

Medical Pharmacology (PHARM)

Courses

PHARM 270. Applied Pharmacology . 2 Units.

Introduction to pharmacological techniques and current research problems; includes laboratory demonstrations and research seminars.

Restriction: Pharmacology Majors only.

PHARM 271. Principles of Pharmacology . 3 Units.

Principles of pharmacology: pharmacodynamics, pharmacokinetics, pharmacogenetics, drug interactions, and toxicity.

Restriction: Pharmacology Majors only.

PHARM 272. Receptors and Drug Targets . 3 Units.

Molecular basis of drug-receptor interaction. Receptor properties including gene and protein structure, signaling mechanisms, trafficking and physiological effects: G-protein linked receptors, ligand-gated ion channels, receptor tyrosine kinases, nuclear receptors, and ligand regulated transcription factors.

Restriction: Pharmacology Majors only.

PHARM 274. Research Techniques in Pharmacology. 3 Units.

Experimental techniques and model systems used in pharmacological research. Receptor analysis, bioassay, molecular biology, in vitro pharmacology, biochemical pharmacology, imaging, electrophysiology, in vivo pharmacology, disease models.

Restriction: Pharmacology Majors only.

PHARM 276. Experimental Design and Data Analysis . 3 Units.

Experimental design, data analysis and interpretation. Population and sample statistics, hypothesis testing, analysis of variance, nonparametric statistics, and power calculations.

Restriction: Pharmacology Majors only.

PHARM 277. Ethics in Scientific Research. 1.5 Unit.

Ethical conduct in research including data handling, authorship, conflict of interest, animal rights, and handling of misconduct.

Restriction: Pharmacology Majors only.

PHARM 278. Concepts in Drug Discovery. 3 Units.

Critical steps involved in discovery and optimization of a new drug. Target selection, relationship of molecular structure to pharmacological activities, screening methods, strategies to identify lead compounds, and preclinical characterization necessary for development of the drug for clinical trials.

Restriction: Pharmacology Majors only.

PHARM 279A. Special Topics in Pharmacology I . 1.5 Unit.

Topics of current interest in pharmacology; discussion of recent research publications.

Repeatability: May be taken for credit 1 times as topics vary.

Restriction: Graduate students only. Pharmacology Majors only.

PHARM 279B. Special Topics in Pharmacology II. 3 Units.

Topics of current interest in pharmacology; discussion of recent research publications.

Repeatability: May be taken for credit 1 times as topics vary.

Restriction: Graduate students only. Pharmacology Majors only.

PHARM 280. Master's Project in Pharmacology. 4 Units.

Capstone research paper on topic of interest in pharmacology.

Restriction: Pharmacology Majors only.

PHARM 281. Neuropharmacology . 3 Units.

Autonomic and central nervous system pharmacology, including major drug classes and therapeutic uses. Mechanisms underlying chemical signaling processes in the brain and peripheral nervous system, including neurotransmitter synthesis, inactivation, and receptor action.

Restriction: Pharmacology Majors only.

PHARM 282. Behavioral Pharmacology. 3 Units.

Pharmacology of integrative function and behavior. Drug treatment of pain. Mechanisms of reward, addiction, and drugs of abuse.

Restriction: Pharmacology Majors only.

PHARM 283. Cardiovascular Pharmacology. 3 Units.

Basic understanding of drugs used in the prevention and treatment of cardiovascular disease. Mechanisms of action, clinical and adverse effects.

Restriction: Pharmacology Majors only.

PHARM 284. Endocrine, Respiratory, and Gastrointestinal Pharmacology . 3 Units.

Basic understanding of drugs used in endocrine, respiratory, and gastrointestinal conditions, including hormone replacement, contraceptives, and drugs for diabetes, asthma, obesity, ulcer, and gastric reflux. Mechanisms of drug action, clinical and adverse effects.

Restriction: Pharmacology Majors only.

PHARM 298. Seminar. 2 Units.

Presentation and discussion of current problems and methods in teaching and research in pharmacology, toxicology, and therapeutics.

Repeatability: May be repeated for credit unlimited times.

Restriction: Graduate students only.

PHARM 299. Research. 1-12 Units.

Independent research with Pharmacology and Toxicology faculty.

Repeatability: May be repeated for credit unlimited times.

Restriction: Graduate students only.