CHEMISTRY B.A.

The courses required for the B.A. degree provide a less extensive training in chemistry than do the courses required for the American Chemical Society certified B.S. degree. This is to allow the student to supplement his or her program with courses that meet his or her specific needs. Thus this degree provides the core of traditional preparation in chemistry together with latitude for combination with an interdisciplinary field or the Teacher Preparation program. It is strongly advised that students using this degree obtain faculty advice in planning their program.

Bachelor of Arts - Chemistry

College Humanities & Sciences

Degree Specific Credits: 95
Required Cumulative GPA: 2.0
Catalog Year: 2017-2018

General Education Requirements
Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Summary
Lower Core Courses 45
General Chemistry
Organic Chemistry
Physics
Mathematics
Computer Science
Upper Core Courses 16
Analytical Chemistry
Physical Chemistry
Advanced Electives 21
Modern Foreign Language 10
Ethics 3
Total Hours 95

Lower Core Courses
Rule: All subcategories must be completed

General Chemistry
Rule: Complete both courses
CHMY 141N College Chemistry I
& CHMY 142N and College Chemistry I Lab
CHMY 143N College Chemistry II
& CHMY 144N and College Chemistry II Lab
Total Hours 10
Minimum Required Grade: C-

Organic Chemistry
Rule: Complete all courses
CHMY 221 Organic Chemistry I
CHMY 222 Organic Chemistry I Lab
CHMY 223 Organic Chemistry II
CHMY 224 Organic Chemistry II Lab
Total Hours 10
Minimum Required Grade: C-

Physics
Rule: Complete either PHSX 205N-PHSX 206N and PHSX 207N-PHSX 208N or PHSX 215N-PHSX 216N and PHSX 217N-PHSX 218N
Select one of the following physics sequences: 10
PHSX 205N & PHSX 206N College Physics I and College Physics I Laboratory
PHSX 207N & PHSX 208N College Physics II and College Physics II Laboratory
OR
PHSX 215N & PHSX 216N Fund of Physics w/Calc I and Physics Laboratory I w/Calc
PHSX 217N & PHSX 218N Fund of Physics w/Calc II and Physics Laboratory II w/Calc
Total Hours 10
Minimum Required Grade: C-

Mathematics
Rule: Complete all courses
M 171 Calculus I 4
M 172 Calculus II 4
M 273 Multivariable Calculus 4
Total Hours 12
Minimum Required Grade: C-

Computer Science
Rule: Complete course
CSCI 250 Computer Mdlng/Science Majors 3
Total Hours 3
Minimum Required Grade: C-

Upper Core Courses
Rule: All subcategories must be completed

Analytical Chemistry
Rule: Complete all of the following courses
CHMY 311 Analytical Chem-Quant Analysis 4
CHMY 421 Advanced Instrument Analysis 4
Total Hours 8
Minimum Required Grade: C-

Physical Chemistry
Rule: Complete all of the following courses
### Chemistry B.A.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHMY 371</td>
<td>Phys Chem-Qntm Chm &amp; Sptrcspy</td>
<td>4</td>
</tr>
<tr>
<td>CHMY 373</td>
<td>Phys Chem-Kntcs &amp; Thrmdynmcs</td>
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</table>

Minimum Required Grade: C-

#### Advanced Electives

**Rule:** Complete 9 credits of advanced electives in Chemistry or biochemistry approved by Chemistry adviser and 6 credits of advanced electives at the discretion of the student.

Minimum Required Grade: C-

21 Total Credits Required

#### Modern Foreign Language

**Rule:** Complete 10 credits of modern foreign language

Minimum Required Grade: Pass

10 Total Credits Required

#### Ethics

**Rule:** Complete the following course

<table>
<thead>
<tr>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHMY 305E</td>
<td>Ethics, Literature and Writing in the Sciences</td>
<td>3</td>
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<td>Total Hours</td>
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</table>

Minimum Required Grade: C-

#### Teaching Chemistry Concentration

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Concentrations will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a concentration.

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching concentration within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching concentration and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program (http://www.coehs.umt.edu/departments/currinst/undergradprograms/seced/default.php)

### Teaching Preparation Requirements

**Rule:** Complete both of the following

**Note:** The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Science.

<table>
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<tr>
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<th>Credits</th>
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</thead>
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<tr>
<td>EDU 497</td>
<td>Teaching and Assessing</td>
<td>4</td>
</tr>
<tr>
<td>ENST 472</td>
<td>Gen Sci: Conservation Education</td>
<td>3</td>
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<td>Total Hours</td>
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</table>

Minimum Required Grade: C-

#### Teaching Licensure Requirements

**Note:** Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction (http://catalog.umt.edu/colleges-schools-programs/education-human-sciences/teaching-learning/lic-secondary-licensure) in the College of Education and Human Sciences (http://catalog.umt.edu/colleges-schools-programs/education-human-sciences) for more information. A major GPA of 2.75 is required to be eligible for student teaching.