PATHOBIOLoGY AND DIAGNOSTIC INVESTIGATION PDI

Department of Pathobiology and Diagnostic Investigation
College of Veterinary Medicine

564 Topographic and Applied Anatomy of Live Horses and Cattle
Fall. 1(0-2) RB: Completion of year 2 of the graduate professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. SA: PTH 553
Identification of structures and landmarks of clinical significance in live horses and cattle in relation to the structures imaged using endoscopy, ultrasonography, radiology, MRI, and CT scans.

560 Introduction to Veterinary Cytology
Fall. 1(0-2) RB: Completion of year 2 of the graduate professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. Principles of sample collection, slide preparation, fluid analysis and interpretation using clinical case material.

590 Selective Topics in Pathobiology and Diagnostic Investigation
Fall, Spring. 1(1-0) RB: Completion of year 1 of the graduate professional program in the College of Veterinary Medicine R: Open to graduate-professional students in the College of Veterinary Medicine. Important field of study in Pathobiology and Diagnostic Investigation.

551 General Pathology
Fall. 2(1-2) RB: Completion of year 1 of the graduate professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. SA: PTH 553
Host responses to injury, including cell degeneration, necrosis, disturbances of growth and development, neoplasia, circulatory disturbances, and inflammation.

553 Systemic Pathology
Spring. 4(3-2) RB: Completion of Year 1 in the graduate professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. Anatomic pathology of digestive, urinary, respiratory, integumentary, cardiovascular, nervous, reproductive, musculoskeletal, endocrine, and lymphatic systems.

554 Veterinary Clinical Pathology
Spring. 3(2-2) RB: Completion of Year 2 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. Collection and assessment of body fluids and tissue. Interpretation of test results. Pathophysiological basis for test abnormalities. Basic technical laboratory competencies.

551 International Veterinary Medicine
Fall. 1(1-0) RB: Completion of year 2 of the graduate professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. Veterinary sciences and the needs of international countries.

562 Introduction to Emerging and Foreign Animal Diseases
Spring. 1(1-0) RB: Completion of year 1 of the graduate professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. Emerging and exotic animal diseases, their recognition, diagnosis, and proper reporting.

563 Special Problems in Veterinary Pathology
Fall, Spring. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. RB: Completion of Semester 5 of the graduate professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. Supervised off-campus experience or project involving gross pathology, histopathology, ultrastructural pathology, clinical pathology, or molecular pathology. Experience may emphasize diagnostic pathology or research. Settings may include, but are not limited to other colleges of veterinary medicine, private industry, and governmental institutions.

630 Diagnostic Pathology Clerkship
Fall, Spring. 3 credits. RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. SA: PTH 630 Pathology, clinical pathology, or molecular pathology. Experience may emphasize diagnostic pathology or research. Settings may include, but are not limited to other colleges of veterinary medicine, private industry, and governmental institutions.

634 Endocrinology Clerkship
Spring. 3 credits. RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. SA: PTH 634 Principles of endocrinology and diagnosis of endocrinology disorders. Case review and interpretation.

635 Special Problems in Histopathology and Cytology Clerkship
Summer. 3 credits. P: PDI 630 RB: Completion of Semester 5 of the professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. SA: PTH 635 Study of the histopathology and clinical cytology of various diseases of veterinary importance.

636 Aquatic Animal Medicine Clerkship
Spring. 3 credits. RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. SA: PTH 636 Clinical, laboratory, and ecological principles of disease of aquatic organisms with special emphasis on impacts and management. Critical analysis and review of selected case studies and disease control regimen.

