

BIOMEDICAL / PHARMACEUTICAL SCI (BMED)

BMED 545 - Research Lab Rotations PharmSci. 2-3 Credits.

(R-6) Offered autumn and spring. Experience in research methods in departmental research laboratories. Level: Graduate

BMED 581 - Research Seminar PharmSci. 1 Credit.

(R-9) Offered autumn and spring. Oral and written presentations of experimental research results and selected literature topics in biomedical science. Level: Graduate

BMED 582 - Research Seminar Neurosci.. 1 Credit.

(R-9) Offered autumn and spring. Oral and written presentations of experimental research results and selected literature topics in neuroscience. Level: Graduate

BMED 583 - Research Seminar Toxicol. 1 Credit.

(R-9) Offered autumn and spring. Oral and written presentations of experimental research results and selected literature topics in toxicology. Level: Graduate

BMED 593 - Current Research Literature. 1 Credit.

(R-6) Offered autumn and spring. Readings and discussion of current research literature. Level: Graduate

BMED 594 - Seminar. 1 Credit.

(R 6) Offered autumn and spring. Prereq., senior or graduate standing. Level: Graduate

BMED 595 - Special Topics. 1-9 Credits.

(R 9) Offered intermittently. Prereq., senior or graduate standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics. Level: Graduate

BMED 596 - Independent Study. 1-9 Credits.

(R 9) Offered every term. Level: Graduate

BMED 597 - Research (MS). 1-9 Credits.

(R 10) Offered every term. Level: Graduate

BMED 599 - Thesis (MS). 1-9 Credits.

(R 10) Offered every term. Level: Graduate

BMED 605 - Biomedical Research Ethics. 1 Credit.

Offered spring. Overview of biomedical research ethics and regulations. Topics include ethics and morality in science, scientific integrity, conflicts of interest, human and animal experimentation, intellectual property, plagiarism. Level: Graduate

BMED 609 - Biomedical Statistics. 3 Credits.

Offered autumn. Experimental design and statistical analysis relevant to the biomedical sciences. Level: Graduate

BMED 610 - Neuropharmacology. 3 Credits.

Offered alternate years. Prereq., BMED 613 or 661 or consent of instr. Focus on current areas of research and research technologies in neuropharmacology. Development of presentations and research grant proposals. Level: Graduate

BMED 613 - Pharmacology I. 4 Credits.

Offered autumn. Prereq., BIOC 380 or equiv. Fundamentals of pharmacology and drug action. Level: Graduate

BMED 614 - Pharmacology II. 4 Credits.

Offered spring. Prereq., BMED 613. Fundamentals of pharmacology and drug action. Continuation of BMED 613. Level: Graduate

BMED 615 - Molecular Pharmacology. 3 Credits.

Offered alternate years. Prereq., consent of instr. Focus on the basic theories, principles, and practical implications of receptor pharmacology to quantify drug activity. Major emphasis in pharmacodynamics with some time devoted to related pharmacokinetic parameters. Level: Graduate

BMED 620 - Cardiovas Pharm & Tox. 3 Credits.

Offered alternate years. Prereq., BMED 613 or 641, or consent of instr. Recent advances in pharmacology and toxicology of the cardiovascular system. In-depth study of regulatory mechanisms and the effect of immune response and xenobiotics on cardiovascular function. Level: Graduate

BMED 621 - Drug Design. 4 Credits.

Offered alternate years. Prereq., Organic Chemistry and Biochemistry or consent of instr. Introduction to the main concepts in medicinal chemistry. Laboratory experience in instrumental analysis, interpreting NMR, MS cleavage, and structure elucidation Level: Graduate

BMED 622 - Drug Pharmacodynamics. 4 Credits.

Offered alternate years. Organic Chemistry and Biochemistry or consent of instr. Introduction and topical coverage of how drugs form complexes with biological targets to cause an array of responses. Level: Graduate

BMED 623 - Drug Diversity. 3 Credits.

Offered alternate years. Organic Chemistry and Biochemistry or consent of instr. Topics in chemogenomics and diversity oriented synthesis will be covered. Level: Graduate

BMED 624 - Methods in Medicinal Chemistry. 3 Credits.

Offered intermittently. Prereq., Organic chemistry and biochemistry or consent of instr. Novel approaches to small molecule therapeutics for disease targeting. Level: Graduate

BMED 625 - Drug Synthesis. 3 Credits.

Offered intermittently. An introduction to the past and current synthetic approaches and total syntheses of biologically active drugs. Level: Graduate

BMED 626 - Res Meth Biochem Pharm. 1-3 Credits.

