

# High Point University School of Pharmacy

## Course Descriptions

### P1 Fall Courses

**PBS 7000, Intro to Medicinal Chemistry** (2 credits, graded A, B, C, F)

Through a combination of chemistry, biochemistry, and pharmacology, the course will cover stereochemistry, solubility and hydrophobicity, phase 1 and 2 transformations, physicochemical properties that affect metabolism of drugs, and the application of these concepts for drugs of the nervous system.

**PBS 7010, Intro to Medicinal Chemistry Laboratory** (1 credit, graded A, B, C, F)

Laboratory experiences will enable students to consider manipulation of drug structures and likely pharmacologic actions based on these changes. Activities will involve a mix of direct observation of drug effects on tissues, manipulation of drug effects and doses in medical mannequins, and computer-based modeling.

**PBS 7020, Physiology of Wellness and Disease** (4 credits, graded A, B, C, F)

The physiologic processes for a broad range of diseases affecting the nervous, cardiovascular, pulmonary, integumentary, gastrointestinal hepatic, renal and endocrine systems will be learned through a range of lectures and activities.

**PBS 7030, Pharmaceutical Calculations** (1 credit, graded A, B, C, F)

Mathematical calculations will be mastered through active problems for a range of pharmaceutical product preparations, drug dose calculations, physiologic function calculations, and health risk markers.

**PBS 7040, Intro to Pharmacology** (3 credits, graded A, B, C, F)

The course will cover theoretical concepts of pharmacology and an introduction to the mechanisms of drug action, dose-response relations, pharmacokinetics, absorption, distribution and metabolism, and the toxicity of pharmacological agents. In addition, the course will cover basic principles of cell biology including but not limited to chromosomal structure, process and regulation of transcription and translation, enzymes, as well as lipid, polysaccharide and fatty acid biochemistry.

**PCS 7000, Introduction to Pharmacy Practice** (3 credits, graded A, B, C, F)

Through a series of lectures and activities, techniques for filling prescriptions properly, obtaining appropriate information from electronic medical records, using effective techniques for patient interviewing and counseling, utilizing appropriate skills for

patient assessment, and building a professional profile document will be taught. Additionally, basic drug information will be taught by introducing students to use electronic resources and specialized texts, performing systematic searches, and implementing appropriate techniques for interviewing and responding to drug information questions.

**PCS 7010, Clinical Skills Lab I** (2 credits, graded A, B, C, F)

Small group activities and individual practice will be used to teach students appropriate techniques for obtaining information from electronic medical records, conducting patient interviews and medication counseling, performing patient assessment, utilizing drug information resources, and providing appropriate responses to drug information questions. Additionally, students will work with standardized clients to demonstrate proper technique for skills including patient communication and assessment. Students will also develop immunization knowledge and practice immunization technique through completion of the American Pharmacists Association (APhA) *Pharmacy-Based Immunization Delivery* certificate program.

**PCS 7020, Deans' Introduction to Pharmacy** (1 credit, graded A, B, C, F)

Classes will involve discussions and exercises to familiarize students with the profession of pharmacy, developing and displaying professionalism, and academic success.

**PCS 7030, Case Recitation I: Bridging Basic and Clinical Sciences** (1 credit, graded A, B, C, F)

The course uses case examples to develop visual and written integration of concepts taught in basic science courses. Students will work in groups and individually to design concept maps and explanatory captions in order to develop logical iterative ways of thinking as well as provide students with a process to identify relationships between scientific concepts and their clinical application. Peer assessment processes will allow students to further reinforce the material learned while advancing their professionalism.

**P1 Spring Courses**

**PBS 7300, Medicinal Chemistry & Pharmacology** (3 credits, graded A, B, C, F)

The course will apply concepts learned in Intro to Medicinal Chemistry to drugs used for treatment of cardiovascular diseases, diabetes, pulmonary diseases, immune system disorders, osteoporosis, epilepsy and seizures, thyroid disorders, cancers, men and women's health as well as large molecule drugs.

**PBS 7310, Pharmaceutics** (3 credits, graded A, B, C, F)

The course will provide instruction regarding theory and issues involved in incorporating chemicals into stable dosage forms that are suitable for human medication as well as the routes of drug administration. The basics of the appropriate handling and use of various dosage forms will also be presented. Pharmaceutical

product formulations and different manufacturing or preparation processes for drugs will be taught and prepared in the associated laboratory.

