

Electronic, Optical, and Magnetic Materials (EOM)**Minor in Electronic, Optical, and Magnetic Materials****Department of Materials Science and Engineering, College of Engineering and Applied Sciences**

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WEB ADDRESS: <http://www.matscieng.sunysb.edu>**Electronic, Optical, and Magnetic Materials (EOM)**

The Department of Materials Science and Engineering offers the minor in Electronic, Optical, and Magnetic Materials for engineering science students or for non-engineering science students who seek to obtain a more thorough understanding of the engineering sciences. Emerging technologies in wireless communication, data storage and transmission, sensors, medical diagnostics, and semiconductor manufacturing require graduates with an understanding of electronics design, electromagnetic theory, and electronic and magnetic materials. The courses in the minor provide the student with a broad introduction to the engineering science principles and applications associated with electronic, optical, and magnetic materials.

Engineering science, computer engineering, electrical engineering, mechanical engineering, and applied mathematics and statistics students can assemble a sequence of courses with 18 to 24 credits to satisfy the minor. Courses used to satisfy the requirements of the minor may not be used to satisfy requirements of another minor in engineering science. The student's program must be approved by the undergraduate program director.

Requirements for the Minor in Electronic, Optical, and Magnetic Materials (EOM)

Completion of the minor requires 18 to 24 credits.

Requirements for students majoring in Engineering Science (ESG):

1. ESE 218 Digital Systems Design and ESE 380 Embedded Microprocessor Systems Design I
or ESE 305 Deterministic Signals and Systems and ESE 315 Control System Design

2. Five courses chosen from:

ESG 201 Engineering Responses to Society
ESE 319 Introduction to Electromagnetic Fields and Waves
ESE 321 Electromagnetic Waves and Wireless Communication
ESM 325 Diffraction Techniques and Structure of Solids
ESM 336 Electronic Materials
ESM 369 Polymer Engineering
ESM 488 Cooperative Industrial Practice
ESM 499 Research in Materials Science

Requirements for all other students:

1. ESE 218 Digital Systems Design and ESE 380 Embedded Microprocessor Systems Design I
or ESE 305 Deterministic Signals and Systems and ESE 315 Control System Design

2. ESG 100 Introduction to Engineering Science
or ESE 123 Introduction to Electrical and Computer Engineering
or MEC 101 and MEC 102 Engineering Computing and Problem Solving I, II

3. ESG 201 Engineering Responses to Society

4. Three courses chosen from: ESE 319 Introduction to Electromagnetic Fields and Waves

ESE 321 Electromagnetic Waves and Wireless Communication
ESM 325 Diffraction Techniques and Structure of Solids
ESM 336 Electronic Materials
ESM 369 Polymer Engineering
ESM 488 Cooperative Industrial Practice
ESM 499 Research in Materials Science

No courses are associated with this academic program.