# Bachelor of Science in Materials Science

## Curriculum Flow Chart

<table>
<thead>
<tr>
<th>Fall, Year 1</th>
<th>Spring, Year 1</th>
<th>Fall, Year 2</th>
<th>Spring, Year 2</th>
<th>Fall, Year 3</th>
<th>Spring, Year 3</th>
<th>Fall, Year 4</th>
<th>Spring, Year 4</th>
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</thead>
<tbody>
<tr>
<td>CHEM 105 (3) and CHEM 106 (2)</td>
<td>General Chemistry 1</td>
<td>CHEM 109 (4)</td>
<td>General Chemistry 2</td>
<td>Phys 231 (5)</td>
<td>University Physics 1</td>
<td>Phys 232 (5)</td>
<td>University Physics 2</td>
</tr>
<tr>
<td>MSE 221 (3)</td>
<td>Intro to Materials Science and Engineering</td>
<td>Phys 232 (5)</td>
<td>University Physics 2</td>
<td>MSE 315 (4)</td>
<td>Materials Characterization</td>
<td>MSE 315 (4)</td>
<td>Thermodynamics</td>
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<tr>
<td>MATH 114 (4)</td>
<td>Calculus 1</td>
<td>CHEM 325 (4)</td>
<td>Organic Chemistry</td>
<td>MSE 334 (4)</td>
<td>Soft Materials</td>
<td>MSC 384 (0.5)</td>
<td>Junior Seminar 1</td>
</tr>
<tr>
<td>MSE 221 (3)</td>
<td>Intro to Materials Science and Engineering</td>
<td>MSE 350 (4)</td>
<td>Thermodynamics</td>
<td>MSE 357 (3)</td>
<td>Phase Transformations and Kinetics</td>
<td>MSC 385 (0.5)</td>
<td>Junior Seminar 2</td>
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<tr>
<td>MATH 215 (4)</td>
<td>Calculus 2</td>
<td>MATH 215 (4)</td>
<td>Calculus 2</td>
<td>MSE 357 (3)</td>
<td>Phase Transformations and Kinetics</td>
<td>MSCI 484 (1)</td>
<td>MSCI Capstone I</td>
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<tr>
<td>MSC 384 (0.5)</td>
<td>Junior Seminar 1</td>
<td>MSC 385 (0.5)</td>
<td>Junior Seminar 2</td>
<td>MSCI 384 (0.5)</td>
<td>Junior Seminar 1</td>
<td>MSCI 485 (2)</td>
<td>MSCI Capstone II</td>
</tr>
</tbody>
</table>

### 6-Credit Elective
6 Credits from courses with MSCI or MSE prefix (beyond those required for the core). Choose from 256, 362, 363, 367, 372, 374, 395, 399, 451, 475, 493, 494 or 499. Up to 2 credits from 395, 399 and 499 may count towards the elective requirement.

### 6-Credit Emphasis
6 emphasis credits must meet the requirements in either A or B:

A: Be from the same prefix; be from the following prefixes: BIOL, CHEM, CS, GEOL, MATH, MGMT, PHYS; be from UWEC courses numbered 300 or above, or from courses appropriate for a major (See catalog for examples of appropriate sub 300 level courses).

B: The student may pursue an emphasis that reflects a thematic area of concentration and intentional connection. Consult with your faculty advisor.
**Tips for completing your degree outside the Materials Science major:**

1. All students must complete the UWEC Liberal Education (LE) core, which requires 17 learning experiences across 11 learning outcomes. Courses in the Materials Science core curriculum with a LE designation include MATH 109/112/114 (S2), CHEM 105/106 (K1+Lab), PHYS 231 (K1+Lab), PHYS 232 (K1+Lab), WRIT 114/116 (S1), MSE 315 (S3), and MSCI 485 (I1).

2. After completing the courses listed above, the following experiences are needed to satisfy the LE core:
   - Two experiences in K2
   - Two experiences in K3
   - One experience in K4
   - One experience in S1
   - Two experiences in R1 (one must meet the UW System Design for Diversity (DD) requirement)
   - One experience in R2
   - One experience in R3
   - One experience in I1
   - 30 hours of approved service-learning activity

3. Although you are free to choose LE courses that are of interests to you, the Materials Science faculty strongly recommend ECON 103 (K2) due to its close relation with the MSE curriculum. Other courses that will provide helpful context to your Materials Science degree include ENV 101 (K2, R3), ENV 377 (K2, R3), and BIOL 180 (R3, I1).

4. Some courses meet more than one learning outcomes, and some courses meet half or full service-learning requirement. Taking advantage of these courses could lead to earlier fulfillment of the LE and/or service-learning requirement, which in turn can provide schedule flexibility for additional experiences such as studying abroad, pursuing a minor, or getting a certificate. Your academic advisor can provide you with a list of such courses.


6. A minimum of 39 credits must be taken from courses numbered 300 and higher (LE or non-LE). Taking one or two upper division LE courses, for example, ENV 310 (K2, R3), ENV 377 (K2, R3), GEOG 301 (I1, R2), and PHYS 332 (I1) could help to meet both the LE and the upper division credits requirements. More upper division credits may be needed depending on your course selection for the Materials Science emphasis.

7. Please talk to your advisor if you have any questions.