

Materials Science and Engineering (MSE)

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

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

Thesis: 30

Report: 33

Without Thesis or Report: 36

Requirements

The student's program of coursework is selected with the advice of the graduate advisor and must be approved by the Graduate Studies Committee. All students must complete deficiency, core, and advanced-level courses. (Individual deficiency courses may be waived if the student has equivalent credit on entering the program.) The specific course requirements vary for each concentration.

At least one full year is required to complete the master's degree program.

Thesis Option

For students electing this option, 30 semester hours of credit are required, consisting of 24 hours of organized coursework and six hours in the thesis course. Students begin the program by completing deficiency courses, but they may petition to waive these courses if they have equivalent credit. Twelve hours in core courses and six to 12 additional hours in advanced-level courses must then be taken. A maximum of six hours of upper-division coursework may be counted toward the required 30 hours.

The student should choose a thesis research topic and begin research during the first semester.

Report Option

This option requires 33 semester hours of credit, consisting of 30 hours of organized coursework and three hours in the report course. The program must be approved by the graduate advisor. At least twelve hours in core courses and an additional 12 to 18 hours of advanced-level coursework must be taken. Up to nine hours of upper-division

coursework may be counted. Enrollment in this option must be approved by the graduate advisor.

Without Thesis or Report Option

For students electing this option, 36 semester hours of coursework are required. Twelve hours in core courses and an additional 5 to 21 hours in advanced-level courses must be taken. The program must be approved by the graduate advisor. Up to nine hours of upper-division coursework may be included. No research is required, but the level of academic performance is the same as that required for the master's degree with thesis.

Code	Title	Hours
All students must also follow the following requirements and policies:		

[Graduate Engineering Requirements](#)

[Graduate University Requirements](#)

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.