Materials are the basis for all engineering and also are the basis for much of the research in various areas of science. The Minor in Materials Science and Engineering is designed to give students in other areas of engineering and science both a broad view of all materials as well as several courses in a particular area of materials, knowledge that will be of value whether the student pursues a career in industry, government, or academia.

The courses, listed below, have been selected to give an undergraduate student both a strong background in all types of materials as well as more detailed knowledge of a particular area of materials (e.g., ceramics, metals, polymers, electronic materials or biomaterials).

**Minor Requirements:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>MSE 280</td>
<td>Engineering Materials</td>
<td>3</td>
</tr>
<tr>
<td>MSE 401</td>
<td>Thermodynamics of Materials (Other thermodynamics courses may be substituted upon petition.)</td>
<td>3</td>
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<tr>
<td>One additional course chosen from an approved list below:</td>
<td>3</td>
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<tr>
<td>MSE 304</td>
<td>Electronic Properties of Matsls</td>
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<tr>
<td>MSE 402</td>
<td>Kinetic Processes in Materials</td>
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<tr>
<td>MSE 403</td>
<td>Synthesis of Materials</td>
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<tr>
<td>MSE 405</td>
<td>Microstructure Determination</td>
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<tr>
<td>MSE 406</td>
<td>Thermal-Mech Behavior of Matsls</td>
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<tr>
<td>Nine additional hours in advanced courses selected from:</td>
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<tr>
<td>MSE 404</td>
<td>Laboratory Studies in Materials Science and Engineering</td>
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<tr>
<td>MSE 420</td>
<td>Ceramic Materials &amp; Properties</td>
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<tr>
<td>MSE 421</td>
<td>Ceramic Processing</td>
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<tr>
<td>MSE 422</td>
<td>Electrical Ceramics</td>
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<tr>
<td>MSE 440</td>
<td>Mechanical Behavior of Metals</td>
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<tr>
<td>MSE 441</td>
<td>Metals Processing</td>
<td>3</td>
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<tr>
<td>MSE 443</td>
<td>Design of Engineering Alloys</td>
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<tr>
<td>MSE 445</td>
<td>Corrosion of Metals</td>
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<tr>
<td>MSE 450</td>
<td>Polymer Science &amp; Engineering</td>
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<tr>
<td>MSE 453</td>
<td>Plastics Engineering</td>
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<tr>
<td>MSE 454</td>
<td>Mechanics of Polymers</td>
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<tr>
<td>MSE 455</td>
<td>Macromolecular Solids</td>
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<tr>
<td>MSE 456</td>
<td>Mechanics of Composites</td>
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<tr>
<td>MSE 457</td>
<td>Polymer Chemistry</td>
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<tr>
<td>MSE 458</td>
<td>Polymer Physics</td>
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<td>MSE 460</td>
<td>Electronic Materials I</td>
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<tr>
<td>MSE 461</td>
<td>Electronic Materials II</td>
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<tr>
<td>MSE 466</td>
<td>Materials in Electrochem Syst</td>
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<tr>
<td>MSE 470</td>
<td>Design and Use of Biomaterials</td>
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<tr>
<td>MSE 473</td>
<td>Biomolecular Materials Science</td>
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<td>MSE 474</td>
<td>Biomaterials and Nanomedicine</td>
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<tr>
<td>MSE 480</td>
<td>Surfaces and Colloids</td>
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<td>MSE 481</td>
<td>Electron Microscopy</td>
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<tr>
<td>MSE 484</td>
<td>Composite Materials</td>
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<tr>
<td>MSE 485</td>
<td>Atomic Scale Simulations</td>
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<td>MSE 487</td>
<td>Materials for Nanotechnology</td>
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<td>MSE 488</td>
<td>Optical Materials</td>
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<td>MSE 489</td>
<td>Matl Select for Sustainability</td>
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<tr>
<td>ECE 444</td>
<td>IC Device Theory &amp; Fabrication</td>
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</tbody>
</table>

For more information regarding the Materials Science and Engineering minor, visit the Materials Science and Engineering minor Web site (https://matse.illinois.edu/academics/undergraduate-programs/matse-minor/), contact the MatSE Department Office (201 MEB, 217-333-1441, matse@illinois.edu), or visit the Office of the Associate Dean for Undergraduate Programs, 206 Engineering Hall.