

HUMAN PHYSIOLOGY (HPH)

School of Medicine

HPH 098F – Student Facilitated Course (1-4 units)

Course Description: Student facilitated course intended primarily for lower division students.

Prerequisite(s): Consent of instructor.

Learning Activities: Variable 1-4 hour(s).

Grade Mode: Pass/No Pass only.

HPH 099 – Special Study for Undergraduates (1-5 units)

Course Description: Special study for undergraduates.

Prerequisite(s): Consent of instructor.

Learning Activities: Variable 3-15 hour(s).

Grade Mode: Pass/No Pass only.

HPH 157 – Advanced Physiology of Animal/Human Disease (3 units)

Course Description: Centers on fundamental mechanisms and pathophysiological basis for animal and human diseases. Case-based and uses animal and human diseases to help exemplify the physiological consequences of organ dysfunction.

Prerequisite(s): NPB 101 B+ or better or NPB 110C B+ or better; consent of instructor.

Learning Activities: Lecture 1 hour(s), Lecture/Discussion 2 hour(s).

Enrollment Restriction(s): Limited to 35 students initially.

Cross Listing: NPB 157.

Grade Mode: Letter.

HPH 192 – Internship in Human Physiology (1-12 units)

Course Description: Supervised work experience in physiology and related fields.

Prerequisite(s): Upper division standing; approval of project prior to period of internship by preceptor.

Learning Activities: Internship 3-36 hour(s).

Grade Mode: Pass/No Pass only.

HPH 198 – Directed Group Study (1-5 units)

Course Description: Directed reading, discussion and/or laboratory experience on selected topics.

Prerequisite(s): Consent of instructor.

Learning Activities: Variable.

Grade Mode: Pass/No Pass only.

HPH 198F – Student Facilitated Course (1-4 units)

Course Description: Student facilitated course intended primarily for upper division students.

Prerequisite(s): Consent of instructor.

Learning Activities: Variable 1-4 hour(s).

Grade Mode: Pass/No Pass only.

HPH 199 – Special Study for Advanced Undergraduates (1-5 units)

Course Description: Special study for advanced undergraduates.

Prerequisite(s): Consent of instructor. Senior standing in biology, chemistry, physics, psychology, or engineering.

Learning Activities: Laboratory 3-15 hour(s).

Grade Mode: Pass/No Pass only.

HPH 199FA – Student Facilitated Course Development (1-4 units)

Course Description: Under the supervision of a faculty member, an undergraduate student plans and develops the course they will teach under 098F/198F.

Prerequisite(s): Consent of instructor.

Learning Activities: Variable 1-4 hour(s).

Grade Mode: Pass/No Pass only.

HPH 199FB – Student Facilitated Teaching (1-4 units)

Course Description: Under the supervision of a faculty member, an undergraduate student teaches a course under 098F/198F.

Prerequisite(s): Consent of instructor.

Learning Activities: Variable.

Grade Mode: Pass/No Pass only.

HPH 210A – Advanced Physiology (5 units)

Course Description: Advanced course on fundamental principles of cell physiology, transport physiology, signal transduction, physiology of excitable cells, and muscle physiology.

Prerequisite(s): Physiology Ph.D. program or consent of instructor.

Learning Activities: Lecture 3 hour(s), Discussion 2 hour(s).

Enrollment Restriction(s): HPH 210A (or MCP 210A) is a required core course for the MCIP graduate group; course contains thermodynamics discussions and requires substantial math and physics background in order to succeed; approval for registering from Co-IRs is required to get CRN.

Cross Listing: MCP 210A.

Grade Mode: Letter.

HPH 234 – Advances in Computational Physiology & Pharmacology (2 units)

Course Description: Multi-scale biomedical modeling methodologies and applications, with emphasis on ion channel structure-function, computer-aided drug design, and membrane excitability. State-of-the-art techniques used for multi-scale modeling of biomedical systems and their applications.

Prerequisite(s): No formal requirements; basic knowledge of mathematics, physics, chemistry, and biology helpful.

Learning Activities: Lecture 2 hour(s).

