PHM(PH)-PHARMACEUTICS

PHA 6116 In Vivo and In Vitro Stability of Drugs 3 Credits
Grading Scheme: Letter Grade
Effects of various disease states, age, genetic differences, stress, nutrition, and drug interactions on drug metabolism. Offered fall term in even-numbered years.

PHA 6125 Pharmacokinetics and Biopharmaceutics 3 Credits
Grading Scheme: Letter Grade
Compartmental analysis with computers. Offered spring term in even-numbered years.

PHA 6131 Pharmacometrics and Systems Pharmacology 3 Credits
Grading Scheme: Letter Grade
An advanced pharmacokinetic/pharmacodynamic (PK/PD) course with a two-fold objective: 1) to provide a didactic framework of the Pharmacometrics and Systems Pharmacology approaches used in drug development and regulatory decision making and 2) to apply the acquired knowledge in hands-on software applications to answer clinically relevant questions.

PHA 6133 Translational Clinical Pharmacology 3 Credits
Grading Scheme: Letter Grade
Provides Pharm.D. and Ph.D. students with an in-depth understanding of experimental, basic and advanced modeling simulation methodologies and their application to optimize patient dosing and rationally develop drugs.
Prerequisite: completion of an intro course on pharmacokinetic or pharmacodynamic principles such as PHA5132 (or equivalent). Documentation of course content (incl. contact hours) should be provided. The final decision will be made by the course director.

PHA 6170C Pharmaceutical Product Formulation 3 Credits
Grading Scheme: Letter Grade
Rationale and design of pharmaceutical dosage forms. Offered fall term in odd-numbered years.

PHA 6183 Pharmaceutical Gene Delivery 3 Credits
Grading Scheme: Letter Grade
Designed for graduate students researching gene delivery. Lectures on vector design and construction including review of related molecular biology and cell biology. Lectures on gene delivery systems (both viral and nonviral vectors) and their applications. Recent progress of gene therapy for human diseases including student presentations. Offered in odd-numbered years.

PHA 6185 Pharmaceutical Drug Development 3 Credits
Grading Scheme: Letter Grade
Drug development from discovery to post-market surveillance. Good manufacturing process (GMP), good clinical practice (GCP), and good laboratory practice (GLP); intellectual property, regulatory agencies, generic approvals, and case studies.
Prerequisite: consent of instructor. Open to graduate students and advanced Pharm.D. students.

PHA 6416 Pharmaceutical Analysis I 3 Credits
Grading Scheme: Letter Grade
Theory and applications of relevant analytical techniques for analysis of drugs in biological samples. Offered spring term in odd-numbered years.

PHA 6418 Applied Translational Systems Pharmacology 3 Credits
Grading Scheme: Letter Grade
Prepares students to become experts in systems-level modeling of various diseases and therapeutics. Trainees will learn the effect of drugs on major physiological-systems and how these effects can be beneficial or detrimental. Various computational tools are introduced. Problem-based-learning exercises will enable trainees to design experiments and interpret data quantitatively.
Prerequisite: The ideal prerequisite would be completion of an introductory course in basic pharmacology and or pharmacokinetics and pharmacodynamics. Equivalent courses are acceptable. Courses such as PHA5132 and PHA6125 are recommended but not required.

PHA 6449 Pharmacogenomics 3 Credits
Grading Scheme: Letter Grade
Contemporary experimental approaches in pharmacogenomics research design.
Prerequisite: biochemistry, PHA 6425, or consent of instructor.

PHA 6476 Advanced Combinatorial Chemistry in Drug Discovery 3 Credits
Grading Scheme: Letter Grade
Designed to introduce students combinatorial chemical synthesis to fully understand the functions and mechanism of action of biopolymers for medical purpose.
Prerequisite: Students are expected to have previous knowledge on general chemistry and organic synthesis.

PHA 6630 Medication Therapy Management: A Hematologic Focus 3 Credits
Grading Scheme: Letter Grade
Introducing the student to principles of medication therapy management in patients with hematologic disorders.
Prerequisite: The student must have successfully completed Foundations of MTM I (PHA 6631) and Foundations of MTM II (PHA 6632).

PHA 6631 Foundations of Medication Therapy Management I 3 Credits
Grading Scheme: Letter Grade
Core elements of medication therapy management (MTM), physical assessment skills, communication techniques, and methods of literature evaluation needed for successful provision of MTM services.
Prerequisite: All students have a prior pharmacy degree.

