

Pharmacy Practice (PHRM)

PHRM 101. Introduction to Public Health. 3 Credits.

Introduction to the interdisciplinary and exciting field of public health. Discussing and studying the processes and practices of public health enhances the population health perspective of health care and other professionals.

PHRM 125. Medical Terminology for Health Professionals. 1 Credit.

A systematic study of building medical terms and understanding their relationship to human anatomy and physiology, pathology and medical treatment. Restricted to pre-CLS, pre-RC, pre-RS, pre-Nursing, pre-Pharmacy and Pharmacy majors only.

PHRM 170. Common Medicines & Diseases. 2 Credits.

Consumer-oriented introduction to drugs, common dosage forms, usage of common classes of prescription, and over-the-counter drug products. Does not count toward a pharmacy major.

PHRM 189. Skills for Academic Success. 1 Credit.

This course is designed to ease the transition for new students at NDSU. Students will be introduced to campus and learn skills and techniques used by successful college students.

PHRM 194. Individual Study. 1-5 Credits.**PHRM 196. Field Experience. 1-15 Credits.****PHRM 199. Special Topics. 1-5 Credits.****PHRM 291. Seminar. 1-3 Credits.****PHRM 292. Study Abroad. 1-15 Credits.****PHRM 294. Individual Study. 1-5 Credits.****PHRM 299. Special Topics. 1-5 Credits.****PHRM 300. Principles of Clinical Pharmacology. 3 Credits.**

Principles of pharmacology and therapeutics for nursing and other non-pharmacy health professions. Does not count toward a pharmacy major. Prereq: Non-pharmacy majors only.

PHRM 340. Pathophysiology I. 4 Credits.

Comprehensive study of the normal and abnormal physiological processes and the mechanisms important to the understanding of pharmacology and drug therapy. Prereq: BIOL 220, BIOL 220L, BIOL 221, BIOL 221L.

PHRM 341. Pathophysiology II. 4 Credits.

Normal and abnormal physiological processes and the mechanisms important to the understanding of pharmacology and drug therapy. Prereq: PSCI 340.

PHRM 350. Introduction to Pharmacy Practice. 2 Credits.

Issues related to pharmacy practice, patient medication counseling, retrieval of drug information, cultural competency, health literacy, pharmaceutical care plans, and evaluating adverse drug reactions/interactions are discussed. Prereq: Admission to the Professional Pharmacy Program.

PHRM 351. Pharmaceutical Care I. 1 Credit.

Introduction to pharmaceutical care, pharmacy calculations, processing prescriptions, patient consultation, compounding nonsterile and sterile drug products, dosage forms and their preparation. Co-req: PHRM 350, 351L.

PHRM 351L. Pharmaceutical Care Laboratory I. 1 Credit.

Through hands on application, students will develop competence in pharmaceutical care, pharmacy calculations, prescription dispensing and consultation, and compounding nonsterile and sterile products. Coreq: PHRM 350 and PHRM 351.

PHRM 352. Introduction to Health Care Systems. 2 Credits.

Pharmacy students will be introduced to health professions, health care delivery systems, financing, access, quality, and economic issues. Prereq: PHRM 351, PHRM 351L.

PHRM 355. Introductory Pharmacy Practice Experience I: Introduction to Institutional Pharmacy Practice. 3 Credits.

This course is designed to be an introduction to institutional and health systems pharmacy. This practice experience will allow students to further develop the knowledge and skills learned in the pharmaceutical care series in addition to developing an understanding of the role of a hospital pharmacist as a member of the health care team. Prereq: PHRM 351L, PHRM 352. Pass/Fail grading.

PHRM 379. Study Tour Abroad. 1-6 Credits.**PHRM 391. Seminar. 1-3 Credits.****PHRM 392. Study Abroad. 1-15 Credits.****PHRM 394. Individual Study. 1-5 Credits.****PHRM 397. Fe/Coop Ed/Internship. 1-4 Credits.****PHRM 399. Special Topics. 1-5 Credits.****PHRM 450. Self Care. 3 Credits.**

Course designed to provide pharmacy students with the knowledge, skills, and practical tools necessary to provide self care recommendations to patients, physicians, nurses, and other allied health care professionals. Co-req: PHRM 452L.

PHRM 452. Pharmaceutical Care II. 1 Credit.

Through hands on application, students will develop competence in pharmaceutical care, pharmacy calculations, prescription dispensing and consultation, compounding nonsterile and sterile products, long term care, and self-care. Prereq: PHRM 351, PHRM 351L. Coreq: PHRM 452L.

PHRM 452L. Pharmaceutical Care Laboratory II. 1 Credit.

Through hands on application, students will develop competence in pharmaceutical care, pharmacy calculations, prescription dispensing and consultation, compounding nonsterile and sterile products, long term care, and self-care. Prereq: PHRM 351 and PHRM 351L. Coreq: PHRM 452.

PHRM 455. Introductory Pharmacy Practice Experience II: Introduction to Community Based Patient Care. 3 Credits.