Cross Listing: PHA 234.

Grade Mode: Letter.

HPH 298 – Group Study (1-5 units)

Course Description: For graduate students desiring to explore particular topics in depth. Lectures and conferences may be involved.

Prerequisite(s): Consent of instructor.

Learning Activities: Variable.

Grade Mode: Letter.

HPH 299 – Research (1-12 units)

Course Description: Research.

Prerequisite(s): Consent of instructor.

Learning Activities: Variable.

Grade Mode: Satisfactory/Unsatisfactory only.

HPH 400 – Human Physiology (6 units)

Course Description: General and cellular physiology of neurons, muscle, and epithelial cells and systemic physiology of cardiovascular, respiratory, gastrointestinal, and renal systems.

Learning Activities: Lecture 3 hour(s), Laboratory 2 hour(s).

Enrollment Restriction(s): Medical student only.

Grade Mode: Pass/Fail only.

HPH 403 – Medical Neuroanatomy (5 units)

This version has ended; see updated course, below.

Course Description: Anatomy of the normal human nervous system, to include gross external and internal morphology of brain and spinal cord, and function neuroanatomy of motor, sensory and cognitive systems. Incorporates application of neuroanatomy to clinical problem solving.

Prerequisite(s): HPH 400; Block 1.

Learning Activities: Lecture 3 hour(s), Laboratory 1 hour(s), Discussion/Laboratory 1 hour(s).

Enrollment Restriction(s): Restricted to medical students only.

Cross Listing: CHA 403.

Grade Mode: Pass/Fail only.

HPH 403 – Medical Neuroanatomy (5 units)

Course Description: Anatomy of the normal human nervous system, to include gross external and internal morphology of brain and spinal cord, and function neuroanatomy of motor, sensory and cognitive systems. Incorporates application of neuroanatomy to clinical problem solving.

Prerequisite(s): HPH 400; Block 1.

Learning Activities: Lecture 3 hour(s), Laboratory 1 hour(s), Discussion/Laboratory 1 hour(s).

Enrollment Restriction(s): Restricted to medical students only.

Grade Mode: Pass/Fail only.

This course version is effective from, and including: Spring Semester 2026.

HPH 440 – Cannabis & Cannabinoids in Physiology & Medicine (3 units)

Course Description: Provides an in-depth scientific analysis of current knowledge on cannabis and cannabinoids pertaining to human physiology and potential medicinal uses.

Prerequisite(s): Consent of instructor.

Learning Activities: Lecture.

Repeat Credit: May be repeated.

Grade Mode: Honors/Pass/Fail.

HPH 493 – Physiological Principles in SICU SSM (6 units)

Course Description: Special Study Module, a four-week course on the topic: Care of the Critically Ill Surgical Patient: Use of Physiological Principles to Guide Treatment of Patients with Common Surgical Problems.

Prerequisite(s): Consent of instructor; restricted to UC Davis School of Medicine students only.

Learning Activities: Lecture 5 hour(s), Lecture/Lab 10 hour(s), Laboratory 16 hour(s), Clinical Activity 4 hour(s).

Cross Listing: SUR 493C.

Grade Mode: Honors/Pass/Fail.

HPH 497T – Tutoring in Human Physiology (1-5 units)

Course Description: Assist instructor by tutoring medical students in preparation for one of the departmental courses that is a component of the required curriculum of the School of Medicine.

Prerequisite(s): Advanced standing or consent of instructor.

Learning Activities: Tutorial 3-15 hour(s).

Grade Mode: Satisfactory/Unsatisfactory only.

HPH 498 – Directed Reading & Group Study (1-4 units)

Course Description: Directed reading and discussion on selected topics in human physiology.

Prerequisite(s): Consent of instructor; medical students.

Learning Activities: Discussion 2-8 hour(s).

Grade Mode: Satisfactory/Unsatisfactory only.

HPH 499 – Research (1-6 units)

Course Description: Laboratory investigation on selected topics.

Prerequisite(s): Consent of instructor; medical students.

Learning Activities: Variable.

Grade Mode: Satisfactory/Unsatisfactory only.