

# VETERINARY PATHOLOGY (V PTH)

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**Any experimental courses offered by V PTH can be found at:**

registrar.iastate.edu/faculty-staff/courses/explisting/ (<http://www.registrar.iastate.edu/faculty-staff/courses/explisting/>)

**Courses primarily for professional curriculum students:**

**V PTH 342: Anatomic Pathology I**

(Dual-listed with V PTH 542). (2-2) Cr. 3. S.

*Prereq: First-year classification in veterinary medicine.*

Basic pathology with emphasis on disease in animals and introduction to disease by system.

**V PTH 353: Introductory Parasitology**

(Cross-listed with BIOL, MICRO). (3-0) Cr. 3. S.

*Prereq: BIOL 212*

Biology and host-parasite relationships of major groups of animal parasites, and techniques of diagnosing and studying parasites.

**V PTH 372: Anatomic Pathology II**

(Dual-listed with V PTH 572). (3-3) Cr. 4. F.

*Prereq: V PTH 342.*

Response to injury by each body system.

**V PTH 376: Veterinary Parasitology**

(Dual-listed with V PTH 576). (3-3) Cr. 4. F.

*Prereq: For V PTH 376, prereq: Second-year classification in veterinary medicine. For V PTH 576, prereq: Graduate classification and V PTH 542.*

Parasitic diseases of domestic animals and their control.

**V PTH 377: Case Study III**

(0-4) Cr. 2. F.

*Prereq: Second-year classification in veterinary medicine*

Clinical applications of the basic sciences taught concurrently in the fall semester of the second year curriculum in veterinary medicine.

**V PTH 401: Basics of Medical Terminology**

(1-0) Cr. 1. F.

Discussion of prefixes, suffixes, and roots (mostly from Latin and Greek) that comprise medical terms.

**V PTH 402: Introduction to Pathology**

(Cross-listed with BIOL). (3-0) Cr. 3. F.

*Prereq: BIOL 211 and BIOL 212 with labs*

Introductory exploration of pathology as a medical discipline. This includes study of disease mechanisms via an introduction to general pathology topics (cell degeneration, necrosis, disturbances of growth, disturbances of blood flow, inflammation, neoplasia) and organ system-specific response to injury.

**V PTH 409: Introduction to Veterinary Cytology and Laboratory**

**Techniques**

(0-2) Cr. 1. S.

*Prereq: Third-year classification in veterinary medicine*

Description, interpretation, and techniques for cellular preparations from tissues and body fluids.

**V PTH 425: Clinical Pathology**

(2-4) Cr. 4. S.

*Prereq: V PTH 372*

Principles of clinical hematology, clinical chemistry, and urinalysis in domestic animals.

**V PTH 456: Necropsy Laboratory Practicum**

Cr. 1. Repeatable.

*Prereq: Fourth-year classification in veterinary medicine*

Practicum in postmortem examination and diagnosis.

**V PTH 457: Clinical Pathology Laboratory Practicum**

Cr. 1. Repeatable.

*Prereq: Fourth-year classification in veterinary medicine*

Methodology in clinical chemistry, hematology and cytology; practice in interpretation of laboratory data.

**V PTH 490: Independent Study**

Cr. arr. Repeatable.

*Prereq: Permission of instructor and department chair*

**V PTH 492: Orientation for International Experience**

(2-0) Cr. 1. Repeatable. S.

*Prereq: Classification in veterinary medicine*

8 weeks. Predeparture orientation for group study abroad. Cultural considerations for the study abroad experience and a conversational language introduction. Out of class work will be assigned. Offered on a satisfactory-fail basis only.

**V PTH 495: Clinical Competency Skills Checklist/Remediation**

Cr. R. S.

*Prereq: 4th year classification in Veterinary Medicine*

In order to graduate, all 4th year veterinary students are required to complete a checklist of clinical procedures and complete any assigned remediation (based on evaluation in core clinical rotations). These requirements are tied to the college's AVMA COE accreditation, and this course is used to document completion of those requirements. Offered on a satisfactory-fail basis only.

**V PTH 496: International Experience**

Cr. 1-12. Repeatable. F.S.SS.

*Prereq: Second-year classification in veterinary medicine*

International Preceptorships and Study Abroad Group programs. Opportunities for students to be involved in applied clinical, production, and/or research experience in international locations. The course consists of 40 hour per week experiential learning opportunities.

**Courses primarily for graduate students, open to qualified undergraduates:**

**V PTH 503: Principles of Pathology**

(3-0) Cr. 3. S.

*Prereq: Graduate classification; permission of instructor*

Introductory exploration of pathology as a medical discipline. This includes study of disease mechanisms via an introduction to general pathology topics (cell degeneration, necrosis, disturbances of growth, disturbances of blood flow, inflammation, neoplasia) and organ system-specific response to injury.

**V PTH 530: Teaching and Learning in Veterinary Medical Education**

(3-0) Cr. 3. Alt. F., offered even-numbered years.

Study of principles of teaching and learning as they relate to veterinary medical education. These include: theories of learning, analyzing content/learners/context, identifying goals, identifying appropriate instructional strategies (specific to medical education), matching assessment processes to goals and strategies, common curricular approaches and decision-making processes in medical education, and the scholarship of teaching and learning for veterinary medical educators.

**V PTH 542: Anatomic Pathology I**

(Dual-listed with V PTH 342). (2-2) Cr. 3. S.

