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Chemistry with Biochemistry Option

The ACS Certified Chemistry Major is the basic degree designed for students seeking careers in the chemical industry, or careers in law, government, journalism, business, etc., that would benefit from a strong background in the physical sciences and mathematics. Many B.S. graduates go on to M.S. or Ph.D. studies.

Students can apply for scholarships available from the Department of Chemistry and the Department of Polymers and Coatings. See

<http://www.ndsu.edu/finaid/scholarship/scholarship.html>

Graduates completing the standard program for the B.S. Degree in Chemistry are certified by the American Chemical Society. The curriculum for the Polymers and Coatings Option adds specialized courses to the standard program. The curriculum for the Biochemistry Option adds biological sciences courses and substitutes some upper division chemistry courses with advanced biochemistry courses. These two curricula also lead to the ACS Certified B.S. degree in Chemistry.

Pre-Professional and Chemistry Education Options are also available.



Recommended Curriculum - Chemistry with Biochemistry Option

ACS Certified B.S. in Chemistry, Biochemistry Option		Credits	
First Year		F	S
Biol. 150, 151	General Biology and Laboratory	3	3
Biol. 150L, 151L	General Biology Laboratory	1	1
Chem 150, 151	Principles of Chemistry I, II	3	3
Chem 160, 161	Principles of Chemistry I, II Labs	1	1
Comm 110	Fundamentals of Public Speaking		3
Engl. 110, 120	College Composition I, II	3	3
Math 165, 166	Calculus I, II	4	4
Univ. 189	Skills for Academic Success	1	
		16	18
Second Year			
Chem 341, 342	Organic Chemistry I, II	3	3
Chem 353, 354	Organic Chemistry I, II Majors Labs	1	2
Math 128	Introduction to Linear Algebra	1	
Math 259**, 266	Calculus III, Intro. to Differential Eq.	3	3
Phys 251, 252	University Physics I, II	4	4
Phys 251L, 252L	University Physics Laboratory I, II	1	1
Gen. Ed. Electives*	Wellness, General Ed. Elective	2	3
		15	16
Third Year			
Chem. 364, 365	Physical Chemistry	4	4
Chem. 471	Physical Chemistry Laboratory		2
Chem 431, 431L	Analytical Chemistry I and Lab	5	
Chem 380	Chemistry Junior Seminar		1
Bioc 460, 461	Found. of Biochem. Molec. Biol. I, II	4	4
Micr 350, 350L	Microbiology and Laboratory	4	
Gen. Ed. Electives*	General Education Electives	0	6
		17	17
Fourth Year			
Bioc. 473	Methods in Biochemical Research	3	
Bioc. 474	Methods of Recombinant DNA Tech.		3
Chem 491	Chemistry Senior Seminar		2
Chem 425	Inorganic Chemistry	3	
Chem 429	Inorganic Chemistry Laboratory	2	
Biol. Sci.		3	3
Electives***			
Gen. Ed. Electives*	General Education Electives	3	6
		14	14
SAMPLE CURRICULUM TOTAL		127	

*Electives must include 18 credits in humanities and social sciences; six of these must be in humanities/fine arts, and six in social sciences. In addition, three credits must have a global perspective and three must be in the cultural diversity category.

**MATH 265 may be substituted for MATH 259.

*** Biological Science electives include Bio 351 (L), Biol 364, Bot 380, Zoo 370, and Micr 352.