written English before graduating. Students will not be allowed to graduate until this requirement has been met. We strongly recommend that students fulfill the English requirement as early as possible (first semester) in their academic program. Methods that may be used to fulfill the English requirement are detailed in Appendix C of the PhD Handbook.

\(^1\) Courses outside the Primary Area, including all non-ECE courses, ECE courses associated with a different ECE area, and courses dual-administered by the Primary Area and another ECE area may serve as related-area courses.
Graduate Seminar Requirement
All ECE graduate students must satisfactorily complete one semester of the ECE Seminar, ECE 694. This course carries no credit, but a grade of Satisfactory or Unsatisfactory is assigned at the end of the semester. ECE 694 should not be listed on the plan of study. Also, it is strongly recommended that students take EE 694 during their first semester.

Examination Requirement
The three major examinations that must be passed during the course of a PhD program are the Qualifying Examination (QE), the Preliminary Examination, and the Final Examination. The purpose of the QE is to verify that students have mastered fundamental area-related topics in the student’s Primary and Related Areas at the core course level. The purpose of the Preliminary Examination is to determine whether a student is adequately prepared to conceive and undertake a suitable research topic. The Preliminary Examination typically includes an oral presentation and a written thesis proposal. The purpose of the Final Examination or oral defense of the dissertation is to determine if the thesis research warrants granting the PhD degree. Doctoral research must be original and merit publication in the scholarly literature.

Residency Requirement
The residency requirement for a PhD degree is 90 hours of academic credit beyond the Bachelor’s degree or 60 hours beyond the Master’s degree. Academic credit includes all course credit hours that appear on the plan of study, other graduate course credit hours with grades of “C” or better that appear on the Purdue transcript, and research (ECE 698 and ECE 699) hours with grades of “S” that appear on the Purdue transcript.

At least one-half of the total credit hours used to satisfy degree requirements must be earned in residence on the Purdue campus where the degree is to be granted. Course credits obtained via televised instruction are considered to have been obtained in residence on the campus from which the course was broadcast.