

Additional Courses

Below are elective classes that might be valuable additions to your core Pharmacology graduate courses. Please note that these courses are not offered every academic year.

Credits: 1.5

- CONJ 524 Structural Basis of Signal Transduction
- CONJ 533 Dynamic Chromosome (weeks 1-5)
- CONJ 534 Selected Problems in Nervous System Development
- CONJ 537 Mechanism of Transcriptional Regulation (weeks 6-10)**
- CONJ 539 Modern Approaches to Vaccines
- CONJ 541 Molecular Basis of Cellular Processes
- CONJ 542 Cell Bio Development (weeks 1-5)**
- CONJ 544 Protein Structure, Modification and Regulation
- CONJ 546 Survey of Technologies for Molecular Biology

- MOLMED 504 Topics of Molecular Medicine
- MOLMED 559 Scientific Ideas at Work
- MOLMED 583 Molecular Targets in Cancer Therapy (weeks 6-10)

Credits: 2 or more

- BIOC 530 Introduction to Structural Biology (3 credits)**
- CONJ 530 Directing Stem Cells Towards Regenerative Medicine (3 credits)
- CONJ 556 Drug Addiction: Mechanisms, Prevention and Treatment (2 credits)
- ENV H 530 Research Proposal Preparation for Biological Sciences (3 credits)

- NEURO 501 Introduction to Neurobiology: Molecular & Cellular Neurobiology (3 credits)**
- NEURO 502 Introduction to Neurobiology: Sensory & Motor Systems (5 credits)
- NEURO 503 Cognitive and Integrative Neuroscience (4 credits)
- NEURO 504 Biophysics of Nerve, Muscle and Synapse (3 credits)**

BOLD = Offered Autumn 2020

Quantitative Analysis Course Options

BIOL 519: Data Science for Biologists (Winter - 4 credits)

Explores, analyzes, and visualizes biological data sets using scientific computing software. Focuses on the foundations of data wrangling, data analysis, and statistics, particularly the development of automated techniques that are reproducible and scalable to large data sets.

CONJ 526: Introduction to Systems Biology and Quantitative Approaches to Biomedical Sciences (Winter - 1.5 credit)

Covers philosophy of systems biology, experimental design, and the linkages between discovery and hypothesis-driven science. Reviews quantitative systems biology tools for genomics, proteomics, modeling and data integration, and emerging technologies.

MCB 536: Tools for Computational Biology (Autumn - 3 credits)

Introduces computational research methods to graduate students in biomedical science and related disciplines. Provides a survey of the most common tools in the field. Students should have foundational knowledge in reproducible computational science, and can continue learning relevant tools to suit specific research interests.

NEURO 545: Quantitative Methods in Neuroscience (Winter - 3 credits)

Discusses quantitative methods applicable to the study of the nervous system. Revolves around computer exercises/discussion of journal papers. May include linear systems theory, Fourier analysis, ordinary differential equations, stochastic processes, signal detection, and information theory. Prerequisite: NEUBEH 501, NEUBEH 502, NEUBEH 503, or permission of instructor. Instructors: Rieke Offered: jointly with P BIO 545.

UCON 510: Introductory Laboratory Based Biostatistics (Summer Qtr - 2 credits)

Introduces methods of data description and statistical inference for experiments. Covers principles of design and analysis of experiments; descriptive statistics; comparison of group means and proportions; linear regression; and correlation. Emphasizes examples from laboratory-based biomedical sciences, and provides demonstrations using standard statistical programs.