Materials Science Minor – Updated June 2015

This minor is intended for students who have chosen to take a minimum of 16 credits of materials science coursework in any appropriate department.

Required:

1) ME 280 or MSC 202 Introduction to Materials Science
   Prerequisites below or with permission of instructor:
   MTH 163 Differential Equations I
   MTH 164 Multidimensional Calculus (same as ME 164)
   PHY 123 Waves & Modern Physics
   ME 226 Intro to Solid Mechanics
   PHY 122 Electricity & Magnetism

2) Choose three of the following courses
   * may only include one of the following courses:
     PHY227 (MSC230), CHM455 (MSC455), ME460 (MSC 405)
   * must include at least one course at the 400 (graduate) level

CHE 225 Chemical Engineering Thermodynamics
CHE 286 Polymer Science & Engineering
EES 204W Earth Materials
EES 208 Structural Geology
ME 242 Solids and Materials Laboratory
PHY 251 (MSC 420) Introduction to Condensed Matter Physics
PHY 227 (MSC 230) Thermodynamics & Statistical Mechanics
BME 420 (MSC 421) Biomedical Nanotech
BME 442 (MSC 442) Microbiomechanics
BME 451 (MSC 451) Biomedical Ultrasound
BME 462 (MSC 462) Cell & Tissue Engineering
CHE 413 (MSC 413) Engineering of Soft Matter
CHE 454 (MSC 454) Interfacial Engineering
CHE 458 (MSC 458) Electrochem&Engg & Fuel Cell
CHE 460 (MSC 460) Solar Cells
CHE 469 (MSC 469) Biotechnology&Bioengineering
CHE 482 (MSC 482) Proc Microelec Device
CHE 485 (MSC 485) Thermodynamics & Stat Mech
CHE 492 (MSC 472) Biointerfaces
CHM 404 (MSC 404) Biophysical Chemistry II
CHM 416 (MSC 416) X-ray Crystallography
CHM 423 (MSC 463) NMR spectroscopy
CHM 455 (MSC 455) Thermodynamics and Stat mechanics
CHM 456 (MSC 456) Chemical Bonds: From Molecules to Materials
ECE 423 (MSC 423) Semiconductor Devices
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<th>Course Code</th>
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<tr>
<td>ECE 436 (MSC 437)</td>
<td>Nanophot/Nanomech Devices</td>
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<td>ECE 435 (MSC 473)</td>
<td>Intro to Opto-Electronics</td>
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<td>ECE 520 (MSC 520)</td>
<td>Spin Based Electronics</td>
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<td>ME 222 (MSC 424)</td>
<td>Into Robst Dsgn Qual Eng</td>
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<td>ME 232 (MSC 432)</td>
<td>Optomechanics</td>
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<td>ME 460 (MSC 405)</td>
<td>Thrmodynamics of Nanomicosol</td>
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<td>ME 462 (MSC 407)</td>
<td>Solids &amp; Materials lab</td>
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<td>ME 466 (MSC 466)</td>
<td>Corrosion</td>
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<td>OPT 421 (MSC 470)</td>
<td>Optical Properties of Materials</td>
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<td>Principles of Lasers</td>
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<td>Statistical Mechanics</td>
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<td>PHY 420 (MSC 420)</td>
<td>Introduction to Condensed Matter Physics</td>
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