Material Science and Engineering

Assessment Plan for the MS and PhD Programs

Program Learning Outcomes

The Materials Science and Engineering program at UCR is guided by a set of Learning Outcomes (LO) that in combination describe the skill set that graduates have acquired during their studies toward a Masters or Ph.D. In Materials Science and Engineering:

I) Mastery of fundamental concepts including basic skills in engineering and the physical sciences.

II) Written communication of technical concepts.

III) Oral communication of technical concepts.

IV) Independent research experience and results (MS thesis and PhD only)

Assessment of Learning Outcomes

A variety of metrics provide the foundation for LO assessment. These are each associated with one or more LO goals, indicated with roman numerals after each item heading.

1. Student grades in courses (I)

2. Preliminary Exam/Masters Exam Result (I,II)

Students take the Preliminary Exam in the Ph.D. track and the Master Exam in Exam Master Track at the end of Spring quarter. The exam is identical in both tracks, with a lower threshold for positive evaluation for Master students as compared to Ph.D. students. The exam consists of five parts: students not achieving success at the required level in up to two parts can retake the insufficient exam parts at the end of summer; otherwise a retake of the exam after one year is possible.

3. Graduate Student Seminar presentations (III)

Each year practically all students present their thesis work (in the first year, their planned thesis work) to their peers and the program faculty as part of the MSE 251 seminar series. This provides the students and faculty with an overview of the ongoing research work and interaction opportunities. Evaluation of the student presentations ensures reasonable progress in their work.

4. Evaluation of student writing in thesis (Thesis Masters and Ph.D. only, III)

5. Evaluation of Thesis and Defense (Ph.D. only, II)

6. Publication record of students (III, IV)

7. Conference presentations of students (II,IV)

8. Timely progress in course of study (I,II,III)
9. Course Evaluation (I)

10. Interviews with graduating students and recent alumni (I, II, III, IV)

   No formal exit interviews are conducted in the MSE program. The graduate advisor meets with graduating students and asked for their opinion.