**VTPB - VETERINARY PATHOBIOLGY (VTPB)**

**VTPB 212 Genetics in the News**  
Credits 3. 3 Lecture Hours.  
Use of contemporary news articles from the popular press to delve into the science of genetics and genomics and their methodologies to gain a deeper understanding of how data is analyzed and interpreted leading to news headlines.  
**Prerequisites:** Sophomore classification or approval of instructor; high school or college course in biology recommended.

**VTPB 221 Great Diseases of the World**  
Credits 3. 3 Lecture Hours.  
Great infectious and parasitic diseases; introduction to the major diseases affecting humans and other mammals including plague, tuberculosis, AIDS and malaria.  
**Prerequisite:** Freshman or sophomore classification.

**VTPB 285 Directed Studies**  
Credits 0 to 4. 0 to 4 Other Hours.  
Directed individual study of selected problems in microbiology, parasitology, immunology, genetics or pathology as approved by instructor.  
**Prerequisites:** Approval of department head; freshman or sophomore classification.

**VTPB 289 Special Topics in...**  
Credits 1 to 4. 1 to 4 Lecture Hours.  
Selected topics in an identified area of veterinary pathobiology. May be repeated for credit.  
**Prerequisite:** Freshman classification.

**VTPB 301/WFSC 327 Wildlife Diseases**  
Credits 3. 3 Lecture Hours.  
Basic mechanisms of diseases as they occur in wildlife populations; interplay of habitat requirements, individual physiological requirements and disease producing mechanisms of varied wildlife species.  
**Prerequisite:** Junior classification or approval of department head.  
**Cross Listing:** WFSC 327/VTPB 301.

**VTPB 303 Medical Communication in the International Community**  
Credits 2. 2 Lecture Hours.  
To develop an awareness that there is a culture associated with the practice of veterinary and human medicine in other countries.  
**Prerequisite:** Junior or senior classification.

**VTPB 334 Poultry Diseases**  
Credits 4. 3 Lecture Hours. 2 Lab Hours.  
Poultry sanitation and diseases. Prevention and control of environmental, nutritional, parasitic and contagious diseases.  
**Prerequisites:** BIOL 113 and BIOL 123; junior or senior classification.

**VTPB 404 Amazon Field School**  
Credits 4. 4 Lecture Hours.  
Investigation of social and ecological complexities of biodiversity conservation in tropical ecosystems; biological and social science approaches to evaluate causes, consequences and solutions to biodiversity loss through ecology, culture and governance.  
**Prerequisites:** Junior or senior classification with a minimum GPA of 2.0 and approval of instructor.  
**Cross Listing:** RPTS 454 and WFSC 454.

**VTPB 405 Biomedical Microbiology**  
Credits 5. 3 Lecture Hours. 5 Lab Hours.  
Fundamentals of bacteriology, mycology, virology, infectious diseases, immunology and identification of pathogenic microorganisms.  
**Prerequisite:** Junior classification in a biological science.

**VTPB 407 Advanced Veterinary Microbiology Laboratory**  
Credits 1 to 3. 1 to 4 Lab Hours.  
Modular course (one credit per module) that covers immunological and molecular techniques used with bacteria, parasites and viruses in animals for diagnostic and identification purposes.  
**Prerequisites:** VTPB 405, VTPB 409 and VTPB 438 or concurrent enrollment; junior or senior classification.

**VTPB 408 Clinical Microbiology**  
Credits 4. 2 Lecture Hours. 5 Lab Hours.  
Practical application of clinical bacteriology and mycology; laboratory identification of pathogenic organisms.  
**Prerequisites:** VTPB 405; junior or senior classification.

**VTPB 409 Introduction to Immunology**  
Credits 3. 3 Lecture Hours.  
Diverse concepts relative to immunologic mechanisms inherent to domestic and laboratory animals.  
**Prerequisite:** Advanced classification.

**VTPB 410 Cell Mechanisms of Disease**  
Credits 3. 3 Lecture Hours.  
Mechanisms, morphologic manifestations and clinical signs of disease processes at the cellular level.  
**Prerequisites:** VTPP 423 or registration therein; junior or senior classification.

**VTPB 412 Techniques of Clinical Pathology**  
Credits 4. 3 Lecture Hours. 3 Lab Hours.  
Theory and pathophysiologic principles underlying laboratory evaluation of disease states; principles of analytical methods with applications in the contemporary biomedical laboratory considered, using selected hematology and clinical chemistry techniques as examples.  
**Prerequisites:** CHEM 228 and CHEM 238; VTPP 423; senior classification in biomedical science or approval of instructor.

**VTPB 415 Immunogenetics and Comparative Immunology**  
Credits 3. 3 Lecture Hours.  
Modular course (one credit per module) that covers immunological and molecular techniques used with bacteria, parasites and viruses in animals for diagnostic and identification purposes.  
**Prerequisite:** Junior classification in biology.

**VTPB 421 Bacterial Diseases of Humans and Animals**  
Credits 3. 3 Lecture Hours.  
Pathogenesis of selected bacterial pathogens of humans and animals; bacterial virulence factors, host immune responses; current concepts of extracellular, facultative intracellular and obligate intracellular bacterial diseases.  
**Prerequisites:** VTPB 405 and VTPB 409; junior or senior classification.

**VTPB 438 Biomedical Virology**  
Credits 3. 3 Lecture Hours.  
Fundamental study of nature and characteristics of human and animal viruses; classification, morphology, chemical structure, ability to cause disease and nature of resulting disease.  
**Prerequisite:** 3 hours of microbiology or approval of instructor.
VTPB 452 Clinical Veterinary Mycology  
**Credits 3. 2 Lecture Hours. 2 Lab Hours.**
Practical application of clinical mycology; laboratory identification of important fungal and actinomycotic organisms.  
**Prerequisites:** Junior or senior classification; VTPB 405 or approval of instructor.

VTPB 454/MARB 454 Ornamental Fish Health Management  
**Credits 3. 3 Lecture Hours.**
Maintenance and health care of ornamental fish in closed recirculating systems; aquariology, anatomy and physiology, nutrition, immunology, infectious and noninfectious diseases, checklists, quarantine procedures and health maintenance of ornamental fish.  
**Prerequisites:** VTPB 405 or BIOL 351; BICH 410 or MARS 360; junior or senior classification.  
**Cross Listing:** MARB 454.

VTPB 485 Directed Studies  
**Credits 0 to 4. 0 to 4 Other Hours.**
Directed individual study of selected problems in microbiology, parasitology, immunology, genetics or pathology as approved by instructor.  
**Prerequisites:** Approval of department head; junior or senior classification.

VTPB 487/BIOL 487 Biomedical Parasitology  
**Credits 4. 3 Lecture Hours. 2 Lab Hours.**
Helminth and protozoan parasites of medical and veterinary importance; life cycles, morphology, taxonomic classification, economic and public health aspects and current topics in parasitic diseases.  
**Prerequisites:** BIOL 107 or BIOL 114; junior classification or approval of instructor.  
**Cross Listing:** BIOL 487/VTPB 487.

VTPB 489 Special Topics in...  
**Credits 1 to 4. 1 to 4 Lecture Hours. 0 to 4 Lab Hours.**
Selected topics in an identified area of microbiology, pathology, genetics, immunology, parasitology, or physiological chemistry. May be repeated for credit.  
**Prerequisites:** Junior or senior classification and approval of department head.