

Physiology and Biophysics (PHYSIO)

Courses

PHYSIO 200. Research in Physiology and Biophysics. 2-12 Units.

Individual research directed toward doctoral dissertation and supervised by a particular professor.

Repeatability: May be repeated for credit unlimited times.

PHYSIO 200R. Research in Physiology and Biophysics for First-Year Students. 2-12 Units.

Independent research within the laboratories of graduate training faculty in the Department of Physiology and Biophysics for first-year Ph.D. students.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be taken for credit 3 times.

PHYSIO 205. Electronics for Biologists. 4 Units.

Basic principles of electricity; properties and use of discrete components and integrated circuits; circuit analysis and design. Intended for advanced students in the life sciences.

Same as NEURBIO 249.

PHYSIO 206A. Introduction to Medical Physiology. 5 Units.

Vertebrate physiology with emphasis on humans and on the relationship between the function of normal tissues and the processes of disease. Fundamental principles of physiology and the interrelationships which control organ function.

Prerequisite: A biochemistry course.

Restriction: Graduate students only.

PHYSIO 206B. Introduction to Medical Physiology. 6 Units.

Vertebrate physiology with emphasis on humans and on the relationship between the function of normal tissues and the processes of disease. Fundamental principles of physiology and the interrelationships which control organ function.

Prerequisite: PHYSIO 206A. PHYSIO 206A with a grade of B- or better

Restriction: Graduate students only.

PHYSIO 208. Approaches in Circuit Neuroscience. 3 Units.

Introduces modern methods in circuit neuroscience and how they are used to explore questions relating to the neurological basis of animal behavior. Emphasis is on rodent models but other model systems are incorporated where relevant.

Repeatability: May be repeated for credit unlimited times.

Restriction: Graduate students only.

PHYSIO 212. Medical Immunology. 1.5 Unit.

One of the cornerstones of the MS1 Molecular Basis of Medicine block. Includes temporal coordination of lecture material, regular course director meetings, and combined exams with PHYSIO 544: Medical Immunology.

Restriction: Graduate students only.

PHYSIO 215. Integrative Immunology . 4 Units.

Provides an introduction to immunology, but focuses on providing in-depth analysis of selected topics within the broader field of immunology, including relevant research techniques, while improving critical thinking skills.

Restriction: Graduate students only.

PHYSIO 215B. Integrative Immunology II. 4 Units.

Lectures and student presentations of primary literature. Focuses on advanced topics and cutting edge technologies in modern immunology. Combination of didactic lectures and student-led journal article discussion.

Prerequisite: PHYSIO 215. PHYSIO 215 with a grade of B+ or better

Same as M&MG 215B, MOL BIO 215B.

Restriction: Graduate students only.

PHYSIO 227. Immunology Journal Club. 2 Units.

Advanced topics in immunology as related to an understanding of human disease.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be taken for credit 15 times.

Restriction: Graduate students only.

PHYSIO 232. The Physiology of Ion Channels. 4 Units.

Discusses how ion channels work (molecular/structural biophysics) and what ion channels do in diverse cell types (cell physiology). Also discusses the role of ion channels in disease, mechanisms of drug targeting ion channels, and techniques used in ion channel research.

Restriction: Graduate students only.

PHYSIO 252. Introduction to Proteomics. 4 Units.

Introduces students to concepts and methods of proteomics including protein identification, expression proteomics, and protein-protein interactions.

Repeatability: May be taken for credit 2 times.

PHYSIO 272. Eye: Health and Disease. 3 Units.

Introduces the anatomic and physiological basis of vertebrate vision and disease states in which the structure and function of the eye is disrupted with emphasis on current and developing research areas.

Restriction: Graduate students only.

PHYSIO 273. Practical Structural Biology: How to Use High-Resolution Structures to Guide Research. 3 Units.

Geared toward students who want to gain a better understanding of how to use the vast quantity of structural biology information available in publicly accessible databases to help guide their research.

Prerequisite: BIOCHEM 210A or BIO SCI 98 or BIO SCI M114 or BIO SCI M133 or MOL BIO 211 or MOL BIO 204. BIOCHEM 210A with a grade of B- or better. MOL BIO 211 with a grade of B- or better. MOL BIO 204 with a grade of B- or better

Restriction: Graduate students only. Seniors only.

PHYSIO 290. Topics in Physiology. 3 Units.

Contemporary research problems in physiology. Students review research articles in current literature and present ideas contained therein, focusing on groundbreaking discoveries and methodologies. Students present results of their own research and attend presentations given by other students and departmental researchers.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be repeated for credit unlimited times.

Restriction: Graduate students only.

PHYSIO 292A. Scientific Communication. 2 Units.

Small group meetings for graduate students to practice scientific writing, debate, and presentation skills.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be repeated for credit unlimited times.

PHYSIO 292B. Scientific Communication. 2 Units.

Small group meetings for graduate students to practice scientific writing, debate, and presentation skills.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be repeated for credit unlimited times.

PHYSIO 292C. Scientific Communication. 2 Units.

Small group meetings for graduate students to practice scientific writing, debate, and presentation skills.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be repeated for credit unlimited times.

PHYSIO 299. Dissertation in Physiology and Biophysics. 2-12 Units.

Preparation and completion of the dissertation required for the Ph.D.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be repeated for credit unlimited times.

Restriction: Graduate students only.