

# INTERDISCIPLINARY AND OTHER

Interdisciplinary and courses from the health science schools may be available for College of Arts and Sciences students to take.

## **CAS 101. Dean's Fellows Foundational Sequence. 0 credits.**

Deans Fellows course. Graded Satisfactory/Unsatisfactory. P. Deans Fellow; IC.

## **CAS 111. Introduction to Undergraduate Research. 1 credit.**

This course is for first year students interested in learning about opportunities in undergraduate research and creative scholarly work at Creighton. You will be introduced to specific research projects and develop the tools you need to pursue a faculty-led scholarly project. This course will provide an overview of specific skills, across disciplines, in the areas of development of research questions, literature searches, research methods, data collection, scholarly writing, and research presentations. P. Instructor consent.

## **NSC 111. Time's Arrow: The Evolving Universe. 2 credits.**

This course is a broad exposure for non-science students to several scientific disciplines and ways of knowing under the umbrella of a common theme: change. Course topics to be covered include the scientific method, the nature and measurement of time, The Big Bang/ evolution of the Universe, and biological evolution.

## **IDC 491. Women in Science. 1 credit. SP**

Course designed to provide an historical overview of women in science while focusing on current practices. Discussion will emphasize barriers that women have faced in the past and strategies for coping, presently, in what is no longer a "man's field." Class meets once a week.

## **BMS 111. Basic Human Anatomy. 4 credits. FA**

Designed to provide nursing students with a basic knowledge of human anatomy. Lecture topics range from anatomical terminology to comprehensive overviews of the individual organ systems, including aspects of gross anatomy, histology, and neuroanatomy. 4R. P. Registration in Nursing Program.

## **BMS 301. Biochemistry. 3 credits. FA**

An introductory course designed for undergraduate students preparing for health sciences professional schools, e.g., medical or dental school. Students in undergraduate majors from all disciplines are also welcome. Topics will cover structure, function, and metabolism of important biomolecules, including amino acids, proteins, enzymes, carbohydrates, lipid and nucleic acids. Special topics surveyed also will include cellular processing of biomolecules, signal transduction pathways, and the molecular biology of gene expression in health and disease. Prerequisites: CHM 323 and 324 or equiv. with grades of "C" or better.

## **BMS 303. Physiology. 4 credits. SP**

Provides Nursing and other Health Profession students with a basic knowledge of human physiology. Presents an overview of the function of the major organ systems using lectures and demonstrations. 4R. P. NUR major or IC.

## **BMS 311. Basic Human Anatomy. 4 credits. FA**

Course designed to provide pre-professional students with an introduction to human gross anatomy, histology, and neuroanatomy. A systemic approach is used. Dissected cadaver specimens and anatomical models are available as learning aids. P.IC.

## **BMS 404. Human Physiology. 3 credits. SP**

Designed to provide pharmacy and pre-allied health students with knowledge of human physiology. The function of the major organ systems is covered in a series of lectures and discussions. P. Registered Pharmacy Doctoral Program.

## **BMS 497. Directed Independent Research. 1-3 credits. OD**

This course consists of original scientific investigation under supervision and guidance of the instructor. Upon successful completion of this course, students will acquire the skills necessary to perform experiments, assess, and interpret results; demonstrate competence in the laboratory, effectively analyze, synthesize, and interpret data; and communicate their results. P. IC.

## **IDC 401. Service Learning in Local Communities - Sports and Education. 3 credits.**

This course combines service learning in a local community and in a foreign country in order to compare experiences of the relationship between sports, education, and development across different cultures. P. Sr. stdng.

## **IPE 410. Interprofessional Foundations in Patient Safety. 2-4 credits.**

This course is designed to educate health professions students about the fundamental core knowledge of patient safety. Faculties representing various disciplines teach the content from a patient-centered focus within an inter-professional framework. Concepts of safe systems will serve as an over arching principle to patient safety. By engaging in a series of modules complimented by case-based exercises, participants will learn the scope of the problem of patient safety, and acquire the skills to foster a culture of continuous learning and incorporation of patient safety best practices and improvements in their own individual professional practices.

## **MIC 141. Microbiology. 4 credits. FA**

Introductory course, consisting of lectures, study groups, and computerized self-instruction, designed to provide nursing students with a basic knowledge of medical microbiology and immunology. P. None.

