

## SCHOOL OF PHARMACY PROFESSIONAL ELECTIVES SPRING TERM 2254

**DISCLAIMER: THIS LIST REPRESENTS THE COURSES WITHIN THE SCHOOL OF PHARMACY THAT ARE SCHEDULED IN THE SPRING 2025 SEMESTER. FOR APPROVED ELECTIVES OUTSIDE OF THE SCHOOL OF PHARMACY, PLEASE SEARCH FOR CLASS AVAILABILITY IN PEOPLESOF. INSTRUCTIONS ARE HERE - [HTTPS://PI.TT/STUDENTCENTER](https://pi.tt/studentcenter)**

**PHARM 1098 Pharma 101: Introduction Pharmaceutical Industry** Credits: 1  
**CLASS NUMBER: 28423** Coordinator: Dr. Bowman  
Enrollment Cap: 40

The course provides undergraduates and PharmD students with knowledge of pharmaceutical industry including functions and responsibilities of key divisions and their individual contributions and interactions in the drug design and development process. **Restrictions: Enrollment preference will be given to P3 students.**

**PHARM 2001 Pharmaceutical Analysis** Credits: 4  
**CLASS NUMBER: 14864** Coordinators: Drs. Kim/Ma  
Enrollment Cap: 10

Current methods utilized in pharmaceutical research for the analysis and isolation of drugs and their metabolites. Theories of extraction, solvent partition and forms of chromatography (adsorption, partition, gas, liquid, counter current, ion exchange, gel-filtration and electrophoresis) are discussed.

**PHARM 2003 Pharmacoepidemiology** Credits: 2  
**CLASS NUMBER: 32602** Coordinator: Dr. Suh  
Enrollment Cap: 5

Introduction to the field of pharmacoepidemiology which uses epidemiologic methods to examine the benefits or risks of medications in the population. **Restrictions: Co-enrollment in third professional year pharmacy school courses and in good academic standing.**

**PHARM 3072 Topics in Pharmacokinetics & Pharmacodynamics Journal Club** Credits: 1  
**CLASS NUMBER: 30413** Coordinators: Drs. Devanathan/Shaik  
Enrollment Cap: 10

Course involves a discussion of current topics of interest in pharmacokinetics and pharmacodynamics.

**PHARM 3074 Intro to Regulatory Aspects Drug Dev** Credits: 1  
**CLASS NUMBER: 26239** Coordinator: Dr. S. Patel  
Enrollment Cap: 35

This course is designed to orient graduate students and students of PharmD program with foundational knowledge on regulatory aspects of drug development process including drug and biologic products. This course will introduce students with various regulatory agencies worldwide with emphasis on regulations by the US Food and Drug Administration (FDA). Through this introductory course, graduate students of School of Pharmacy will gain basic knowledge about regulatory pathways for drug and biologic products. This course will also expose the students to various career opportunities in regulatory affairs.

**PHARM 3312 Communicating Data** Credits: 1  
**CLASS NUMBER: 28533** Coordinator: Dr. L. Wang  
Enrollment Cap: 35

This course will offer a survey of methods for communicating the results of data analyses in healthcare. Best practices for different modes of presenting (oral and written) data will be introduced and applied. As data visualization has grown in importance, students will learn which figures and plots are most effective in specific cases. These methods will be reviewed, applied to various scenarios, and assessed in this course. Knowledge of data manipulation in some platform (STATA, SAS, Python, R, Tableau); descriptive statistics course and project data or familiarity with utilizing open data sets are preferred prior to course enrollment.

**PHARM 5813 Acute Care Pharmacotherapy Simulation****CLASS NUMBER: 15073****Credits: 3****Coordinators:** Drs. DiBridge/Smithburger**Enrollment Cap:** 24 students

Course is designed to allow students to apply clinical knowledge, skills and attitudes gained in previous courses to care for patients with advanced cardiovascular diseases and those that are critically ill. Students will expand on the concepts gained throughout the pharmacotherapy of cardiovascular disease course. Course utilizes simulation based learning to enhance clinical decision-making processes. A major component of the course is self-study requiring an adult learning approach to education. The adult learning concept will require students to be responsible for and highly interactive in achieving the objectives of the course. The learning environment will foster clinical decision making and reinforce concepts learned throughout the school's curriculum. Also, it will provide an excellent source for objective assessment of student knowledge and performance. **Restrictions: Co-enrollment in third professional year pharmacy school courses and in good academic standing. Enrollment preference will be given to Pharmacotherapy Scholars.**

**PHARM 5814 Global Health: Determinants & Application****CLASS NUMBER: 14899****Credits: 3****Coordinator:** Dr. Jonkman**Enrollment Cap:** 8 students

Course will introduce and discuss important topics in global health, focusing specifically on care of the underserved in a global context. Topics discussed will include health policy and economics, determinants of health, essential medicines, community-oriented primary care, structural violence, malnutrition and tropical medicine. In addition to readings and weekly discussion groups, students will have the opportunity to gain valuable practice-based skills by working in underserved clinics in Pittsburgh. Although not a prerequisite, this course compliments pharmaceutical care to underserved populations offered in the fall term. **Restrictions: Co-enrollment in third professional year pharmacy school courses and in good academic standing.**

**PHARM 5830 Discovering Scientific Inquiry (DSI)****CLASS NUMBER: 20213****Credits: 2****Coordinators:** Drs. Coons/Iasella**Enrollment Cap:** 20 students