**PBS 7320, Pharmaceutics and Clinical Chemistry Laboratory** (1 credit, graded A, B, C, F)

Pharmaceutical products for different routes and uses will be prepared using proper techniques and assayed to allow quality measures to be calculated. Laboratory tests will

also be measured and results used to calculate assay precision as well as organ function or disease risk.

**PBS 7330, Immunology** (2 credits, graded A, B, C, F)

The course will provide a basic knowledge of the immune response and its involvement in health and disease. Course material will cover the principles of immunology, development of the immune system, innate immunity, immunoglobulin structure and genetics, antigen-antibody reactions, the major histocompatibility complex reactions and antigen presentation, T cell receptors, T cell activation and effector functions, cytokines, phagocytic cell function, immune responses to infectious organisms and tumors, autoimmune diseases, autoimmunity, allergies, and immune deficiencies.

**PBS 7340, Pharmacokinetics and Pharmacodynamics** (2 credits, graded A, B, C, F), Prerequisite: PBS 7030 Pharmaceutical Calculations

Course builds on material covered in Introduction to pharmacology by providing an introduction to biopharmaceutics, mathematics of pharmacokinetics, PK compartment modeling, nonlinear pharmacokinetics, genetic factors affecting PK, and factors affecting drug absorption and bioavailability. Clinical applications of pharmacokinetics will also be covered.

**PCS 7310, Ambulatory Care Skills I** (3 credits, graded A, B, C, F), Prerequisite: PCS 7000, Introduction to Pharmacy Practice

This is a problem-based discussion of interventions with OTC drugs used in community pharmacy practice for common ambulatory medical problems. The top 200 drugs will also be reviewed and discussed.

**PCS 7320, Clinical Skills Lab II** (1 credit, graded A, B, C, F), Prerequisite: PCS 7010, Clinical Skills Lab I

Case vignettes will be used for students to practice patient interviews, perform basic physical assessment, and perform simple point-of-care tests. Hands-on activities with common over-the-counter products and treatments will engage students in the management of diseases likely to be encountered in the community pharmacy (e.g., smoking cessation).

**PCS 7330, Introduction to Therapeutics** (2 credits, graded A, B, C, F)

Students will be introduced to key concepts and allowed to practice skills necessary for success in subsequent Pharmacotherapy course series. Clinical chemistry, interpreting laboratory values, assessing patient cases, and writing consult notes will

be emphasized. Smoking cessation and general considerations for special populations will also be included in this course.

**PCS 7340, Case Recitation II: Bridging Basic & Clinical Sciences** (1 credit, graded A, B, C, F)

The course uses case examples to develop visual and written integration of concepts taught in basic science courses. Students will work in groups and individually to design concept maps and explanatory captions to develop logical iterative ways of thinking and provide students with a process to identify relationships between scientific concepts and their clinical application. Peer assessment processes will allow students to further reinforce the material learned while advancing their professionalism.

**PEX 7310, Longitudinal Patient Experience I** (0.5 credit, Pass/Fail)

Students will be assigned patients to be intermittently followed during their first three years of school. Selected activities and reflection pieces will be developed to encourage a complete perspective of patient needs and challenges in accessing healthcare. During the final Longitudinal Patient Care course, this will culminate in a comprehensive assessment of patient needs designed to achieve an outcome of optimal healthcare.

**P1 Summer Course**

**PEX 7300, Introductory Pharmacy Practice Experience (IPPE) in Community Pharmacy** (4 credits, graded A, B, C, F), Prerequisite: PCS 7310 Ambulatory Care Skills I

Students will be assigned to complete a four-week summer rotation in a community pharmacy approved by the Office of Experiential Education. Under the supervision of an HPU Preceptor, students will complete a required student workbook with assignments focused in the following areas: communication skills and professionalism, state and federal pharmacy law, interpretation of prescriptions, documentation, brand and generic drugs, simple compounding, exploring dosage forms, third-party payers, OTC and self-care, counseling, Code of Ethics, and opportunities for pharmaceutical care in the community pharmacy.