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/RWFM 309 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: RWFM 309/VTPB 301.

VTPB 303 Medical Communication in the International Community
Credits 3.3 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 107 or BIOL 111; junior or senior classification.

VTPB 405 Biomedical Microbiology
Credits 4.3 Lecture Hours. 2 Lab Hours. Fundamentals of bacteriology, mycology, virology, infectious diseases, immunology and identification of pathogenic microorganisms. Prerequisite: Grade of C or better in BIOL 112, CHEM 228, MATH 142 or MATH 151, and PHYS 202; junior or senior classification.

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 3.3 Lecture Hours. Conceptual basis for understanding pathogenic microorganisms and the mechanisms by which they cause disease in the human body, operates in an integrated manner with the spectrum of microorganisms including viruses, bacteria, fungi and parasites, describing the factors common to all infectious diseases; molecular biology, pathology and immunology explain the mechanisms for spread, immune response and recovery. Prerequisites: VTPB 405 or BIOI 456 and VTPB 409 or BIOI 454.

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: CHEM 227 and CHEM 228, or equivalent; junior or senior classification; biomedical sciences major, biomedical engineering major or related field.

VTPB 411 One Health and Tropical Ecology
Credits 3.2 Lecture Hours. 2 Lab Hours. Traditional lectures, guest lectures, field excursions, field laboratories, discussions, readings, student oral presentations and case studies; form and function of healthy ecosystems, various forms of ecosystem perturbation and how perturbations influence ecosystem, animal, and human health.

VTPB 415 Immunogenetics and Comparative Immunology
Credits 3.3 Lecture Hours. Genetic mechanisms used to diversify immune receptors; immunoglobulins, T cell receptors, major histocompatibility complex, natural killer cell receptors, toll-like receptors and many others; selected comparative and veterinary examples of different immune recognition systems; evolution of the immune system. Prerequisites: Junior or senior classification, GENE 320/BIMS 320 and VTPB 409 or approval of instructor.

VTPB 421 Infectious 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: 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 460 Mammalian Cell Pathobiology
Credits 3. 3 Lecture Hours. Cell signaling and organelle perspective of pathogenesis, mechanisms leading to a disease state; fundamental understanding of structural and functional properties of mammalian cells; molecular and cellular mechanisms underlying health-disease transitions. Prerequisites: BIOL 111 and BIOL 112, junior or senior classification or approval of instructor.

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 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 111; junior classification or approval of instructor.

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.