

PH.D. IN INDUSTRIAL ENGINEERING

Policies and Important Details

1. The Department offers a Ph.D. in Industrial Engineering for students with a background in engineering.
2. To maintain status as a graduate student, registration in each fall and spring semester is required. Otherwise, admission lapses and permission to re-enter must be granted.
3. Once a student has completed all course and required research credit hours, he or she must enroll in "Research in Residence" status until the degree has been granted. "Research in Residence" status is considered full time enrollment. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School.
4. Upon completing the course requirements, passing the qualifying exams, and successfully defending the Ph.D. proposal, the student is eligible for admission to the Ph.D. candidacy.
5. Upon passing the qualifying exams, the student in consultation with his/her selected Ph.D. Dissertation committee chair will decide on the dissertation committee members. The Dissertation committee will consist of not less than four members, three from the Department's graduate faculty, one from outside the Department. The chairman has to be a member of the graduate faculty. The duties of the Dissertation Committee are:
 - a. To consult with and to advise students on their research.
 - b. To meet, at intervals, to review progress and expected results.
 - c. To read and comment upon the draft dissertation.
 - d. To meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved form.
 - e. The candidate is well advised to have a final acceptable typescript of the dissertation in the hands of each member of his/her committee at a time reasonably in advance of the final defense of the work.
6. There are no foreign language requirements for the Ph.D. degree.

Course work requirements depend on the student's background, and are established by the Graduate Advisor and the Department Chairman. 60 credit hours beyond the baccalaureate degree are the minimum requirement for this Ph.D. Students with a Master's degree may take the minimum hours listed below, while students without a master's must take the maximum hours.

Admission Requirements

Each application is assessed holistically. It is expected that an applicant receives a minimum score of 305 from GRE (verbal plus quantitative) and 3.50 GPA in their most recently earned academic degree. Other requirements are identical to the College of Engineering requirements. The transfer policy complies with the rules of the graduate school.

Curriculum Requirements

For Students Entering without a M.S. Degree

| Code | Title | Credit Hours |
|------------------------------------|--|--------------|
| Individualized Student Plan | | |
| | 7 Courses at 600 or 700 level of IEN courses | 21 |
| | 7 Courses at 700 level of IEN courses | 21 |
| | Dissertation | 18 |
| Required Exams | | |
| | Written Qualifying Exam ¹ | |
| Total Credit Hours | | 60 |

¹ A written qualifying examination is to be taken by each doctoral degree candidate during the first year of graduate work. The department may specify that the student must take an oral examination as well. In those cases, normally, the student shall pass the written examination before the oral examination is conducted. Upon completion of the examination process, the Graduate Advisor notifies the Department Chairman that the student has passed or failed the examination. A student who fails the examination may be permitted to retake it, with the permission of the Graduate Advisor and the Chairman. Qualifying examinations normally will not be given during the summer months. The applicant must hold a 3.0 average on all credit hours attempted with no single grade below "C" at the University of Miami while a graduate student.

² At least 24 credits must be taken in residence at the University of Miami.

³ 1 - 4 courses outside of IEN may be substituted in lieu of IEN courses with Graduate Advisor approval.

⁴ Additional courses up to 12 credits may be required for students who do not have any previous Industrial Engineering degree.

Curriculum Requirements

For Students Entering with a M.S. Degree

(NOTE: A minimum of 60 credits beyond the baccalaureate degree are required for the Ph.D.)

| Code | Title | Credit Hours |
|--|-------|--------------|
| Individualized Student Plan | | |
| 3 Courses at 600 or 700 level of IEN courses | | 9 |
| 3 Courses at 700 level of IEN courses | | 9 |
| Dissertation | | 12 |
| Required Exams | | |
| Written Qualifying Exam ¹ | | |
| Total Credit Hours | | 30 |

¹ A written qualifying examination is to be taken by each doctoral degree candidate during the first year of graduate work. The department may specify that the student must take an oral examination as well. In those cases, normally, the student shall pass the written examination before the oral examination is conducted. Upon completion of the examination process, the Graduate Advisor notifies the Department Chairman that the student has passed or failed the examination. A student who fails the examination may be permitted to retake it, with the permission of the Graduate Advisor and the Chairman. Qualifying examinations normally will not be given during the summer months. The applicant must hold a 3.0 average on all credit hours attempted with no single grade below "C" at the University of Miami while a graduate student.

² At least 24 credits must be taken in residence at the University of Miami.

³ 1 - 2 courses outside of IEN may be substituted in lieu of IEN courses with Graduate Advisor approval.

Mission

The Department of Industrial Engineering's mission is to provide contemporary and relevant industrial and systems engineering education and research; impart knowledge and skills necessary to design and to improve a variety of manufacturing and service processes; promote life-long learning; and contribute to emerging societal needs.

Goals

The educational objectives of the Ph.D. program are to produce graduates who have:

- built advanced technical knowledge in at least one specialty area of industrial engineering;
- gained advanced capability to apply advanced knowledge to engineering problems; and
- made significant contributions in at least one specialty area of industrial engineering.

Student Learning Outcomes

- Graduates will identify advanced engineering problems, search all possible methods for solution and implement the most appropriate one.
- Graduates will demonstrate an ability to write effectively about advanced engineering topics.
- Graduates will have an ability to present their findings effectively about advanced engineering topics.