

Master List of Professional Electives

Course Number	Course Title	Description	Credit Hours
PHTH7044	Advanced Cardiac Life Support – Pharmacy Emphasis (P3 only)	This course is designed to teach the important concepts related to advanced cardiac life support. The course follows the AHA guidelines for ACLS including hands on evaluation and the “Putting It All Together” final assessment. Successful completion of written and performance assessments will result in AHA ACLS certification. This course is graded on a pass/fail basis.	2
PHRX7064	Advanced Topics in Ambulatory Care Pharmacy (Block 2nd 7 weeks)	This course will provide the student with an overview of practice models within ambulatory care pharmacy, including topics on starting new services, writing policies and collaborative practice agreements, and billing for services. In addition to lectures, various activities will allow hands-on experience, preparing the student for advanced pharmacy practice experiences in ambulatory care. Note: This class only meets for the last 7 class periods of the semester.	1
PHRX7041C	Advanced Topics in Contemporary Compounding	This course will provide the student with an overview of advanced pharmaceutical compounding techniques. Topics will include preparation of various dosage forms, equipment and supplies utilized in compounding, quality assurance and recordkeeping. In addition to lectures, various laboratory-based activities will allow for hands-on experience. Note: This class only meets for the first 7 class periods of the semester.	1
PHRX7061	Advocacy & Professionalism in Pharmacy Practice	This course is intended to introduce student pharmacists to aspects of leadership and communication for the purpose of advancing advocacy and professionalism in pharmacy.	1
PHTH8048	Antithrombotic Therapy Management (P3 only)	Provides students with a foundation in the principles of thrombosis, thrombotic diseases, and antithrombotic therapy management.	2
PHRX 9041	Clinical Pharmacy Project I (P4 only)	A problem-based, clinically-related project that requires integration and application of the didactic coursework and experiential training in order to generate a rational solution to a well-defined question using established scientific methodologies.	2
PHRX 9042	Clinical Pharmacy Project II (P4 only)	A problem-based, clinical-related project that requires integration and application of the didactic coursework and experiential training in order to generate a rational solution to a well-defined question using established scientific methodologies.	2

PHTH7042 (15FS.F)	Comprehensive Tobacco Dependence Treatment	This intensive two-day course provides the student with the skills needed to effectively treat tobacco dependence. The student will develop his/her knowledge and skills to assess, manage, monitor and counsel patients on tobacco treatment. Material will be presented via lectures, case presentations, discussions and out-of-class activities.	1
PHTH 9049	Critical Care Therapeutics (P3 only)	The pathophysiology, pharmacology, and decision making processes for the treatment of patients who are critically ill.	2
PHTH7040 (15FS.F)	Dental Problems and the Pharmacist	An overview of dental health and its relationship with pharmacy	1
PHDD8040	Development and Manufacturing of Drug Products and Medical Devices	This course is designed to provide an understanding of the studies conducted in support of the development of drug product (formulation/dosage form) and medical devices necessary to seek regulatory approval. An emphasis will be placed on pre-formulation/formulation studies for optimizing lead compounds during early stages of drug development, current good manufacturing practices (cGMP) and FDA/ICH guidelines for formulation components, processes and equipment, stability testing programs and overall quality assurance. Special aspects of formulation of biologicals and medical devices will also be discussed.	3
PHDD 8020	Discovery of Drugs and Therapeutic Biologicals	This course is an introduction to the discovery and early development (ie, prior to pre-clinical) of small molecule therapeutics and biopharmaceuticals such as proteins, peptides, vaccines, cell and gene therapies, and nucleotide based products. Introductions to the major classes and categories of drugs and biological will be provided including some principles of pharmacology such as drug targets/receptors and drug-receptor interactions. Methods and principles of drug/biologics discovery will be addressed from serendipitous observation to current approaches such as HTS, computational, combinatorial chemistry, and bioinformatics. Comparison of manufacturing methodology of drugs and biologics will be provided along with special clinical and regulatory considerations for biologic products. Additionally, emphasis will be given to major therapeutic areas (oncology, CNS, cardiovascular, Infectious Diseases/AIDS) in terms of approaches currently in use and in development along with addressing the unmet needs in each area.	3

PHTH 8090	Evaluation and Selection of Cardiovascular Agents	This elective is a self -study course that involves writing a 10-page (approximately) paper that either evaluates the role of a new cardiovascular drug in therapy. The topic should be focused and go beyond the material offered in the prerequisite.	2
PHCS 7042	Financial Realities	An informative course that provides students with the knowledge, skills, and tools that are needed to prepare them for lifelong learning and personal financial planning.	1
PHDD 8010	Global Regulatory and Development Strategies of Drugs and Medical Devices	This course provides graduate students with an overview on legal and regulatory aspects relevant to drug and medical device development. This includes intellectual properties protection, global legal and regulatory requirements, protection of human subjects, ethics in clinical research, and essential elements of management of global projects. Case studies will be included to underline how regulatory strategies impact product marketing and life cycle management. Throughout the course, students will integrate knowledge using specific industry examples with the goal to identify critical decision points in the development that impact success of a new drug/medical device on the market.	3
PHRX 7060	History of Pharmacy	This course introduces the student pharmacist to the history of the profession and the University of Cincinnati College of Pharmacy. The course focuses on the historical development of pharmacy in the United States, Ohio, and Cincinnati through an examination of the growth and professionalization of the discipline, its commercial and industrial growth, institutional settings, its statutory regulation, and product development.	1
PHRX 8045	Interprofessional Collaboration in Healthcare	Interprofessional elective using a hybrid model. Students from pharmacy, nursing, pharmacy, and allied health will meet for 4 interactive class sessions during the semester. Participants will engage in one experiential activity in the community. All other activities, assignments, and discussions will be completed on-line.	2
PHRX 7045 (15FS.F)	Medical Ethics & Movies	An interactive and engaging elective used to examine, discuss and reflect on medical ethical issues using the perspective portrayed in popular movies and to encourage diversity of viewpoints on these medical ethical issues Note: This class only meets for the first 7 class periods of the semester.	1
PADM 7010	Medication Use System Analyses and Improvement	Medication use system analysis, system improvement, pharmacy automation, quality assurance, utilization of pharmacy staff, facility design, and lean process.	3
PHRX 7063	Pharmacy in World War II	In 1998 Tom Brokaw described the generation during World War II as America's greatest generation. It grew up during the depression and went on to fight and win a global war. Pharmacy was an integral part of the times. Pharmacists on the home front were as engaged in the global struggle as were their counterparts in the military. The course offered during the spring semester, Pharmacy in World War II will first provide the back story beginning with the Revolutionary War, through the Civil War and then	1

