

# Biochemistry Master's

## Department Information

- **Program Information:**  
ndsu.edu/programs/graduate/biochemistry (<http://ndsu.edu/programs/graduate/biochemistry/>)
- **Department Web Site:**  
ndsu.edu/chemistry (<http://ndsu.edu/chemistry/>)
- **Application Deadline:**  
Fall semester- April 15; Spring semester- October 31. Spring admissions depend on the availability of fellowships and faculty interests. If there are no spring openings, spring applications are automatically considered for the subsequent fall semester.
- **Credential Offered:**  
M.S.
- **Test Requirement:**  
GRE required for applicants who have not earned a degree in the U.S. GRE (general and subject recommended for domestic applicants, but not required)
- **English Proficiency Requirements:**  
RA - TOEFL 71, IELTS 6, Duolingo 105; TA Grader - TOEFL 79, IELTS 6.5, Duolingo 110; TA Instructor - TOEFL 81, IELTS 7, Duolingo 115

Apply Now ([https://ndsugrad.my.site.com/Application/TX\\_SiteLogin/?startURL=/Application/TargetX\\_Portal\\_\\_PB](https://ndsugrad.my.site.com/Application/TX_SiteLogin/?startURL=/Application/TargetX_Portal__PB))

| Code                                                                                                                           | Title                                                   | Credits   |
|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-----------|
| <b>Required Courses</b>                                                                                                        |                                                         |           |
| CHEM 720                                                                                                                       | Introduction to Chemical Research                       | 2         |
| CHEM 790                                                                                                                       | (second year seminar)                                   | 1         |
| or BIOC 790                                                                                                                    |                                                         |           |
| MICR 720                                                                                                                       | Scientific Integrity                                    | 1         |
| CHEM 790                                                                                                                       | (defense seminar)                                       | 1         |
| or BIOC 790                                                                                                                    |                                                         |           |
| Didactic Credits (601-689, 691; 700-789, 791; 800-889 and 891)                                                                 |                                                         | 16 *      |
| CHEM 798                                                                                                                       |                                                         | 6-10      |
| or BIOC 798                                                                                                                    |                                                         |           |
| <b>Total Credits Required</b>                                                                                                  |                                                         | <b>30</b> |
| <b>As part of total semester credits, the following departmental courses are recommended for students based on discipline:</b> |                                                         |           |
| <b>Analytical</b>                                                                                                              |                                                         |           |
| CHEM 632                                                                                                                       | Analytical Chemistry II                                 | 3         |
| CHEM 730                                                                                                                       | Separations                                             | 2         |
| CHEM 732                                                                                                                       | Advanced Survey of Analytical Chemistry                 | 4         |
| CHEM 736                                                                                                                       | Mass Spectrometry                                       | 2         |
| <b>Biochemistry and Molecular Biology</b>                                                                                      |                                                         |           |
| BIOC 673                                                                                                                       | Methods of Biochemical Research                         | 4         |
| BIOC 674                                                                                                                       | Methods of Recombinant DNA Technology                   | 3         |
| BIOC 701                                                                                                                       | Comprehensive Biochemistry I                            | 4         |
| BIOC 702                                                                                                                       | Comprehensive Biochemistry II                           | 4         |
| <b>Inorganic</b>                                                                                                               |                                                         |           |
| CHEM 724                                                                                                                       | Chemical Applications of Group Theory                   | 1         |
| CHEM 725                                                                                                                       | Advanced Survey of Inorganic Chemistry                  | 4         |
| CHEM 727                                                                                                                       | Organometallic Chemistry                                | 3         |
| CHEM 728                                                                                                                       | Physical Methods for Chemical and Biomolecular Research | 2         |
| CHEM 744                                                                                                                       | Organic Spectroscopy                                    | 2         |
| <b>Organic</b>                                                                                                                 |                                                         |           |
| CHEM 741                                                                                                                       | Physical Organic Chemistry I                            | 4         |

|                 |                               |   |
|-----------------|-------------------------------|---|
| CHEM 742        | Physical Organic Chemistry II | 2 |
| CHEM 744        | Organic Spectroscopy          | 2 |
| CHEM 745        | Organic Synthesis             | 4 |
| <b>Physical</b> |                               |   |
| CHEM 665        | Survey of Physical Chemistry  | 4 |
| CHEM 760        | Statistical Thermodynamics    | 4 |
| CHEM 763        | Kinetics                      | 2 |
| CHEM 764        | Dynamics                      | 2 |

\* A minimum of 10 must be from courses numbered 701-789; 791 or 800-889; 891

---

## Admission and Application Requirements

- Graduate School admission and application requirements are found on the Admission Information (<https://catalog.ndsu.edu/past-bulletin-archive/2025-2026/graduate/admission-information/>) page.