

Doctor of Pharmacy Course Descriptions

Required Courses

Pharmacy Practicum II (7002)

Second practicum with direct instruction by an experienced preceptor to increase the student's awareness of the pharmacist's roles and responsibilities in health care delivery (Year-long course).

Introductory Biochemistry (PHAR 7104)

An introduction to biochemistry for students in the health related professions. The chemistry of biological materials (proteins, nucleic acids, lipids, and carbohydrates), enzymes, metabolism, nutrition, and selected topics of specific interest.

Pharmaceutical Mathematics (PHAR 7112)

Calculations applicable to the practice of pharmacy including: prescription format and interpretations, metric and common systems of measure and conversions, dosages, density and specific gravity, percentages, ratio strength, milliequivalents and milliosmols, reductions and enlargements of formulas, and dilution and concentration.

Pharmacy Practice I (PHAR 7122)

An introduction to pharmacy practice, including exposure to and participation in different types of practice and settings. This first course with direct instruction by experienced preceptors increases the student's awareness of the pharmacist's roles and responsibilities in health care delivery. The course will provide basic information regarding implementation of pharmaceutical care, pharmacy laws, pharmaceutical career information and knowledge of the components of drug delivery systems.

Pharmacy Practice II (PHAR 7124)

An introduction to pharmacy practice, including exposure to and participation in different types of practice and settings. This second course with direct instruction by experienced preceptors increases the student's awareness of the pharmacist's roles and responsibilities in health care delivery. The course will provide basic information regarding implementation of pharmaceutical care, pharmacy laws, pharmaceutical career information and knowledge of the components of drug delivery systems.

Chemical Principles of Drug Action (PHAR 7133)

Chemical principles affecting drug action and accessibility to active sites; physiochemical properties of drugs related to biological action and a fundamental consideration of their metabolic changes; concepts of drug design based on lead natural products, receptor structure and analog development.

Pharmaceutical Biotechnology (PHAR 7143)

Recent developments in the synthesis, structure, and function of biologically active peptides and their relationship to the treatment of disease in man.

Pharmaceutical Immunology (PHAR 7153)

Principles of immunology as applied to drug development and utilization with emphasis on immunotherapeutic agents.

Biostatistics (PHAR 7163)

Theory and applications of common statistical tests.

Biologic Principles of Drug Action (PHAR 7422)

Introductory course in pharmacodynamics focusing on principles of drug action; review of drugs that affect the autonomic and central nervous systems and the autocooids.

Human Physiology (PHAR 7456)

Fundamental systematic approach to understanding of normal human structure and functions. Circulation, digestion, endocrine, and nervous control, metabolism, muscle action, and respiration are emphasized.

Clinical Toxicology (PHAR 7523)

The clinical toxicology of common agents ingested in overdoses including practical management principles and a review of current poison information systems and their clinical use.

Drug Delivery Systems I (PHAR 7614)

Introduction to the prescription, dosage forms, and physical pharmacy. Solid (powders, tablets, capsules) and semisolid (ointments, creams, pastes) dosage forms; controlled release technology; dosage form design and development; comminution and particle size classification; preparation technologies and incompatibilities; evaluation methods and quality control procedures. Laboratory included.

Drug Delivery Systems II (PHAR 7624)

Continuation of PHAR 7614 with a focus on homogenous and heterogeneous liquid dosage forms; extraction, colligative properties, pH, buffer systems, stability, and reaction kinetics; instrumental analysis; sterile products technology; flavoring, coloring, and use of preservatives. Laboratory included.

Biopharmaceutics (PHAR 7632)

Factors affecting absorption, distribution, metabolism, and excretion of drugs; routes of drug absorption, metabolism, and excretion; bioequivalence and drug product testing.

Pharmacokinetics (PHAR 7633)

Quantitation of factors affecting the absorption, distribution, and metabolism, and excretion of drugs; derivation of mathematical models to calculate the time course of drug and metabolite concentrations following drug administration; analysis of drug concentration data sets graphically and using non-linear regression.

Pharmacy and Health Care Management I (PHAR 7704)

Introduction to the U.S. health care system and how it affects the practice of pharmacy, its comparison with other health care models, the financing of health care, and models for analyzing the economics of pharmaceuticals in health care.

Drug Information Systems (PHAR 7712)

Orientation to current drug information systems, appropriate search strategies, and communication of drug information to patients and other health care professionals.

Pharmacy and Health Care Management II (PHAR 7713)

Introduction to pharmacy and personnel management and marketing principles.

Pharmacy Law and Ethics (PHAR 7723)

Federal and state laws, rules, and regulations pertaining to the practice of pharmacy; general principles of law including criminal, civil, and administrative procedures; code of professional conduct and ethics.

Clinical Communications (PHAR 7724)

Basic concepts in interpersonal communications and application in simulated clinical settings such as patient interviews, medication education, and interactions with other health professionals.

Patient Assessment (PHAR 7802)

Application of clinical assessment and physical parameters to normal conditions and to various disease states.