## **MIC 541. Medical Microbiology and Immunology. 3 credits. FA**

Introductory course focusing on foundations of general bacteriology and virology, antibacterial therapy and mechanisms of antibacterial resistance, infectious diseases caused by bacteria, viruses, fungi, and parasites, and the host defenses against these microorganisms. R, L. P. Second year Pharm.D. student or degree seeking graduate student. Upper level undergraduate or other students require approval from course director.

## **MIC 543. Essentials of Immunology. 3 credits. SP**

Lecture course covering the major areas of contemporary immunology including host resistance to infection, the chemistry of antigens and physiology of the immune system, immunogenetics and transplantation immunology, immunological techniques, tumor immunology, and immunopathology. P. MIC 541, or IC.

## **OTD 215. Medical Terminology. 1 credit. (Same as EMS 215)**

Medical Terminology is a critical part of language and communication used by health care practitioners. This self-directed course is designed for students planning a career in the health services and related fields. Course content includes a study of basic medical terminology. Students will construct and decipher terms using prefixes, suffixes, word roots, combining forms, special endings, plural forms, and abbreviations related to body systems, cavities, planes, and positions. Competency is evaluated throughout the semester through online testing.

**PHA 213. Human Anatomy for Pre-Pharmacy Students. 3 credits.**

Pre-pharmacy students will learn cellular, tissue, organ and system level anatomical structures, with emphasis on using anatomical knowledge as a foundation for pharmacist-provided patient care. P. BIO 202 and BIO 201 or equivalent.

**PHR 241. Pharmacology I. 0-4.5 credits.**

This course can be offered on campus or web-based. A comprehensive coverage of the major drug groups and their mechanisms. The emphasis is on human pharmacology and the rational basis for therapeutics. Specific drug classes will be discussed with emphasis on mechanism of action, organ systems affected by the drugs, their pharmacokinetics, therapeutic indications, untoward effects, contraindications and drug-drug interactions. P. BMS 301 or PHA 301; BMS 404 or PHA 404; MIC 541; CO: PHA 337.

**PHR 242. Pharmacology II. 0-4.5 credits.**

The pharmacy pharmacology course provides a comprehensive coverage of the major drug groups and their mechanisms. The emphasis is on the pharmacological basis for the therapeutic use of drugs. Specific drug classes will be discussed with emphasis on mechanism of action, organ systems affected by drugs, adverse effects, contraindications, pharmacokinetics, therapeutic indications and drug-drug interactions. P. PHR 241.

**PHR 350. Introduction to Neuropharmacology. 3 credits.**

This course is designed for undergraduates with concentrations in a range of majors and professional interests including biology, chemistry, biochemistry, psychology, pre-pharmacy and pre-medicine. Pharmacology is more than the study of the mode of action of drugs. It is a science which uses the basic concepts of biology and chemistry to determine how drugs affect the organism; it gives a unique perspective in understanding how cells, organ systems, and organisms function. Unlike other basic science fields, pharmacology is a special field in which one can systematically investigate the mechanism for a biological event—from the molecular level to the whole animal. Pharmacology also allows us to study how biological systems fail to function, providing information on the etiology of disease. Pharmacologic research is essential for the development, testing and clinical use of drugs to treat disease. P. BIO 211, 212 and CHM 203, 321, Jr. stdg. or IC.

**PHR 531. Topics in Pharmacology and Drug Discovery Journal Club. 1 credit. FA**

The most ground-breaking studies (classic through recent) in the field of pharmacology are discussed in a round-table format. Students will learn the basics of the scientific method, study design, experimental technique theory and general chemical principles, physiochemical properties and drug-receptor interactions used to derive structure-activity relationships for important drug classes and predict biological properties.

**PHR 532. Hot Topics in Neuroscience Journal Club. 1 credit. SP**

Continuation of PHR 531. P. DC.

**PHR 537. Fundamentals of Neuroscience. 3 credits. FA, OD**

This course will provide a detailed exploration of cellular, molecular and systems neuroscience and provide foundational knowledge necessary to becoming a neuroscientist. The class format will include didactic lectures with open discussions and self-directed computer simulated learning activities.

**PHR 595. Directed Independent Study. 0-5 credits. FA, OD, SP, SU**

Supervised independent projects that may include laboratory work, assigned readings, research papers, etc. Available in autonomic pharmacology, cardiovascular pharmacology, exocrine pharmacology, and neuropharmacology. P. Undergraduate or Gr. stdg. and DC.

**PHR 597. Directed Independent Research. 1-4 credits. FA, OD, SP, SU**

Supervised independent research for motivated students to become involved in ongoing original research projects of the pharmacology faculty. P. Undergraduate or Gr. stdg. and DC.