

Physiology (PHSL)

PHSL 6501 Fundamentals. Human Physiology 5 Credits

This graduate course covers the major areas of human physiology, including neurophysiology, cardiovascular physiology, endocrinology, gastrointestinal physiology, renal physiology and respiratory physiology. It is team taught by the faculty of the Georgetown University Medical Center in lecture format.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the following programs:

- MS-BCHB
- MS-BHTA
- MS-BIOL
- MS-BIOT
- MS-BSPA
- MS-BSTE
- MS-CLTR
- MS-HIDS
- MS-HPHY
- MS-IMHS
- MS-INNS
- MS-MICB
- MS-PHAR
- MS-PHAR-SM
- MS-PHLG
- MS-PHSL
- MS-PHSL-SM
- MS-SYSM
- MS-TBIO
- PHD-BCHB
- PHD-BSTE
- PHD-CBIO
- PHD-MICB
- PHD-NEUR
- PHD-PHAR
- PHD-PHPH-SM
- PHD-TBIO

Enrollment is limited to Graduate level students.

PHSL 6504 Biostatistics 3 Credits

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Mutual exclusion: BIST 501, GLOH 501, GLOH 5501

Course registration restrictions:

Enrollment limited to students in the MS-PHSL or MS-PHSL-SM programs.

Enrollment is limited to Graduate level students.

PHSL 6505 Pathophys Pharm of COVID-19 1 Credit

This 6-session course entitled "Pathophysiology and Pharmacology of COVID-19" covers the basic biology of the COVID-19 virus, the spike protein, and host cell receptors as well as therapeutic strategies. The course format will be lectures, journal clubs, discussions, 10-min oral presentations by students, and a written examination on basic principles of COVID-19 biology. The grade will be based on the participation in the discussion during the class, the quality of the student presentation, and the performance in a written examination. We will find mutual time and location to meet after students sign up.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the MS-PHAR or MS-PHSL programs.

Enrollment is limited to Graduate level students.

PHSL 6506 Methods in Molecular Pharm 1 Credit

The purpose of this course is to explore state-of-the-art methods in molecular pharmacology. The course will cover functional, structural, and computational methods, as well as small animal models used for pharmacological studies and drug discovery.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the MS-PHAR, MS-PHAR-SM, MS-PHSL or MS-PHSL-SM programs.

PHSL 6507 Social Behaviors 1 Credit

This course explores the neural mechanisms underlying social interactions, examining how the brain processes social cues, emotions, empathy, decision-making in social contexts, and other social behaviors, using neuroimaging techniques to study these processes at a brain level, while also considering the influence of factors like genetics, hormones, and environmental context on social behavior; essentially, it delves into the biological basis of how we interact with others. We will discuss human studies as well as animal models. The course will consist of lectures, presentations, and paper discussion.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the MS-PHAR or MS-PHSL programs.

PHSL 6529 Human Nutrition Health 2 Credits

This will be a lecture course offering current information on the relationships between food, health, body weight, exercise, and chronic disease. It will offer insights into food as medicine, herb and vitamin supplements, and the contributions of diet to modalities of complementary and alternative medicine. The course will offer select clinical correlations.

Level: Graduate, Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

PHSL 6530 Herbal Medicine/Nutritional Su 2 Credits

This course includes a survey of the major herbal medicines and dietary supplements in current use, focusing on their biological effects, therapeutic benefits, and adverse events and interactions with other medicines. Relevant regulatory issues are covered.

Level: Graduate, Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

PHSL 6534 Cell Molec Physiology 4 Credits

This course covers the principles of biochemistry. The first section examines protein structure/function, enzymology; the middle section studies, metabolism, and the final section concerns aspects of advanced cell signaling. Current concepts regarding physiological processes at the cellular and molecular levels are investigated. This course meets twice a week for two hours in Med-Dent C104, and has three exams. The primary textbook is Lehninger Principles of Biochemistry, 5th edition.