Drug Literature Evaluation (PHAR 7812)

A preparation for the efficient evaluation, use, and clinical application of drug information.

Pharmaceutical Care I (PHAR 7813)

Principles of pharmaceutical care including health promotion, health defeating behaviors, proper nutrition, age-related changes affecting medication selection and effects; detection, evaluation, and reporting of adverse drug reactions; and the pathophysiologic, pharmaceutical, pharmacologic, and therapeutic considerations in managing pain, fever, nausea, vomiting, constipation, and diarrhea.

Pharmaceutical Care II (PHAR 7824)

The pathophysiologic, pharmaceutical, pharmacologic, and therapeutic considerations in the care of patients with cardiovascular diseases.

Pharmaceutical Care III (PHAR 7833)

The pathophysiologic, pharmaceutical, pharmacologic, and therapeutic considerations in the care of patients with respiratory and renal diseases.

Pharmaceutical Care IV (PHAR 7842)

The pathophysiologic, pharmaceutical, pharmacologic, and therapeutic considerations in the care of patients with neurologic diseases.

Pharmacy Practice III (PHAR 7844)

Simulated applications of knowledge and skills in community and institutional pharmacy practice with a focus on the integration of patient care skills into current pharmacy practice.

Pharmaceutical Care V (PHAR 7853)

The pathophysiologic, pharmaceutical, pharmacologic, and therapeutic considerations in the care of patients with endocrinologic diseases.

Pharmaceutical Care VI (PHAR 7862)

The pathophysiologic, pharmaceutical, pharmacologic, and therapeutic considerations in the care of patients with gastrointestinal and rheumatologic diseases.

Pharmaceutical Care VII (PHAR 7873)

The pathophysiologic, pharmaceutical, pharmacologic, and therapeutic considerations in the care of patients with infectious diseases.

Pharmaceutical Care VIII (PHAR 7883)

The pathophysiologic, pharmaceutical, pharmacologic, and therapeutic considerations in the care of patients with hematologic disorders or cancer.

Pharmaceutical Care IX (PHAR 7891)

The pathophysiologic, pharmaceutical, pharmacologic, and therapeutic considerations in the care of patients with dermatologic disorders.

Pharmaceutical Care X (PHAR 7892)

The pathophysiologic, pharmaceutical, pharmacologic, and therapeutic considerations in the care of patients with psychiatric disorders.

Elective Courses**Alternative Medicine (PHAR 7102)**

An introduction to the different types of complementary and alternative medicine with an emphasis on their basic philosophies and procedures as compared to those of conventional medicine and pharmacy.

History of Pharmacy (PHAR 7012)

Background and development of pharmacy, the contribution of pharmacy to drug knowledge, and its evolution from ancient times to the present.

Radionuclide Methodology (PHAR 7324)

Principles of Radioactive Tracer Methodology used in health research. Basic radiation physics, radionuclide calculations, interactions of radiation with matter, methods of radiation detection and determination experimental design, radiological safety and application of Radionuclide Methodology.

Radionuclide Methodology (PHAR 7324)

Principles of Radioactive Tracer Methodology used in health research. Basic radiation physics, radionuclide calculations, interactions of radiation with matter, methods of radiation detection and determination experimental design, radiological safety and application of Radionuclide Methodology.

Nuclear Pharmacy (PHAR 7334)

Introduction to the field of Nuclear Pharmacy. topics include radiopharmaceutical quality control, stability and labeling techniques. Laboratory included.

Current Therapeutic Agents (PHAR 7412)

Current developments in Pharmacology from a clinical standpoint.

Anti-Infective Therapy (PHAR 7423)

Basic Pharmacological principles to the development of optimal antimicrobial drug therapy and in-depth discussion of antimicrobial agents commonly employed in clinical practice. Students will develop skills in assessing rational and appropriate therapy as opposed to inappropriate therapy.

Pharmacy Practice and the Geriatric Patient (PHAR 7532)

This course is designed to provide those skills necessary for pharmacists to improve the care of older people. Emphasis is placed on understanding the uniqueness of the older population and

developing the knowledge and skills necessary to improve drug therapy outcomes and minimize risk associated with medication use.

Advanced Diabetes Care (PHAR 7542)

This course is designed to emphasize the integration of pathophysiology, pharmacology, behavior change, and therapeutic knowledge in the management of diabetes mellitus; to introduce clinical problem solving in diabetes patients; to understand the therapeutic drug monitoring of diabetes pharmacotherapy and to discuss strategies on establishing diabetes services in various settings.

Pharmacotherapy Considerations in Pediatrics (PHAR 7572)

Pediatric patient case discussions utilizing drug information retrieval and literature evaluation skills to identify relevant pathophysiologic concepts, propose rational pharmacotherapeutic decisions and discuss relevant patient case management issues.

Pharmacy Practice Management (PHAR 7702)

Application of theories used in the management of human, financial, and material resources in various pharmacy practice settings.