		focusing on the 1940s. The stories of pharmacy on the home front include rationing, war drives, production, and changes in education. The military stories will include the battle for governmental recognition of pharmacy as a profession, pharmacy in many settings including combat, and pharmacists who went in harm's way. The stories of the Cincinnati College of Pharmacy and its alumni will provide local insights into the global picture. At the conclusion of the course the student will have an appreciation of pharmacy's "greatest generation."	
PHCS 7049	Pharmacy Informatics	Contributes to the students' understanding of the importance of and ability to collect, organize, store, retrieve and analyze information about patients, medications, disease states and the medication use process. The course will help the student understand how knowledge is created from this information for healthcare providers, the patient, insurers and others involved in improving healthcare and medication use.	2
PHRX 7048	Pharmacy Practice for Geriatric Patients	Overview of geriatric and long term patient care. Highlights pharmacist's role, major responsibilities and opportunities available.	2
PHDD 8050	Phase I/II Clinical Trials Research and Design	This course will provide an understanding of the early clinical drug development activities for new chemical entities that have received IND approval. Concepts of early clinical pharmacology studies, typically conducted in a Phase I setting, such as single and multiple dose pharmacokinetics, dose escalation studies to determine the safety and tolerability of drugs, mass balance and drug metabolism studies, and bioavailability studies, will be taught. Emphasis will then be placed on Phase II clinical trials as key proof-of-concept studies, and on the dose-ranging requirements for Phase II. Trial designs, including cross-over and parallel group, will be discussed. The importance of Phase I/II trials for making dose selections for Phase III studies will be explored, as will the use of Phase II trials as a go/no-go decision point. The importance of exposure-response (PK/PD) information in guiding the go/no-go decision will also be discussed. The use of biomarkers and pharmacogenomic information in decision making will be addressed.	3
PHDD 8030	Pre-Clinical/Non-Clinical Studies for IND approval	The course is designed to teach students regulatory framework for the pre-clinical evaluation of the safety and efficacy of a molecular entity/lead compound identified in the drug discovery/early development phases for submission of the IND application. Major emphasis will be placed on the principles of pharmacokinetics/toxicokinetics and ADME processes (Absorption, Distribution, Metabolism and Excretion) so that safe (and efficacious) dosing regimens can be recommended for the early clinical development phases. Differences between conventional (small molecules) vs. macromolecules and biologicals will be underscored.	3

PHID 7001	Research in Pharmaceutical Sciences	This represents an independent study with a faculty member performing research in their lab or in outcomes research with databases. You MUST have made contact with a faculty member who is interested in mentoring you with research BEFORE registering for the course.	Variable
PHRX 9043	Residency Preparation Seminar (P3 only)	This course is intended to actively improve skills necessary for students to be competitive for admission into residency programming with emphasis on interviewing, professional communication, critical thinking and familiarity with the residency application process.	1
PHDD 8060	Statistical Principles in Clinical Research	The course is designed to teach the statistical principles involved in designing clinical research studies to support new drug development programs. Statistical analysis techniques commonly used will be discussed as well as the newer approaches being considered. Statistical topics addressed in regulatory guidelines will be discussed. Emphasis will be placed on the use of statistical software such as JMP. Hands on exercises using the latest version of JMP will be conducted in various classes.	3
PHTH 9043	Substances of Abuse and Addictive Disorders	This is an introductory course that examines the disease of addiction, including its diagnosis, treatment, as well as factors that contribute to the disease. In addition, the pharmacology of various drugs of abuse will be examined, with particular emphasis on their mechanism(s) of action.	1
PHRX 7096 (15FS.F)	Teaching and Learning in Pharmacy Education (P3 only)	This course will provide the student with an overview of the academic profession of pharmacy as a career. Topics will include preparation and training for a career in pharmacy education, roles and responsibilities of faculty members, and accreditation standards and process. In addition to lectures, journal club discussions and a curricular review project will be assessed. Note: This class will meet every other week for 7 total sessions.	1
PHRX 7095 001	Veterinary Pharmacy	This 1-credit elective course is designed to familiarize students with the basics of veterinary pharmacology, focusing on information needed to dispense and compound veterinary prescriptions in a community pharmacy setting.	1