Level: Graduate, Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

PHSL 6550 Evolutionary Medicine 2 Credits

This course offers a graduate-level exploration of the evolutionary principles behind human diversity with particular reference to human health. Concepts such as natural selection, genetic drift, molecular evolution, coevolution, life history theory, sexual selection, evolutionary developmental biology, and evolutionary ethics will be presented as a framework for understanding human anatomy, physiology, nutrition, metabolism, reproduction, disease response, stress, and behavior. Class sessions will consist of lectures and student presentations of research papers.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

PHSL 6555 Laboratory Rotation

Level: Graduate

Grading: Pass/Fail Default

Course registration restrictions:

Enrollment is limited to Graduate level students.

PHSL 6568 Graduate Pathophysiology 3 Credits

This graduate course will cover the fundamental mechanisms and the pathophysiologic basis of major human diseases. This course will complement the basic physiological principles covered in the fall semester's Fundamentals of Physiology and also feature a forensic component. It is a lecture-based course.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the MS-PHSL program.

PHSL 6569 Intro to Neurophysiology 3 Credits

This course is an introductory neuroscience course that emphasizes the study of the human nervous system as it applies to clinical medicine. Topics include cellular electrophysiology, anatomy of the brain, spinal cord and peripheral nervous system, the structure and function of sensory and motor systems, sleep and cognitive topics such as learning, memory and emotion. Information given in lectures is reinforced using case studies, discussions and clinical correlates.

Level: Graduate, Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to students with a major in Physiology and Biophys (SMP), Physiology and Biophys (SMP), Physiology and Biophys (SMP) or Physiology and Biophys (SMP).

Enrollment is limited to Graduate level students.

PHSL 6599 Special Topics in Physiology 1-4 Credits

Special Topics in Physiology

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

PHSL 6603 Grad Pathophysiology 3 Credits

This course is designed for MS and PhD students who have already completed a graduate course in human physiology. It focuses on the alterations in physiologic mechanisms that lead to major cardiovascular, renal, endocrine and neural diseases. PBIO-603 replaces PBIO-587, PBIO-588, PBIO-589 and PBIO-590. Professor Zukowska is director of this team-taught course.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

PHSL 6699 Learning Design Sci Ed 2 Credits

This course is designed as an elective for the Master's in Learning Design Program and for graduate students in Medical Center graduate programs (with permission of the faculty). It will focus on learning design and educational technology for teaching in the sciences, through a combination of seminar and studio classroom sessions designed to provide hands-on, team-based experience in learning design. Students will gain experience in use of learning management systems, audience response technology, blogging and discussion boards, hybrid learning and flipped classroom strategies, as well as other methodologies and platforms. In the studio portion of the course, groups of students will employ these methods and platforms to design a short course. They will also work toward articulating their personal teaching philosophies and establishing a teaching portfolio.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

PHSL 7940 Research in Physiology 2-4 Credits

Physiology research elective course for regular MS in Physiology students.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the MS-PHSL or MS-PHSL-SM programs.

Enrollment is limited to Graduate level students.

PHSL 7941 Physiology Literature Research 2 Credits

Students will perform a thorough literature search and prepare a state-of-the-art, critical review paper on a topic of current interest in physiology, under the tutelage of a faculty member.

Level: Graduate, Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to students with a major in Physiology and Biophys (SMP), Physiology and Biophys (SMP), Physiology and Biophys (SMP), Physiology and Biophys (SMP), Physiology and Biophysics, Physiology and Biophysics, Physiology and Biophysics or Physiology and Biophysics.

Enrollment is limited to Graduate level students.

PHSL 9001 Rsrh Physiol-Biophysics 1-4 Credits

Level: Graduate, Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

PHSL 9002 Tutorial: Physiology Biophys 0-6 Credits

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

PHSL 9991 Continuous Registration

Level: Graduate, Undergraduate

Grading: No Grade

Course registration restrictions:

Enrollment is limited to Graduate level students.

PHSL 9993 Continuous Registration

Level: Graduate, Undergraduate

Grading: No Grade

Course registration restrictions:

Enrollment is limited to Graduate level students.

PHSL 9994 Continuous Registration

Level: Graduate, Undergraduate

Grading: No Grade

Course registration restrictions:

Enrollment is limited to Graduate level students.

PHSL 9992 Continuous Registration

See Graduate Catalogue for definition of Continuous Registration.

Level: Graduate, Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.