(R-6) Offered every term. Prereq., consent of instr. Laboratory course intended to familiarize students with the instruments, and expertise of current research techniques in the biomedical sciences. Level: Graduate

BMED 627 - Professional Development. 1 Credit.

Offered autumn and spring. Prereq., Organic Chemistry and Biochemistry or consent of instr. Developmental training in presentations, writing, reviewing, literature research, teaching, research methods, grant writing, ethics, and business aspects in medicinal chemistry. Level: Graduate

BMED 628 - Grantsmanship. 1 Credit.

This course is designed to provide graduate students and postdoctoral fellows with the necessary background, tools and hands on experience to be able to confidently write and submit a research grant. The focus is on preparing a fellowship application although training will be provided for more typical investigator initiated grants. The entire process from conception, preparation, review and revision will be covered. This course will be a requirement for students on training grants. No prerequisites are required. Level: Graduate

BMED 630 - Pharmacogenetics. 3 Credits.

Offered alternate years. Prereq., BIOC 380 or 481. The genetic basis of differential drug activity. Level: Graduate

BMED 632 - Advanced Pharmacokinetics. 4 Credits.

Offered Fall. Recent developments and emerging concepts in theoretical and experimental pharmacokinetics, pharmacogenomics, and drug disposition. Critical analysis of the current literature. Level: Graduate

BMED 637 - Topics in Pharmaceutical Sciences and Drug Design. 1 Credit.

(R-12) Offered autumn and spring. Current topics in the pharmaceutical sciences, including pharmacology, pharmacokinetics, medicinal chemistry, and drug design and development. Level: Graduate

BMED 641 - Toxicology I-Principles. 3 Credits.

Offered autumn. Prereq., BIOC 481 or equiv. Introduction to toxicology. Topics include general principles, risk assessment, organ system toxicology, introduction to carcinogenesis, and genetic toxicology. Level: Graduate

BMED 642 - Toxicology II-Agents. 3 Credits.

Offered spring. Prereq., BMED 641. Toxic agents and the diseases caused by those agents. Includes common toxicants in the environment and occupational settings as well as drug induced toxicity. Level: Graduate

BMED 643 - Cellular & Molecular Tox. 3 Credits.

Offered autumn. Prereq., BMED 641. Cellular and molecular mechanisms of toxicity. Includes apoptosis, regulation of cell cycle, genetic toxicology, and signal transduction pathways in toxicity. Level: Graduate

BMED 644 - Immunopharm/Immunotox. 3 Credits.

Offered alternate years. Prereq., MICB 410 or equiv. The impacts of xenobiotic agents on the immune system. Level: Graduate

BMED 645 - Respiratory Toxicology. 3 Credits.

Offered alternate years. Prereq., BMED 641. The lung and associated immune systems and their response to inhaled immunogenic and toxicological agents. Level: Graduate

BMED 646 - Neurotoxicology. 3 Credits.

Offered alternate years. Prereq., BMED 641 or 661. Mechanisms of major neurotoxins and neurological disease. Level: Graduate

BMED 647 - Topics in Toxicology. 1-3 Credits.

(R-9) Offered autumn or spring. Prereq., BMED 613, or 641, or 661. Current topics in toxicology. Level: Graduate

BMED 657 - Topics in Immunology. 1-3 Credits.

(R-9) Offered autumn or spring. Prereq., MICB 410 or equiv. Current topics in immunology. Level: Graduate

BMED 661 - Neuroscience I. 4 Credits.

Offered autumn. Prereq., BIOC 380 or equiv. Overview of the structure and function of the nervous system. Level: Graduate

BMED 662 - Neuroscience II. 4 Credits.

Offered spring. Prereq., BMED 661. Fundamentals of developmental neuroscience, behavioral and cognitive neuroscience and computational neuroscience. Level: Graduate

BMED 667 - Topics in Neurobiology. 1-3 Credits.

(R-9) Offered every year. Prereq., BMED 661. Current topics in neuroscience. Level: Graduate

BMED 668 - Neuropathology. 4 Credits.

Prereq., BMED 347 or BMED 661. This course will provide a comprehensive overview of the pathological findings in neurological disease, and their biological basis. This course will provide neuroscience graduate students with a clear description of molecular and cellular processes and reactions that are relevant to the normal and abnormal functioning of the nervous system.

BMED 694 - Seminar. 1-3 Credits.

(R 6) Offered autumn and spring. Prereq., senior or graduate standing. Level: Graduate

BMED 695 - Special Topics. 4.000 Credits.

BMED 697 - Research (PhD). 1-9 Credits.

(R-50) Offered every term. Level: Graduate

BMED 699 - Dissertation (PhD). 1-9 Credits.

(R-50) Offered every term. Level: Graduate