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;  
thories 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.