**VETERINARY AND BIOMEDICAL SCIENCES (VBMS)**

**VBMS 101 Success in Veterinary Science**  
**Description:** General skills for success in college are discussed. Student involvement and campus resources are emphasized. Survey of careers for students interested in going on to veterinary school or any other science related area.  
**Credit Hours:** 1  
**Max credits per semester:** 1  
**Max credits per degree:** 1  
**Format:** LEC

**VBMS 303 Principles and Prevention of Livestock Diseases**  
**Prerequisites:** Juniors and seniors; ASCI 240 or BIOS 213 and BIOS 213L. BIOS 300 or BIOS 312 recommended, or permission  
**Description:** Management techniques in the control of metabolic, infectious, and parasitic diseases of domestic animals and understanding of basic concepts of the important diseases of livestock.  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC

**VBMS 307 Introduction to Veterinary Anatomy**  
**Prerequisites:** LIFE 120 & LIFE 120L and LIFE 121 & LIFE 121L or equivalent, and junior standing  
**Description:** Gross anatomy of the mammalian body, using domestic dog as the model. Macroscopic anatomy of organs and organ systems emphasizing structural and functional relationships, and their contribution to homeostasis of domestic animals. Incorporates detailed study of prossected cadavers and skeletal preparations.  
**Credit Hours:** 4  
**Max credits per semester:** 4  
**Max credits per degree:** 4  
**Format:** LEC  
**Offered:** SPRING

**VBMS 403 Integrated Principles and Prevention of Livestock Diseases**  
**Prerequisites:** ASCI 240 or BIOS 213 and BIOS 213L, BIOS 312, CHEM 251  
**Description:** Emphasizes integrated management techniques of livestock, and understanding the basic integrated concepts of the important diseases of domestic animals. Biotechnology in animal health and current issues in management practices to control diseases.  
**Credit Hours:** 4  
**Max credits per semester:** 4  
**Max credits per degree:** 4  
**Format:** LEC  
**ACE:** ACE 10 Integrated Product

**VBMS 408 Functional Histology**  
**Crosslisted with:** BIOS 408, BIOS 808, VBMS 808  
**Prerequisites:** BIOS 101 and 101L or LIFE 120 and 120L or BIOS 112; BIOS 213 or ASCI 240. BIOS 315 recommended.  
**Description:** Microscopic anatomy of the tissues and organs of major vertebrate species, including humans. Normal cellular arrangements of tissues and organs as related to their macroscopic anatomy and function, with reference to sub-cellular characteristics and biochemical processes. Functional relationships among cells, tissues, organs and organ systems, contributory to organismal well being. General introduction to pathological processes and principles underlying some diseases.  
**Credit Hours:** 4  
**Max credits per semester:** 4  
**Max credits per degree:** 4  
**Format:** LEC

**VBMS 410 General Pharmacology and Toxicology**  
**Prerequisites:** BIOS 213, ASCI 240, or ASCI 340; BIOC 321 or BIOC/BIOS/CHEM 431/831; or equivalent. Recommended: CHEM 252 and 254; BIOC/BIOS/CHEM 432/832 and 433/833.  
**Description:** Basic principles and sciences of drug action (as therapeutic agents) and of adverse (toxic) effects of harmful chemical substances. Discussion of these concepts as they relate to animal production and care, regulatory concerns, legal and ethical decisions, human and animal health hazards, food safety, and environmental contamination.  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC  
**Offered:** FALL

**VBMS 417 Neurobiology: Cells to Senses**  
**Prerequisites:** Two semesters each of Biology and Chemistry recommended. Permission of the instructor required.  
**Notes:** Capstone course. Active participation in classroom discussion expected.  
**Description:** Neurobiology, by its very nature, integrates the studies of biology, chemistry, physics, biochemistry, physiology, and anatomy. Introduction to cellular and systems neurobiology, culminating in individual projects focusing on the effects of neuropathological disorders or diseases.  
**Credit Hours:** 4  
**Max credits per semester:** 4  
**Max credits per degree:** 4  
**Format:** LEC  
**ACE:** ACE 10 Integrated Product

**VBMS 424 Basic Molecular Infectious Diseases**  
**Crosslisted with:** VBMS 824  
**Prerequisites:** BIOS 312 or permission.  
**Description:** Introduction to the molecular, genetic and cellular aspects of microbial pathogenesis in humans and animals.  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC
VBMS 441 Pathogenic Microbiology
Crosslisted with: BIOS 441, BIOS 841, VBMS 441H, VBMS 841
Prerequisites: BIOS 312 and either 313 or 314, or permission.
Description: Fundamental principles involved in host-microorganism interrelationships. Identification of pathogens, isolation, propagation, mode of transmission, pathogenicity, symptoms, treatment, prevention of disease, epidemiology, and methods of control.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VBMS 441H Pathogenic Microbiology
Crosslisted with: BIOS 441, BIOS 841, VBMS 441, VBMS 841
Prerequisites: BIOS 312 and either 313 or 314, or permission.
Description: Fundamental principles involved in host-microorganism interrelationships. Identification of pathogens, isolation, propagation, mode of transmission, pathogenicity, symptoms, treatment, prevention of disease, epidemiology, and methods of control.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VBMS 441L Pathogenic Microbiology Laboratory
Crosslisted with: VBMS 841L
Prerequisites: BIOS 312 and 313 (314) or permission.
Description: Application of diagnostic microbiological techniques to the isolation, propagation and identification of common pathogens of human beings and animals. Case studies used, in the laboratory setting, to explore and test fundamentals of transmission, epidemiology and pathogenesis of selected infectious agents and to relate these to disease signs, treatments and methods of control.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LAB

VBMS 488 Exploration of Production Medicine
Prerequisites: Acceptance to an accredited college of veterinary medicine.
Description: Introduction to production medicine and animal health management that weaves together the interrelationship of pasture ecology, animal nutrition, animal well-being, environmental assessment, worker safety, and pre-harvest food safety. Emphasis on the interrelationships between scientific disciplines, and sustainable agriculture. Assessment of normal production potential and health of food producing animals (beef cattle, swine, and sheep) and indicators of abnormal health. Introduction to techniques used to evaluate animal well-being, to computerized information management, and to the veterinarian’s role in sustainable agriculture.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

VBMS 496 Independent Study in Veterinary Science
Prerequisites: 12 hrs veterinary science or closely related areas and permission.
Description: Individual or group projects in research, literature review, or extension of course work under supervision and evaluation of a departmental faculty member.
Credit Hours: 1-5
Min credits per semester: 1
Max credits per semester: 5
Max credits per degree: 12
Format: IND

VBMS 499H Honors Thesis
Prerequisites: Admission to the University Honors Program and permission, AGRI 299H recommended.
Description: Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.
Credit Hours: 3-6
Min credits per semester: 3
Max credits per semester: 6
Max credits per degree: 6
Format: IND