M.S. in Chemistry

If interested in any degree offering in the Department of Chemistry and Biochemistry, please review the department webpage: http://www.chemistry.montana.edu/graduate/.

A Master of Science (M.S.) Degree in Chemistry requires a minimum of 30 credits and include only those courses listed on an approved Program of Study. A student's Program of Study requires approval from a student's research advisor, graduate committee and the Department Head. The M.S. degree can include creative scholarship and an accompanying thesis (Plan A) or be based solely on coursework (Plan B). A thesis M.S. requires that a student take at least 10 credits of CHMY 590 (Master's Thesis). A comprehensive exam is required. A coursework M.S. degree culminates with a professional paper or project and requires enrollment in CHMY 575 (Professional Paper). In Plan B, at least 15 course credits on the student's MS program of study will need to come from chemistry courses offered in the department. Graduate Classes outside of the department are permissible with approval from the student's advisor. Nine credits at the 400-level are allowed. Additional information about both types of M.S. programs – coursework and thesis – is published on the Graduate School's Degree Requirements site: https://www.montana.edu/gradschool/policy/degreq_masters.html.

Acceptable Courses on a Program of Study for an MS degree in Chemistry.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>CHMY 501</td>
<td>Advanced Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHMY 513</td>
<td>Computational Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHMY 515</td>
<td>Structure and Bonding in Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHMY 517</td>
<td>Synthetic Chemistry</td>
<td>3</td>
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<tr>
<td>CHMY 524</td>
<td>Mass Spectrometry</td>
<td>3</td>
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<tr>
<td>CHMY 526</td>
<td>Solution NMR Spectroscopy: practical applications to the structural determination of small molecules</td>
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<tr>
<td>CHMY 533</td>
<td>Physical Organic Chemistry</td>
<td>3</td>
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<tr>
<td>CHMY 535</td>
<td>Reagent Chemistry</td>
<td>3</td>
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<tr>
<td>CHMY 540</td>
<td>Organic Synthesis</td>
<td>3</td>
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<tr>
<td>CHMY 551</td>
<td>Organic Structure Elucidation</td>
<td>3</td>
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<tr>
<td>CHMY 554</td>
<td>Organometallic Chemistry</td>
<td>3</td>
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<tr>
<td>CHMY 557</td>
<td>Quantum Mechanics</td>
<td>3</td>
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<tr>
<td>CHMY 558</td>
<td>Classical &amp; Stat Thermodynamic</td>
<td>3</td>
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<tr>
<td>CHMY 559</td>
<td>Kinetics &amp; Dynamics</td>
<td>3</td>
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<tr>
<td>CHMY 560</td>
<td>Symmetry, Orbitals, and Spectroscopy</td>
<td>3</td>
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<tr>
<td>CHMY 564</td>
<td>Adv Quantum Chemistry</td>
<td>3</td>
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<tr>
<td>CHMY 575</td>
<td>Professional Paper</td>
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<tr>
<td>CHMY 590</td>
<td>Master’s Thesis</td>
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<tr>
<td>CHMY 591</td>
<td>Special Topics</td>
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<tr>
<td>CHMY 592</td>
<td>Independent Study</td>
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<tr>
<td>CHMY 594</td>
<td>Seminar</td>
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<tr>
<td>MTSI 501</td>
<td>Material Structure and Bonding</td>
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<td>MTSI 502</td>
<td>Adv Materials Science II</td>
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<tr>
<td>MTSI 503</td>
<td>Optical, Electronic, and Magnetic Properties of Materials</td>
<td>3</td>
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<tr>
<td>MTSI 511</td>
<td>Thermodynamics of Materials</td>
<td>3</td>
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<tr>
<td>MTSI 512</td>
<td>Kinetics Phase Transformations</td>
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<tr>
<td>MTSI 551</td>
<td>Adv Materials Characterization</td>
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<td>MTSI 552</td>
<td>Adv Material Character II</td>
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<td>PHSX 516</td>
<td>Experimental Physics</td>
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PHSX 531 Nonlinear Optics/Laser Spectroscopy 3
PHSX 506 Quantum Mechanics I 3
PHSX 544 Condensed Matter Physics I 3
STAT 511 Methods of Data Analysis I 3