

Pharmacy

Department Information

- **Department Location:**
Sudro Hall
- **Department Phone:**
701-231-7456
- **Department Web Site:**
www.ndsu.edu/pharmacy/ (<http://www.ndsu.edu/pharmacy/>)
- **Credential Offered:**
Pharm.D.
- **Official Program Curriculum:**
catalog.ndsu.edu/undergraduate/program-curriculum/pharmacy/ (<http://catalog.ndsu.edu/undergraduate/program-curriculum/pharmacy/>)

The pharmacist is one of the most accessible members of today's health care team. More than 200 million people—nearly two-thirds of our entire population—pass through America's pharmacies each week. At more than 50,000 locations, for most hours of the day, pharmacists are ready to serve the public and address their complete pharmaceutical care needs. The pharmacist traditionally has been the first source of advice and assistance for many health concerns. Today, pharmacists are assuming more responsibility in attempting to better meet the health care needs of society.

The Program

The North Dakota State University College of Health Professions, and its School of Pharmacy, houses one of more than 130 schools fully accredited by the Accreditation Council for Pharmacy Education (ACPE). The School of Pharmacy offers a six-year professional degree program leading to the Doctor of Pharmacy (Pharm.D.). The School of Pharmacy is a member of the American Association of Colleges of Pharmacy.

Pharmaceutical Care

The profession of pharmacy has embraced a practice philosophy called pharmaceutical care. Specifically, pharmaceutical care is defined as commitment of the pharmacist to design, implement and monitor patient drug therapy for the purpose of achieving optimal therapeutic outcomes with the ultimate goal of improving the patient's quality of life.

The NDSU School of Pharmacy has developed an emphasis of pharmaceutical care within its curriculum and strives to prepare pharmacy students for their future practices in delivering this contemporary practice philosophy. The curriculum develops skills in pharmaceutical care and emphasizes critical thinking, communication skills, awareness of ethical and social responsibilities, and lifelong self-learning ability.

Career Preparation

Pharmacists today are responsible for ensuring the rational, safe and cost-effective use of drugs. Pharmacist duties include: participating in the drug use decision-making process, establishing therapeutic goals for each patient, selecting the appropriate drug dosage form, selecting the drug product source of supply, determining the dose dosage schedule, preparing the drug product for patient use, providing the drug product and drug information to the patient, monitoring the patient to maximize compliance, monitoring the patient to detect adverse drug reactions and drug interactions, and monitoring the patient's progress to improve therapeutic outcomes.

Numerous drug therapy problems are recognized and corrected by pharmacists in their practices. Pharmacists work closely with the prescriber and patient to ensure proper and safe use of medications.

The current professional pharmacy curriculum fully integrates classroom and experiential learning. All pharmacy students participate in experiential learning (introductory pharmacy practice experiences) and in the Thrifty White Concept Pharmacy each year. The Thrifty White Concept Pharmacy Laboratory is a state-of-the-art model pharmacy that allows students to experience all aspects of pharmacy practice in a real-life environment.

Career Opportunities

Employment of pharmacists within the region remains strong and is expected to grow at a steady pace over the next decade. There has been an increased demand for pharmaceutical services by the public as the population ages and as more potent, costly and high risk drugs enter the marketplace. Approximately 60 percent of pharmacists practice in community pharmacies with the remainder employed as hospital pharmacists, managed care specialists, home health care providers, nursing home consultants, research and product development scientists, and teachers in colleges and universities. According to the U.S. Department of Labor Bureau of Labor Statistics (<https://www.bls.gov/ooh/healthcare/pharmacists.htm>), the median salary in 2018 for pharmacists was \$126,120.

Selective Admission

NDSU's pharmacy program consists of two phases, a pre-pharmacy phase and a professional pharmacy phase. The professional program limits enrollment to 85 new students per class. Students may qualify for admission via one of four different paths.

Option 1: The Early Admission Pathway (<https://workspaces.ndsu.edu/?id=169686>)

The Early Admission Pathway (EAP) to NDSU's PharmD program is designed for academically qualified high school students who want an affordable, expedited path to a PharmD degree. If you are interested in EAP, you would apply during your senior year in high school.

Option 2: The Traditional Admissions Pathway (<https://workspaces.ndsu.edu/?id=166559>)

The Traditional Admissions Pathway involves you entering the program as an undergraduate in pre-pharmacy upon meeting general admission standards of the university. Once all required pre-pharmacy coursework is satisfied, you can apply to the PharmD program. The pre-pharmacy course work may be completed at other institutions and NDSU reviews transfer records submitted and determine if equivalent to NDSU requirements.

You are admitted to the final four professional years on a competitive basis after meeting specific admission requirements of the college which can be found on the Traditional Pathway page (<https://workspaces.ndsu.edu/?id=166559>). Students attending other institutions must maintain frequent contact with the college to determine appropriate course work.

