Pharmacal Sciences - PYPS

Courses

PYPS 5800 SURVEY OF MULTI-MODALITY MOLECULAR IMAGING (2) LEC. 2. Departmental approval. State-of-the-art survey of molecular imaging techniques that are available and their use to monitor the progression of various human diseases.

PYPS 6800 SURVEY OF MULTI-MODALITY MOLECULAR IMAGING (2) LEC. 2. Departmental approval. State-of-the-art survey of molecular imaging techniques that are available and their use to monitor the progression of various human diseases.

PYPS 7000 INTRODUCTION TO GRANT WRITING (2) LEC. 2. Departmental approval. Course will train students to prepare NIH RO1 grant applications. Students will prepare mock applications on topics of their choosing.

PYPS 7010 PHARMACOKINETICS (4) LEC. 4. Departmental approval. Pharmacokinetic and pharmacodynamic principles and methods used to study the absorption, distribution, metabolism and excretion of drugs.

PYPS 7020 SCIENCE AND TECHNOLOGY OF TABLETING (2) LEC. 2. Pr. PYPS 7030 or departmental approval. Formulation, compression, coating and evaluation of tablets.

PYPS 7021 SCIENCE AND TECHNOLOGY OF TABLETING (2) LAB. 6. Pr. PYPS 7020. Actual formulation, compression, coating and evaluation of tablets.

PYPS 7030 DRUG PRODUCTS AND BIOPHARMACEUTICS (4) LEC. 4. Departmental approval. Formulation, evaluation, and use of various pharmaceutical dosage forms including biopharmaceutical aspects.

PYPS 7040 PHYSICAL PHARMACY (4) LEC. 4. Departmental approval. Application of physical chemical principles to dosage form design and evaluation.

PYPS 7050 NOVEL DOSAGE FORMS (3) LEC. 3. Pr. PYPS 7030 or departmental approval. Theoretical basis and design of controlled release and site specific drug delivery systems.

PYPS 7060 FORMULATION AND DELIVERY OF PEPTIDE/PROTEIN DRUGS (3) LEC. 3. Pr. PYPS 7030 or departmental approval. Formulation and delivery problems unique to peptide/protein pharmaceuticals and strategies to overcome such problems.


PYPS 7080 ADVANCED BIOPHARMACEUTICS (3) LEC. 3. Pr. PYPS 7010. The mathematical and pharmacokinetic relationships between physical and chemical properties of a drug and its dosage form and biological effects.

PYPS 7110 STABILITY KINETICS OF PHARMACEUTICALS (3) LEC. 3. Pr. PYPS 7030 or departmental approval. Principles of chemical kinetics as applied to the unique stability problems of the various pharmaceutical dosage forms.

PYPS 7230 ADVANCED MEDICINAL CHEMISTRY I (3) LEC. 3. Departmental approval. Explanation of the principles of Medicinal Chemistry progressing to qualitative and quantitative descriptions of the synthesis, influence of physical and chemical properties of chemical substances on biological activity and biodisposition.

PYPS 7240 ADVANCED MEDICINAL CHEMISTRY II (3) LEC. 3. Pr. PYPS 7230. Departmental approval. Advanced study of organic medicinal agents featuring organic synthesis, chemical and pharmacological properties and current literature topics.

PYPS 7250 DRUG ACTION AND DESIGN (3) LEC. 3. Pr. PYPS 7230 and PYPS 7240. Modern molecular modeling methods with emphasis on computer-aided drug design, quantitative structure activity relationships and combinatorial chemistry.

PYPS 7260 SEPARATION SCIENCE (4) LEC. 4. Departmental approval. A survey of modern separation science with emphasis on analytical scale techniques including as chromatography, liquid chromatography and electrokinetic separations.

PYPS 7270 MASS SPECTROMETRY OF ORGANIC COMPOUNDS (4) LEC. 4. Departmental approval. A survey of modern techniques in as spectrometry with emphasis on fragmentation chemistry and structure education.
PYPS 7290 NEUROPHARMACOLOGY OF DRUG ABUSE (2) LEC. 2. Departmental approval. An in-depth study of drugs of abuse, including mechanisms of action, pharmacokinetics, addiction, physical dependence and the effects of drug use during pregnancy. Substance abuse treatment strategies will also be discussed.

