

BCP

Pharmacology

BCP 394-H Environmental Toxicology and Public Health

Principles of toxicology are presented and problems associated with major classes of toxic chemicals to human and environmental health are examined. Case studies dealing with current waste management issues are also discussed. This course is offered as both BCP 394 and MAR 394.

Prerequisites: BIO 201; CHE 131 or 141
3 credits

BCP 400 Writing in Pharmacology

See requirements for the major in pharmacology, upper-division writing requirement.

Prerequisites: Pharmacology major; U3 or U4 standing; permission of instructor
S/U grading

BCP 401 Principles of Pharmacology

Basic principles and mechanisms of drug distribution, absorption, metabolism, and elimination. Principles of chemical carcinogenesis and tumor promotion. Autonomic, smooth-muscle, and CNS pharmacology. Pharmacology of specific drugs of historical interest including alcohol, antibiotics, aspirin, nicotine, and morphine. Review of anticoagulants and thrombolytic agents, antiparasitics, and drugs for the treatment of allergic conditions and gout.

Prerequisites: BIO 362; CHE 322 and 327; a g.p.a. of 3.00 or higher in these courses and their prerequisites
Corequisite for pharmacology majors: BCP 403
4 credits

BCP 402 Advanced Pharmacology

Advanced concepts of drug metabolism, pharmacokinetics, biochemical, and molecular mechanisms of drug action, and drug resistance in human disease states. Toxicological agents and environmental pollutants. The pharmacology of autotoxins, anti-inflammatories, immunosuppressants, and antiasthmatics. Rational drug design and drug receptor interactions using computer molecular modeling techniques.

Prerequisites: BCP 401 and 403; minimum of B- in BCP 401
Corequisite: BCP 404
4 credits

BCP 403 Principles of Pharmacology Laboratory

The use of molecular modeling software for the understanding of structure activity relationships. In vivo studies to demonstrate the pharmacological mechanism of action of drugs acting on the autonomic, cardiovascular, and renal systems. Pharmacokinetic studies, using HPLC, to determine the rate of absorption, distribution, and excretion of therapeutic agents. Radio- and enzyme-immunoassays for the detection of circulating hormones. Cell culture techniques for drug determination and evaluation.

Prerequisite: Permission of instructor
Corequisite: BCP 401
2 credits

BCP 404 Advanced Pharmacology Laboratory

The use of molecular modeling software for the understanding of structure activity relationships. In vivo studies to demonstrate the pharmacological mechanism of action of drugs acting on the autonomic, cardiovascular, and renal systems. Pharmacokinetic studies, using HPLC, to determine the rate of absorption, distribution, and excretion of therapeutic agents. Radio- and enzyme-immunoassays for the detection of circulating hormones. Cell culture techniques for drug determination and evaluation.

Prerequisites: BCP 401 and 403; permission of instructor
Corequisite: BCP 402
2 credits

BCP 406 Pharmacology Colloquium

Seminars on research in pharmacology and toxicology presented by faculty and distinguished scientists from academic and industrial institutions. Students are expected to develop an understanding of the scientific principles presented in the colloquium. Speakers meet with the students after the seminar to discuss research concepts and to answer questions. One hour Journal Club/Discussion followed by one hour seminar. May be repeated.

Prerequisites: BIO 202 and 203; CHE 322; a g.p.a. of 3.00 in these courses and their prerequisites
2 credits

BCP 475 Undergraduate Teaching Practicum in Pharmacology

Prerequisites: Pharmacology major; U4 standing; permission of department
3 credits, S/U grading

BCP 487 Research in Pharmacology

Completion of an individual student research project under the supervision of a faculty member. Previously acquired laboratory course techniques and new procedures are utilized. Experimental results must be submitted to the department for grade evaluation in the format of a research report. Not for credit in addition to HBH 396, 398, and 399. May be repeated.

Prerequisites: BIO 202 and 203; CHE 322 and 327; a g.p.a. of 3.00 in these courses and their prerequisites; permission of instructor and department
0-6 credits

BCP 488 Internship

Research participation in off-campus laboratories, the pharmaceutical industry, and other academic and public agencies. Repeatable up to 12 credits.

Prerequisites: BIO 361; CHE 322; g.p.a. of 3.00 or higher in these courses and their prerequisites; permission of department
0-6 credits, S/U grading