

Materials Science and Engineering – Minor Program

Department of Materials Science and Engineering

University of Central Florida

Required Courses

Course	Title	Unit
EGN 3365 or EMA 3706	Structure and Properties of Materials	3
EMA 3124	Design and Selection of Materials	3
EMA 4102	Thermodynamics and Kinetics of Materials	3

Restricted Electives

1. Select one of the following courses on properties of materials

Course	Title	unit
PHZ 3422	Nanophysics	3
EMA 4223	Fundamentals of Mechanical Behavior of Materials	3
PHZ 4404	Solid State Physics	3
EMA 4413	Fundamentals of Electronic Materials	3
PHY 4445	Lasers	3
OSE 4520	Laser Engineering	3
EMA 5104	Intermediate Structures and Properties of Materials	3
EMA 5415	Electronic Principles of Materials Properties	3

2. Select one of the following courses on materials processing, testing and characterization

Course	Title	unit
EMA 3012C	Experimental Techniques in Mechanics and Materials	3
EMA 3691	Nanomaterials Process Engineering	3
PCB 4174	Foundation of Bio-Imaging Science	3
EMA 4503	Materials Characterization Techniques	3
PHY 4803L	Advanced Physics Laboratory	3

3. Select one of the following courses on applications of materials

Course	Title	unit
EMA 3000	Engineering Polymeric, Ceramic, and Composite Materials	3
EMA 3014	Nanomaterials Characterization and Applications	3
EEE 3350	Semiconductor Devices I	3
EEE 4463	MEMS Devices and Applications	3
EMA 4506	Emerging Materials	3
PCB 4521	Tissue Engineering	3
EMA 5060	Polymer Science and Engineering	3
EMA 5140	Introduction to Ceramic Materials	3
EMA 5584	Biomaterials	3
EMA 5585	Materials Science of Thin Films	3
EMA 5705	High Temperature Materials	3



Materials Science and Engineering – Minor Program

Department of Materials Science and Engineering

University of Central Florida

Application Process

- Submit the petition for Admission to the MSE minor to Pamela Ross (ENG I – 207J)
- The MSE department will approve or deny the application. If approved, the department will retain a copy and give the student a copy of the form

Completion Process

- Successfully complete 18 hours of materials based course work
- At least 12 hours of course work with the prefix EMA and/or EGN
- Minimum grade of “C” (2.0) or better for all courses in minor
- Submit a petition for Completion of the MSE minor to Pamela Ross (ENG I – 207J) upon the completion of the minor requirements
- The department will verify the completion of minor and send the original form to the Office of the Registrar. A copy will be sent to the student’s College or School and one retained in the department.
- A notation in the memorandum section of the student’s transcript will indicate the completion of the minor.

