In addition to the electives that are offered in Spring 2025, the following table displays the didactic electives anticipated to be offered in Fall 2025 semester. The specific day and time for these electives will be announced at a later date.

PHAR <sup>a</sup>	Course Name	Course Coordinator(s)
451	Introduction to Careers in Pharmacy Academia b	Dr. Sheaffer
452	Independent Pharmacy Business Plan Development	Dr. Brown
455	Drug Discovery and Development b	Drs. Gorman & Luthin
456	History of Pharmacy b	Dr. Wensel
458	Topics in Pharmaceutical Sciences Research <sup>b</sup>	Dr. Jumbo
464	Leadership in Pharmacy Practice <sup>b</sup>	Dr. Crouch
482	Toxicology	Drs. Benner & Pescatore
483	Pediatric Pharmacotherapy	Drs. Benner & Worthington
484	Infectious Diseases	Dr. Kyle
486	Advanced Pharmacoeconomics	Dr. Adunlin
487	Journal Club	Dr. Kendrach
475	Research-I b	Drs. Wang, Gorman, et al
476	Research-II b	Drs. Wang, Gorman, et al
477	Research-III	Drs. Wand, Gorman, et al

a = Each elective has a minimum number of students that need to be enrolled for the elective to be scheduled.

# **DIDACTIC ELECTIVE COURSE DESCRIPTIONS**

PHAR 451 Introd52 03 Tm[PH)-5(A)4(R 45)-4(1)-2()]TJET@td52 05AR 451

b = P2s also may be enrolled in this elective

### PHAR 455 Drug Discovery and Development

This elective course is designed to provide pharmacy students with more in-depth training and understanding of the process of drug discovery and development and about careers in the pharmaceutical industry. The course is designed to help to develop professional communication skills and to improve analysis and practice of verbal, non-verbal, and written communication strategies that promote effective interpersonal dialog and understanding.

# PHAR 456 History of Pharmacy

current day. Particular insight will be given to exploring not only traditional Western practice, but Native American practices and Eastern practices such as Ayurveda, Traditional Chinese Medicine, and Shamanism. Additionally, the impact of changing regulations, education requirements, and the development of the pharmaceutical industry will be considered.

### PHAR 457 Managed Care Pharmacy

This elective explores the fundamental knowledge and skills needed in the delivery of pharmaceutical care in a managed health care environment, primarily serving ambulatory patients. Emphasis on drug benefit management from a fiscal and clinical perspective.

### PHAR 458 Topics in Pharmaceutical Sciences Research

This elective will introduce students to the research methodology in various fields of pharmaceutical sciences and pharmacy practice including biochemistry, immunology, medicinal chemistry, drug repurposing, pharmaceutics, and clinical pharmacology. The course includes both class sessions and hands-on research activities and is strongly recommended for students considering taking a Pharmacy Research elective or an Advanced Pharmacy Practice Experience (APPE) in pharmaceutical sciences research with a member of the PSAS department.

#### PHAR 462 Health-Systems Pharmacy Practice

This elective course is an introductory elective that offers the students the opportunity to learn more about specific health-system pharmacy practices that ensure patient safety and involve interprofessional care services. Through lectures, individual assignments and discussion, students will be introduced to the variety of practices a pharmacist can have in a health-system, discussing processes for identification and prevention of medication errors, patient profile systems, and prescription processing technology.

### PHAR 463 Complementary and Alternative Medicine

This elective course is designed to provide pharmacy students with more specific education regarding efficacy and safety of herbal/natural products and other practices of complementary and alternative medicine. Topics in this course include products and complementary therapies commonly utilized by the general population with frequent inquiries to the practicing pharmacist.

#### PHAR 464 Leadership in Pharmacy Practice

This didactic elective course is designed to focus on, further develop, and enhance leadership skills needed for the pharmacy profession. Even though a pharmacist may not have a leadership title, all pharmacists need leadership skills and apply these to their daily responsibilities (e.g., lead technicians, students, and co-workers).

# PHAR 475 - Research Elective I

This elective is the first of three research electives in a series, which are designed to provide the student with directed research experience on a specific topic in pharmaceutical sciences. These topics are generally focused on characterization and evaluation of new or existing therapeutic agents. The student will gain basic understanding on how to initiate,

#### PHAR 484 Infectious Diseases

This elective course focuses on commonly encountered infectious diseases in both the inpatient and outpatient settings and is intended to provide students an opportunity to expand their knowledge of infectious diseases. This course includes information on antimicrobials, medical microbiology, and pharmacotherapy of commonly encountered infections. Small

the student to defend an antimicrobial selection. Emphasis will be placed on developing critical thinking skills and professional communication skills which can be applied to pharmacy practice in both institutional and community settings.

#### PHAR 486 Advanced Pharmacoeconomics

This elective course will take a practical approach and put pharmacoeconomic principles, methods, and theories into practice to quantify the value of pharmacy products and pharmaceutical care services used in real-world environments. Course participants will apply key modeling concepts using Microsoft Excel. This will include conceptualizing and structuring a pharmacoeconomics model, adding inputs, running analyses, and interpreting results. Hands-on modeling techniques will include decision trees, Markov models, cost-effectiveness analysis, cost-utility analysis, cost-minimization analysis, cost-benefit analysis, and sensitivity analysis.

#### PHAR 487 Journal Club

This elective course is designed for students to further enhance their skill at evaluating and critiquing randomized, controlled clinical trials. Selected trials (i.e., landmark and current) will be thoroughly assessed to identify strengths and limitations plus determine appropriate application into practice. The students also will present a journal club during this course to enhance their presentation and literature analysis skills.