

**COURSE DESCRIPTIONS**  
**SIUE School of Pharmacy**  
**Doctor of Pharmacy (Pharm.D.) Program**

**Year One, Fall Semester**

**PHPS 700: Principles of Drug Action I**

Addresses the chemical and physical properties of drug action. Emphasis placed on absorption, distribution, metabolism, and elimination of drugs, receptor theory, structure-activity relationships, and toxicology.

**PHPS 702: Biochemical Principles for Pharmacy**

Addresses molecular biology basis for drug action and human diseases. Biochemical pathways, enzyme structure and regulation, and metabolism of nutrients and food constituents covered.

**PHPS 704: Biopharmaceutics and Drug Delivery I**

Addresses drug absorption process, Fickian mass transport concepts, and mathematical models. Common dosage forms and delivery systems are also presented.

**PHPR 706: Introduction to Pharmacy Practice**

Addresses communication and counseling skills needed for pharmacy practice, the pharmaceutical care planning process, basic drug information about top drug products, and medical terms.

**PHAS 708: Health Care Systems**

Covers health care providers and networks, principles for managing the medication use system and resource management, quality assessment strategies, pharmacy benefits and insurance systems.

**PHPR 710: Statistics and Literature Evaluation**

Addresses process of critically reviewing biomedical and pharmaceutical literature by analyzing statistics and research design. Principles of outcomes research covered.

**PHEP 714: Introductory Pharmacy Practice Experience I: Professional Role Observations**

Provides an introduction to the practice of pharmacy with experiences in both community and institutional pharmacy practice. The purpose is to enhance awareness of the role of pharmacists in these practice settings.

## **Year One, Spring Semester**

### **PHPS 701: Principles of Drug Action II**

Addresses the chemical and physical properties of drug action. Emphasis placed on drug action for the central nervous system, hormones, metabolic syndrome, microbial diseases and cancer.

### **PHPS 703: Molecular Biology and Pharmacogenomic Principles**

Addresses techniques of molecular biology and pharmacogenomic principles applied to human disease states. Emphasized pathological states where therapeutic drug intervention exists or might be developed..

### **PHPS 705: Biopharmaceutics and Drug Delivery II**

Addresses drug product preformulation, formulation, and manufacture including influence on patient product performance. Physicochemical factors relevant to drug administration, problem solving, and patient counseling emphasized.

### **PHPS 707: Pharmaceutics Skills and Techniques**

Addresses the mathematical and kinesthetic skills necessary for pharmacy practice. Laboratory sessions provide an environment to practice compounding skills.

### **PHAS 709: Health Care and Financial Management**

Addresses principles of business, marketing, strategic planning and financial management. The economic and political environment of the American health care system addressed.

### **PHPR 711: Drug Information**

Develops ability to retrieve and evaluate literature and to utilize information resources for pharmacy practice. Drug use policy for medication management is also addressed.

### **PHPR 713: Self Care and Alternative Medicines**

Addresses use of nonprescription medications and herbal products used for self-care. Patient counseling and problem solving skills emphasized.

### **PHEP 715: Introductory Practice Experience II: Service Learning**

Students provide a health-related service in a community setting and gain social and civic responsibility awareness.

## **Year Two, Fall Semester**

### **PHPS 720: Biopharmaceutics and Pharmacokinetics**

Addresses the physicochemical and manufacturing factors affecting drug absorption, distribution, metabolism, and elimination. The mathematical modeling for determining patient's drug dosage regimen is covered.

**PHPS 722: Microbiology and Immunology**

A study of the microbiology of infectious diseases and principles of immunology. The pharmacology and therapeutics of immunologic disorders are also covered.

**PHPT 724: Integrated Pharmacotherapeutics: CV/Renal**

Addresses pathophysiology, pharmacology, medicinal chemistry, and therapeutics of the cardiovascular and renal systems. Designing, implementing, monitoring, evaluating and adjusting care plans emphasized.

**PHPT 726: Integrated Pharmacotherapeutics: Endocrine/Metabolic/Nutrition**

Addresses pathophysiology, pharmacology, medicinal chemistry, and therapeutics of the endocrine and metabolic systems and nutrition. Designing, implementing, monitoring, evaluating and adjusting care plans emphasized.

**PHAS 728: Human Resources Management**

Addressing principles for recruiting, hiring, training, developing, supervising, motivating, retaining, and evaluating professional and non-professional staff. Principles of effective leadership are covered.

**PHEP 730: Introductory Pharmacy Practice Experiences III**

Students gain experiences in community or health system pharmacy. Options for other practice settings such as long-term care or home IV therapy exist. Students develop skills for pharmacy practice.

**PHEP 732: Pharmacy Rounds I**

Students participate in weekly seminar presentations over either the fall or spring semesters where taking sides on a contemporary issue in pharmacy practice is developed.

**Year Two, Spring Semester****PHPR 721: Clinical Pharmacokinetics**

Students gain experiences in using mathematical models to design drug dosage regimens desired for optimal clinical outcomes.

**PHPT 725: Integrated Pharmacotherapeutics III: Infectious Diseases**

Addresses pathophysiology, pharmacology, medicinal chemistry, and therapeutics of infectious diseases. Designing, implementing, monitoring, evaluating and adjusting care plans emphasized.

**PHPT 727: Integrated Pharmacotherapeutics: GI/Rheumatology/Pulmonary**

Addresses pathophysiology, pharmacology, medicinal chemistry, and therapeutics of the gastrointestinal, pulmonary and musculoskeletal systems. Designing, implementing, monitoring, evaluating and adjusting care plans emphasized.

