

# Concord University

## Bachelor of Science – Chemistry

Name: \_\_\_\_\_

2026-2027 Catalog

120 hours minimum for graduation with a 2.00 average overall  
56 hours from a four-year institution

Course	Title	CR	GR	QP
Written and Oral Communications (9 credit hours) Select one course from BGEN 205 or COMM 101				
ENGL 101	Composition & Rhetoric I	3		
ENGL 102	Composition & Rhetoric II	3		
BGEN 205 Or COMM 101	Fundamentals of Business Communication Or Fundamentals of Speech	3		
Literature and Humanities (6 credit hours) Select one (1) course from Literature and one (1) course from History and Philosophy. *May be repeated for 3 credit hours.				
	ENGL 203 or 204	3		
	HIST 101, 102, 203, 204, PHIL 101, 308, 316, or 361	3		
Fine Arts– (3 credit hours) Select one (1) course from the following:				
	ART 101, 103, 105, 106, 204, 205, 216, 303, 304, 308, MUS 101, *451, *453A, or THEA 102	3		
Social and Behavioral Sciences (9 credit hours) Select one (1) course from three different categories.				
	<b>Category 1 - Business and Professional Studies</b>	3		
	BGEN 105, ECON 203, ECON 204, FIN 200, HSP 100 or SOWK 161	3		
	<b>Category 2 - Geography</b>	3		
	GEO 100 or 221	3		
	<b>Category 3 - Political Science</b>			
	POSC 101, 104, or 202			
	<b>Category 4 - Psychology</b>			
	PSY 101 or 200			
	<b>Category 5 – Sociology</b>			
	SOC 101, 201, or 301			
Natural Sciences (7-8 credit hours) Select one (1) course from two different categories.				
CHEM 101/111	<b>Category 1-Biological Science</b> BIOL 101, 102, 121, or 122	4	See Major	
PHYS 101 or 201	<b>Category 2-Earth &amp; Space Science</b> GEO 101, GEO 140 or 150, GEO 200, PHSC 104, or PHYS 105	4	See Major	
	<b>Category 3-Physical Science</b> CHEM 100, CHEM 101/111, PHSC 103, PHYS 101, or PHYS 201			
Mathematics (3 credit hours) Select one (1) Mathematics course numbered 100 or higher.				
MATH 103		3	See Major	
Physical Wellness (2 credit hours) Select one or more courses listed below for a total of at least two hours.				
	HS 120, 304, P ED 101M, 117 or 118	2-3		
Modern/Classical Language – (Optional 6 credit hours) Select two courses within the same Modern/Classical Language for substitution purposes.				
	May not substitute Modern Language for ENGL 101, ENGL 102, the 3-hour Mathematics requirement or the 4-hour lab science requirement.			

Chemistry Core Curriculum (2.00 GPA required) 45-48 credit hours				
Introductory Course Work (8 credit hours)				
CHEM 101	Principles of Chemistry I	3		
CHEM 111	Principles of Chemistry I Lab	1		
CHEM 102	Principles of Chemistry II	3		
CHEM 112	Principles of Chemistry II Lab	1		
Foundational Course Work (18-19 credit hours)				
CHEM 210	Chemical Health and Safety	1		
PHSC 219	Laboratory Research Methods and Ethics	1		
CHEM 331	Organic Chemistry I	4		
CHEM 341	Biochemistry I	3		
CHEM 347	Biochemistry Lab	1		
CHEM 351	Analytical Chemistry	3		
CHEM 357	Analytical Chemistry Lab	2		
	<i>Add one of the following Chemistry Foundational Electives (3-4 Credit hours)</i>			
	<ul style="list-style-type: none"> <li>• CHEM 352 Instrumental Analysis (3) and CHEM 358 Instrumental Analysis Laboratory (1)</li> <li>• CHEM 401 Physical Chemistry Thermodynamics (3) and CHEM 407 Physical Chemistry Laboratory (1)</li> <li>• CHEM 402 Physical Chemistry – Quantum Mechanics (3)</li> <li>• CHEM 413 Inorganic Chemistry (3) and CHEM 417 Inorganic Chemistry Laboratory (1)</li> </ul>	3-4		
Cognate Science and Mathematics (19-21 credit hours)				
MATH 103/103C and MATH 104 or MATH 107	College Algebra** and College Trigonometry or Precalculus	4-6		
MATH 253	Calculus w/Analytic Geometry I	4		
	<b>Three or more credit hours of mathematics and/or computer science selected from MATH 105 or higher and/or CS 151 or higher (MATH 254 recommended)</b>	3		
Select one of the following 2-course physics sequences:				
PHYS 101 and PHYS 102 or PHYS 201 and PHYS 202	Introductory to Physics and Intermediate Physics or University Physics w/ Calculus I and University Physics w/ Calculus II	4		
		4		

