CELLULAR & INTEGRATIVE PHYSIOLOGY (CIP)

CIP 806 GRADUATE PHYSIOLOGY 6 Credit Hours
An introduction to the processes that regulate the activity of individual cells and organ systems. Lectures cover cell, neural, musculoskeletal system, cardiovascular, renal, respiratory, gastrointestinal, endocrine and reproductive physiology.
Typically Offered: FALL

CIP 807 GRADUATE PHYSIOLOGY RECITATION 1 Credit Hour
Guided study in significant issues related to the content of CIP 806.
Corequisite: CIP 806
Typically Offered: FALL

CIP 814 SCIENTIFIC WRITING 2 Credit Hours
A lecture/discussion-based course focusing on the writing skills needed to prepare each section of a manuscript for submission to scientific journals, as well as figure design, use of reference software and responding to reviewer critiques.
Prerequisite: Second or higher year of graduate study.
Cross List: PHAR 814.
Typically Offered: FALL/SPR

CIP 817 APPLIED SCIENTIFIC WRITING 1 Credit Hour
This practicum develops the writing skills needed to prepare each section of a manuscript for submission to a scientific journal, as well as figure design, use of reference software and responding to reviewer critiques. Students must have sufficient research data to support a preliminary manuscript, which will be constructed through completion of individualized assignments throughout the course.
Prerequisite: concurrent enrollment in CIP 814, and permission of instructor.
Cross List: PHAR 817.
Typically Offered: FALL/SPR

CIP 896 RSCH OTHER THAN THESIS 1-9 Credit Hours
Research other than for Thesis. Research rotations in one laboratory (for Ph.D. students) or two laboratories (for M.S. students) within the Department of Cellular Integrative Physiology.
Typically Offered: FALL/SP/SU

CIP 899 MASTERS THESIS 1-9 Credit Hours
Independent student research related to the masters thesis.
Typically Offered: FALL/SP/SU

CIP 902 SPECIAL TOPICS 1-4 Credit Hours
Presented at intervals depending upon the interest of the faculty or the request of students. A course description with its prerequisites is announced at the time the course is offered.
Typically Offered: FALL/SP/SU

CIP 916 CARDIOPULMONARY FUNCTION IN HEALTH & DISEASE 2 Credit Hours
A lecture/discussion-based course concerned with current advances in the pathophysiology of cardiovascular and pulmonary diseases such as heart failure and hypertension.
Prerequisite: CIP 806 (or equivalent; see instructor).
Typically Offered: FALL

CIP 922 REDOX BIOLOGY IN HUMAN DISEASE 2 Credit Hours
Biochemical sources and regulation of reactive oxygen species and reactive nitrogen species, and their role in diseases such as diabetes, hypertension, cancer, and neurodegeneration.
Prerequisite: CIP 806 (or equivalent; see instructor).
Typically Offered: FALL

CIP 930 PHYSIOLOGY & PATHOPHYSIOLOGY OF THE KIDNEY 2 Credit Hours
Integrative, cellular and molecular mechanisms of renal function, with emphasis on the alterations accompanying renal disease.
Prerequisite: PHYS 806 (or equivalent; see instructor).
Typically Offered: SPRING

CIP 970 SEMINAR 1 Credit Hour
This course provides students with experience in presenting their own research in the form of abstract-based 10 min oral presentations, as well critical analysis of recent publications in the biomedical sciences.
Typically Offered: FALL/SP/SU

CIP 999 DOCTORAL DISSERTATION 1-15 Credit Hours
Independent student research related to the PhD dissertation. This course may be utilized before or after successful completion of the comprehensive exam.
Typically Offered: FALL/SP/SU