BIOMEDICAL SCIENCES (BIMS)

BIMS 5311 Principles of Oncology
3 Semester Credit Hours (3 Lecture Hours)
This course is a study of the profile of cancer cells, and the various causes of human cancer. Contribution of heredity, environmental factors, and infectious agents to oncogenesis will be studied. The latest published information on cancer screening, diagnosis, and treatment will be discussed. Various types of cancer will be presented.
Prerequisite: BIOL 2416.

BIMS 5323 Neurosciences
3 Semester Credit Hours (3 Lecture Hours)
The anatomy and physiology of the vertebrate nervous system with emphasis on functions and actions of the central nervous system.
Prerequisite: CHEM 3412.

BIMS 5327 Toxicology
3 Semester Credit Hours (3 Lecture Hours)
This course will provide students requisite knowledge to design and supervise appropriate tests in vivo and in vitro in order to investigate the toxicity of substances and to assess the implications of the results. Students will be expected to have an appreciation of the toxicity of a number of representative compounds and be able to apply their knowledge to the evaluation of chemicals in pharmaceutical preparations, agriculture, food and consumer products, the work place and the environment.

BIMS 5330 Biology of Aging
3 Semester Credit Hours (3 Lecture Hours)
An examination of one phase of the developmental process - the aging organism. Perspectives of aging in human beings and other organisms are reviewed. Topics include: demographics of human aging; research methodologies and measurements; development of age-related diseases; theories of aging; and anti-aging interventions.
Prerequisite: CHEM 3412, 4402 and BIOL 3430.

BIMS 5333 Public Health Entomology
3 Semester Credit Hours (3 Lecture Hours)
The medical, veterinary and forensic importance of arthropods: especially their relationships with host organisms, their role as hosts and vectors of disease-causing organisms, and strategies for their control. Involves discussion of research papers on these topics.

BIMS 5334 Medical Genetics
3 Semester Credit Hours (3 Lecture Hours)
A study of genetic influences on health and disease.
Prerequisite: CHEM 3412 and BIOL 2416.

BIMS 5335 Biology of the Endocrine System
3 Semester Credit Hours (3 Lecture Hours)
Basic biochemical and molecular aspects of hormone physiology, basic endocrine function and hormone action, immune-endocrine interactions, and clinical examples of the outcomes of abnormal function in human disease. May not be taken if BIMS 4335 was taken for undergraduate credit. Consent of Instructor.

BIMS 5374 Molecular Medical Microbiology
3 Semester Credit Hours (3 Lecture Hours)
Study of common pathogenic microorganisms in eukaryotic animals. Includes bacterial, viral, parasitic, and fungal infections, with emphasis on epidemiology, immunity, pathogenesis and treatment. Stress placed on case studies and didactic lectures, with presentations of updates on molecular basis of diseases based on current literature.
Prerequisite: BIOL 2421.

BIMS 5375 Microbial Pathogenesis
3 Semester Credit Hours (3 Lecture Hours)
Study of the mechanisms by which microorganisms invade a host and produce pathological symptoms associated with disease. Emphasis is on the chemical and molecular interaction between various pathogens and host cells, especially immune responses. Involves discussion of research papers on these topics.
Prerequisite: BIOL 2421.

BIMS 5396 Directed Independent Study
1-3 Semester Credit Hours
Study in an area of current interest. Credit is not given for research on the thesis project. A total of six semester hours of Directed Independent Study may be counted toward the MS degree.

BIMS 5410 Cells and Tissues
4 Semester Credit Hours (4 Lecture Hours)
Analysis of tissues: their cellular and sub-cellular components, and the unique properties that emerge when they interact to form organs. Lecture and laboratory emphasize normal mammalian tissues, and students explore other aspects of tissue biology through individual research projects.
Co-requisite: SMTE 0092.

BIMS 5439 Case Work Methods in Forensic Anthropology
4 Semester Credit Hours (3 Lecture Hours, 1 Lab Hour)
This course combines the study of human bones (osteology) with hands-on examination of disarticulated skeletal remains using established and validated forensic anthropological methods to develop the demographic profile of the living individual, including assessment of trauma and pathological conditions. Graduate-level students will apply currently validated and accepted methods to their assigned individual skeleton. Cross listed with BIMS 4439, BIOL 4439, and BIOL 5439.
Prerequisite: BIOL 2401.
Co-requisite: SMTE 0092.

BIMS 5590 Special Topics
1-5 Semester Credit Hours (1-5 Lecture Hours)
Variable content. Advanced study of a biomedical topic that may include current literature research. May be repeated for credit when topics are sufficiently different.