PHA 6632 Foundations of Medication Therapy Management II 3 Credits
Grading Scheme: Letter Grade
Business elements of medication therapy management (MTM), MTM practice models, documentation systems, business plan development, and basic financial principles needed for the successful provision of MTM.
Prerequisite: All students have a prior pharmacy degree.

PHA 6633 Medication Therapy Management: A Cardiovascular Focus 3 Credits
Grading Scheme: Letter Grade
Principles of medication therapy management in patients with cardiovascular disorders.
Prerequisite: PHA 6631 and PHA 6632

PHA 6634 Medication Therapy Management: An Endocrine Focus 3 Credits
Grading Scheme: Letter Grade
Principles of medication therapy management in patients with endocrine disorders.
Prerequisite: PHA 6631 and PHA 6632
PHM(PH)-Pharmaceutics

PHM 6635 Medication Therapy Management: A Renal Focus 3 Credits
Grading Scheme: Letter Grade
Principles of medication therapy management in patients with renal disorders.
Prerequisite: PHA 6631 and PHA 6632

PHM 6636 Medication Therapy Management: A Gastrointestinal Focus 3 Credits
Grading Scheme: Letter Grade
Principles of medication therapy management in patients with gastrointestinal disorders.
Prerequisite: Foundations of MTM I and Foundations of MTM II

PHM 6637 Medication Therapy Management: A Psychiatric Focus 3 Credits
Grading Scheme: Letter Grade
Introducing the student to principles of medication therapy management in patients with psychiatric disorders.
Prerequisite: The student must have successfully completed Foundations of MTM I (PHA 6631) and Foundations of MTM II (PHA 6632)

PHM 6638 Medication Therapy Management: A Neurologic Focus 3 Credits
Grading Scheme: Letter Grade
Introducing the student to principles of medication therapy management in patients with neurologic disorders.
Prerequisite: The student must have successfully completed Foundations of MTM I (PHA 6631) and Foundations of MTM II (PHA 6632)

PHM 6639 Medication Therapy Management: A Respiratory Focus 3 Credits
Grading Scheme: Letter Grade
Introducing the student to principles of medication therapy management in patients with respiratory disorders.
Prerequisite: The student must have successfully completed Foundations of MTM I (PHA 6631) and Foundations of MTM II (PHA 6632)

PHM 6894 Introduction to Graduate Studies 1 Credit
Grading Scheme: Letter Grade
Time management, intellectual property, research notebooks, laboratory leadership, grantsmanship, preparing presentations, publishing and professionalism.
Prerequisite: Consent of instructor.

PHM 6896 Preclinical Drug Evaluation 2 Credits
Grading Scheme: Letter Grade
Introduction to the study of preclinical methods used in the screening of important categories of clinically useful drugs, including direction on writing effective animal protocols for research.
Prerequisite: General Biology (Diversity of Life), Microbiology, General Chemistry, Organic Chemistry Biochemistry, and Physiology, Pharmacology.

PHM 6910 Supervised Research 1-5 Credits, Max 5 Credits
Grading Scheme: S/U
Supervised Research

PHM 6935 Advanced Topics in Pharmaceutical Sciences 1-2 Credits, Max 4 Credits
Grading Scheme: Letter Grade
Written and oral presentation of research designs, protocols, papers, and critical appraisals with discussion and critical review of such topics.

PHM 6936 Research Seminar 1 Credit, Max 3 Credits
Grading Scheme: Letter Grade
Seminar required of graduate students in the College of Pharmacy.

PHM 6940 Supervised Teaching 1-5 Credits, Max 5 Credits
Grading Scheme: S/U
Supervised Teaching

PHM 6971 Research for Master’s Thesis 1-15 Credits
Grading Scheme: S/U
Research for Master’s Thesis

PHM 7979 Advanced Research 1-12 Credits
Grading Scheme: S/U
Research for doctoral students before admission to candidacy. Designed for students with a master’s degree in the field of study or for students who have been accepted for a doctoral program. Not appropriate for students who have been admitted to candidacy.

PHM 7980 Research for Doctoral Dissertation 1-15 Credits
Grading Scheme: S/U
Research for Doctoral Dissertation