

College of Pharmacy

Sudro Hall 123 (701) 231-7456
Charles D. Peterson, Dean

The College of Pharmacy at North Dakota State University has provided an education for men and women in pharmacy and the pharmaceutical sciences since 1902. The most recent change was in the fall of 1990 when a six-year entry-level Doctor of Pharmacy (Pharm.D.) program was implemented.

The college introduced an associate degree nursing program in 1969, which was discontinued in 1987. In 1986, the college initiated a cooperative four-year baccalaureate degree program in nursing with Concordia College.

Degree Programs

The College of Pharmacy offers academic programs in pharmacy and nursing. Admission requirements, curricula, and degree titles differ for the programs.

The pharmacy curriculum consists of a six-year professional program leading to the Pharm.D. degree. Graduates are qualified to apply for licensure as pharmacists. In addition, a two-year post-baccalaureate Pharm.D. program is available through the college, as well as a nontraditional program offered in cooperation with the University of Colorado.

A four-year baccalaureate program with a major in nursing is cooperatively implemented by NDSU and Concordia College through the Tri-College University consortium. The program at NDSU leads to a B.S. degree in nursing. Graduates are eligible to apply for admission to the licensing examination for registered nurses.

Academic and Professional Requirements

All students must complete all required courses with a grade of C or above. Further, transfer credits with grades of D are not accepted for program requirements. All students must maintain a semester GPA of 2.0 or above for each semester in the College of Pharmacy. A student who fails to meet this standard for two successive or three non-successive semesters shall be eligible for termination of registration in the College of Pharmacy.

The faculty of the College of Pharmacy reserves the right to terminate the registration of any student at any time if, in the opinion of the faculty, the student demonstrates that he or she is unsuited for a professional health career and its inherent responsibilities and obligations. Circumstances that may lead to student termination will include, but not be limited to, violation of state or federal statutes or regulations concerning drugs or controlled substances.



Admission

Selection committees will evaluate applicants for admission to the College of Pharmacy professional programs. Evaluations will be based on college records, state residency, PCAT scores, and other pertinent information. A personal visit, which includes an impromptu essay written during the visit, may be part of the evaluation process.

A minimum cumulative GPA of 2.80 in college course work is required for evaluation for admission, with completion of all required prerequisite courses by the end of spring term prior to beginning the professional program. Actual admission "cut off" is generally much higher.

NDSU course work and transfer credits with grades of D are not accepted for program requirements.

Pharmacy. Applications for admission to the professional programs in the college must be made by January 15 of the sophomore year in pre-pharmacy for fall semester admission. The PCAT applicants will receive notice of their status by June 1. Applications for admission to the post-baccalaureate Pharm.D. program must be made by January 15. Applicants will receive notice of their status by April 15.

Nursing. Applications for admission to the professional major should be made by October 1 for the class beginning in the spring semester of the sophomore year. Applicants will receive notification of their status by November 1.

Pharmacy

Pharmacy programs encompass both the basic and clinical sciences and are designed to provide students with the knowledge, skills, and attitudes essential to the practice of pharmacy.

The current mission of pharmacy practice is to render pharmaceutical care. The goal of pharmaceutical care is to improve an individual patient's quality of life through achievement of definite, medication-related therapeutic outcomes. The outcomes sought are (a) cure of a disease, (b) elimination or reduction of a symptoms, (c) arresting or slowing the disease process, or (d) preventing a disease or its symptoms. This, in turn, involves three major functions: (a) identifying potential and actual medication-related problems, (b) resolving actual medication-related problems, and (c) preventing potential medication-related problems. A medication-related problem is an event or circumstance involving medication therapy that actually or potentially interferes with an optimum outcome for a specific patient.

The six-year curriculum in pharmacy is conducted on a 2-4 basis. Students in the first two years of the program are in pre-pharmacy, and students in the final four years are in the professional program. Students entering the program in the first two years must meet general admission standards of the University. Students are admitted to the final four years on a competitive basis, and must meet specific admission requirements of the college. For admission requirements to

the professional program, contact the dean's office of the college. Students attending other institutions must maintain frequent contact with the college to determine appropriate course work. The pre-pharmacy course work, the first two years, may be completed at other institutions if course work has been submitted for formal NDSU review and determined to be equivalent to NDSU requirements.

The current entry-level Pharm.D. curriculum is designed to provide the cultural and humanistic background needed to meet the demands of society today, as well as the professional education required for the practice of pharmacy. Various special areas of study prepare the student to accept positions in community, hospital, managed care, wholesale, and industrial pharmacy. Other opportunities include positions in food and drug inspection and analysis for both the state and federal governments, medical service representatives, and laboratory and administrative positions in pharmaceutical companies and associations. Teaching and research positions in universities and the pharmaceutical industry are excellent opportunities for those with advanced degrees in pharmacy.