The college is a member of the American Association of Colleges of Pharmacy, and is accredited by the Accreditation Council for Pharmacy Education (ACPE).

Option 3: The Post-Baccalaureate Pathway (New) (<https://workspaces.ndsu.edu/?id=172000>)

Students who will hold a four-year bachelor degree in a health or STEM field on or before May 2021 are eligible to apply for admission to NDSU's PharmD program through a new, streamlined pathway. The pathway has fewer requirements because many of our admission requirements are implicitly met by students who have completed a bachelor degree in a health or STEM field. If an applicant holds a bachelor degree in a health or STEM field and is missing key pre-requisites, we offer a means to complete those courses in the summer before starting the PharmD program.

Note: the NDSU Pharmacy Program encourages applicants holding a four-year bachelor degree in an array of health or STEM fields, from any accredited college or university that offers four-year bachelor programs. Students who wish to pursue this pathway as an undergraduate major in the College of Health Professions may do so by completing the degree requirements for our Bachelor of Science in Health Services (https://www.ndsu.edu/healthprofessions/degrees_programs/health_services/) program.

Option 4: Pharmacy Technician Pathway (New) (<https://workspaces.ndsu.edu/?id=171998>)

Are you a pharmacy technician who is eligible for pharmacy technician licensure in North Dakota, and who is interested in becoming a pharmacist? If so, this new pathway is designed to provide you with a streamlined pathway to meet the NDSU Pharmacy Program's admission requirements. If you completed a pharmacy technician program at a college or university and received academic credit for your program, all of those credits will count towards meeting our admission requirements.

Differential Tuition

Students in the pharmacy professional program (i.e, the final five years of study for students on the **early admission path**, and the final four years for students on the **traditional admission path**) are assessed a different tuition rate. This differential tuition is assessed to cover the higher costs associated with the program.

Current Curriculum

The curriculum leading to the Pharm.D. degree requires a minimum of six years of study. Approximately 77 semester hours are required in the pre-professional curriculum. The vast majority of required pre-professional courses (listed by name and number) must be completed by the end of spring term prior to admission to the professional program for traditional path students, or for early admission students, the final four years of the professional program. A maximum of six elective credits may be taken during the summer prior to entrance in the professional program.

The four-year professional program is divided into three years of didactic education on campus and one year (40 weeks) of experiential training (advanced pharmacy practice experience) with qualified preceptors at various practice sites. Additional introductory experiential training occurs during the summer sessions following the first and second years of the professional program, as well as during the third professional academic year. A wide variety of experiential rotation offerings are available to students. Students should plan to travel outside the Fargo-Moorhead area to fulfill their experiential program requirements.

Our pharmacy program partners with PioneerRx (<http://www.pioneerrx.com/>), a pharmacy management system, to simulate the functions of today's pharmacies.

Sample Program Guide - Pre-Pharmacy

Please note this is a sample program guide 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. Once admitted, students are encouraged to work with their assigned academic advisor on a regular basis to review degree progress.

PRE-PHARMACY PROGRAM REQUIREMENTS*

*Plan follows most closely with EAP pathway plan, other pathways may differ slightly

| First Year | | | | | |
|-----------------------------------------------------|----------------|-----------------------------------|----------------|-----------------------------------|----------------|
| Fall | Credits | Spring | Credits | Summer | Credits |
| BIOL 150 | | 3 BIOL 151 | | 3 Gen Ed Humanities and Fine Arts | 3 |
| BIOL 150L | | 1 BIOL 151L | | 1 | |
| CHEM 121 | | 3 CHEM 122 | | 3 | |
| CHEM 121L | | 1 CHEM 122L | | 1 | |
| ENGL 120 | | 3 COMM 110 | | 3 | |
| MATH 146 | | 4 ECON 201 | | 3 | |
| CHP 190 | | 2 STAT 330 | | 3 | |
| | | 17 | | 17 | 3 |
| Second Year | | | | | |
| Fall | Credits | Spring | Credits | | |
| PSCI 300 | | 5 PSCI 301 | | 5 | |
| BIOL 220 | | 3 BIOL 221 | | 3 | |
| BIOL 220L | | 1 BIOL 221L | | 1 | |
| MICR 350 | | 3 PHRM 324 or ENGL 324 | | 3 | |
| MICR 350L | | 2 PHYS 211 | | 3 | |
| Gen Ed Social/Behavioral Sci and Cultural Diversity | | 3 Gen Ed Humanities and Fine Arts | | 3 | |
| Wellness Gen Ed | | 2 | | | |
| | | 19 | | 18 | |
| Total Credits: 74 | | | | | |