

PHARMACY DOCTORATE (PHRD)

PHRD 5010 - IPPE Community (2 Credits)

This is the first in a series of experiential-based courses, providing 80 hours of community pharmacy practice experience. Students will participate in all facets of community pharmacy practice, with a particular focus on the development of communication and professionalism skills.

Grading Basis: Letter Grade with IP

Typically Offered: Spring.

PHRD 5025 - Applied Biological Chemistry (2 Credits)

Course builds upon student knowledge of biochemistry to explore applications of biochemistry to diseases, drug actions, and drug development. Knowledge gained from this course is used as a foundation for understanding the rationale for the therapeutic uses of drugs.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 5055 - Pharmacy Practice Fundamentals & Drug Information (4 Credits)

Course provides students with tactics necessary to perform dispensing duties in most pharmacy settings. Fundamentals of the practice of drug information are introduced. Pharmacy practice and drug information fundamentals are presented with the context of the history of pharmacy and contemporary pharmacy practice. Restrictions: Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 5075 - Self-Care and Nonprescription Medications (4 Credits)

Course prepares students to be able to 1) collect appropriate patient data to make an assessment for self-care (e.g. nonprescription products), 2) conduct a patient-centered assessment, and 3) design, implement, evaluate and adjust a patient-centered self-care plan. Restriction: Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 5920 - Medicinal Chemistry (3 Credits)

This course explores medicinal chemistry concepts using clinically relevant case studies, designed to examine mechanism(s) of drug action, structure-activity relationships, drug metabolism, drug resistance and other concepts related to the pharmacology and clinical use of therapeutic drugs.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 5925 - Pharmaceutics (4 Credits)

Students introduced to biophysical and chemical considerations in development of pharmaceutics and products and compounding various dosage forms, principles of parenteral drug preparation and administrations. Knowledge gained allows students to understand formulation development and optimize dosage forms for individual patients. Department consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 5935 - Pharmacology & Toxicology (4 Credits)

Using the nervous systems as a model, the course introduces students to the mechanisms by which drugs produce therapeutic effects and side effects. The mechanisms of drug toxicity and how toxicity can be prevented and treated will be explored. Department consent required.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 5965 - Patient-Centered Communication (4 Credits)

Students develop skills to communicate effectively with patients, caregivers and healthcare providers to facilitate optimal patient outcomes. These courses cover all aspects of professional communication, including gathering, organizing, conveying and documenting patient-related information.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 5985 - Pharmacotherapy 1 (4 Credits)

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions. Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: pulmonology, OBGYN, ED, dermatology ophthalmology, otic diseases. Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 6015 - Clinical Pharmacokinetics (3 Credits)

The influence of physiological and pathophysiological factors on drug levels is considered. Knowledge gained allows students to calculate appropriate dosing of drugs in patients and anticipate how drug doses should be adjusted in disease and the presence of other drugs. Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 6065 - Evidence-based Medicine & Literature Evaluation (3 Credits)

An introduction and step-wise approach to evidence-based medicine. Students understand commonly-used statistical tests and evaluate statistical results for statistical versus clinical significance. Students demonstrate by answering short drug information questions, presenting a journal club and writing a drug information paper. Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 6085 - Pharmacotherapy 2 (5 Credits)

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions. Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: Cardiology. Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 6095 - Pharmacotherapy 3 (4 Credits)

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions. Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: endocrinology, renal. Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 6910 - IPPE Health System (2 Credits)

This experiential-based course provides 80 hours of health-system pharmacy practice, focusing on the delivery of patient care and systems used to provide care to multiple patients. Course further develops professionalism, communication, and skills needed for advanced experiential training.

Grading Basis: Letter Grade with IP

Typically Offered: Spring.

PHRD 6945 - Public Health & Health Outcomes (3 Credits)

This course in public health will cover how to use clinical, patient-centered, socioeconomic, and economic research to assess health care interventions. These skills can be used to critically assess health care policy that will affect you as a professional pharmacist. Restriction:

Department Consent Required

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 6965 - Clinical Problem Solving Skills (2 Credits)

This course builds upon the principles and skills from PHRD 5055/6065 and includes application inside and outside the classroom of drug information, effective search strategies and literature evaluation, critical appraisal of scientific literature, and applying evidence in clinical practice.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 6985 - Pharmacotherapy 4 (5 Credits)

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions. Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: infectious diseases. Restriction: Department Consent Required

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 6995 - Pharmacotherapy 5 (4 Credits)

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions. Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: psychiatry, neurology. Restriction: Department Consent Required

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 7015 - Seminar Research (1 Credit)

Students will apply their ability to retrieve, evaluate, and utilize professional information in a critical and scientific manner. Students independently determine how to best solve a pharmacy-related question using scientific principles, and present their findings to a large audience. Department consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 7025 - Pharmacogenomics (2 Credits)

Course provides students with an understanding of how genetic factors influence drug efficacy. Knowledge gained from this course enhances students' ability to select the most effective therapeutic intervention.

