Materials Science and Engineering, **Minor**

**ESMSEMIN**

**Description**

The materials science and engineering minor is a program designed to give science and engineering majors an in-depth understanding of materials, including their structure, processing, properties and performance.

**At a Glance**

- **College/School:** Ira A. Fulton Schools of Engineering
- **Location:** Tempe campus

**Program Requirements**

Minor Map (Archives)
2021 - 2022 Minor Map

Students are required to take five courses and one lab (minimum of 16 credits), listed below:

**Required Courses -- 12 credit hours**

- **MSE 250: Structure and Properties of Materials** (3)
- **MSE 355: Structure and Defects** (3)
- **MSE 3** Elective or **MSE 4** Elective (6)

**Materials-related Lab Course -- 1 credit hours**

- **MSE 356: Thin Film and Microelectronic Devices Lab** (1)
- **MSE 451: Nanomaterials and Electronics Characterization Lab** (1)

**Materials-related Course -- 3 credit hours**

- **BME 318: Biomaterials** (4)
CEE 353: Civil Engineering Materials (4)  
CHE 468: Polymer Principles and Processing (3)  
CHM 471: Solid-State Chemistry (3)  
EEE 352: Properties of Electronic Materials (4)  
EEE 436: Fundamentals of Solid-State Devices (3)  
MSE 3** Elective (3)  
MSE 4** Elective (3)  
PHY 481: Materials Physics I (3)

Depending on a student's undergraduate program of study, prerequisite courses may be needed in order to complete the requirements of this minor.

Maintain 2.50 GPA in Minor Courses.

**Enrollment Requirements**

**GPA Requirement:** 2.75

**Incompatible Majors:** BA in interdisciplinary studies with a concentration in materials science and engineering

**Other Enrollment Requirements:** Students must hold sophomore status to enroll in the materials science and engineering minor. To earn the minor, students must receive a minimum GPA of 2.50 (scale is 4.00 = "A") in all minor courses. Students adding the minor also need to complete MAT 265 (MAT 270), MAT 266 (MAT 271), MAT 267 (MAT 272), MAT 242 (MAT 342 or 343), and CHM 114 or CHM 113 and 116.

Interested students should consult with a School for Engineering of Matter, Transport and Energy advisor to verify eligibility and to review all courses required for the minor. To schedule an advising appointment, students should contact the SEMTE advising office at 480-965-2335 or semte@asu.edu.

Current ASU undergraduate students may pursue a minor and have it recognized on their ASU transcript at graduation. Students interested in pursuing a minor should consult with their major academic advisor to declare the minor after they have met with a SEMTE advisor to ensure that an appropriate set of courses is taken. Minor requirements appear on the degree audit once the minor is added. Certain major and minor combinations may be deemed inappropriate by the college or department of either the major program or the minor. Courses taken for the minor may not count toward both the major and the minor. Students should contact their academic advisor for more information.

**Career Opportunities**

For engineering majors, a minor in materials science and engineering could open up career opportunities in nanotechnology, electronics, health care and sustainability and energy. For nonengineering majors, a
minor in materials science and engineering can provide a foundation in sustainability, nanotechnology and materials physics.

**Contact Information**

[Materials Science and Engineering Program](mailto:Materials%20Science%20and%20Engineering%20Program) | ECG 202
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