IPPE II is designed to be an introduction to community based pharmacy practice. This course consists of a 3 week, 120 hour, unpaid, supervised pharmacy practice experience in a community pharmacy setting and required reflections. Prereq: PHRM 452, PHRM 452L. Pass/Fail grading.

PHRM 462. Stress Management for Health Care Professionals. 1 Credit.

This course for health care professionals will focus on healthy coping skills and self-care techniques for stress reduction and relaxation, not only in their professional lives, but also in providing patient care. Prereq: Pharmacy or Nursing major.

PHRM 463. Current Issues in Hospital Pharmacy. 2 Credits.

This course will provide students with a working knowledge of issues and requirements faced by hospital pharmacists and the managerial techniques and practice standards utilized in meeting them. Prereq: P2 student.

PHRM 475. Pharmacy Practice Management. 3 Credits.

This course introduces students to management techniques applicable to the contemporary practice of pharmacy in community and institutional settings. Prereq: Admission to professional program.

PHRM 480. Drug Literature Evaluation. 3 Credits.

The goals of this course are to achieve a thorough understanding of the structure of the literature and its inherent strengths and weaknesses, such that the student may evaluate scientific studies and utilize the literature to support a point of view. Prereq: Admission to professional program.

PHRM 485. Economic Outcomes Assessment and Relevant Issues. 2 Credits.

The use of pharmacoeconomic analysis and outcomes assessment as applied to health care. Prereq: PHRM 480 or Doctor of Nursing or MBA standing.

PHRM 491. Seminar. 1-5 Credits.**PHRM 492. Study Abroad. 1-15 Credits.****PHRM 494. Individual Study. 1-5 Credits.****PHRM 499. Special Topics. 1-5 Credits.****PHRM 520. Special Populations. 3 Credits.**

Focused on providing pharmaceutical care for a variety of populations including men, women, pediatric and geriatric patients. Prereq: Bachelor of Science in Pharmaceutical Sciences.

PHRM 532. Infectious Disease. 3 Credits.

This course is a clinical, patient-oriented approach to infectious disease. The instructors will review antimicrobial agents combined with specific infectious disease processes and therapies to help the students make appropriate judgments on infectious disease problems. Prereq: PSCI 412, BS in Pharmaceutical Sciences. {Also offered for graduate credit - see PHRM 632.}.

PHRM 534. Rheumatology/Endocrinology/Gastrointestinal. 3 Credits.

Pharmacotherapy of disorders involving the musculoskeletal, endocrine, and gastrointestinal systems. Prereq: PSCI 413 and PSCI 415.

PHRM 535. PTDI:Neoplastic Diseases. 3 Credits.

In-depth study of the pathophysiology, pharmacotherapy and diagnostic evaluation of major neoplastic diseases. Prereq: BS in Pharmaceutical Sciences.

PHRM 536. Neurology & Psychiatry. 3 Credits.

The course will focus on the principles, selection and management of pharmacotherapy for the major psychiatric and neurologic diseases. Learning methods will include face-to-face lecture, in-class discussion, small group activities, and case formulations. Prereq: PSCI 415 and BS in Pharmaceutical Sciences.{Also offered for graduate credit - see PHRM 636.}.

PHRM 537. Renal Disease/Fluid and Electrolytes. 3 Credits.

Pathophysiology and pharmacotherapy of major renal diseases including fluid and electrolyte disorders, acid/base balance, and renal replacement therapy. Emphasis is placed upon application of knowledge to patient care situations and the mastery of pharmacotherapy. Prereq: BS in Pharmaceutical Sciences.

PHRM 538. PTDI: Cardiovascular and Pulmonary Diseases. 4 Credits.

Pharmacotherapy of cardiovascular and pulmonary diseases. Study of the pathophysiology, clinical presentation, and treatment of various cardiovascular and pulmonary diseases. Prereq: BS in Pharmaceutical Sciences.

PHRM 540. Public Health for Pharmacists. 3 Credits.

Pharmacy students will be introduced to public health services, health disparities, emergency preparedness, epidemiology, behavioral health, health promotion, and global health. Prereq: PHRM 352.

PHRM 551. Pharmaceutical Care III. 1 Credit.

This course is designed to teach pharmacy students about pharmacy calculations, patient consultation, compounding nonsterile and sterile drug products, dosage forms and their preparation, disease state management, and medication therapy management. Prereq: PHRM 452 and PHRM 452L. Coreq: PHRM 551L.

PHRM 551L. Pharmaceutical Care Laboratory III. 1 Credit.

This course focuses on pharmaceutical care, pharmacy calculations, prescription consultation, compounding nonsterile and sterile products, and disease state management. Students will use a team-based approach to solve medication and practice related problems. Prereq: PHRM 452 and PHRM 452L. Coreq: PHRM 551.

PHRM 552. Pharmaceutical Care IV. 1 Credit.

This course is designed to teach pharmacy students about pharmacy calculations, patient consultation, compounding nonsterile and sterile drug products, dosage forms and their preparation, disease state management, and medication therapy management. Prereq: PHRM 551, PHRM 551L. Coreq: PHRM 552L.

