

CHEMISTRY, BACHELOR OF SCIENCE

College: College of Science and Health

Department: Physical Science

Student Type: Traditional Undergraduate

Degree: Bachelor of Science

Campus: Lisle Campus

The University's Bachelor of Science degree program in Chemistry is approved by the American Chemical Society.

The B.A. in Chemistry is not approved by the American Chemical Society.

Program Mission/Purpose

The mission of the Chemistry Program at Benedictine University is to provide students with an appreciation and understanding of chemistry through our instruction, coursework, and research collaborations. We prepare students for future careers in the chemical sciences, further education and lifelong learning.

Progression in the Chemistry Program (for B.A. and B.S degrees)

Progression in the Chemistry program requires that students complete the introductory sequence of CHEM 1127 Honors General Chemistry or CHEM 1113 General Chemistry I plus CHEM 1123 General Chemistry II, and MATH 2210 Calculus I with a GPA of 2.500 or above and a grade of "C" or better in each of these courses. A transfer student must meet these requirements through equivalent transfer courses. Additionally, a transfer student must earn a GPA of 2.500 or above in all major classes (excluding labs) during the first semester at Benedictine in order to progress in the Chemistry program.

If it is determined at any time that a student cannot progress within the Chemistry program or graduate with a Chemistry degree, the student will be required to change his or her major and seek academic advising outside of that program.

Academic Repeat Policy for CHEM 1108

Undergraduate students – both degree-seeking and Students-At-Large (SAL) – may repeat CHEM 1108 Preparatory General Chemistry if they received grades of "W", "D", or "F" no more than once. Students who wish to take CHEM 1108 Preparatory General Chemistry for a third time must appeal to do so in writing to the Department Chair of Physical Sciences who will forward the appeal to the chemistry faculty for a department-level decision. Students may not repeat CHEM 1108 Preparatory General Chemistry if they receive a grade of "C" or better.

Requirements - Major

The B.S. in Chemistry major must complete the following courses with a grade of "C" or better:

Code	Title	Hours
BIOL 1198	Principles of Biology	3
Select one of the following:		4-8
MATH 2210	Calculus I	
MATH 1170 & MATH 2200	Introduction to Calculus I and Applications of Calculus I	

MATH 2211	Calculus II	4
MATH 2212	Calculus III	4
PHYS 2211	University Physics I	3
PHYS 2205	University Physics I Laboratory	1
PHYS 2212	University Physics II	3
PHYS 2206	University Physics II Laboratory	1
PHYS 2213	University Physics III	3
PHYS 2207	University Physics III Laboratory	1
Select one of the following:		3-6
CHEM 1127	Honors General Chemistry	
CHEM 1113 & CHEM 1123	General Chemistry I and General Chemistry II	
CHEM 1115	Honors General Chemistry I Laboratory	1
CHEM 1125	Honors General Chemistry II Laboratory	1
CHEM 3231	Instrumental Analysis	3
CHEM 3232	Quantitative Analysis	3
CHEM 3237	Instrumental Analysis Lab	1
CHEM 3238	Quantitative Analysis Lab	1
CHEM 2242	Organic Chemistry I	3
CHEM 2244	Honors Organic Chemistry I Laboratory	1
CHEM 2247	Organic Chemistry II	3
CHEM 2249	Honors Organic Chemistry II Laboratory	1
CHEM 3261	Principles of Biochemistry	3
CHEM 4313	Classical Thermodynamics	3
CHEM 4314	Physical Chemistry I Laboratory	1
CHEM 4315	Quantum and Statistical Mechanics	3
CHEM 4316	Physical Chemistry II Laboratory	1
CHEM 4320	Inorganic Chemistry	3
CHEM 4321	Inorganic Synthesis Laboratory	1
CHEM 4398	Chemical Research	3
CHEM 4399	Research Capstone	1-2
Select one additional advanced 3-credit hour CHEM course at the 3000-level or higher ¹		3
Total Hours		70-78

¹ Excluding CHEM 4398 Chemical Research and CHEM 4399 Research Capstone.

An original research project and thesis must be completed. Students who satisfactorily complete these courses fulfill the requirements for American Chemical Society approval.

Objectives

Students in the BS in Chemistry program will achieve the following student learning outcomes (SLO):

Student Learning Outcome 1: Students completing Benedictine University chemistry classes will demonstrate knowledge in the major fields of chemistry that is competitive with undergraduate level chemistry students from other ACS- approved programs.

- University SLO: 1. Disciplinary Competence and Skills

Student Learning Outcome 2: Benedictine University Chemistry students will develop skills necessary to carry out solutions of chemical problems.

- University SLO: 2. Critical and Creative Thinking Skills

Student Learning Outcome 3: Benedictine University Chemistry students will be engaged with chemistry outside of the classroom.

- University SLO: 1. Disciplinary Competence and Skills