

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 125 schools fully accredited by the American Council on Pharmaceutical Education (ACPE). The college offers a six-year professional degree program leading to the Doctor of Pharmacy (Pharm.D.). The professional program also is accredited through ACPE. The college is a member of the American Association of Colleges of Pharmacy.

The Mission

The mission of pharmacy is to serve society as the profession responsible for the appropriate use of medications, devices and services to achieve optimal therapeutic outcomes. The School of Pharmacy, a major academic unit of NDSU, serves the state, region and nation through its programs in pharmaceutical education, research, patient care and public service. It endeavors to prepare students to enter into the practice of pharmacy as competent, caring, ethical, professional citizens who are committed to lifelong learning. The college is committed to the profession and to society for creating, communicating and applying knowledge about drugs, drug products and drug therapy. It provides an environment open to free exchange of ideas where professionalism, scholarship and learning can flourish.

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 and 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 experience) and in the Thrifty White Concept Pharmacy each semester. 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, the average salary in 2016 for pharmacists was \$120,270 (www.bls.gov/oes/current/oes291051.htm).

Selective Admission

To enroll as a freshman in the College of Health Professions (pre-pharmacy), you should have taken the ACT or SAT and have graduated from high school with a minimum of 17 academic units, at least four units of English and three units of mathematics. You should complete course work in physical and biological sciences.

Transfer students may be admitted to the College of Health Professions after the second year of college course work. Pre-pharmacy students typically apply for admission to the four-year professional program during the second (or in some cases the third) pre-pharmacy year.

Admission to the professional pharmacy program is competitive and limited to 85 students each year. Students are selected based upon successful pre-pharmacy academic performance. Preference is given to North Dakota residents and students who attend NDSU. A cumulative grade point average of 3.0 (4.0 = A) or above is required before an applicant will be evaluated for admission to the professional program. The actual admission cutoff is much higher. The Pharmacy College Admission Test (PCAT) is an admission requirement. Students must take the PCAT during the July or September testing dates. An on-site interview is part of the admission process for the professional program. **Supplemental applications** are due **December 31** for subsequent fall semester admission. Supplemental applications are submitted online directly to the Pharmacy Admissions Committee. A nonrefundable \$100.00 application fee must accompany the supplemental application.

Differential Tuition

Students in the pharmacy professional program are assessed a different tuition rate. This differential tuition is assessed to cover the higher costs associated with the program.

Sample Curriculum	
Credits	General Education
	Communication
3	COMM 110 - Fundamentals of Public Speaking
3	ENGL 110 - College Composition I
3	ENGL 120 - College Composition II
3	Upper Division Writing
3	Quantitative Reasoning
10	Science & Technology
6	Humanities & Fine Arts
6	Social & Behavioral Sciences
2	Wellness
39	TOTAL
Credits	Pre-Professional Major Requirements
3	BIOC 460 - Foundations of Biochemistry and Molecular Biology I
3	BIOC 461 - Foundations of Biochemistry and Molecular Biology II
4	BIOL 150, 150L - General Biology I and Lab
4	BIOL 220, 220L - Human Anatomy and Physiology I and Lab
4	BIOL 221, 221L - Human Anatomy and Physiology II and Lab
4	CHEM 121, 121L - General Chemistry I and Lab
4	CHEM 122, 122L - General Chemistry II and Lab
4	CHEM 341, 341L - Organic Chemistry I and Lab
3	CHEM 342 - Organic Chemistry II
3	COMM 216 - Intercultural Communication
3	ENGL 324 - Writing in the Sciences or
	ENGL 325 - Writing in the Health Professions
3	ECON 201 - Principles of Microeconomics
4	MATH 146 - Applied Calculus I
3-5	MICR 202, 202L - Introductory Microbiology and Lab
	MICR 350, 350L - General Microbiology and Lab
3	MICR 460 - Pathogenic Microbiology
3	PHYS 211 - College Physics I
3	STAT 330 - Introductory Statistics
58-60	TOTAL

This sample curriculum is not intended to serve as a curriculum guide for current students, but rather an example of course offerings for prospective students. For the curriculum requirements in effect at the time of entrance into a program, consult with an academic advisor or with the Office of Registration and Records.

<https://bulletin.ndsu.edu/undergraduate/programs/>

Transferring Credits

View NDSU equivalencies of transfer courses at:

www.ndsu.edu/transfer/equivalencies

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 courses (listed by name and number) must be completed by the end of spring term prior to admission to 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.

For Further Information

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