MASTER OF CHEMISTRY IN MATERIALS CHEMISTRY

The professional master's program in materials chemistry is a part-time, online program designed for students who wish to broaden and deepen their background in synthesis, characterization, and properties of various kind of materials and chemical systems. The program brings together modern materials design and synthesis strategies, innovative materials characterization techniques, and power of computational methods in chemistry. It combines the rigors of science education with business principles such as project management, communication, and intellectual property management to prepare graduates for careers in industry, government, academic, and non-profit sectors.

In addition to recent science and engineering graduates looking to gain a competitive edge in the job market, the program also provides opportunities for mid-career professionals re-entering the workforce and working scientists and engineers who are seeking career advancements.

Admission

Applicants are evaluated on an individual basis but are expected to hold a bachelor's degree in science or engineering with at least two semesters of organic chemistry and two semesters of calculus. The academic adviser will assist students in determining whether any prerequisites are necessary.

Applicants are required to submit transcripts, one letter of recommendation, an application fee, and a professional statement. GRE scores are required for international students, domestic students with an undergraduate GPA between 2.5 and 3.0, or at the request of the admissions committee. The minimum GRE score for admissions consideration is 300 (quantitative + verbal) and 2.5 (analytical writing).

A final comprehensive examination is required for graduation. This program is also available on the web. Students should consult iit.edu/chemistry for more information.

Curriculum

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required Courses</strong></td>
<td></td>
<td>(18)</td>
</tr>
<tr>
<td>CHEM 505</td>
<td>Spectroscopic Methods I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 509</td>
<td>Physcl Meths of Charztn</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 521</td>
<td>Structural Inorg/Material Chem</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 522</td>
<td>Efficient Cheml&amp;Mtrls Synths</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 535</td>
<td>Polymer Synthesis</td>
<td>3</td>
</tr>
<tr>
<td>SCI 511</td>
<td>Project Management</td>
<td>3</td>
</tr>
<tr>
<td><strong>Elective Courses</strong></td>
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<td>(14)</td>
</tr>
<tr>
<td>Select a minimum of fourteen credit hours from the following:</td>
<td>14</td>
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<tr>
<td>CHEM 454</td>
<td>Computational Quantum Chem</td>
<td>3</td>
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<tr>
<td>CHEM 470</td>
<td>Introduction to Polymers</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 513</td>
<td>Chemometrics &amp; Statistics</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 519</td>
<td>Good Manufacturing Practices</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 520</td>
<td>Advanced Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 524</td>
<td>Synths &amp; Intelct Prop Mgmt</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 530</td>
<td>Organic Reaction Mechanisms</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 531</td>
<td>Tactics in Organic Synthesis</td>
<td>3</td>
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<tr>
<td>CHEM 542</td>
<td>Polymer Charact &amp; Analysis</td>
<td>3</td>
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<tr>
<td>CHEM 544</td>
<td>Colloids&amp;Colloid Analysis</td>
<td>2</td>
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<tr>
<td>SCI 522</td>
<td>Public Engagement Scientists</td>
<td>3</td>
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Total Credit Hours 32