Department consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 7055 - Pharmacy Management (2 Credits)

The course provides an introduction to management in community pharmacy practice, hospital pharmacy management, and other business and management skills needed to be successful in a variety of different practice settings. Department consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 7085 - Pharmacotherapy 6 (4 Credits)

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions. Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: infectious diseases 2. Department consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 7095 - Pharmacotherapy 7 (4 Credits)

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions. Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: hematology, oncology, rheumatology, transplantation. Department consent required

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 7808 - Introduction to the Pharmaceutical Industry (2 Credits)

Course provides a broad background on the pharmaceutical industry. Reviews of major pharmaceutical company functions will be covered. Emphasis will be placed on clinical development and areas of opportunity for those with a pharmacy or pharmaceutical sciences background.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 7810 - Applied Pharmaceutical Outcomes Research Methods (2 Credits)

Students completing this course will be able to identify and write a clinical research question; identify variables for analyses; complete intermediate statistical analyses to answer their research question; write-up their study as a scientific manuscript; and present their research orally.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 7812 - Seminar in Pharmaceutical Sciences (2 Credits)

Provides practical experience in the evaluation and discussion of research literature. Students will prepare a seminar and participate in scientific discussions. Students who are interested in broadening their knowledge in pharmaceutical science, drug delivery, and improving their speaking skills will benefit.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring.

PHRD 7815 - Physical Assessment/Examination in Pharmacy (2 Credits)

This course is designed to provide students with functional knowledge and skills in the area of physical assessment and will aid students in enhancing the assessment of disease and drug therapy in a variety of practice settings.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 7828 - Advanced Diabetes Management (2 Credits)

This elective focuses on advanced diabetes management and utilization of technology and digital health tools. The course provides learners hands-on, simulated experiences with diabetes technology and digital health tools to successfully optimize diabetes care and make clinical decisions remotely.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 7830 - Infectious Diseases Elective (2 Credits)

This course will address the pharmacology and appropriate clinical use of agents used in the treatment and management of selected infectious diseases. The course will also focus on pharmacodynamics of antimicrobial agents, antibiotic stewardship, antibiotic resistance, and statistics.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 7835 - Advanced Cardiovascular Pharmacotherapy (2 Credits)

The purpose of this course is to provide a more comprehensive and in-depth background in cardiovascular pharmacotherapy for students interested in, or planning to practice in, settings where the care of patients with cardiovascular disease is emphasized.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring.

PHRD 7842 - Medical Use of Cannabis (2 Credits)

Course will address the pharmacology and appropriate medical use of cannabis used in the treatment and management of selected disease states. Course will also focus on the pharmacokinetics, pharmacodynamics, legal aspects, special populations and patient information (safety) of cannabis.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 7844 - Special Topics in Compounding (2 Credits)

Course will provide students with an understanding of principles and practices involved in clinical aspects of pharmacy compounding. Students will utilize readings, case studies, class discussion, outside-class assignments, and written evaluation to learn how pharmacy compounding may solve medication-related problems. Department

Consent Required

Grading Basis: Letter Grade

Typically Offered: Fall.

PHRD 7850 - Geriatric Pharmacy Elective (2 Credits)

This course is intended to provide the student with an advanced understanding of pharmacotherapy in older adults as well as common medical, psychological, and social issues encountered when caring for older adults. Prerequisite: P3 status.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 7855 - Independent Study (1-4 Credits)

Independent Study Prerequisite: P3 status. Per Department Chair approval.

Grading Basis: Satisfactory/Unsatisfactory w/IP

Repeatable. Max Credits: 4.

Typically Offered: Fall, Spring.

PHRD 7856 - Independent Study (2 Credits)

Prerequisites: P3 status. Per Curriculum Committee approval.

Grading Basis: Satisfactory/Unsatisfactory

Typically Offered: Fall, Spring.

PHRD 7857 - Compounding Pharmacy Elective (2 Credits)

An elective course to offer compounding skills for pharmacy students.

Prereq: P1-P3 status.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 7860 - Special Topics in Integrated Health & Medicine (2 Credits)

This course is designed to develop a broad knowledge base in the field of Integrated Health and Medicine. This course will cover common vitamins and minerals, herbal products, and bio-identical hormones, and core domains and discussions of regulatory issues. Prerequisite: P1-P3 status.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring.

