BACHELOR OF SCIENCE IN CHEMISTRY - BIOCHEMISTRY OPTION

Code	Title	Credit Hours
Wellness Requirement		
APPH 1040	Scientific Foundations of Health	2
or APPH 10	The Science of Physical Activity and Health	
or APPH 10	Flourishing: Strategies for Well-being and Resilience	
Core IMPACTS		
Institutional Priority		
CS 1301	Introduction to Computing [7]	3
Mathematics and Quantitative Skills		
MATH 1552	Integral Calculus	4
Political Science and U.S. History		
HIST 2111	The United States to 1877	3
or HIST 211	The United States since 1877	
or INTA 120	American Government in Comparative Perspective	
or POL 1101	Government of the United States	
or PUBP 300	American Constitutional Issues	
Arts, Humanities, and Ethics		
Any HUM		6
Communicating in Writing		
ENGL 1101	English Composition I	3
ENGL 1102	English Composition II	3
Technology, Mathematics, and Sciences		
Lab Science [1]		8
MATH 1551	Differential Calculus	2
MATH 1553	Introduction to Linear Algebra [5]	2
Social Sciences		
Any SS		9
Field of Study		
PHYS 2212	Principles of Physics II	4
CHEM 1212K	Chemical Principles II	4
CHEM 2380	Synthesis Laboratory I	2
MATH 2551	Multivariable Calculus	4
BIOS 1107 & 1107L	Biological Principles and Biological Principles Laboratory	4
Major Requirements		
CHEM 2216 & 2216L	Quantitative Chemical Analysis and Quantitative Chemical Analysis Laboratory	4
or CHEM 22	Quantitative Chemical Analysis	
CHEM 2311	Organic Chemistry I	3
CHEM 2312	Organic Chemistry II	3
or CHEM 23	Organic and Bioorganic Chemistry	
CHEM 2601	Professional Skills for Chemists and Biochemists	1
CHEM 3111	Inorganic Chemistry	3
CHEM 3216 & 3216L	Analytical Chemistry Lecture and Analytical Chemistry Laboratory	5
or CHEM 321	Analytical Chemistry	
CHEM 3380	Synthesis Laboratory II	3
CHEM 3411	Physical Chemistry I	3
CHEM 3412	Physical Chemistry II	3
CHEM 3481	Physical Chemistry Laboratory I	2
Biochemistry Option		
CHEM 4511	Biochemistry I	3
or CHEM 351	Biochemistry I	
CHEM 4512	Biochemistry II	3
or CHEM 35	Biochemistry II	
CHEM 4581	Biochemistry Laboratory I	3
CHEM 4601	Chemistry Seminar	2
Biochemistry Lab Elective [2,3]		3
Select one of the following: [3]		3
CHEM 4521	Biophysical Chemistry	
CHEM 4582	Biochemistry Laboratory II	
CHEM 4765	Drug Design, Development, and Delivery	
BIOS 3380	Microbiology	
BIOS 3450	Cell and Molecular Biology	
BIOS 4340	Medical Microbiology	
BIOS 4418	Microbial Physiology	
BIOS 4401	Experimental Design and Statistical Methods in Biological Sciences	
BIOS 4464	Developmental Biology	
BIOS 4570	Immunology	
Free Electives		
Free Electives [3,4,6,8]		12
Total Credit Hours		**122**

Pass-fail only allowed for Free Electives.

1. Students are highly encouraged to complete CHEM 1211K and PHYS 2211 for Core IMPACTS Area T. These courses are pre-requisites for other courses in the program.
2. BIOS 3450 & BIOS 3451 , OR BIOS 3380 & BIOS 3381, OR CHEM 4582. If four credit hours are totaled, extra counts toward Free Electives.
3. Courses may be applied toward completion of a minor.
4. VIP courses may be used only as free electives or in place of CHEM 4699 with pre-approval of the Associate Chair for Academic Programs or their designate
5. MATH 1554 or MATH 1564 may be used in place of MATH 1553.
6. A maximum of twelve credit hours of CHEM 4699 taken on a letter-grade basis are permitted for the degree program. Up to six hours of CHEM 2699 taken on a letter-grade basis may be used as free electives.
7. CS 1371 may be used with approval of the Associate Chair for Academic Programs or their designate.
8. Pass-fail only allowed for Free Electives.