

MATERIALS SCIENCE AND ENGINEERING - DOCTOR OF PHILOSOPHY (PHD)

The Materials Science and Engineering (MSE) program is an interdisciplinary PhD program aimed at providing a rigorous education in materials science and engineering and the fundamental physics, engineering, chemistry and biology that underlie this discipline.

Educational goals are achieved through both coursework and training in cross-disciplinary research supervised by one or more science and engineering faculty members.

For more information, visit the Materials Science and Engineering (<http://www.colorado.edu/mse/>) website.

Requirements

All PhD students must declare a track by the second semester. With the approval of their advisor, the student can change tracks. The course program should represent a coordinated approach to the attainment of the student's ultimate goals, including class work, professional preparation and research.

The following course requirements are subject to change; for the most current information, visit the department's Coursework (<http://www.colorado.edu/mse/graduate-study/coursework/>) webpage.

Code	Title	Credit Hours
Required Core Courses for All Tracks		
MSEN 5919	Special Topics in MSE: Mass Transport (Functional Materials Chemistry)	3
MSEN 5370	Materials Thermodynamics and Kinetics	3
MSEN 5919	Special Topics in MSE: Mass Transport (Materials Characterization in Engineering)	3
Specialized Track Courses ¹		12
Students must take four approved track-specific courses		
Breadth Electives		9
Students must select three breadth electives with approval of the PhD research advisor and program. Independent study and MSEN 5000 may count as breadth electives.		
Total Credit Hours		30

¹ Required track-specific courses and approved track-specific electives are listed on the department's Coursework (<http://www.colorado.edu/mse/graduate-study/coursework/>) webpage.

Preliminary Examination

The preliminary exam will normally be given in the spring of the student's second year. If the first attempt is failed, a second attempt will be scheduled in the following months. The second prelim attempt should be completed before the beginning of the third academic year. Students who have a master's degree should complete the preliminary exam in the third semester of study. If a student fails their first attempt, then they must retake the exam at latest in the following semester. Two successive failures result in a terminal MS as the highest possible degree.

Comprehensive Examination

Before admission to candidacy for the doctoral degree, students must pass a comprehensive examination, which shall consist of a written and an oral examination in the field of concentration and related fields. At the comprehensive examination, the student shall present a plan for the dissertation research to the Advisory Committee for approval.

PhD Dissertation

Students must write a dissertation based on original research conducted under the supervision of a graduate faculty member. The dissertation must fulfill all Graduate School requirements. After the dissertation is completed, an oral final examination on the dissertation and related topics is conducted by the student's doctoral committee.

Time Limit

All degree requirements must be completed within six years of the date of commencing course work.