PHRD 7870 - Pediatric Pharm Practice (2 Credits)

This course will be offered to students interested in developing and fostering their knowledge and assessment of childhood diseases and pharmacotherapy. Clinical pharmacy specialists and staff from the Children's Hospital of Denver will teach this course. Prerequisite: P3 status.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 7882 - Drugs of Abuse (2 Credits)

Course will explain pharmacological, physical, and psychological effects of drugs of abuse on the body relevant to real-world pharmacy practice. Course aims to develop clinical skills for use in emergency situations, proper prescribing of drugs of abuse, and understanding of the process of addiction/abuse in order to identify and mitigate potential harm.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 7885 - Acute Care Pharmacotherapy (2 Credits)

Pharmacology and appropriate clinical use of agents used in the treatment of selected acute disorders found in hospitalized patients. The course will also focus on the comprehensive nature of these acute disorders. Recent advances in pharmacotherapy, patient-specific management strategies, and controversial issues will be included and emphasized. Prerequisite: P3 status.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 7890 - Advanced Oncology Pharmacy (2 Credits)

Students will learn pathophysiology and treatment of solid organ and hematologic malignancies, practical use of antineoplastic agents, and provision of supportive care for patients of cancer. Prerequisite: PHRD 6750.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 7895 - Beginning Medical Spanish (2 Credits)

This Beginning Medical Spanish course, tailored for pharmacy students, is designed to allow students to become comfortable with conversational Spanish and medical vocabulary in various pharmaceutical contexts. Language learning is both academic and experiential. Prerequisite: P3 status.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring.

PHRD 7896 - Intermediate Med Spanish (2 Credits)

This intermediate medical Spanish course, tailored for pharmacy students, is designed to allow students to become comfortable with intermediate conversational Spanish and medical vocabulary in various pharmaceutical context. Language learning is both academic and experiential. Prerequisite: P3 status.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring, Summer.

PHRD 7905 - Advanced IPPE (6 Credits)

Students are placed in a 6-week, full-time (40 hours per week) patient care experience in which they can begin to apply their didactic knowledge. In this advanced IPPE students demonstrate competency to meet pre-APPE core performance domains and abilities. Requirements: Department consent required

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 7995 - Clinical Capstone (6 Credits)

Course is designed to be a capstone that integrates essential core pharmacy practice topics. The philosophy of this course is to facilitate student learning, and holding students accountable for prior learning in an integrated manner using complex patient scenarios. Requirements:

Department Consent required

Grading Basis: Letter Grade

Typically Offered: Spring.

PHRD 8055 - AdvPharPracExp - Elective (6 Credits)

Six week rotation; 40 hrs weekly. This experience will take place in various practice settings. Students may participate in various activities that focus on medication-related problems dealing with various populations, with or without direct patient contact. Requirement: Department consent required

Grading Basis: Letter Grade with IP

Repeatable. Max Credits: 6.

Typically Offered: Fall, Spring, Summer.

PHRD 8056 - APPE Elective International (6 Credits)

Six week rotation; 40 hrs weekly. This pharmacy practice experience is an opportunity for students to train in various international clinical practice environments.

Grading Basis: Letter Grade with IP

Repeatable. Max Credits: 12.

Typically Offered: Fall, Spring, Summer.

PHRD 8065 - AdvPharPracExp - Ambulatory Care (6 Credits)

Six week rotation; 40 hrs weekly. This experience will take place in an ambulatory care, multidisciplinary practice setting. Practice sites may include hospital-based clinics, physician group practices, and community or public health clinics that provide health care directly to patients.

Requirement: Department consent required.

Grading Basis: Letter Grade with IP

Repeatable. Max Credits: 6.

Typically Offered: Fall, Spring, Summer.

PHRD 8075 - AdvPharPracExp - Community (6 Credits)

Six week rotation; 40 hrs weekly. This experience will take place in a community pharmacy practice setting. Practice sites include independent, large chain or retail pharmacies that provide a variety of services, including administration of immunizations and health/wellness screenings. Requirement: Department Consent required

Grading Basis: Letter Grade with IP

Repeatable. Max Credits: 6.

Typically Offered: Fall, Spring, Summer.

PHRD 8085 - AdvPharPracExp - Hospital/Health-System Pharmacy (6 Credits)

Six week rotation; 40 hrs weekly. This experience will take place in an inpatient practice setting. Students will be exposed to adult patients with a variety of disease states, and participate in other institutional activities related to clinical pharmacy services. Requirement: Department consent required

Grading Basis: Letter Grade with IP

Repeatable. Max Credits: 6.

Typically Offered: Fall, Spring, Summer.