

# CHEMISTRY B.S. - ENVIRONMENTAL CHEMISTRY

## Bachelor of Science - Chemistry; Environmental Chemistry Concentration

### 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

Code	Title	Hours
Lower-Division Core Courses		54
	General Chemistry	
	Organic Chemistry	
	Physics	
	Mathematics	
	Geology	
	Biology	
Upper-Division Core Courses		29
	Analytical Chemistry	
	Physical Chemistry	
	Inorganic Chemistry	
	Biochemistry	
	Statistics	
	Geology	
Advanced Electives		9
<b>Total Hours</b>		<b>92</b>

Degree Specific Credits: 92

Required Cumulative GPA: 2.0

### Lower-Division Core Courses

#### General Chemistry

Code	Title	Hours
<b>Complete all of the following courses:</b>		
CHMY 141N & CHMY 142N	College Chemistry I and College Chemistry I Lab	5
CHMY 143N & CHMY 144N	College Chemistry II and College Chemistry II Lab	5
<b>Total Hours</b>		<b>10</b>

Minimum Required Grade: C-

#### Organic Chemistry

Code	Title	Hours
<b>Complete all of the following courses:</b>		
CHMY 221 & CHMY 222	Organic Chemistry I and Organic Chemistry I Lab	5

CHMY 223 & CHMY 224	Organic Chemistry II and Organic Chemistry II Lab	5
<b>Total Hours</b>		<b>10</b>

Minimum Required Grade: C-

#### Physics

Code	Title	Hours
<b>Complete all of the following courses:</b>		
PHSX 215N & PHSX 216N	Fundamentals of Physics with Calculus I and Physics Laboratory I with Calculus	5
PHSX 217N & PHSX 218N	Fundamentals of Physics with Calculus II and Physics Laboratory II with Calculus	5
<b>Total Hours</b>		<b>10</b>

Minimum Required Grade: C-

#### Mathematics

Code	Title	Hours
<b>Complete all of the following courses:</b>		
M 171	Calculus I	4
M 172	Calculus II	4
<b>Total Hours</b>		<b>8</b>

Minimum Required Grade: C-

#### Geology

Code	Title	Hours
<b>Complete all of the following courses:</b>		
GEO 101N	Introduction to Physical Geology	3
GEO 102N	Introduction to Physical Geology Lab	1
<b>Total Hours</b>		<b>4</b>

Minimum Required Grade: C-

#### Biochemistry Biology

Code	Title	Hours
<b>Complete all of the following courses:</b>		
BIOB 160N	Principles of Living Systems	3
BIOB 161N	Principles of Living Systems Lab	1
BIOB 260	Cellular and Molecular Biology	4
BIOB 272	Genetics and Evolution	4
<b>Total Hours</b>		<b>12</b>

Minimum Required Grade: C-

### Upper-Division Core Courses

#### Analytical Chemistry

Code	Title	Hours
<b>Complete all of the following courses:</b>		
CHMY 311	Analytical Chemistry-Quantitative Analysis	4
CHMY 421	Advanced Instrument Analysis	4
<b>Total Hours</b>		<b>8</b>

Minimum Required Grade: C-

**Physical Chemistry**

Code	Title	Hours
<b>Complete the following course:</b>		
CHMY 373	Physical Chemistry-Kinetics & Thermodynamics	4
<b>Total Hours</b>		<b>4</b>

Minimum Required Grade: C-

**Inorganic Chemistry**

Code	Title	Hours
<b>Complete the following course:</b>		
CHMY 401	Advanced Inorganic Chemistry	3
<b>Total Hours</b>		<b>3</b>

Minimum Required Grade: C-

**Biochemistry**

Code	Title	Hours
<b>Complete the following course:</b>		
BCH 480	Advanced Biochemistry I	3
<b>Total Hours</b>		<b>3</b>

Minimum Required Grade: C-

**Statistics**

Code	Title	Hours
<b>Complete all of the following courses:</b>		
STAT 451	Statistical Methods I	3
STAT 457	Computer Data Analysis I	1
<b>Total Hours</b>		<b>4</b>

Minimum Required Grade: C-

**Geology**

Code	Title	Hours
<b>Complete the following course:</b>		
GEO 320	Global Water	4
GEO 327	Geochemistry	4
<b>Total Hours</b>		<b>8</b>

Minimum Required Grade: C-

**Advanced Electives**

**Note:** A maximum of 3 credits each of CHMY 492, BIOB 492, and GEO 492 be applied to meet the advanced electives requirement. In addition, a maximum of 5 credits of a language may be applied to meet the advanced electives requirement.

Code	Title	Hours
<b>Complete 9 credits from the following courses:</b>		
BCH 482	Advanced Biochemistry II	
BCH 486	Biochemistry Research Lab	
BIOB 490	Advanced Undergraduate Research	
BIOB 492	Independent Study	
BIOE 370	General Ecology	

BIOE 439	Stream Ecology	
BIOE 453	Lake Ecology	
BIOM 360	General Microbiology (equiv to BIOM 260)	
CHMY 391	Special Topics/Experimental Course	
CHMY 402	Advanced Inorganic Chemistry Lab	
CHMY 442	Aquatic Chemistry	
CHMY 465	Organic Spectroscopy	
CHMY 466	FT-NMR Option for Undergraduate Research	
CHMY 491	Special Topics/Experimental Course	
CHMY 492	Independent Study	
GEO 420	Hydrogeology	
GEO 492	Independent Study	
STAT 452	Statistical Methods II	
<b>Total Hours</b>		<b>9</b>

Minimum Required Grade: C-

**Advanced College Writing Requirement**

**Rule:** To complete the Advanced College Writing Requirement, Biochemistry students may take the following courses or any other stand-alone advanced writing course.

Code	Title	Hours
BCH 482	Advanced Biochemistry II	3
BCH 486	Biochemistry Research Lab	3

Minimum Required Grade: C-