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Chemistry with Coatings and Polymeric Materials

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.

This program is for students who wish to prepare for a career as a chemist in coatings and polymeric materials industries, or for graduate school in polymer chemistry. This is the only program in the U.S. that combines an ACS-certified B.S. degree in Chemistry with a coatings and polymeric materials curriculum. Students have numerous opportunities to participate in the summer research and cooperative programs sponsored by industry. For students who elect the Polymers and Coatings Option to the B.S. Degree in Chemistry, substantial scholarship support is available.



Recommended Curriculum - Chemistry with Coatings Option

ACS Certified B.S. in Chemistry, P&C Option		Credits	
First Year		F	S
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
Gen. Ed. Electives*	General Education Elective, Wellness	3	2
Math 165, 166	Calculus I, II	4	4
Univ. 189	Skills for Academic Success	1	
		15	16
Second Year			
Chem 341, 342	Organic Chemistry I, II	3	3
Chem 353, 354	Organic Chemistry I, II Labs	1	2
Gen. Ed. Electives*	General Education Electives		3
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
		13	16
Third Year			
Chem 431, 431L	Analytical Chemistry I and Lab	5	
Chem 364, 365	Physical Chemistry I, II	4	4
Chem 380	Chemistry Junior Seminar		1
Chem 471	Physical Chemistry Laboratory		2
Gen. Ed. Electives*	General Education Electives	3	3
P&C 474/84, 475/85	Coatings I and II, and Labs	5	5
		17	15
Fourth Year			
Bioc 460	Found. of Biochem and Molec. Biol.	4	
Chem 425, 429	Inorganic Chemistry and Laboratory	5	
Chem 432, 432L	Analytical Chemistry II and Lab		4
Chem 491	Chemistry Senior Seminar		2
Gen. Ed., Electives*	General Education and other electives	3	9
P&C 473	Polymer Synthesis	3	
		15	15
SAMPLE CURRICULUM TOTAL			122

*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.