**Students must select ONE of the concentrations on the following page.**

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BIOCHEMISTRY				
12-16 credit hours electives				
<i>Students completing PHYS 201 and 202 require 12 rather than 16 hours of electives.+</i>				
	<ul style="list-style-type: none"> <li>• CHEM 302 or BIOL 302 Cell and Molecular Biology (4)</li> </ul>			
	<ul style="list-style-type: none"> <li>• BIOL 329 Microbiology (4)</li> </ul>			
	<ul style="list-style-type: none"> <li>• BIOL 401 Genetics (4)</li> </ul>			
	<ul style="list-style-type: none"> <li>• BIOL 419 Immunology (4)</li> </ul>			
	<ul style="list-style-type: none"> <li>• CHEM 470 Independent Laboratory Research (1-6)</li> </ul>			
	<ul style="list-style-type: none"> <li>• CHEM Course(s) 300 Level or higher (no more than eight credit hours)</li> </ul>			
	<ul style="list-style-type: none"> <li>• PHYS Course(s) 300 Level or higher (no more than six credit hours)</li> </ul>			

GEOCHEMISTRY				
12-16 credit hours electives				
<i>Students completing PHYS 201 and 202 require 12 rather than 16 hours of electives.+</i>				
	<ul style="list-style-type: none"> <li>• GEO 305 Environmental and Applied Geology (4)</li> </ul>			
	<ul style="list-style-type: none"> <li>• GEO 365 Earth Materials and Mineral Resources (4)</li> </ul>			
	<ul style="list-style-type: none"> <li>• GEO or CHEM 470 Research (1-6)</li> </ul>			
	<ul style="list-style-type: none"> <li>• GEO course(s) 380 level or higher (no more than six credit hours)</li> </ul>			
	<ul style="list-style-type: none"> <li>• CHEM course(s) 300 or higher (no more than four credit hours)</li> </ul>			

PROFESSIONAL CHEMISTRY				
12-16 credit hours electives				
<i>Students completing PHYS 201 and 202 require 12 rather than 16 hours of electives.+</i>				
	<ul style="list-style-type: none"> <li>• CHEM 302 or BIOL 302 Cell and Molecular Biology (4)</li> </ul>			
	<ul style="list-style-type: none"> <li>• CHEM 470 Independent Laboratory Research (1-6)</li> </ul>			
	<ul style="list-style-type: none"> <li>• CHEM course(s) 300 level or higher</li> </ul>			
	<ul style="list-style-type: none"> <li>• PHYS course(s) 300 level or higher</li> </ul>			

3 + 1 HEALTH SCIENCES				
38 credit hours				
(All of the following)*				
BIOL 329	Microbiology	4		
CHEM 332	Organic Chemistry II	4		
CHEM 460 or MDTH 460	Chemistry Practicum or Medical Technology Practicum	15  15		
	<i>(may be repeated for up to 30 hours)</i>			

\*PHYS 102 or 202 (4 credit hours), and the Chemistry Foundational Elective course (3-4 credit hours) is not required for 3+1 Health Sciences. However, students who do not obtain admission to an approved school of pharmacy or medical technology will have to take these hours and pursue a different elective concentration during their senior year.

**RESIDENCE CREDIT:**

36 hours at Concord  
 16 of last 32 hours at Concord  
 Note: In some degree programs, this is prior to entering professional training.  
 9 hours in Major, Teaching Fields

\*\*MATH 103 and MATH 104, or MATH 107 will be waived for those students establishing "equivalent proficiency" as defined by the Department of Mathematics (ACT Math Score 25 or 28).

+One 4-hour course from elective concentrations 1, 2, or 3 may be waived for students completing PHYS 201 - PHYS 202.

**TOTAL MINIMUM REQUIRED CREDITS: 120**  
**PROGRAM REQUIREMENTS: 57-86**  
**GENERAL EDUCATION CREDITS: 29-30**  
**ELECTIVE CREDITS: 4-34**