## Veterinary Gross Anatomy

### Comparative Veterinary Gross Anatomy I (Fall, 4(2-6) R)
Open to graduate-professional students in the College of Veterinary Medicine. Introduction to the sensory, motor, and special senses systems as they relate to domestic animals.

### Comparative Veterinary Gross Anatomy II (Spring, 4(2-6) R)
Open to graduate-professional students in the College of Veterinary Medicine. Introduction to comparative anatomy of all domestic animals through lectures and dissection. Clinically relevant anatomy.

### 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.

### Veterinary Organ Microanatomy (Spring, 2(1-3) R)
Open to graduate-professional students in the College of Veterinary Medicine. Microanatomy of organ systems and relationships of structure to function.

### General Pathology (Fall, 2(1-2) R)
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.

### Systemic Pathology (Spring, 4(2-2) R)
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. SA: PTH 553
Anatomic pathology of digestive, urinary, respiratory, integumentary, cardiovascular, nervous, reproductive, musculoskeletal, endocrine, and lymphatic systems.

### Veterinary Clinical Pathology (Fall, Spring, 3(2-2) R)
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.

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

### Topographic and Applied Anatomy of Live Cats and Dogs (Spring, 1(0-2) R)
Open to graduate-professional students in the College of Veterinary Medicine. Identification of structures and landmarks of clinical significance in live cats and dogs in relation to the structures imaged using endoscopy, ultrasonography, radiology, MRI, and CT scans.

### Selective Topics in Pathobiology and Diagnostic Investigation (Fall, Spring, 1(1-0) R)
Open to graduate-professional students 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.

### Veterinary Gross Anatomy Dissection (Fall, Spring, Summer, 1 to 3 credits)
Open to graduate-professional students in the College of Veterinary Medicine. SA: ANTV 610
Dissection and procurement of selected regions of domestic animals.

### Research Problems in Veterinary Anatomy (Fall, Spring, Summer, 1 to 3 credits)
Open to graduate-professional students in the College of Veterinary Medicine. SA: ANTV 611
Veterinary gross anatomy, cell biology, histology, or neurobiology.

### Diagnostic Pathology Clerkship (Fall, Spring, 3 credits)
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, postmortem findings, and diagnostic laboratory results.

### Problems in Veterinary Pathology (Fall, Spring, Summer, 1 to 3 credits)
Open to graduate-professional students in the College of Veterinary Medicine. SA: PTH 631
Supervised necropsy. Interpretation and presentation of findings.

### Endocrinology Clerkship (Spring, 3 credits)
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.

### Special Problems in Histopathology and Cytology Clerkship (Spring, 3 credits)
Open to graduate-professional students in the College of Veterinary Medicine. SA: PTH 635
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.

### Aquatic Animal Medicine Clerkship (Fall, Spring, 3 credits)
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.

### Molecular and Developmental Neurobiology (Fall, Spring, 3(3-0) Interdepartmental with Neuroscience and Pharmacology and Toxicology and Psychology and Zoology)
Bachelor’s degree in a Biological Science or Psychology. R: Open to graduate students in Neuroscience major.
Nervous system specific gene transcription and translation. Maturational degeneration, plasticity, and repair in the nervous system.
Pathobiology and Diagnosis Investigation—PDI

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: PHM 819

820 Advanced Human Hematology
Fall of odd years. 2(2-0) Interdepartmental with Biomedical Laboratory Diagnostics. Administered by Biomedical Laboratory Diagnostics. RB: BLD 424
Pathogenesis, mechanisms, and morphological pictures. Laboratory tests and interpretation of results.

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 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) 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.

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.

860 Clinical Laboratory Diagnosis of Infectious Diseases
Fall of odd years. 2(2-0) Interdepartmental with Biomedical Laboratory Diagnostics. Administered by Biomedical Laboratory Diagnostics. RB: MMG 451 and MMG 464 and BLD 434 SA: MT 860
Laboratory techniques for diagnosing infectious diseases in humans. Emphasis on differential diagnosis and correlation of microbiological results with serology, hematology, and clinical chemistry.

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.

894 Diagnostic Histopathology of Neoplastic Diseases of Domestic Animals
Summer. 2(1-2) 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 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.

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.

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.