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

Recommended Curriculum Pre-Pharmacy

To be admitted to the Professional Pharmacy program, the applicant must have completed at least 65 semester hours of college or university credits, including the following:

	Credits
Biological Sciences	13
English, Writing and Reading	6
First-Year Experience	1
General Chemistry w/Lab	8
Mathematics, Calculus	8
Microeconomics	3
Organic Chemistry w/Lab	7
Physics/Biophysics	3
Speech Communication	3
Wellness	2

Additional Electives

Behavior and Social Science/Humanities	12
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Students attending other institutions must be aware of the General Education requirements when enrolling in course work.

This curriculum is subject to periodic changes. Students should maintain frequent contact with the college to determine appropriate course work.

Professional Pharm.D. Curriculum

	Credits
First Year	F S
Bioc 460, 461, Biochemistry I, II	4 4
Micr 460/561, Pathogenic, Lab	3,1
Phrm 373, Health Care Systems	2
PSci 368, 369, Pharmaceutics I, II	4 3
PSci 340, 341, Pathophysiology I, II	4 4
PSci 370, Lab Tech PSci	1
Stat 520, Statistical Methods	3
Totals	15 18

	Credits
Second Year	F S
Micr 470, Basic Immunology	3
Micr 572, Clinical Immunology	1
Phrm 458, Intro to Clinical Practice	2
Phrm 472, Pharmacy Law/Ethics	4
Phrm 480, Drug Literature Eval	2
Phrm 501, Consultation	2
PSci 401, 403, Pharmacodynamics I, III	5 5
PSci 402, 404, Pharmacodynamics II, IV	4 4
PSci 470, Pharmacokinetics	3
PSci 471, Clinical Pharmacokinetics	2
Totals	19 18

Third Year

Phrm 520, Pediatrics-Geriatrics	2
Phrm 531, Cardiovascular	2
Phrm 532, Infectious Disease	3
Phrm 533, Pulmonary/Gastrointestinal	2
Phrm 534, Rheumatology/Endo/Repro	2
Phrm 535, Hematology/Neoplastic	3
Phrm 536, Neurology/Psychiatry	3
Phrm 537, Renal/Fluid and Electrolyte	2
Phrm 557, Home Health/Parenteral	3
Phrm 575, Pharmacy Management	3
Phrm 578, Non-Pres Meds	2
Phrm 579, Dispensing ³	2 OR 2
PSci 545, Clinical Toxicology	2
Totals	15-17 14-16

Fourth Year

48-Week Experiential Training Program ^{1, 2}	
Phrm 581, Clin Clerkship I	16
Phrm 582, Clin Clerkship II	16
Phrm 583, Clin Clerkship III	16
Total	48

Curriculum Total 148

¹Students assigned by rotation.

²Sites located in Fargo and other areas.

³Note: Phrm 579 may be taken either semester.

Baccalaureate Degree Program in Nursing

The nursing program is a four-year program of study leading to a baccalaureate degree with a major in nursing. Upon successful completion of the program, the graduate is eligible to apply for licensure as a registered nurse (R.N.). The baccalaureate degree is required in North Dakota for entry into professional practice. The nursing program is approved by the North Dakota and Minnesota Boards of Nursing, as well as accredited by the National League for Nursing (NLN).

The nursing program is consortium-based through the Tri-College University. The nursing major is offered jointly by North Dakota State University and Concordia College. Nursing classes are taught on an alternate basis on each campus. Students graduate from their respective institutions.

Mission. The mission of the nursing consortium is to promote health by preparing professional nurses and serving as a resource for society.

Philosophy. The curriculum is taught within the context of the program's philosophy, which is embodied in the following set of beliefs.

- Nursing is a profession that serves society by promoting an optimal level of health among individuals, families, and groups.

- Caring is integral to nursing practice. It is protecting and preserving human dignity through knowledge, ethical practice, and a respect for the client.
- Preparation of professional nurses is achieved through collaborative partnerships in which both the teacher and learner are actively involved and accountable. Nursing education contributes to the advancement of the profession through discovery, integration, application, and teaching. The profession is responsive to the changing health care needs of society and is accountable to society for the quality and effectiveness of nursing practice.

Program goals. The mission and philosophy are actualized by the following goals.

- The nursing curriculum prepares professional practitioners by providing sound educational basis for continuing development, for graduate study in nursing, and for accepting professional and community responsibility.
- The nursing program serves as a resource for society through consultation, collaboration, political involvement, scholarship, and clinical practice.

