The Department of Materials Science and Engineering (MSEN) minor program is designed to provide a strong materials science educational program for undergraduate engineering majors and to integrate a materials focus into their undergraduate training. The minor is intended for students who are interested in broadening their undergraduate major program of study to incorporate a fundamental understanding of materials processing, and structure-property relationships to complement their major degree. Thus, the minor offers students the flexibility to select relevant coursework in order to customize this program of study to best suit the particular students intended area of focus (with consultation of the MSEN faculty advisor).

The MSEN minor program consists of a minimum of (5) three-hour courses for a total of 15 credit hours, with up to 6 credit hours in materials courses within their major. All students are required to have completed a pre-requisite prior to applying for the minor: MSEN 201- Introduction to Materials Science (or equivalent course). Two three-hour courses (6 credit hours) are selected from a list of core MSEN undergraduate courses. The remaining (3) three-hour courses (9 credit hours) are selected from upper-level materials-focused technical electives. With the permission of the MSEN faculty advisor, students may substitute up to (2) technical electives with courses from their major department with a primary focus on materials science and engineering. Completion of the minor will be recorded on the student's university transcript.

Guidelines

Students should complete and submit minor application to the Department of Materials Science and Engineering after completing a pre-requisite introductory materials course and after consulting with the MSEN faculty advisor.

Requirements

- Consult with academic advisor in major department prior to submitting application for the minor.
- Be in good academic standing within major department (GPR of 2.5 and higher).
- Obtain a "C" or better in each course taken towards minor.
- Achieve an overall GPR of 2.5 in approved minor coursework.
- Submit completed minor worksheet to the Department of Materials Science and Engineering (503 Mechanical Engineering Office Building) upon registering for final course(s) to complete minor requirements.
To earn the Minor in Materials Science & Engineering, a student must first complete the pre-requisite introductory materials course. Subsequently, a total of five materials science courses (15 hours), at least two of which are selected from the list of core materials science courses, the balance composed of materials science technical electives.

Pre-requisites
- MSEN 201* – Introduction to Materials Science
  * MEEN 222, CHEN 313, BMEN 343 are considered acceptable replacements for MSEN 201.

Select at least two of the following Core MSEN undergraduate courses:
- MSEN 310 Structure of Materials (new required course)
- MSEN 420 Polymer Science (new required course)
- MSEN 489/MSEN 625 Mechanical Behavior of Materials (existing course)
- MSEN 460 Electronic, Optical, and Magnetic Properties of Materials (new required course)

Technical Elective MSEN undergraduate courses+
- MSEN 410 Materials Processing (new course)
- MSEN 430 Nanoscience & Nanomaterials (new course)
- MSEN 489 Materials Corrosion (new course)
- MSEN 489/MEEN 458 Processing and Characterization of Polymers (existing course)
- MSEN 489/MSEN 628 Fundamentals of Ceramics (existing course)
- MSEN 489/MSEN 689/MEEN 471 Elements of Composite Materials (existing course)
- MSEN 685 Individual Research

+ Upon consultation with the materials science faculty advisor, up to 2 upper-level technical electives in the student’s major department may be accepted in place of these courses.