

PHARMACOLOGY (PHCL)

PHCL 7600 - Frontiers in Pharmacology (1 Credit)

Course is intended to introduce students to cutting-edge pharmacology research and to the range of research opportunities available within the Pharmacology Training Program. Pharmacology Department faculty presentations will focus on cellular signaling, molecular mechanisms of drug actions, structure-based drug design.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

PHCL 7602 - Pharmacology Journal Club (1 Credit)

The overall goal of the course is to teach the students to read and discuss current literature in their field and to gain a comprehensive view of the directions that lead to high-impact research. Students will present and discuss papers.

Grading Basis: Letter Grade

Repeatable. Max Credits: 1.

Typically Offered: Fall, Spring.

PHCL 7605 - Responsible Conduct of Research (1 Credit)

The Department of Pharmacology in the University of Colorado School of Medicine organizes and offers an interactive course during the fall semester entitled "Responsible Conduct of Research". The course is designed to inform students, trainees and faculty to the NIH requirements for ethical and responsible research.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

PHCL 7606 - Receptors and Cell Signaling (3 Credits)

This elective course presents an in-depth treatment of the role of receptors and signal transduction systems in the regulation of cell functions through faculty-presented lectures and student-led discussions of current literature. Prereq: IDPT 7811, 7812, 7813, 7814, 7815.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHCL 7609 - Statistical Methods in Pharmacology (3 Credits)

Introduction to basic statistical methods utilized to analyze scientific data. The goal of course is to provide students in the biological/health sciences with the knowledge/skills necessary to analyze/interpret data which is essential for communicating scientific results. Restriction:

Restricted to Pharmacology PhD Students. Crosslisted with BIOS 6606.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

PHCL 7610 - Survey of Bioinformatics Methods (2 Credits)

What is Bioinformatics and why study it? How is large-scale molecular biology data generated, where and how can researchers gain access to it, and what computational analyses are possible? Crosslisted: CPBS 7710.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHCL 7611 - Bioinformatics I (4 Credits)

What is Bioinformatics and why study it? How is large-scale molecular biology data generated, where and how can researchers gain access to it, what computational analyses are possible and computational techniques for solving inference problems in molecular biology? Prereq: Bioinformatics PhD students or consent of instructor. Crosslisted: CPBS 7711.

Grading Basis: Letter Grade

Typically Offered: Fall.

PHCL 7612 - Bioinformatics II (4 Credits)

Inference problems and computational techniques for molecular biology, with emphasis on machine learning approaches. Use of computational induction techniques on information extraction from biomedical literature, inference of biochemical networks from high-throughput data, and prediction of protein function. Prereq: CPBS 7711. Crosslisted: CPBS 7712.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHCL 7613 - Pharmacology Journal Club (1 Credit)

The overall goal of the course is to teach the students to read and discuss current literature in their field and to gain a comprehensive view of the directions that lead to high-impact research. Students will present and discuss papers.

Grading Basis: Pass/Fail Only

Repeatable. Max Credits: 1.

Typically Offered: Fall, Spring.

PHCL 7614 - Membrane Biophysics (2 Credits)

Lectures and homework on ionic mechanisms and underlying cellular excitability, especially in the central nervous system. Descriptive mathematics, pharmacology and molecular biology will be stressed. An introductory application to real-life problems using the NEURON simulation environment will be taught. Prereq: NRSC 7600 or equivalent. Restrictions: 2nd year students with approval of instructor. Crosslisted: NRSC 7614.

Grading Basis: Letter Grade

Typically Offered: Spring.

PHCL 7615 - Grant Proposals in Pharmacology (1 Credit)

We will learn principles of good grantsmanship and hone our skills in homework assignments and discussions. Our goal is to enable a better learning experience during comps proposal writing, by gaining the tools for optimized self-assessment. Prereq: IDPT 7811, IDPT 7812, IDPT 7813, IDPT 7814, IDPT 7815.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

PHCL 7620 - Principles of Pharmacology (6 Credits)

Lectures are provided in the general areas of pharmacokinetics, receptor theory, structure-activity relationships, drug metabolism, basic pharmacological mechanisms with a particular emphasis on systems such as the nervous system and cardiovascular system, as well as cancer and microbial chemotherapy. Prereq: IDPT 7811, 7812, 7813, 7814, 7815. Restriction: Consent of Course Directors.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Spring.

PHCL 7622 - Principles of Pharmacology for MSTP Students (1 Credit)
Lectures are provided in the general areas of pharmacokinetics, receptor theory, structure-activity relationships, drug metabolism, and basic pharmacological mechanisms with a particular emphasis on systems such as the nervous system and cardiovascular system, as well as cancer and microbial chemotherapy. Prereq: IDPT 7811, 7812, 7813, 7814, 7815, PHCL 6000. Restriction: Consent of course directors.
Grading Basis: Letter Grade
Typically Offered: Spring.

PHCL 7630 - Molecular Bio Lab Tech PHCL (3 Credits)
Grading Basis: Letter Grade

PHCL 7650 - Research in Pharmacology (1-5 Credits)
Research work in pharmacology. Prereq: Consent of Instructor.
Grading Basis: Letter Grade with IP
Repeatable. Max Credits: 99.
A-GRAD Restricted to graduate students only.
Typically Offered: Fall, Spring, Summer.

PHCL 7660 - Advanced Topics in Pharmacology (1 Credit)
An in-depth discussion-oriented course for advanced students focusing each term on specific topics associated with pharmacological studies including new insights about drug addiction, alcohol actions and alcoholism memory models and LTP, rational approaches to cancer chemotherapy, cardiovascular physiology. Prereq: PHCL 7600, PHCL 7606, PHCL 7609, PHCL 7620, PHCL 7650. Coreq: IDPT 7811, 7812, 7813, 7814, 7815.
Grading Basis: Letter Grade
A-GRAD Restricted to graduate students only.
Typically Offered: Fall, Spring, Summer.

PHCL 7801 - Rigor and Reproducibility in Biomedical Research (1 Credit)
Course will integrate the concepts of rigor, repeatability, and reproducibility by combining both "wet" and "dry" lab components focused on teaching these concepts and laboratory skills.
Grading Basis: Pass/Fail Only
Typically Offered: Spring.

PHCL 8990 - Doctoral Thesis (1-10 Credits)
Doctoral thesis work in pharmacology. Prereq: Consent of Instructor.
Grading Basis: Letter Grade with IP
Repeatable. Max Credits: 10.
A-GRAD Restricted to graduate students only.
Additional Information: Report as Full Time.
Typically Offered: Fall, Spring, Summer.