

Chemistry

Department Information

- **Department Location:**
Ladd Hall
- **Department Phone:**
701-231-8694
- **Department Email:**
ndsu.chemistry@ndsu.edu
- **Department Web Site:**
www.ndsu.edu/chemistry/
- **Degrees Offered:**
B.S.; B.A.
- **Official Program Curriculum:**
bulletin.ndsu.edu/undergraduate/program-curriculum/chemistry/

The ACS certified Chemistry major is the basic chemistry 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. Other degree options include a biochemistry option (also ACS certified), a polymers option (also ACS certified), a pre-professional option, and a chemistry education option.

Students may apply for scholarships available from the Department of Chemistry and Biochemistry and the Department of Coatings and Polymeric Materials (<http://bulletin.ndsu.edu/past-bulletin-archive/2018-19/departments/coatings-polymeric-materials>). See the College/Departmental Scholarships (<https://www.ndsu.edu/bisonconnection/finaid/scholarships>) page on the NDSU One Stop web site.

Pre-Professional Chemistry Option

This option is designed for students interested in medical, dental, optometry, or veterinary professional school, but who wish to have an alternative career path to careers in industry, law, government, journalism, business, etc., that would benefit from a strong background in the physical sciences and mathematics. This option also provides excellent preparation for graduate study in biochemistry, biotechnology, and molecular biology.

Polymers Option (ACS Certified)

This program is for students who wish to prepare for a career as a chemist in coatings and polymers 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 the industry. Scholarship support from the Department of Coatings and Polymeric Materials (<https://www.ndsu.edu/cpm>) is available to students who elect this option.

Pre-Chemistry Education Option

This option is designed for the student interested in a disciplinary major in chemistry, but who is also considering becoming a chemistry and physics teacher. The curriculum includes physics coursework beyond the usual chemistry major to enable the graduate to teach physics in most states. For teacher certification, students must apply to the School of Education (<https://www.ndsu.edu/education>) to enroll in the additional requirements. ACS certification may be earned by taking CHEM 471 Physical Chemistry Laboratory, CHEM 429 Inorganic Chemistry Laboratory, and CHEM 432 Analytical Chemistry II/CHEM 432L Analytical Chemistry II Laboratory, as additional courses.

Scholarships starting in the sophomore year are available for students in the Chemical Education option.

Plan of Study

B.S. Chemistry, ACS Certified

Please note this is a sample plan of study and not an official curriculum. Actual student schedules for each semester will vary depending on start year, education goals, applicable transfer credit, and course availability. Students are encouraged to work with their academic advisor on a regular basis to review degree progress and customize an individual plan of study.

| First Year | | | |
|--|---------|---------------------------------|---------|
| Fall | Credits | Spring | Credits |
| ENGL 110 | 4 | ENGL 120 | 3 |
| CHEM 150 & CHEM 160 | 4 | COMM 110 | 3 |
| MATH 165 | 4 | CHEM 151 & CHEM 161 | 4 |
| BIOL 150 | 3 | MATH 166 | 4 |
| Gen Ed Social & Behavioral Sci and Cultural Diversity | 3 | Gen Ed Humanities and Fine Arts | 3 |
| | 18 | | 17 |
| Second Year | | | |
| Fall | Credits | Spring | Credits |
| CHEM 341 | 3 | CHEM 342 | 3 |
| CHEM 353 | 1 | CHEM 354 | 2 |
| MATH 128 | 1 | MATH 266 | 3 |
| MATH 259 | 3 | PHYS 252 & 252L | 5 |
| PHYS 251 & 251L | 5 | Gen Ed Wellness | 2 |
| Gen Ed Humanities & Fine Arts and Global Perspectives | 3 | | |
| | 16 | | 15 |
| Third Year | | | |
| Fall | Credits | Spring | Credits |
| CHEM 431 & 431L | 5 | CHEM 365 | 3 |
| CHEM 364 | 3 | CHEM 380 | 1 |
| CHEM 471 | 2 | Electives | 9 |
| ENGL 324 | 3 | | |
| Gen Ed Social and Behavioral Sci | 3 | | |
| | 16 | | 13 |
| Fourth Year | | | |
| Fall | Credits | Spring | Credits |
| BIOC 460 & 460L | 4 | CHEM 425 | 3 |
| CHEM 432 & 432L | 4 | CHEM 429 | 2 |
| Electives | 6 | CHEM 491 | 2 |
| | | Electives | 6 |
| | 14 | | 13 |

Total Credits: 122