637 Poultry Medicine Clerkship
Fall. 3 credits. RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. Diagnosis, treatment, and prevention of viral, bacterial, parasitic, fungal, and nutritional diseases of commercial poultry. Biosecurity principles, insect and rodent control, and the proper selection and use of disinfectants. Field trips required.
804 Molecular and Developmental Neurobiology
Fall. 3(3-0) Interdepartmental with Integrative Biology and Neuroscience and Pharmacology and Toxicology and Psychology. Administered by Neuroscience. RB: Bachelor's degree in a Biological Science or Psychology. R: Open to graduate students in Neuroscience major.
Nervous system specific gene transcription and translation. Maturation, degeneration, plasticity, and repair in the nervous system.

816 Integrative Toxicology: Mechanisms, Pathology and Regulation
Fall of odd years. 3(3-0) Interdepartmental with Animal Science and Biochemistry and Molecular Biology and Pharmacology and Toxicology. Administered by Pharmacology and Toxicology. Biochemical, molecular, and physiological mechanisms of toxicity. Functional and pathological responses of major organ systems to chemical insult. Mechanisms of mutagenesis, carcinogenesis, and reproductive toxicity. Concepts in risk and safety assessment.

830 Concepts in Molecular Biology
Fall, Spring. 2(2-0) Interdepartmental with Biomedical Laboratory Diagnostics. Administered by Biomedical Laboratory Diagnostics. RB: One course in biochemistry or concurrently. SA: MT 830 Techniques and theories of molecular biology. Nucleic acid synthesis and isolation, enzymatic digestion and modification, electrophoresis, hybridization, amplification, library construction, and cloning.

851 Advanced General Pathology
Fall of even years. 3(3-0) R: Approval of department. SA: PTH 851
Fundamental concepts of cell injury, inflammation, and oncogenesis. Mechanisms of disease.

853 Advanced Systemic Pathology
Spring of odd years. 3(0-6) R: Approval of department. SA: PTH 853
Pathological aspects of the nervous, endocrine, cardiovascular, respiratory, urinary, genital, musculoskeletal, integumentary, and special sense systems.

854 Advanced Clinical Pathology
Fall of odd years. 3(2-2) RB: Doctor of Veterinary Medicine degree. R: Approval of department. SA: PTH 854
Interpretation and pathogenesis of veterinary clinical pathology laboratory abnormalities.

870 Laboratory Animal Pathology
Summer of even years. 2(1-2) RB: Background in histopathology, veterinary medicine, and systemic pathology R: Approval of department.
Diseases and pathology of laboratory animal species including mice, rats, ferrets, rabbits, primates, and fish. Use of laboratory animals for toxicological pathology in industry.

890 Problems in Veterinary Pathology
Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department. SA: PTH 890
Faculty supervised work on an experimental, theoretical, or applied problem in veterinary pathology.

891 Problems in Pathobiology
Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department. SA: PTH 891
Faculty supervised work on an experimental, theoretical, or applied problem in pathobiology and diagnostic investigation.

892 Pathology Seminar
Fall, Spring. 1(1-0) A student may earn a maximum of 3 credits in all enrollments for this course. R: Approval of department. SA: PTH 892
Presentation and discussion of current topics in pathology by departmental graduate students, faculty, or outside speakers.

893 Pathology Case Discussion Seminar
Fall, Spring. 1(1-0) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to graduate students or lifelong graduate students in the Department of Pathobiology and Diagnostic Investigation. Approval of department. SA: PTH 893
Utilization of a group of theme-based veterinary cases to train pathology residents and graduate students in diagnostic pathology.

894 Diagnostic Histopathology of Neoplastic Diseases of Domestic Animals
Spring of even years. 3(2-2) R: Approval of department.
Histologic diagnosis of neoplastic diseases of domestic animals, including prognostic criteria, grading systems, and ancillary techniques to aid in diagnosis and prognosis.

899 Master's Thesis Research
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 10 credits in all enrollments for this course. R: Open to master's students in the Department of Pathobiology and Diagnostic Investigation. Approval of department. SA: PTH 899
Master's thesis research.

999 Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 36 credits in all enrollments for this course. R: Open to doctoral students in the Department of Pathobiology and Diagnostic Investigation. Approval of department. SA: PTH 999
Doctoral dissertation research.