Michigan Technological University  
Minor in Electronic Materials  
Program Code MSEM, Academic Year 2023-24  
College of Engineering  
Total Credits Required: 18

Required Courses: 9 Credits

- EE 3290 Photonic Materials Devices and Applications (4) Prereqs: EE2190 or EE3140 or PH2400  
  - or MSE 4292 Light and Photonic Materials (3) Prereqs: EE2190 or EE3140 or PH2200  
- MSE 2100 Intro to Materials Science & Engineering (3) Prereqs: CH1112 or CH1122 or (CH1150 and CH1151) or (CH1160 and CH1161)  
- MSE 3150 Intro to Semiconductor Materials & Devices (3) Prereqs: MA2160 and PH2200

Elective Courses: 9 credits

- EE 3140 Electromagnetism (3) Prereqs: PH2200 and MA3160 and (EE2110 or EE2112)  
- MSE 3120 Materials Characterization I (4) Prereqs: MY2110 or MSE2110  
- MSE 3130 Materials Characterization II (4) Prereqs: MY2100 or MSE2100 or BE2800  
- MSE 4410 Science of Ceramic Materials (3) Prereqs: MY2100 or MSE2100 or BE2800  
- MSE 4530 Scanning Electron Microscopy (3) Prereqs: none  
- MSE/EE 4240 Introduction to MEMS (4) Prereqs: none  
- MSE 4990 Undergraduate Research (1-3) Prereqs: none  
- MSE/EE 5430 Electronic Materials (3) Prereqs: none  
- MSE/EE 5460 Solid State Devices (3) Prereqs: none  
- MSE/EE 5470 Semiconductor Fabrication (3) Prereqs: none  
- MSE/EE 5490 Solar Photovoltaic Technology (3) Prereqs: none  
- PH 3480 Advanced Physics Laboratory (2) Prereqs: PH3210