Ph.D in Materials Science and Engineering
University of Cincinnati

Credit Hours
90 Minimum Credit Hours Total
➢ 30 Course Work Credit Hours
➢ 24 From MSE Courses
➢ 15 From Core Courses
➢ 6 From Approved Courses
➢ 60 Minimum Research Credit Hours

PhD Qualifying Exam
1. Written Part
1.1 Choose one of two topical fields
- Polymers
- Metals/Ceramics

1.2 Exam Committee will develop 8 problems from the following list, respective of chosen topical field (2 questions per topic). At least a 60% overall average is required for passing. Each problem is worth 50 points. Exam is open book. Exam is expected to be completed within the 6 allotted hours.

-Polymers: Thermodynamics, Polymer Physics and Properties, Polymer Characterization, Polymer Chemistry

-Metals/Ceramics: Thermodynamics, Physical Metallurgy, Mechanical Metallurgy, Ceramic Engineering

2. Oral Part
2.1 Student written Research Proposal: Introduction, Literature Review, Background/Motivation, Proposed Research. (15 page limit not including references).

2.2 Presentation of Research Proposal to Oral Exam Committee. (2 hours maximum).

2.2.1 40 min. power point presentation

2.2.2 Remaining time is to be used for questions related to research proposal. The committee will discuss the student’s understanding of the proposed research and award an overall pass/fail.

Research Advisor Vs. Academic Advisor
1. An Academic Advisor should be selected by the student within the first semester of graduate school to provide assistance with structuring course based credit hours. The Academic Advisor does not necessarily need to meet the student’s research interests but must belong to the MSE program.

2. A Research Advisor (Thesis Advisor) should be selected within the first semester that meets the student’s research interests. The Research Advisor will guide the student through the research based credit hours and may belong to another program with the approval of the Graduate Studies Director.

3. The Academic and Research Advisors may be different faculty. Only the Academic Advisor must belong the MSE department.

PhD Progress Review
• Students, along with their research advisor, shall initiate and schedule their Progress Review with their established Dissertation Committee.
• Students are encouraged to complete their first Progress Review as early as possible but no later than two years after passing the PhD qualifying examination. The Committee will decide if further reviews are required.
• The Review consists of two components:
  1. Written
    ➢ Submit a maximum of 35 pages, double-spaced, to the Committee at least two weeks prior to review date. The written report consists of: Background/Introduction, Statement of Objective and Scope of Work, Summary of Work Done, and Time-line for Completion of PhD Degree. Include figures, tables, etc.
  2. Oral
    ➢ 30-40 minute presentation to the Committee based on the written material. The Committee will conduct a questions and answers dialogue on the significance of the research findings, overall merit, and research direction. The Oral exam is expected not to exceed two hours. Following, the Committee will suggest if further reviews are needed and recommend the steps required to graduate.

PhD Candidacy: Students must maintain at least a 3.0 GPA in courses at UC and within the MSE Program