Materials Science & Engineering is an integrated discipline of chemistry, physics, and engineering. Materials Scientist and Engineers are continually engaged in developing new materials or upgrading the use of basic materials for our advancing world. Many courses and all MSE courses are only offered one semester per academic year. Students will be required to take a total of 53.5 credit hours in core MSE courses. Visit mse.utah.edu for more information and course descriptions.

Total Degree Credit Hours: 125.5 | Required: 2.3 GPA | All courses must be passed with a “C” grade or better

**Major Status**

### Fall
- **MSE 3010**
  - Materials Processing
  - (3 credits)
  - Pre-req: MSE 2010, MATH 1320, CHEM 2310, PHYS 2220
  - Co-req: MSE 3061, ME EN 2010

- **MSE 3210**
  - Electronic Properties of Solids
  - (3 credits)

- **ECE 2200**
  - Electrical & Computer Eng.
  - (1.5 credits)
  - Pre-req: MSE 2010, MSE 3061, MATH 2250, CHEM 1220/1225, PHYS 2220, CS 1001

### Spring
- **MSE 3032**
  - Thermodynamics
  - (4 credits)
  - Sequence: MSE 5034
  - Pre-req: MSE 2010, CHEM 2310, MATH 1320

- **MSE 3410**
  - Intro to Polymers
  - (3 credits)
  - Pre-req: MSE 2010, CHEM 2310, MATH 1320

### Fall
- **MSE 3011**
  - Structural Analysis of Materials
  - (4 credits)
  - Pre-req: MSE 2010, MATH 3140, CHEM 2310, PHYS 2220, CS 1001, ME EN 2010

- **MSE 3211**
  - Intro to Ceramics
  - (3 credits)
  - Pre-req: MSE 2010, MATH 1310, CHEM 1210, CHEM 1215

### Spring
- **MSE 5025**
  - Mechanical Properties of Solids
  - (3 credits)
  - Pre-req: MSE 2010, MSE 3061, MATH 3140, CHEM 2310, PHYS 2220, CS 1001, ME EN 2010

### Fall
- **MSE 3310**
  - Intro to Polymers
  - (3 credits)
  - Pre-req: MSE 2010, MATH 1320, CHEM 2310, MATH 1310, CHEM 1210, CHEM 1215

### Spring
- **MSE 5034**
  - Kinetics of Solid-State Processes
  - (3 credits)
  - Pre-req: MSE 2010, MSE 3061, MATH 2250, CHEM 1220/1225, PHYS 2220
  - Sequence: MSE 5099

- **MSE 5090**
  - Case Studies in MSE
  - (4 credits)
  - Pre-req: WRTG 2010
  - Sequence: MSE 5098, MSE 5099

### Fall
- **MSE 5098**
  - Senior Design
  - (2.5 credits)
  - Pre-req: MSE 5090

### Spring
- **MSE 5099**
  - Senior Thesis
  - (2.5 credits)
  - Pre-req: MSE 5098

### Technical Electives
Students are required to complete four 5000-level or above courses from the approved list below:

#### Section 1
**Materials Science & Eng.**
- Choose 1 course from:
  - MSE 5055, 5072, 5073, 5074, 5353, 5354, 5475, 5050

#### Section 2
**Metallurgical Eng.**
- Choose 1 course from:
  - MET E 5210, 5260, 5280, 5290, 5670, 5680, 5760, 5780, 5790

#### Section 3
**Engineering & Science**
- Many 5000 level engineering & science course can be used for this requirement with prior approval from advisor, or
- Choose 1 course from:
  - NUCL 5030, ME EN 5520, MET E 5320, 5450, 5610, 5690, 5739, 5760