

Guide for Students
Lehigh ISE Ph.D. Program

This guide shows a typical timeline for completion of all requirements of the program. For further information about the requirements, please see the complete Lehigh ISE Ph.D. Program Requirements document.

Courses: Each student is required to complete 8 Ph.D.-level core courses (listed in the table below) and 5 Ph.D.-level elective courses, which are typically taken according to the following timeline.

1st year Fall Semester	Course Title (# Credits)
ISE 401	Convex Analysis (3)
ISE 406	Introduction to Mathematical Optimization (3)
ISE 429	Stochastic Models and Applications (3)
1st year Spring Semester	
ISE 402	Applied Models in Operations Research (3)
ISE 417	Nonlinear Optimization (3)
ISE 418	Discrete Optimization (3)
2nd year Fall Semester	
ISE 407	Computational Methods in Optimization (3)
ISE (or other) 4XX	<i>Elective course (3)</i>
ISE 499	Dissertation (3)
2nd year Spring Semester	
ISE (or other) 4XX	<i>Elective course (3)</i>
ISE (or other) 4XX	<i>Elective course (3)</i>
ISE 499	Dissertation (2)
ENGR 430	Technical Writing for Engineers and Scientists (1)
3rd year Fall Semester	
ISE (or other) 4XX	<i>Elective course (3)</i>
ISE 499	Dissertation (6)
3rd year Spring Semester	
ISE (or other) 4XX	<i>Elective course (3)</i>

Credits: All remaining required credits are typically completed by registering for ISE 499 (Dissertation) credits. A student entering the program with a masters degree requires 48 credits, so can request full-time status in the 3rd year Spring Semester with only the 3 credits in that semester in the timeline above. A student entering the program without a masters degree requires 72 credits, so requires 9 credits per semester through the 4th year of the program.

Qualifying Examination: Each student must pass a Qualifying Examination, which is expected to be first attempted immediately after the student's first Spring semester in the program.

Performance Review: Each student must pass a Performance Review that assesses the student's performance in coursework, the Qualifying Examination, and progress in research. Each student is reviewed by the ISE faculty after each Spring semester until the Performance Review is passed.

Dissertation Proposal Defense: Each student must pass a Dissertation Proposal Defense that is conducted by the student's dissertation committee that is formed in consultation with the student's research advisor. The defense consists of the student submitting a written proposal document and being orally examined on the written proposal's contents. It is typically completed in the student's second or third year in the program.

General Examination: Each student must pass a General Examination that is conducted by the student's dissertation committee. The examination consists of the student submitting a written dissertation draft, the committee submitting questions to the student that are related to the dissertation draft, and the student being orally examined by the committee about the student's dissertation draft and answers to the committee's questions. It is typically completed in the student's third or fourth year in the program.

Dissertation Defense: Each student must pass a Dissertation Defense that is conducted by the student's dissertation committee. The defense consists of the student submitting a completed dissertation and being orally examined on the dissertation's contents by the committee. It is typically completed in the student's fourth or fifth year.