

## Materials Science and Engineering Stacked Courses for the Fast Track Program

(revised June 2020)

### Corrosion Science and Engineering

Course Number	Name	Prerequisites	Graduate Course Number	Name
MSEN 440	Materials Electrochemistry and Corrosion	MSEN 201 or MSEN 222	MSEN 643	Materials Electrochemistry and Corrosion
MSEN 444	Corrosion and Electrochemistry Lab	MSEN 440	MSEN 644	Corrosion and Electrochemistry Lab
MSEN 446	Corrosion Prevention and Control Methods	MSEN 440	MSEN 646	Corrosion Prevention and Control Methods

### Electronic Materials

Course Number	Name	Prerequisites	Graduate Course Number	Name
MSEN 415	Defects in Solids	MSEN 260	MSEN 689 (615)	Defects in Solids
MSEN 430	Nanomaterials Science	MSEN 260	MSEN 689 (630)	Nanomaterials Science
MSEN 440	Materials Electrochemistry and Corrosion	MSEN 201 or MSEN 222	MSEN 643	Materials Electrochemistry and Corrosion
MSEN 470	Computational Materials Science and Engineering	MATH 308, MSEN 305, and MSEN 320	MSEN 670	Computational Materials Science and Engineering
MSEN 489	Advanced Electronic Properties	MSEN 325	MSEN 689	Advanced Electronic Properties

### Materials Characterization and Failure Analysis

Course Number	Name	Prerequisites	Graduate Course Number	Name
MSEN 415	Defects in Solids	MSEN 260	MSEN 689 (615)	Defects in Solids
MSEN 440	Materials Electrochemistry and Corrosion	MSEN 201 or MSEN 222	MSEN 643	Materials Electrochemistry and Corrosion
MSEN 458	Fundamentals of Ceramics	MSEN 260	MSEN 658	Fundamentals of Ceramics
MSEN 489	Materials Science Advanced Manufacturing	MSEN 305	MSEN 689	Materials Science Advanced Manufacturing
MSEN 489	Failure Analysis in Materials Science & Engineering	MSEN 201	MSEN 689	Failure Analysis in Materials Science & Engineering
MSEN 489 (418)	Composites Processing	Instructor Approval	MSEN 618	Composites Processing

### Soft Materials

Course Number	Name	Prerequisites	Graduate Course Number	Name
MSEN 426	Polymer Laboratories	MSEN 250	MSEN 626	Polymer Laboratories
MSEN 430	Nanomaterials Science	MSEN 260	MSEN 689 (630)	Nanomaterials Science
MSEN 440	Materials Electrochemistry and Corrosion	MSEN 201 or MSEN 222	MSEN 643	Materials Electrochemistry and Corrosion

### Structural Materials

Course Number	Name	Prerequisites	Graduate Course Number	Name
MSEN 415	Defects in Solids	MSEN 260	MSEN 689 (615)	Defects in Solids
MSEN 426	Polymer Laboratories	MSEN 250	MSEN 626	Polymer Laboratories
MSEN 440	Materials Electrochemistry and Corrosion	MSEN 201 or MSEN 222	MSEN 643	Materials Electrochemistry and Corrosion
MSEN 458	Fundamentals of Ceramics	MSEN 260	MSEN 658	Fundamentals of Ceramics
MSEN 489 (418)	Composites Processing	Instructor Approval	MSEN 618	Composites Processing