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, oncopogenesis, 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-S 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, immunohistochemical, 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, degenerative, 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.