



Department of Materials Science & Engineering College of Engineering | University of Utah

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Key

- Prerequisites Enforced →
- Co-requisites

Major Requirements

- No grade below C allowed
- 2.3 GPA is required

M S E

Major Status

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

Fall Spring Fall Spring

Pre-req: MSE 2010, MATH 1320, CHEM 2310, PHYS 2220

Co-req: MSE 3061, ME EN 2010

MSE 3010

Materials Processing (3 credits)

Pre-req: MSE 2010, MATH 2250, CHEM 1220/1225, PHYS 2220, CS 1001
Co-req: MATH 3140, CHEM 2310, MSE 3061, ME EN 2010, ECE 2200

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

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, MSE 3061, MATH 3140, CHEM 2310, PHYS 2220, CS 1001, ME EN 2010

MSE 3011

Structrual Analysis of Materials (4 credits)

Pre-req: MSE 2010, MATH 1310, CHEM 1210, CHEM 1215

MSE 3310

Intro to Ceramics (3 credits)

Pre-req: MSE 2010, MSE 3061, MATH 3140, CHEM 2310, PHYS 2220, CS 1001, ME EN 2010

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, MSE 3032

MSE 5034

Kinetics of Solid-State Processes
(3 credits)

Pre-req: WRTG 2010

MSE 5090

Case Studies in MSE (4 credits)

Sequence: MSE 5098, MSE 5099

Pre-reg: MSE 5090

MSE 5098

Senior Design (2.5 credits)

Sequence: MSE 5099

Pre-req: MSE 5098

MSE 5099

Senior Thesis (2.5 credits)

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 1 Materials Science & Eng.

Choose 1 course from: MSE 5055, 5072, 5073, 5074, 5353, 5354, 5475, 5050

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