PHRM 552L. Pharmaceutical Care Laboratory IV/Introductory Pharmacy Practice Experience IV. 1 Credit.

Coursework will assist Doctor of Pharmacy candidates to develop competence in recognizing, analyzing, and resolving drug related problems; providing accurate drug information and education; promoting public health and managing a patient oriented pharmacy practice. Prereq: PHRM 551, PHRM 551L. Coreq: PHRM 552.

PHRM 555. Introductory Pharmacy Practice Experience III. 1 Credit.

Introduction to patient care opportunities focused on population and public health opportunities for pharmacists. This course consists of 40 hours of supervised pharmacy practice experiences and required reflections. Prereq: PHRM 452L Coreq or Prereq: PHRM 551L.

PHRM 560. Specialty Care Topics. 2 Credits.

Immunology, vaccine-preventable diseases, indications for vaccination, and implementation and maintenance of a pharmacy-based vaccination program in addition to the pharmacist's role in home health, palliative/hospice care, peri-operative/surgical/critical care, anemia, and nutrition support. Prereq: BS in Pharmaceutical Sciences.

PHRM 570. Pharmacy Practice Improvement and Project Management. 3 Credits.

Students will gain a basic understanding of evidence-based medicine (EBM) and practice improvement/evaluation review techniques (PERT) in health care. Prereq: PHRM 475 and PHRM 480.

PHRM 572. Pharmacy Law. 2 Credits.

Pharmaceutical jurisprudence, including state and federal laws and regulations concerned with the practice of pharmacy.

PHRM 575. Pharmacy Management. 3 Credits.

Case studies of retail and hospital pharmacy management concerns, as well as the unique consideration of retail pharmacy and institutional factors of hospital pharmacy management.

PHRM 580. Pharmacotherapy Capstone. 3 Credits.

Students will evaluate integrated patient case scenarios using clinical practice guidelines, current scientific literature, and pharmacotherapy concepts. Prereqs: PHRM 532, PHRM 534, PHRM 535, PHRM 536, PHRM 537 and PHRM 538.

PHRM 581. Advanced Pharmacy Practice Experience I. 9 Credits.

Experiential clinical training designed to integrate, apply, reinforce, and advance the knowledge, skills, attitudes and values developed through the other components of the curriculum. Prereq: Successful completion of third professional year.

PHRM 582. Advanced Pharmacy Practice Experience II. 16 Credits.

Experiential clinical training designed to integrate, apply, reinforce, and advance the knowledge, skills, attitudes and values developed through the other components of the curriculum. Prereq: Successful completion of third professional year.

PHRM 583. Advanced Pharmacy Practice Experience III. 15 Credits.

Experiential clinical training designed to integrate, apply, reinforce, and advance the knowledge, skills, attitudes and values developed through the other components of the curriculum. Prereq: Successful completion of third professional year.

PHRM 590. Graduate Seminar. 1-3 Credits.**PHRM 593. Individual Study/Tutorial. 1-5 Credits.****PHRM 595. Field Experience. 1-15 Credits.****PHRM 596. Special Topics. 1-5 Credits.****PHRM 620. Special Populations. 3 Credits.**

Focused on providing pharmaceutical care for a variety of populations including men, women, pediatric and geriatric patients.

PHRM 632. Infectious Disease. 3 Credits.

This course is a clinical, patient-oriented approach to infectious disease. The instructors will review antimicrobial agents combined with specific infectious disease processes and therapies to help the students make appropriate judgments on infectious disease problems. {Also offered for professional credit - see PHRM 532.}.

PHRM 636. Neurology and Psychiatry. 3 Credits.

The course will focus on the principles, selection and management of pharmacotherapy for the major psychiatric and neurologic diseases. Learning methods will include face-to-face lecture, in-class discussion, small group activities, and case formulations. {Also offered for professional credit - see PHRM 536.}.

PHRM 638. PTDI: Cardiovascular and Pulmonary Diseases. 4 Credits.

Pharmacotherapy of cardiovascular and pulmonary diseases. Study of the pathophysiology, clinical presentation, and treatment of various cardiovascular and pulmonary diseases.

PHRM 675. Pharmacy Management. 3 Credits.

Case studies of retail and hospital pharmacy management concerns, as well as the unique consideration of retail pharmacy and institutional factors of hospital pharmacy management.

PHRM 685. Economic Outcomes Assessment/Relevant Issues. 2 Credits.

The use of pharmacoeconomic analysis and outcomes assessment as applied to health care. Prereq: PHRM 480 or Doctor of Nursing or MBA standing.

PHRM 696. Special Topics. 1-5 Credits.**PHRM 710. Health Care Systems. 3 Credits.**

In this course, students will be introduced to health professions, health care systems, financing, health promotion, and behavioral issues. Prereq: MPH students only.

PHRM 716. Social and Administrative Sciences Research. 3 Credits.

The premise of this course is to provide the student with a basic understanding of how to conduct academic and professional research in the pharmaceutical social and administrative sciences (PS&AS). Prereq: PHRM 715 and STAT 725.

PHRM 795. Fe/Coop Ed/Internship. 1-15 Credits.