

PATHOBIOLOGICAL SCIENCES • PBS

- 7002 Pathobiological Sciences Research Techniques (1-4) V** *May be taken for a max. of 6 sem. hrs. of credit.* Specialized research techniques related to a specific discipline of pathobiological sciences.
- 7003 Special Topics in Pathobiological Sciences (1-4) V** *Prereq.: consent of instructor. May be taken for a max. of 8 hrs. of credit.* Topics of current interest in pathobiological sciences.
- 7004 Current Literature in Pathobiological Sciences (1) V** *May be taken for a maximum of 6 hrs. of credit. Pass/fail grading.* Review of the literature in areas of pathobiological sciences presented in a discussion format.
- 7301, 7302 Principles and Methods of Epidemiology and Disease Control I, II (4,4) 7301 offered F; 7302 offered S** *Prereq.: consent of instructor. 3 hrs. lecture; 3 hrs. lab.* Ecological and epidemiological concepts used in studying diseases in populations; epidemiological methods, with laboratory exercises emphasizing problem solving; epidemiological principles applied to disease control; planning, administration, and evaluation of disease-control programs.
- 7310 Zoonotic Infectious and Parasitic Diseases (3) F-E** *Prereq.: BIOL 4121 and 4122 or equivalent.* Epidemiology, ecology, and control of major infectious and parasitic zoonoses.
- 7312 Epidemiological Study Design (4) S** Introduction to the basic concepts of epidemiology with emphasis on the appropriate use and interpretation of epidemiological methods.
- 7404 Pathogenic Mechanisms of Bacteria (3) V** *Prereq.: BIOL 4094, 4121, and 4122 or equivalent.* Relation of bacterial structure and function to the induction of disease; virulence factors, mechanisms of host-parasite interaction; vaccine strategies.
- 7410 Biochemistry of Viruses (3) S-E** *Prereq.: BIOL 4094 or equivalent. See BIOL 7289.*
- 7411 Molecular Mechanisms of Viral Pathogenesis (3) S-E** *Prereq.: BIOL 4190 or VMED 5230 or equivalent.* Virus-host interactions in disease induction emphasizing virus receptors and cell tropism, persistence and latency, oncogenesis, virus-induced immune suppression, and adverse responses of the host.
- 7413 Techniques in Flow Cytometry (1) F-O** *Prereq.: credit or registration in PBS 7423 or equivalent. 2 hrs. lab.* Instruction and laboratory practices in principles and applications of flow cytometry; topics include cell processing and staining with fluorescent probes as a measurement of immunophenotyping, DNA, and functional assays as well as computer generated data analysis.
- 7415 Current Experimental Methods in Parasitology (1-4) F-O** *Prereq.: a course in parasitology or equivalent. 2-8 hrs. lab. May be taken for a max. of 4 sem. hrs. when animal groups vary.* Specialized laboratory methods used to produce experimental infections, diagnose parasitism and recover and identify protozoan and helminth parasites of ruminants, horses, pigs, and companion animals.
- 7416 Mechanisms of Cellular Immunology and Immunopathology (3) S** *Prereq.: BIOL 4121 or equivalent.* Mechanisms involved in the development of protective and pathologic immune responses; emphasis on the humoral and cellular components of inflammation and immune response to microbial infections.
- 7417 Pathogenesis of Infectious and Parasitic Agents (1-4) S** *Prereq.: introductory course in immunology.* Introduction to the mechanisms of pathogenesis, pathology, and host immune interactions of viral, bacterial and parasitic disease agents.
- 7419 Population Dynamics and Ecology of Parasitic and Vector-Borne Diseases (3) S-O** *Prereq.: course in parasitology or equivalent.* Population regulation and distribution of parasitic and vector-borne diseases of veterinary and medical significance; disease risk in populations and control strategies based on population models, transmission dynamics, climate, nutrition, immunity, geographic information systems, and herd health programs.
- 7423 Cellular and Molecular Immunology (3) F-O** *Prereq.: BIOL 4121 or equivalent.* Cellular and molecular basis for the immune response; emphasis on molecular structure and function of antibodies and other receptors; role of lymphocyte subsets and cytokines in regulation of immune responses.
- 7424 Diseases of Aquatic Animals (3) F-E** *Prereq.: consent of instructor. Basic microbiology and/or parasitology strongly recommended. 2 hrs. lecture; 2 hrs. lab. Same as RNR 7424.*
- 7501 Veterinary Cellular Pathology (3) F** *Prereq.: DVM degree or equivalent and consent of instructor.* Basic mechanisms of pathogenesis and morphogenesis of disease at the cellular level; encompasses ultrastructural to functional pathologic changes in cells and extracellular matrix.
- 7502 Advanced Systemic Veterinary Pathology (5) V** *Prereq.: DVM degree or equivalent and credit or concurrent enrollment in PBS 7516.* Study of diseases by organ systems, using electron and light microscopy; pathogenesis of specific diseases.
- 7508 Histopathology Slide Conference (1) F,S** *Prereq.: DVM degree or equivalent and consent of instructor. May be taken for a max. of 4 hrs. of credit when topics vary.* Histopathological aspects of diseases in various animal species; direct student participation in morphological description and literature review.
- 7509 Surgical Pathology (1-2) V** *Prereq.: DVM degree or equivalent and PBS 7516. May be taken for a max. of 6 sem. hrs. credit when topics vary.* Gross and microscopic examination of surgery-derived specimens of diseased tissues from various animals; clinical case interpretation, histopathological description, diagnosis, prognosis, and consultation techniques.
- 7513 Pathology of Neoplasia (2) V** *Prereq.: DVM degree or equivalent and PBS 7501. 1 hr. lecture; 1 hr. lab.* Comparative gross, microscopic, immunochemical, and pathogenetic study of naturally occurring neoplastic disease in animals.
- 7514 Laboratory Animal Pathology (2) V** *Prereq.: DVM degree or equivalent and consent of instructor.* Macroscopic, microscopic, and pathogenetic study of the infectious, nutritional, degenerate, and toxic diseases that affect the commonly used species of laboratory rodents, rabbits, and primates.
- 7515 Veterinary Dermatopathology (2) V** *Prereq.: DVM degree or equivalent and PBS 7516. 1 hr. lecture; 2 hrs. lab.* Histopathological evaluation of integumentary system, tissue response, and diseases of various animal species of veterinary importance.
- 7516 Advanced Diagnostic Pathology of Animals (1-2) V** *Prereq.: DVM degree or equivalent. May be taken for a max. of 6 sem. hrs. of credit when topics vary.* Necropsy of various animals submitted for postmortem examination; gross, light, and electron microscopy; and immunohistochemistry; correlation and synthesis of clinical information, anatomical finding, and other ancillary laboratory results, for an accurate determination of disease diagnosis and pathogenesis.
- 7525 Advanced Veterinary Clinical Pathology (1-2) V** *Prereq.: DVM degree or equivalent. May be taken for a max. of 6 sem. hrs. of credit when topics vary.* Diagnosis and pathogenesis of hematological and clinical chemistry changes in blood from various animal species; understanding the applicable instrumentation, and methodologies of assays and quality assurance; interpretation of cytological specimens (tissue and fluids) and correlation with clinical and histopathological findings.
- 7530, 7531, 7532 Laboratory Animal Science I, II, III (2, 2, 2,) F,S,Su** *Prereq.: DVM degree or equivalent and consent of instructor.* Biology, husbandry, diseases, medical care, regulations, and experimental uses of the commonly used laboratory animal species; courses need not be taken in sequence.
-