The primary purpose of the course is to adequately prepare learners to execute an outcomes research-based project during the P4 curriculum. As a required component of the pharmacotherapy scholars program, this course will enable P3 students in the spring semester to design a study, submit the required Institutional Review Board documents, and strengthen their data analysis skills. **Restrictions: Co-enrollment in third professional year pharmacy school courses and in good academic standing. Enrollment preference will be given to Pharmacotherapy Scholars.**

**PHARM 5834 Python for Data Management & Analytics****CLASS NUMBER: 24330****Credits: 3****Coordinator:** Dr. R. Patel**Enrollment Cap:** 20 students

This course will provide an introduction to programming, data processing, and data analytics using Python for highly motivated students with little or no prior experience in programming. The course will focus on learning the Python programming language in the context of working with data, planning and organizing programs, commonly-used algorithms, data management, data cleaning, and basic data mining.

**PHARM 5839 Comprehensive Diabetes Management****CLASS NUMBER: 27018****Credits: 2****Coordinator:** Dr. Donihi**Enrollment Cap:** None

This internet-based course provides students with a multidisciplinary foundation in the principles of diabetes management. Students will develop their knowledge and ability to assess, manage, educate, and monitor patients with diabetes. Pathophysiology, monitoring, complications, and treatment including pharmacotherapy, medical nutrition therapy, and exercise therapy will be explored. **Restrictions: Co-enrollment in third professional year pharmacy school courses and in good academic standing.**

**PHARM 5840 Palliative Care Pharmacotherapy****CLASS NUMBERS: 28200 (2cr.) / 28201 (3 cr.)****Credits: 2 (lecture only), 3 (clinical)****Coordinator: Dr. Lowry****Enrollment Cap: 35, (4) students**

This semester long elective course is designed to provide the student with a fundamental understanding of palliative and hospice care principles, the pharmacotherapeutic management of pain and non-pain symptoms occurring in patients with advanced illness, and the process of deprescribing. In addition to the lecture portion, selected students will have the opportunity to gain valuable practice-based skills to develop mastery of the pharmaceutical care process for patients with serious illness in patient-care settings. **Restrictions: Co-enrollment in third professional year pharmacy school courses and in good academic standing. Coordinator's permission is required for students interested in the clinical portion (3 credits). Enrollment preference will be given to Geriatrics & Palliative Care ARCO.**

**PHARM 5842 Pharmacy in the World of Tomorrow****CLASS NUMBER: 28447****Credits: 1****Coordinator: Dr. Grieve****Enrollment Cap: 10**

This class would be a means of educating students on what to expect in the coming years, the health impacts of climate change, and how they can be greater global citizens moving forward. The structure of the class would be split into two parts. The first half of the class would act as a kind of journal club to give the students the space and opportunity to learn about the socio-political and systemic impact of rising global temperature. The second half of the class will be focused more on discussing what can be done and how pharmacy could look in the future. Topics will range from climate apartheid, disaster preparedness, and the crumbling of infrastructure.

**PHARM 5845 Community Pharmacy Leadership and Management****CLASS NUMBER:****Credits: 1****Coordinator: Dr. S. Herbert****Enrollment Cap: 35**

This is an elective course offered to students interested in management and leadership in community pharmacy practice. This course will provide the foundation to manage the responsibilities of pharmacy managers and pharmacy business owners and leaders, with a focus on application of concepts in community pharmacy practice. Content covered will include leadership principles and management concepts such as community pharmacy financials, pharmacy workflow optimization, management and billing for clinical services, and technology in community pharmacy. Throughout this course, students will be challenged to become active self-directed learners, recognizing their personal educational needs, selecting appropriate learning resources, and evaluating their own progress. This course will incorporate a series of guest content experts to complement contributing faculty expertise. The purpose of this course is to provide students with foundational knowledge for entry into leadership and management roles in community pharmacy practice.

## Independent/Directed Study Options:

### **PHARM 1097 Mentored Research**

**CLASS NUMBER: 30252**

**Time:** As arranged with faculty

The course provides undergraduates and PharmD students the opportunity to participate in systematic, hypothesis-driven research bridging bench to bedside in pharmaceutical or pharmacy-focused research. Students are guided through the research process under direct mentorship from an expert in development of problem-solving and other skills in research. **Coordinator's permission is required.**

**Credits:** 1-3

**Coordinator:** Dr. K. Empey

**Enrollment Cap:** 20

### **PHARM 5843 Internship for Advancing Practice**

**CLASS NUMBER: 28502**

**Time:** As arranged with faculty

Students enrolled in this course will have the opportunity to reflect on the relationship of their outside-the-classroom pharmacy-related internship with their development of Pitt Pharmacy curricular outcomes and on their pursuit of a career in pharmacy. **Coordinator's permission is required.**

**Credits:** 0.5

**Coordinator:** Dr. Jonkman

**Enrollment Cap:** 3

### **PHARM 5851 – 5858 Special Topics 1 – 8**

**CLASS NUMBER:** TBD

**Time:** As arranged with faculty

Student has the opportunity to explore a pharmaceutical research or pharmaceutical care topic on an individual or small group basis with the oversight of a faculty member. Generally, the successful completion of a project is required. **Student must apply using the Special Topics Learning Agreement. More information can be found in the PharmD Handbook under Special Topics -**

<http://pages.pharmacy.pitt.edu/pharmdhandbook/special-topics-courses/>.

**Credits:** 1 - 3

**Coordinator:** Dr. Rebitch

**Enrollment Cap:** Varies