INTERDISCIPLINARY GRADUATE PROGRAM IN BIOMEDICAL SCIENCES (IGPBS - COURSES ARE IPBS)

IPBS 804 BIOSCIENCE ENTREPRENEURSHIP 2 Credit Hours
To move from discovery to commercialized applications, the entrepreneur must have a wide variety of skills to address a variety of economic, legal and scientific requirements. The purpose of this course is to define these essential skills and provide a background of the requirements that are necessary to commercialize new inventions.
Typically Offered: FALL

IPBS 805 FUNDAMENTALS OF CELLULAR PROCESSES 3 Credit Hours
In a flipped-classroom setting, this course provides training in scientific critical thinking and experimentation through a mixture of asynchronous learning activities, in-class small group discussions, and workshops, focusing on fundamental cellular processes within three learning modules. Module 1: DNA as a Hard Drive - DNA replication, repair, transcription, and related aberrancies disease. Module 2: RNA and Proteins as Working Memory and System Output - post-transcriptional processing, RNA translation, protein sequences, post-translational modifications, and protein turnover. Module 3: Cells Sensing Responding to Their Environment - signaling events triggered by ligand-receptor interactions, responses of excitable cells, and cellular metabolism. The course focus is on learning these cellular processes through experimental design and data analysis to enhance critical thinking. Instructor: Course Director: Matthew C. Zimmerman, Ph.D.; Professor; Dept of Cellular Integrative Physiology; Director, Interdisciplinary Graduate Program in Biomedical Sciences (IGPBS); Email: mczimmerman@unmc.edu. Course Module 1 Director: Andrew Dudley, Ph.D.; Associate Professor; Dept of Genetics, Cell Biology Anatomy; Email: andrew.dudley@unmc.edu. Course Module 2 Director: Kate Hyde, Ph.D.; Associate Professor; Dept of Biochemistry Molecular Biology; Email: kate.hyde@unmc.edu. Couse Module 3 Director: Keshore Bidasee, Ph.D.; Professor; Dept of Pharmacology Experimental Neuroscience; Email: kbidasee@unmc.edu. Additional instructors include UNMC graduate faculty who will provide asynchronous learning materials (e.g., eModules, narrated lectures, and/or readings) and will moderate the Thursday in-class small group discussions and workshops.
Typically Offered: FALL
Capacity: 60

IPBS 850 CRITICAL ANALYSIS OF THE SCIENTIFIC LITERATURE 1 Credit Hour
To provide a course that will help incoming IGPBS students who have not yet committed to a doctoral program to develop a strong foundation in how to read and critically analyze the primary literature.
Prerequisite: Class for IGPBS students only
Typically Offered: FALL

IPBS 860 SUCCESS SKILLS FOR GRADUATE STUDENTS 1 Credit Hour
This course is designed to prepare first-year students in biomedical research-focused graduate programs to successfully navigate their graduate training. Students will learn basic skills in literature review, rigor / reproducibility, responsibilities regarding data management and curation, problem-solving, communication, professionalism / leadership in science, and basic technical writing.
Prerequisite: For students not enrolled in IGPBS or one of its programs, permission from the course director is required.
Instructor: Dr. Lisa Rucks, Professor, Department of Pathology, Microbiology, and Immunology, College of Medicine, Office: Durham Research Center (DRC)2-5028, Phone: 402-559-0750, Email: lisa.rucks@unmc.edu. Dr. Erika Boesen, Associate Professor, Department of Cellular Integrative Physiology, College of Medicine, Office: DRC1-6044, Phone: 402-559-6055, Email: erika.boesen@unmc.edu. Additional faculty who are experts in specific content will be determined as needed.
Typically Offered: FALL
Capacity: 60

IPBS 896 RESEARCH OTHER THAN THESIS 1-9 Credit Hours
Student research that is clearly distinct from ongoing or planned thesis/dissertation work, or research/lab rotations preformed prior to selecting a permanent advisor or supervisor.
Prerequisite: must be IGPBS student
Typically Offered: FALL/SP/SU

IPBS 970 SEMINAR 1 Credit Hour
Attendance at weekly seminars offered by the department/program, or other activities specific to the degree program (contact the program director for more information).
Prerequisite: Must be IGPBS student to register
Typically Offered: FALL/SP/SU