

# Materials Science and Engineering (PhD)

## Objectives

This program is designed to educate materials scientists and engineers, to develop new knowledge, and to solve problems related to the synthesis, processing, characterization, and application of materials.

Graduate study is focused on a range of materials, including metals and alloys, ceramics, polymers, composites, nanomaterials, structural materials, electronic and photonic materials, energy materials, and computational materials.

## Graduate Handbook

Graduate handbook information is updated and maintained by each program. Graduate handbooks are available within each program's office and [online](#). Please contact the program with concerns or questions.

## Admission Requirements

Students with a bachelor's degree in engineering or in one of the physical sciences may be admitted to the materials science and engineering degree program upon the recommendation of the Graduate Studies Committee. Students who do not have a background that the committee considers satisfactory for the study of advanced materials science and engineering will be required to take preparatory coursework, some of which may be at the undergraduate level. Completion of some coursework may be required before the student begins the work for the graduate degree.

### Total Hours Required: 30 (minimum)

### Average total hours for program: 72-108

## Requirements

A student may choose to pursue the doctoral degree without first obtaining a master's degree. Before admission to doctoral candidacy, the student must have a master's degree in materials science and engineering or an equivalent amount of graduate credit and must have demonstrated satisfactory performance on each part of the doctoral qualifying process, including a minimum of 3.30 GPA in the four Core courses.

Before the end of the PhD, the student is expected to complete at a minimum, 30 credit hours, including four Core courses (12 credit hours) and three elective courses (9 credit hours) in their Thrust field. Students must also take a minimum of 6 hours of Dissertation credits to graduate. In special circumstances, some of the requirements can be waived by the department. The doctoral candidate must also pass preliminary and final oral examinations covering the research program and the underlying science and engineering upon which the research is based. For a student with a Bachelor of Science degree, at least three years are required to complete the Doctor of Philosophy degree program. Typically, students complete their coursework, preliminary exam, research, and final oral exam between four to six years (72 to 108 credit hours) of full-time enrollment, although some may take less or more time.

| Code                                                                   | Title | Hours |
|------------------------------------------------------------------------|-------|-------|
| All students must also follow the following requirements and policies: |       |       |
| <a href="#">Graduate Engineering Requirements</a>                      |       |       |
| <a href="#">Graduate University Requirements</a>                       |       |       |