

Chemistry, ACS, BS



University of Wyoming, 2016-17

The Department of Chemistry offers both BA and BS degree programs, with two BS degree programs available. The BS provides for an intensive study of chemistry and is appropriate for those continuing in the field. The BS ACS is the more rigorous of the two BS degree programs and leads to a professional degree approved by the American Chemical Society (ACS). Discussions with a departmental advisor will allow students to choose the most appropriate major for career objectives.

Freshman Fall Semester				Hrs	Min	Grade	Notes
USP First-Year Seminar				3		C	FY
CHEM	1020	General Chemistry I *	4		C		Can substitute CHEM 1050 ** (Advanced General Chemistry I), offered fall only.
ENGL	1010	College Composition and Rhetoric	3		C		C1
MATH	2200	Calculus I ***	4		C		Q
Electives ****				3		C	
Credit hours subtotal:				17			

Freshman Spring Semester				Hrs	Min	Grade	Notes
USP Human Culture *****				3			H
CHEM	1030	General Chemistry II	4		C		Can substitute CHEM 1060 (Advanced General Chemistry II), offered spring only.
MATH	2205	Calculus II	4		C		
POLS	1000	American and Wyoming Government *****	3				V
Electives ****				3		C	
Credit hours subtotal:				17			

Sophomore Fall Semester				Hrs	Min	Grade	Notes
USP Communication 2 *****				3		C	C2
CHEM	2420	Organic Chemistry I	4		C		
MATH	2210	Calculus III	4		C		
Electives ****				6		C	
Credit hours subtotal:				17			

Sophomore Spring Semester				Hrs	Min	Grade	Notes
CHEM	2230	Quantitative Analysis	4		C		Offered spring only.
CHEM	2440	Organic Chemistry II	4		C		
CHEM	4515	Applied Math for Physical Chemistry *****	3		C		Offered spring only.
Electives ****				6		C	
Credit hours subtotal:				17			

This is a guide for course work in the major; actual course sequence may vary by student. Please refer to the online student degree evaluation, and consult with an academic advisor. • Not all courses are offered every semester and some electives may have prerequisites. Students should review the course descriptions in the *University Catalog* and consult with their academic advisor to plan accordingly.

University of Wyoming requirements:

Students must have a minimum cumulative GPA of 2.0 to graduate. • Students must complete 42 hours of upper division (3000-level or above) coursework, 30 of which must be from the University of Wyoming. • Courses must be taken for a letter grade unless offered only for S/U. • University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

College of Arts and Sciences requirements:

Students must take two "core" courses in addition to the USP requirements: Diversity in the United States (ASD) and Global Awareness (ASG). • No more than 60 hours in the major subject may be used toward the 120 credit hours required for graduation. • At least 30 hours in the major subject must be completed with a grade of C or better (the major may require more).

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Junior Fall Semester				Hrs	Min Grade	Notes
USP Human Culture *****				3		H
CHEM	4100	Inorganic Chemistry Lab	2	C	CHEM 4110 is course prereq or coreq; may be taken in spring.	
CHEM	4110	Introductory Inorganic Chemistry	3	C		
CHEM	4400	Biological Chemistry	3	C	Can substitute MOLB 3610 (Principles of Biochemistry) or MOLB 4600 (Biochemistry I: Biomolecules).	
CHEM	4930	Undergraduate Research	1	C		
PHYS	1210	Engineering Physics I	4	C	PN	
Credit hours subtotal:				16		

Junior Spring Semester				Hrs	Min Grade	Notes
A&S Core Global Awareness				3		ASG
CHEM	4930	Undergraduate Research	1	C		
PHYS	1220	Engineering Physics II	4	C	PN	
Electives				4		
Upper Division Electives				3		
Credit hours subtotal:				15		

Senior Fall Semester				Hrs	Min Grade	Notes
USP Communication 3				3	C	C3; recommend CHEM 4010 (Communication in Chemistry).
A&S Core Diversity in the US				3		ASD
CHEM	4000	Career Skills *****	1	S	Offered fall only; offered S/U only.	
CHEM	4230	Instrumental Methods of Chemical Analysis	4	C	Offered fall only.	
CHEM	4507	Physical Chemistry I	3	C		
CHEM	4525	Physical Chemistry Lab I	1	C		
CHEM	4930	Undergraduate Research	1	C		
Credit hours subtotal:				16		

Senior Spring Semester				Hrs	Min Grade	Notes
CHEM	4508	Physical Chemistry II	3	C		
CHEM	4530	Physical Chemistry Lab II	1	C		
Upper Division Chemistry Elective				3	C	Can't include CHEM 4920 (Special Problems).
Upper Division Electives				6		
Credit hours subtotal:				13		

TOTAL CREDIT HOURS: 128

Chemistry ACS, BS Program Notes:

- The professional BS (ACS) in chemistry requires a minimum of 46 hours of chemistry.
- * Requires MATH ACT ≥ 23 , MATH SAT ≥ 600 , Math Placement Exam ≥ 3 , or concurrent enrollment in MATH 1400, 1405, or 1450. (University standard)
- ** Requires MATH ACT ≥ 27 , MATH SAT ≥ 600 , one year of high school chemistry, and concurrent enrollment in MATH 2200. (University standard)
- *** Requires MATH ACT ≥ 27 , MATH SAT ≥ 600 , Math Placement Exam ≥ 5 , or $\geq C$ in MATH 1405 or 1450.
- **** **Program Supporting Courses:** The electives can be chosen to complete the 18 directed credits (program supporting courses); any courses taken to fulfill the 18 directed electives require a grade of C or better.
- ***** Students with specific additional interests (e.g. pre-med or another pre-professional program) may wish to move their V/H/C2 courses to alternate semesters so as to take other necessary required courses (e.g. LIFE 1010, MOLB 3000, etc.).
- ***** This course satisfies the computer science requirement for the Chemistry ACS major, although there are other alternatives, including STAT 2050 (Fundamentals of Statistics) and COSC 1010 (Introduction to Computer Science). Discuss options with a departmental advisor.
- ***** Students taking CHEM 4010 as their C3 are not required to take CHEM 4000.