THE DOCTOR OF PHILOSOPHY PROGRAM

The ECE department offers two different tracks to pursue a Ph.D. degree:
- Direct Ph.D. from B.S. degree
- Ph.D. after the M.S. degree

Summary Requirements for the Ph.D. Degree

Direct Ph.D. from B.S. requirements:

1. Course requirements include:
   - At least 30 graduate credit hours of coursework beyond the bachelor’s degree of which at least 21 credits must be ECE courses and up to 9 credits can be graduate courses in a related field.
   - Of the 21 ECE graded course credits, 6 must be associated with an area of concentration outside the student’s primary area of study (does not have to match the traditional curriculum areas in department).
   - Of the 30 credits of coursework, at least 28 must be letter-graded courses and 2 can be individual studies.
   - Up to 24 coursework credits and up to 24 dissertation credits (for a maximum total of 48 credits) from another institution can be transferred into the direct Ph.D. program, subject to the approval of the Graduate Studies Committee.

2. A dissertation embodying a significant original research contribution and counting 50 hours (ECE 8999) toward the 80 hour requirement.

PhD after BS (Min. 80 credits)*

- Dissertation (Min. 50 credits)
- ECE Graduate Courses (Min. 21 credits)
- Graduate Courses in a Related Field (Max. 9 credits)
- Letter-Graded Graduate Courses (Min. 30 credits)
- ECE Graduate Courses Outside Primary Area (6 credits)
- Individual Studies (Max. 2 credits)

*Up to 24 course credits and up to 24 dissertation credits (maximum of 48 sem. credits) can be transferred from another institution subject to Graduate studies committee approval.

* ECE 8891 Seminar (2 credits) required in addition to the 80 hours.
Ph.D. after M.S requirements:

1. M.S. degree counts for 30 credits.
2. 14 credits of graduate coursework of which 12 must be letter-graded coursework and 2 credits can be individual studies are required. Up to 9 coursework credits and up to 10 dissertation credits (for a maximum total of 19 credits) from another institution can be transferred past the M.S., subject to the approval of the Graduate Studies Committee.
3. A dissertation embodying a significant original research contribution and counting 36 hours (ECE 8999) toward the 80 hour degree is required.
4. The student must have taken at least 21 semester credits of letter graded ECE courses. These 21 credits can come from either the M.S. or Ph.D. program. The ECE courses from a non-OSU M.S. program must be approved by the Graduate Studies Chair as being equivalent to ECE courses at OSU. 6 of the 21 ECE credits must be associated with an area of concentration outside the student’s primary area of study (does not have to match the traditional curriculum areas in department).
5. Graduate courses taken at OSU in excess of the minimum required for the M.S. degree, can be counted toward the graduate credit hours required for the doctoral degree. The student must submit the form for approval by the ECE Graduate Studies Chair and the Graduate School.

PhD after MS (Min. 80 credits)*

- **Dissertation (36 credits)**
- **MS degree (30 credits)**
- **14 Graduate Credits**
  - Letter Graded Graduate Courses (Min. 12 credits)
  - Individual Studies (Max. 2 credits)
- **ECE Graduate Courses (Min. 21 credits)**
  - ECE Graduate Courses Outside Primary Area (6 credits)

*Up to 9 course credits and up to 10 dissertation credits (max. of 19 sem. credits) can be transferred from another institution past the MS subject to Graduate Studies comm. approval.

* ECE 8891 Seminar (2 credits) required in addition to the 80 hours.
Summary of Additional Requirements and Steps in the Ph.D. Program
(Both Direct and from M.S.)

1. The Ph.D. Plan of Study must be submitted by the end of the 2nd semester.
2. Ph.D. students are expected to maintain a GPA of 3.5 and above.
3. Ph.D. students must have a permanent advisor by the end of the 2nd semester.
4. The Ph.D. Qualifying Examination must be taken within one (1) year for M.S. to Ph. D. and within two (2) years for B.S. to Ph. D. students. Two attempts are allowed.
5. Graduate seminars (ECE 8891) of at least two credit hours are required. Credit for these seminars is not included in the 80 hour degree requirement.
6. The Ph.D. proposal is submitted at the time of the Candidacy Examination. Two attempts are allowed.
7. Submission of at least one substantial, original paper based on the dissertation research is required.
8. Successful completion of the Dissertation (Ph.D. thesis) and Final Oral Examination complete the degree requirements.

Ph.D. Plan of Study:
The Ph.D. Plan of Study will define an ECE primary area of emphasis, an ECE secondary area of emphasis and other graduate courses approved by the advisor. If you have an M.S. degree from another institution, a transcript must accompany the Plan of Study form.

Two faculty signatures are required on the Plan prior to submission: the advisor and a secondary area faculty. The secondary area faculty signing the Plan is also agreeing to serve as the secondary area examiner on the student’s Candidacy Exam committee, and should be from outside the student’s primary area.

Ph.D. Qualifying Examination:
The Ph.D. Qualifying Examination (QE) serves as one of the key filters in allowing a student to pass from simple admission to the Ph.D. program to regular doctoral student status. The QE is designed in accordance with the following principles:

- The purpose of the Qualifying Exam is to test the fundamental knowledge acquired by the student over prior coursework and assess the ability to apply this fundamental knowledge to approach research questions/problems.
- Both MS to PhD and BS to PhD students are required to take the QE in the 1st semester of their 2nd year. (Students who start in Autumn semester take it during the following Autumn semester, those who start in Spring take it during the following Spring semester, and those who start in Summer take it during the Autumn semester of the next year.)
- The QE must be taken during a one month window in Autumn and Spring semesters. The window will be the month of October for Autumn semester and the month of March for Spring semester. Two attempts are allowed. The 2nd attempt must be during the time window in the semester following the semester of the failed attempt. If a student fails after 2 attempts, he/she is no longer in the PhD program and can earn an MS degree after completing MS requirements. If the student does not take the QE during the semester he/she is required to take it, this will be considered a failed attempt.

Other Requirements:
In addition to the qualifying exam, the doctoral student must have a minimum 3.5 GPA and obtain a commitment from a faculty advisor on the Ph.D. Plan of Study.
Submission of a paper based on the dissertation research:
Submission of at least one substantial, original paper based on the dissertation research to a refereed, archival journal is required before approval of the final defense of the dissertation is granted. A signed form from the advisor (form is online) stating the status of the paper along with a copy of the paper must be provided with the Application to Graduate at the beginning of the semester of graduation. If the paper has not yet been published, the student must also provide a copy of the letter or e-mail acknowledging the acceptance or submission of the paper to the journal. Typically, advisors expect two or more journal papers from their Ph.D. students.