

## PATHOBIOLOGY AND DIAGNOSTIC INVESTIGATION

PDI

### Department of Pathobiology and Diagnostic Investigation College of Veterinary Medicine

- 514 Veterinary Neurosciences**  
Fall. 2(2-0) R: Open to graduate-professional students in the College of Veterinary Medicine. SA: PDI 515, PDI 517  
Introduction to the sensory, motor, and the special senses systems as they relate to domestic animals.
- 516 Veterinary Histology and Cell Biology**  
Fall. 4(3-2) R: Open to graduate-professional students in the College of Veterinary Medicine. SA: ANTV 516  
Principles of developmental, cellular, and molecular biology as related to veterinary medicine.
- 518 Comparative Veterinary Gross Anatomy I**  
Fall. 4(2-6) R: Open to graduate-professional students in the College of Veterinary Medicine.  
Introduction to canine anatomy through lectures and dissection.
- 520 Veterinary Tissue Structure and Function**  
Fall. 4(3-3) R: Open to graduate-professional students in the College of Veterinary Medicine.  
Microscopic anatomy and cellular physiology of vertebrate tissues. Introduction to the use of the microscope.
- 551 General Pathology**  
Spring. 3(2-2) 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 551  
Host responses to injury, including cell degeneration, necrosis, disturbances of growth and development, neoplasia, circulatory disturbances, and inflammation.
- 553 Clinical and Systemic Pathology**  
Fall. 5(4-2) RB: Successful completion of year 1 in the graduate professional program in the College of Veterinary Medicine. R: Open to graduate-professional students. SA: PTH 553  
Hematology. Pathology of hematopoietic, lymphatic, digestive, urinary, respiratory, integumentary, cardiovascular, nervous, reproductive, musculoskeletal, endocrine, ocular, and otic systems.
- 610 Veterinary Gross Anatomy Dissection**  
Fall, Spring, Summer. 1 to 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. SA: ANTV 610  
Dissection and prosection of selected regions of domestic animals.
- 611 Research Problems in Veterinary Anatomy**  
Fall, Spring, Summer. 1 to 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. SA: ANTV 611  
Veterinary gross anatomy, cell biology, histology, or neurobiology.
- 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  
Necropsy and clinical pathology techniques and interpretation of clinical findings, post mortem findings, and diagnostic laboratory results.
- 631 Necropsy Clerkship**  
Fall, Spring. 3 credits. P:M: PDI 630 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 631  
Supervised necropsy. Interpretation and presentation of findings.
- 632 Problems in Veterinary Pathology**  
Fall, Spring, Summer. 1 to 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. SA: PTH 632  
Supervised projects involving gross pathology, histopathology, clinical pathology, or molecular pathology.
- 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**  
Spring. 3 credits. P:M: 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**  
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 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.
- 804 Molecular and Developmental Neurobiology**  
Fall. 3(3-0) Interdepartmental with Neuroscience and Pharmacology and Toxicology and Psychology and Zoology. 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. P:M: PHM 819  
Biochemical, molecular, and physiological mechanisms of toxicology. Functional and pathological responses of major organ systems to chemical insult. Mechanisms of mutagenesis, carcinogenesis, and reproductive toxicology. Concepts in risk and safety assessment.
- 822 Aquatic Animal Medicine**  
Fall. 3(2-2) Interdepartmental with Fisheries and Wildlife and Veterinary Medicine. Administered by Fisheries and Wildlife. RB: (FW 423) or prior course work in animal ecology, microbiology, parasitology or pathology  
Health management techniques and pathobiological processes relating to the etiology, diagnosis, and control of diseases affecting aquatic animal populations and communities.
- 830 Concepts in Molecular Biology**  
Fall, Spring. 2(2-0) Interdepartmental with Medical Technology. Administered by Medical Technology. RB: One course in biochemistry or concurrently.  
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) R: Approval of department. SA: PTH 854  
Hematology, including anemias, leukocyte responses and hemostasis. Cytology including inflammation, infection, and neoplasia. Evaluation of clinical chemistry data.
- 857 Correlative Diagnostic Pathology**  
Fall, Spring, Summer. 3(0-9) R: Approval of department.  
Diagnosis of animal diseases by necropsy and ancillary tests. Correlation of diagnostic test results with history, laboratory data, and morphologic findings.

## Pathobiology and Diagnostic Investigation—PDI

### 858 Pathology of Avian Diseases

Spring of even years. 2(2-0) R: Approval of department. SA: PTH 858

Disease and pathology affecting domestic poultry, pet birds, and wild birds.

### 859 Avian Histopathology Laboratory

Spring of even years. 1(0-2) R: Approval of department. SA: PTH 859

Recognition and description of microscopic lesions of avian diseases.

### 870 Laboratory Animal Pathology

Summer of odd 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, including current 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.

### 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 masters students in the Department of Pathobiology and Diagnostic Investigation. Approval of department. SA: PTH 899

Master's thesis research.

### 901 Investigating the Lung

Fall of even years. 2(2-0) Interdepartmental with Large Animal Clinical Sciences and Physiology. Administered by Large Animal Clinical Sciences. R: Open to graduate students.

Integrative biology of the lung. Structure and function. Molecular, cellular, and organ responses to injury.

### 999 Doctoral Dissertation Research

Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 42 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.