Materials Science & Engineering (14MTM)

Description

All engineering disciplines are becoming more dependent upon newer materials or more efficient utilization of existing materials. The Minor in Materials Science and Engineering is designed to provide students with the fundamentals necessary for advanced study in Materials Science and Engineering and/or employment in materials related fields. This Minor is available to and useful for students in any engineering discipline, as well as students from chemistry, physics, and textiles. It also provides non-MSE majors planning to attend graduate school in Materials Science and Engineering a meaningful and useful way to prepare themselves.

Requirements

The Materials Science and Engineering Minor includes a three-hour introductory course, six hours of required courses and six hours of electives selected from a list of courses covering a wide variety of materials science and engineering topics. To apply for the MSE Minor, a minimum overall GPA of 2.9 is required. A grade of C or better is required in MSE 200, MSE 201 or MSE/BME 203 and a minimum cumulative GPA of 2.0 must be maintained in the Minor courses.

Required Courses (9 hours)

Complete one of the following introductory courses:

- MSE 200 Mechanical Properties of Structural Materials (3 cr, F, S, Sum) or
- MSE 201 Structure and Properties of Engineering Materials (3 cr, F, S, Sum) or
- MSE/BME 203 Introduction to the Materials Science of Biomaterials (3 cr, F)

Complete both of the following courses:

- MSE 300 Structure of Materials at the Nanoscale (3 cr, F)
- MSE 301 Introduction to Thermodynamics of Materials (3 cr, F)

Elective Courses (6 hours)

Complete a minimum of six credit hours of courses from the following list:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit hours, semester</th>
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<tbody>
<tr>
<td>MSE 255 Experimental Methods for Structural Analysis of Materials</td>
<td>2, spring</td>
</tr>
<tr>
<td>(lab course)</td>
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<tr>
<td>MSE 320 Introduction to Defects in Materials</td>
<td>3, fall</td>
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<tr>
<td>MSE 335 Experimental Methods for Analysis of Material Properties</td>
<td>2, fall</td>
</tr>
<tr>
<td>(lab course)</td>
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**Admissions**

Visit the office of the Director of Undergraduate Programs in the MSE department to apply for the Minor and to prepare a plan of study. Admission to the Minor shall be governed by the same academic criteria used to transfer into the MSE curriculum. Students who have been denied admission to the MSE curriculum will also be denied admission to the MSE Minor. A C- or better grade in MSE 200, MSE 201 or BME 203 is required, and a cumulative GPA of 2.0 or higher is required for all courses in the minor.

**Certification**

Successful completion of the Minor will be verified by the Director of Undergraduate Programs in the MSE department, as listed below. Paperwork for certification can be obtained in the MSE Office for Undergraduate Programs and should be completed during the pre-registration period for the student’s final semester at NC State.

**Contact Person**

Dr. Cheryl Cass  
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cheryl_cass@ncsu.edu

**Effective Date:** 1/2013  
**SIS Code:** 14MTM