PYPS 7300 NEUROPHARMACOLOGY (3) LEC. 3. Pr. PYPS 6310. Neurochemical mechanisms related to the pharmacological actions of medicinal agents affecting the central nervous system.

PYPS 7310 PSYCHOPHARMACOLOGY 1 (3) LEC. 3. Discussions on anxiety, depression and related disorders.

PYPS 7320 PSYCHOPHARMACOLOGY II (3) LEC. 3. Discussions on schizophrenia, Alzheimer’s disease, experimental methods and animal models of disorders.

PYPS 7330 PHARMACOLOGY RESEARCH METHODS (3) LEC. 1. LAB. 9. Experimental design, research methods and data analysis in pharmacology.

PYPS 7340 ORGAN SYSTEMS PHARMACOLOGY I (3) LEC. 3. The course will evaluate the basic principles and rationale for current and novel pharmacological therapeutics for various disease states.

PYPS 7350 ORGAN SYSTEMS PHARMACOLOGY II (3) LEC. 3. The course will evaluate the mechanism of action and rationale for current and novel pharmacological therapeutics for various disease states.

PYPS 7360 CELLULAR & MOLECULAR PHARMACOLOGY & TOXICOLOGY I (3) LEC. 3. Cellular biology course integrated with pharmaceutical sciences for the study of pharmacologically related mechanisms at the molecular and cellular levels.

PYPS 7370 CELLULAR & MOLECULAR PHARMACOLOGY & TOXICOLOGY II (3) LEC. 3. Pr. PYPS 7360. Cellular biology course integrated with pharmaceutical sciences for the study of pharmacologically related mechanisms at the molecular and cellular levels. This is a continuation of PYPS 7360.

PYPS 7500 METABOLISM AND DISPOSITION XENOBIOTICS (2) LEC. 2. Portals of entry, absorption, distribution and elimination of drugs and xenobiotics. Metabolic mechanisms relevant to chemical structure and principles of pharmacokinetics will be emphasized.

PYPS 7510 ENVIRONMENTAL TOXICOLOGY (3) LEC. 3. Mechanisms of action of agricultural and industrial chemicals, drugs, radiation, metals, gases, air particulates, food additives, plant and food poisons in the environment.

PYPS 7600 HETEROCYCLIC MEDICINAL CHEMISTRY (3) LEC. 3. Pr. CHEM 7220. Departmental approval. A survey of chemical nature of heterocyclic moieties of medicinal substances with emphasis on methods of synthesis of medicinally important compounds containing a heterocyclic ring.

PYPS 7930 DIRECTED STUDIES IN PHARMACAL SCIENCES (1-3) LEC. Departmental approval. Selected laboratory research topics in the pharmaceutical sciences. Course may be repeated for a maximum of 6 credit hours.

PYPS 7950 SEMINAR (1) SEM. 1. SU. 1 CR; may be repeated multiple times for credit. Course may be repeated for a maximum of 6 credit hours.

PYPS 7960 SPECIAL PROBLEMS IN PHARMACAL SCIENCES (1-3) IND. Pr. At least 6 credits each with a minimum grade of B in PYPS 7000-7999 Selected study topics in the pharmaceutical sciences. Departmental approval and 6 hours of 7000-level courses. Course may be repeated for a maximum of 6 credit hours.

PYPS 7990 RESEARCH AND THESIS (1-10) MST. Research for Masters students. Course may be repeated with change in topics.

PYPS 8930 DIRECTED STUDIES IN PHARMACAL SCIENCES (1-3) LEC. Departmental approval. Selected laboratory research topics in the pharmaceutical sciences. Course may be repeated for a maximum of 6 credit hours.

PYPS 8950 SEMINAR (1) SEM. 1. SU. 1 CR; may be repeated multiple times for credit. Course may be repeated for a maximum of 10 credit hours.

PYPS 8960 DIRECTED READINGS IN PHARMACAL SCIENCES (1-3) IND. Pr. At least 6 credits each with a minimum grade of B in PYPS 7000-7999 Selected study topics in the pharmaceutical sciences. 09 PYSC standing or departmental approval and 6 hours of 7000-level courses. Course may be repeated for a maximum of 6 credit hours.

PYPS 8990 RESEARCH AND DISSERTATION (1-10) DSR. Research for doctoral students. Course may be repeated with change in topics.