CHEMISTRY MAJOR (B.S.)
COMBINED B.S./M.S.

Program Requirements

Students must complete 42 credits of General Education requirements (http://catalog.montclair.edu/undergraduate-graduate-degree-requirements/general-ed-ba-bs) and 3-9 credits of World Languages and Cultures Requirements (http://catalog.montclair.edu/undergraduate-graduate-degree-requirements/world-languages-cultures-requirement).

Requirements for the graduate portion of this dual degree program can be found here (http://catalog.montclair.edu/programschemistry-combined-bs-ms).

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>CHEM 120</td>
<td>General Chemistry I</td>
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<tr>
<td>CHEM 121</td>
<td>General Chemistry II</td>
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<td>CHEM 230</td>
<td>Organic Chemistry I</td>
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<td>CHEM 231</td>
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<td>CHEM 233</td>
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<td>Analytical Chemistry</td>
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<td>Instrumental Analysis</td>
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<td>CHEM 343</td>
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<td>CHEM 499</td>
<td>Undergraduate Research</td>
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Elective Courses

Select 6 credits from the following: 6

- CHEM 371 Biochemistry II
- CHEM 420 Advanced Inorganic Chemistry
- CHEM 430 Advanced Organic Chemistry
- CHEM 440 Advanced Physical Chemistry
- CHEM 490 Selected Topics in Chemistry

Collateral Courses - Math

- MATH 122 Calculus I
- MATH 221 Calculus II
- STAT 330 Fundamentals of Modern Statistics I
- or STAT 401 Applied Statistics for the Sciences

Collateral Courses - PHYS

- PHYS 191 University Physics I
- PHYS 192 University Physics II

Graduate Courses

As part of the combined BS/MS Chemistry program, select 9 credits from the following:

- CHEM 510 Hazardous Materials Management
- CHEM 520 Advanced Inorganic Chemistry
- CHEM 525 Bioinorganic Chemistry
- CHEM 530 Advanced Organic Chemistry
- CHEM 532 Organic Synthesis
- CHEM 533 Biosynthesis of Natural Products
- CHEM 534 Separation and Analysis
- CHEM 536 Nuclear Magnetic Resonance: Theory and Practice
- CHEM 538 Drug Design in Medicinal Chemistry
- CHEM 540 Advanced Physical Chemistry
- CHEM 542 Quantum Chemistry and Spectroscopy
- CHEM 544 Chemical Thermodynamics and Electrochemistry
- CHEM 546 Chemical Spectroscopy
- CHEM 548 Chemical Kinetics
- CHEM 550 Organometallic Chemistry
- CHEM 570 Advanced Biochemistry
- CHEM 574 Protein Structure
- CHEM 575 Enzyme Kinetics and Mechanisms
- CHEM 576 Lipid Biochemistry
- CHEM 577 Nucleic Acid Biochemistry
- CHEM 578 Biochemistry Laboratory Techniques
- CHEM 579 Biomolecular Assay Development
- CHEM 582 Biochemical Pharmacology
- CHEM 590 Selected Topics-Advanced Chemistry
- CHEM 595 Graduate Research
- CHEM 599 Graduate Seminar

Total Credits 74