

880. Special Problems

Fall, Winter, Spring, Summer. 1 to 6 credits. May re-enroll for a maximum of 10 credits. Approval of department.

Advanced work for non-thesis projects or advanced individual study in recreation: policy, land use, planning, systems administration and management, economics, recreation forestry, commercial recreation enterprises, recreation and social problems, environmental interpretation, travel and touring, spatial analysis, leisure concepts, research.

882. Recreation Research Seminar

Fall, Winter. 2(2-0) May re-enroll for a maximum of 4 credits. Approval of department.

Evaluation of a variety of studies presented by the scientists to illustrate how principles are applied to recreation research project management.

899. Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

PATHOLOGY PTH

**College of Human Medicine
College of Osteopathic Medicine
College of Veterinary Medicine**

404. General Pathology

Fall. 5(3-6) ANT 420, Junior Medical Technology majors, or approval of department.

407. Clinical Pathology

Winter, Spring. 3 or 5 credits. 404 or approval of department.

Theory and technics in hematology, coagulation, blood banking, clinical microscopy and chemical pathology, including urinalysis, blood chemistry and continuous flow analysis.

408. Clinical Pathology

Winter, Spring. 3 or 5 credits. 404 or approval of department.
Continuation of 407.

502. Human Pathology I

Winter. 2(2-0) Second term medical students or approval of department.

Pathologic processes and specific disease syndromes with emphasis on clinical applications. Concepts of disease and pathologic process in selected common diseases or conditions for the beginning medical student with a limited knowledge of anatomy, physiology and biochemistry.

503. Human Pathology II

Spring. 3(2-2) 502 or approval of department.

A study of pathology in which general pathology, system pathology and laboratory diagnosis are combined in a system-oriented sequence. The first four weeks are devoted to hematology, the remaining six to neuropathology.

504. Human Pathology III

Fall. 3(2-2) 503 or approval of department.

A continuation of PTH 503. Diseases of the cardiovascular system, including stress effects, arteriosclerosis and disorders of autonomic and endocrine regulation. Laboratory sessions include the study of histologic sections.

505. Human Pathology IV

Winter. 3(2-2) 504 or approval of department.

A continuation of 504. The systems include: lung, kidney, male genitourinary and bone and joints. In the laboratory sections, gross and microscopic changes in diseased tissues are studied and correlated with lecture material. Separate lab sessions covering pulmonary function tests, acid-base balance and urinalysis are included.

506. Human Pathology V

Spring. 3(2-2) 505 or approval of department.

A continuation of PTH 505. The systems include gastrointestinal tract (including liver and pancreas), female reproductive tract and breast.

550. Veterinary Pathology I

Spring. 6(3-6) Admission to the professional veterinary program, or approval of department.

Principles of pathology, including causes of disease, disturbances of cell growth and metabolism, necrosis, circulatory changes, inflammation and neoplasms; introduction to clinical hematology.

608. Pathology Clerkship

Fall, Winter, Spring, Summer. 3 to 17 credits. May re-enroll for a maximum of 17 credits. H M 602 or approval of department.

Anatomic and clinical pathology, with emphasis on clinical-pathological correlations. Conducted in the pathology departments of affiliated hospitals.

650. Applied Veterinary Pathology

Fall, Winter, Spring, Summer. 5(1-12) Completion of eighth term of professional veterinary medicine curriculum.

Instruction, demonstration and practice in laboratory diagnosis of animal diseases, using the techniques of necropsy and clinical pathology and correlating the results with those of microbiology, toxicology and histopathology.

800. Problems in Pathology

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

Elective work for students in veterinary medicine interested in pathology as a speciality, or in the special pathology of diseases of a particular class or species, and for graduate minors and majors interested in pathological techniques or in non-thesis research.

801. Pathology Seminar

Fall, Winter, Spring, Summer. 1(1-0) May re-enroll for a maximum of 3 credits for M.S. candidates and 6 credits for Ph.D. candidates. Approval of department.
Seminar required of all majors in pathology.

802. Advanced Histopathology

Fall. 5(6-0) Approval of department.

A relatively advanced and comprehensive study in the histopathologic aspects of systemic and special pathology; independent study in the field of pathogenesis and microscopic pathology.

803. Advanced Histopathology

Winter. 5(6-0) 802 and approval of department.

Continuation of 802.

805. Pathology Proseminar

Fall. 2(2-0) Approval of department.

Philosophy and methods of research; theses and other research reports; literature review; illustration of research data; practical assignments.

810. Post-Mortem Diagnosis

Winter, Summer. 3(0-9) May re-enroll for a maximum of 6 credits. Approval of department. Required of majors.

Instruction and practice in diagnosis of animal diseases by means of necropsy and other laboratory techniques. Emphasis will be placed upon correlation and interpretation of gross and microscopic lesions and the results of other tests.

811. Advanced Clinical Pathology

Fall. 3(1-6) Approval of department.

Application of standard and newer techniques, and instrumentations in hematology, biochemistry, parasitology, etc., to the diagnosis of disease.

812. Hematology

Winter. 5(3-4) 408 or approval of department.

Pathology of diseases of blood and an analysis of diagnostic laboratory procedures.

820. Oncology

Spring. 3(6-0) Approval of department.

A study of benign and malignant neoplasms with emphasis on gross and microscopic characteristics and diagnosis.

826. Laboratory Animal Pathology

Spring. 4(3-3) Graduate status and approval of department.

Macro and microscopic studies on the diseases of laboratory animals with special emphasis on naturally-occurring diseases which might interfere with the interpretation of experimental results.

899. Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

910. Biology of Disease

Fall. 3(2-3) Approval of department. Primarily for students in the biological sciences.

Basic morphologic changes in disease with emphasis on the related physiologic pathology. Laboratory includes relevant problems in post-mortem diagnosis.

980. Histopathologic Diagnosis

Fall, Winter, Spring, Summer. 3(0-9) May re-enroll for a maximum of 6 credits. 803, 820.

Trimming, histopathologic examination, description, diagnosis and reporting of specimens from biopsy and necropsy.

990. Advanced Correlative Pathology

Fall, Winter, Spring, Summer. 5(0-15) May re-enroll for a maximum of 15 credits. Approval of department.

Experience in morphologic and clinical pathology and correlation of these with the clinical aspects of disease.

999. Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.