Graduate outcomes. The nursing program provides learning experiences that result in the following outcomes, which have been adapted from those deemed essential by the American Association of Colleges of Nursing:

1. Communicate clearly and effectively to acquire knowledge, exchange ideas, and evaluate information.
2. Appreciate similarities and differences among individuals, families, and communities.
3. Apply concepts from the arts, humanities, and science to enhance understanding of oneself and one's relationships with other people.
4. Think critically using verifiable information and past experience to effect positive change.
5. Provide nursing care in accordance with the Standards of Professional Practice and Code of Nurses set by the American Nurses Association.
6. Assume individual responsibility and accountability for continuing professional and personal development.

Curriculum. The curriculum is organized around four themes: ethical practice, caring, promotion of health, and professional role. These themes flow from the mission/philosophy of the nursing program and provide the core of the curricular content. They can be identified within the course objectives, content outlines, clinical experiences, and graduate outcomes of the nursing program. The content increases in scope and complexity as the student progresses through the nursing major.

Application Procedures

1. The pre-nursing program (first three semesters) is open to all high school graduates and college students who wish to pursue a nursing major.

To enter the pre-nursing program, students must be admitted to the University. The nursing major begins the spring semester of the sophomore year.

2. For admission into the professional nursing program, a supplemental application must be submitted by October 1 to the Nursing Office, 136 Sudro Hall. Enrollment to the nursing major is limited. A minimum GPA of 2.5 (4.0 = A) is required in all post high school work to apply.

Admission is competitive and based on all of the following: (a) Selective GPA that incorporates selected prerequisite courses (see recommended curriculum), (b) completion of the prerequisite courses with a passing grade, (c) eligibility for sophomore standing, (d) personal references, (e) impromptu essay, (f) a personal interview may be requested, and (g) submission of the completed application materials. Preference will be given to North Dakota residents and those students who have taken a greater number of credits in the North Dakota State University System.

Students applying for a nursing major (spring semester of the sophomore year) must complete and submit the following:

1. A regular application for admission to NDSU if not a current student
2. A supplemental nursing application
3. Official transcripts from all colleges attended, including NDSU
4. Two reference forms
5. Impromptu essay, written in the nursing department.

The documents must be on file in the Nursing Office by October 1. Application forms may be obtained at the Nursing Office, 136 Sudro Hall, and the Office of Admission, 124 Ceres Hall, North Dakota State University, Fargo ND 58105. You may also call the Office of Admission at (701) 231-8643 or 1-800-488-NDSU(6378). Students will be notified of their admission status by November 1.

Students who are currently enrolled at NDSU in the pre-nursing program should consult with their nursing faculty adviser prior to the application deadline.

For further information contact the following:

Department of Nursing
136 Sudro Hall
North Dakota State University
Fargo, ND 58105
Telephone (701) 231-7395

Recommended Curriculum in Nursing

	Credits	
	F	S
First Year		
*Biol 202, 202L, Intro Microbio, Lab	2	1
*Engl 110, 120, College Composition I, II	3	3
*Math 104, Finite Mathematics		3
*Psyc 111, Intro to Psychology		3
*Soc 110, Intro to Sociology OR		
Anth 111, Intro to Anthropology	3	
Univ 189, Skills for Academic Success	1	
*Zoo 120, Human Anatomy/Physiology	4	
*Zoo 120L, Human Anatomy/Physiology Lab 1		
Humanities and Fine Arts		3
Elective	3	
Totals	15	15

Second Year		
Chem 117, 117L, Chem Concepts, Lab	3	1
Chem 260, Elements of Biochemistry		4
Comm 110, Fund of Public Speaking	3	
Nutr 240, Principles of Nutrition		3
**Nurs 351, Nursing Concepts		4
Psyc 250, Developmental Psychology	3	
Cultural Div, Global Perspectives	3	3
Electives	2	3
Totals	15	17

Third Year		
Nurs 341, Client Concepts	4	
Nurs 342, Adult Health Nursing I	4	
Nurs 352, Family Nursing I		4
Nurs 361, Health Assessment	4	
Nurs 362, Family Nursing II		4
Nurs 420, Nursing Research		2
Phrm 300, Prin of Clinical Pharmacology		3
Humanities/Fine Arts	3	
Electives		4
Totals	15	17

Fourth Year		
Nurs 401, Community Health	4	
Nurs 402, Mental Health Nursing	4	
Nurs 403, Adult Health Nursing II		4
Nurs 404, Adult Health Nursing III		4
Nurs 411, 412, Role Development I, II	2	2
Nurs 430, Nursing Management		2
Electives	3	3
Totals	15	13

Curriculum Total 122

* Prerequisite courses that must be completed prior to admission to the major (the selective GPA is calculated on these courses).

** Must be accepted into nursing major to enroll.

Computer proficiency is expected before entering the nursing major.

Students should consult their faculty adviser for electives that may enhance their program of study and meet graduation requirements.