

Student Learning Outcomes:

1. The student should demonstrate breadth of knowledge in the discipline and depth in the specific area of his/her research topic.
2. The student should gain experience in doing independent academic work and research.
3. The student should demonstrate his/her ability to identify and define the research topic.
4. The student's research work should contribute to the existing knowledge in the engineering field.
5. The student should demonstrate the ability to clearly communicate complex engineering and research topics in both verbal and written format.

A departmentally developed curriculum map can be found in Appendix 1 that shows the connections between courses and student learning outcomes.

Assessment Methods:

1. Threeyear rolling average of number of students enrolled in the PhD program is a better indicator of trends than year-year data, which may be subject to fluctuations.
2. Threeyear rolling average of number of students graduating per year is a better indicator of trends than year-year data, which may be subject to fluctuations.
3. : The comprehensive examination involves examination of the breadth and depth of the specific knowledge in the field.

Degrees Conferred PhD Program CoE

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
# Students	9	7	12	8	15	21
3-yr Avg	9	10	9	9	12	15

For FY 2020: 3-yr rolling avg PhD degrees conferred = 15

Each department has a graduate committee and dedicated graduate coordinator and staff. The departments offering PhD Specializations track all of the graduate students including their PhD students. In addition, the progress of PhD students through their program is also tracked at the college by maintaining student record files as well as a spreadsheet. The data in the spreadsheet contains information on first enrollment, credit hours completed, major advisor, candidacy and funding status. The CoE Graduate Committee continuously reviews the program requirements and develops improvements in all areas of admission and program requirements.

Comprehensive Exams

	2017-18	2018-19	2019-20
# Students	15	35	23
# Pass on first attempt	14	35	23

Modifications for Improvement

The CoE has added a new step for the PhD program and has eliminated preliminary and qualifying examination for the DPhD students, except in cases when the student does not possess a degree from an ABET accredited program. This step is an initial meeting of the PhD Student Advisory Committee for all students enrolled in the program. The Student's Advisory Committee (AC) shall formally meet with the student to make an objective assessment of the student's knowledge relative to the field of study. Presence of all members of the AC would make this meeting most effective, but at least four members of the AC must be present. The program of study should reflect the objective assessment of the AC. Completion of the Program of Study based on this assessment is required before the end of the second semester of enrollment for the degree, or completion of 15 Credit Hours of graduate courses, whichever comes first. It is desirable for this meeting to take place during the first semester of enrollment for the post-MS PhD students (implemented in fall 2020).

Appendices

1. Curriculum Map

Appendix 1: Curriculum Map

Engineering PhD

Coursework	Student Learning Objectives				
	Demonstrate Depth and Breadth of Knowledge	Gain Experience in Independent Academic Work and Research	Identify and Define the Research Topic	Contribute to Existing Knowledge	Communicate Effectively
6XXX and 7XXX Coursework	X		X		
7980 Directed Study	X	X			
7990 Research and Dissertation	X	X	X	X	X