**PHEP 731: Introductory Pharmacy Practice Experience IV**

Students gain experiences in community or health system pharmacy. Options for other practice settings such as long-term care or home IV therapy exist. Students develop skills for pharmacy practice.

**PHAS 733: Pharmacy Law and Ethics**

Covers legal requirements for medications and pharmacy practice. Ethical principles needed for pharmacy practice are also covered.

**PHPR 735: Physical Assessment and Patient Care Skills**

Develops physical assessment, laboratory tests interpretation and patient care skills for drug therapy and disease state management.

**PHEP 732: Pharmacy Rounds I**

Students participate in weekly seminar presentations over either the fall or spring semesters where taking sides on a contemporary issue in pharmacy practice is developed.

**Year Three, Fall Semester**

**PHPT 740: Integrated Pharmacotherapeutics V: Psychiatry and Neurology**

Addresses pathophysiology, pharmacology, medicinal chemistry, and therapeutics of psychiatric and neurological disorders. Designing, implementing, monitoring, evaluating and adjusting care plans emphasized.

**PHPT 742: Integrated Pharmacotherapeutics VI: Women & Men's Health**

Addresses pathophysiology, pharmacology, medicinal chemistry, and therapeutics of women and men's health problems. Designing, implementing, monitoring, evaluating, and adjusting care plans emphasized.

**PHPR 744: Health Promotion and Literacy**

Students develop ability to educate patients about health promotion, disease prevention and health literacy topics. Participation in population health endeavors is a component.

**PHEP 746: Pharmacy Rounds II**

Students participate in weekly pharmacy rounds over the semester consisting of seminars and case presentations.

**PHPR 748: Disease Management Training/Special Programming I**

Students choose one from a variety of special training and programming courses. These include lipid management, diabetes management, smoking cessation, anticoagulation management, blood pressure management, compounding pharmacy and research.

**PHEP 750: Senior Project**

Serves as an integrative assessment tool to document educational outcomes. The student focuses on a practice or research problem or service opportunity.

### **Year Three, Spring Semester**

#### **PHPT 741: Integrated Pharmacotherapeutics VII: Oncology & Hematology**

Addresses pathophysiology, pharmacology, medicinal chemistry, and therapeutics of oncologic and hematologic disorders. Designing, implementing, monitoring, evaluating, and adjusting care plans emphasized.

#### **PHPT 743: Integrated Pharmacotherapeutics VIII: Eyes, Ears, Dermatology and Others**

Addresses pathophysiology, pharmacology, medicinal chemistry, and therapeutics of eyes, ears, skin and other disorders. Designing, implementing, monitoring, evaluating, and adjusting care plans emphasized.

#### **PHPS 745: Biotechnology**

Emphasis placed on the techniques of biotechnology, gene therapy, monoclonal antibodies, and biotechnology products of pharmaceutical interest.

#### **PHEP 747: Pharmacy Rounds III**

Students participate in weekly pharmacy rounds over the semester consisting of seminars and case presentations.

#### **PHPR 749: Disease Management Training/Special Programming II**

Students choose one from a variety of special training and programming courses. These include lipid management, diabetes management, smoking cessation, anticoagulation management, blood pressure management, compounding pharmacy and research.

#### **PHPR 751: Disease Management Training/Special Programming III**

Students choose one from a variety of special training and programming courses. These include lipid management, diabetes management, smoking cessation, anticoagulation management, blood pressure management, compounding pharmacy and research.

#### **PHAS 753: Management Selective: Community**

Management principles applied to community pharmacy and small business ownership covered. Emphasis placed on marketing and services.

#### **PHAS 755: Management Selective: Institutional**

Management principles applied to a variety of institutional pharmacy settings covered. Focus on accreditation standards and the integration of distribution and clinical services.

#### **PHAS 757: Management Selective: Clinical**

Focuses on business planning skills for developing new clinical pharmacy services. Collaborative practice concepts, legal issues, and reimbursement concepts covered.

### **Year Four, Summer, Fall and Spring Semesters**

#### **PHEP 780: Advanced Pharmacy Practice Experience I**

Develops and applies skills for the provision of pharmaceutical care in a community pharmacy practice setting.

**PHEP 781: Advanced Pharmacy Practice Experience II**

Develops and applies skills for the provision of pharmaceutical care in a hospital pharmacy practice setting.

**PHEP 782: Advanced Pharmacy Practice Experience III**

Develops and applies skills for the provision of pharmaceutical care in an ambulatory care practice setting.

**PHEP 783: Advanced Pharmacy Practice Experience IV**

Develops and applies skills for the provision of pharmaceutical care in an acute care practice setting.

**PHEP 784: Advanced Pharmacy Practice Experience V**

Develops and applies skills for the provision of pharmaceutical care in a drug information/wellness practice setting.

**PHEP 785: Advanced Pharmacy Practice Experience VI**

Develops and applies skills for the provision of pharmaceutical care in a mental health practice setting.

**PHEP 786: Advanced Pharmacy Practice Experience VII**

Further develop skills for contemporary pharmacy roles from a choice of elective settings.

**PHEP 787: Advanced Pharmacy Practice Experience VIII**

Further develop skills for contemporary pharmacy roles from a choice of elective settings.

**PHPR 799: Pharmacy Internship**

Students gain experience in community or health system pharmacy. Options for other practice settings such as long-term care or home IV therapy exist.