*Prereq: First-year classification in veterinary medicine.*

Basic pathology with emphasis on disease in animals and introduction to disease by system.

**V PTH 548: Diagnostic Parasitology Laboratory**

Cr. 1-3. Repeatable. F.S.SS.

*Prereq: V PTH 376 or V PTH 576*

Contact hours are (0-3 to 0-9). A laboratory experience in the technical and applied aspects of veterinary parasitology.

**V PTH 549: Clinical Pathology Laboratory**

(0-3) Cr. 1. Repeatable. F.S.SS.

*Prereq: V PTH 457; permission of instructor*

Laboratory procedures and clinical interpretations with emphasis on hematology, cytology, and clinical chemistry. Offered on a satisfactory-fail basis only.

**V PTH 550: Surgical Pathology Laboratory**

Cr. 1-3. Repeatable. F.S.SS.

*Prereq: V PTH 570 or V PTH 571; permission of instructor*

Contact hours are (0-3 to 0-9). Diagnosis of lesions in biopsy specimens; classification of neoplasms. Course includes rotation through departmental biopsy service and review of selected cases from departmental archives. Offered on a satisfactory-fail basis only.

**V PTH 551: Postmortem Pathology Laboratory**

Cr. 1-3. Repeatable. F.S.SS.

*Prereq: V PTH 542; permission of instructor*

Contact hours are (0-3 to 0-9). Necropsy techniques of animals with emphasis on gross and microscopic lesions and diagnosis. Offered on a satisfactory-fail basis only.

**V PTH 554: Ethics in Scientific Research and Writing**

(1-0) Cr. 1. Alt. S., offered even-numbered years.

*Prereq: Graduate classification*

Ethical conduct in biomedical research, criticism, writing, and adherence to regulations. Offered on a satisfactory-fail basis only.

**V PTH 570: Systemic Pathology I**

(4-0) Cr. 4. Alt. F., offered even-numbered years.

*Prereq: Graduate Classification; V PTH 372 or permission of instructor*

Pathology of the respiratory, reproductive, endocrine, musculoskeletal, and cardiovascular systems. Emphasis on pathogenesis and histopathology correlated with interpretive clinical pathology where appropriate.

**V PTH 571: Systemic Pathology II**

(4-0) Cr. 4. Alt. F., offered odd-numbered years.

*Prereq: Graduate Classification; V PTH 372 or permission of instructor*

Pathology of the integumentary, urinary, digestive, lymphoid, and nervous systems and special senses. Emphasis on pathogenesis and histopathology correlated with interpretive clinical pathology where appropriate.

**V PTH 572: Anatomic Pathology II**

(Dual-listed with V PTH 372). (3-3) Cr. 4. F.

*Prereq: V PTH 342.*

Response to injury by each body system.

**V PTH 576: Veterinary Parasitology**

(Dual-listed with V PTH 376). (3-3) Cr. 4. F.

*Prereq: For V PTH 376, prereq: Second-year classification in veterinary medicine. For V PTH 576, prereq: Graduate classification and V PTH 542.*

Parasitic diseases of domestic animals and their control.

**V PTH 590: Special Topics**

Cr. 1-4. Repeatable. F.S.SS.

*Prereq: Permission of instructor*

**V PTH 590A: Special Topics: Veterinary Pathology**

Cr. 1-4. Repeatable. F.S.SS.

*Prereq: Permission of instructor*

**V PTH 590B: Special Topics: Veterinary Parasitology**

Cr. 1-4. Repeatable. F.S.SS.

*Prereq: Permission of instructor*

**V PTH 590C: Special Topics: Veterinary Toxicology**

Cr. 1-4. Repeatable. F.S.SS.

*Prereq: Permission of instructor*

**V PTH 590D: Special Topics: Veterinary Clinical Pathology**

Cr. 1-4. Repeatable. F.S.SS.

*Prereq: Permission of instructor*

**V PTH 590E: Special Topics: Other**

Cr. 1-4. Repeatable. F.S.SS.

*Prereq: Permission of instructor*

**V PTH 596: International Preceptorship**

(0-40) Cr. 1-12. Repeatable. F.S.SS.

*Prereq: Admission to graduate college*

International Preceptorships and Study Abroad Group programs.

This course will provide opportunities for students to be involved in applied clinical, production, and/or research experiences in international locations. The course consists of 40 hour per week experiential learning opportunities. Offered on a satisfactory-fail basis only.

**V PTH 599: Creative Component Research**

Cr. arr. Repeatable.

Course for departmental graduate research.

**V PTH 599A: Creative Component Research: Veterinary Pathology**

Cr. arr. Repeatable.

Course for departmental graduate research.

**V PTH 599B: Creative Component Research: Veterinary Parasitology**

Cr. arr. Repeatable.

Course for departmental graduate research.

**V PTH 599C: Creative Component Research: Veterinary Toxicology**

Cr. arr. Repeatable.

Course for departmental graduate research.

**V PTH 599D: Creative Component Research: Veterinary Clinical Pathology**

Cr. arr. Repeatable.

Course for departmental graduate research.

**Courses for graduate students:****V PTH 604: Pathology Case Seminar**

Cr. 1-2. Repeatable. F.S.

*Prereq: permission of instructor*

Description and interpretation of microscopic lesions and clinical pathology data collected from cases of natural and experimental disease. Offered on a satisfactory-fail basis only.

**V PTH 605: Current Topics Seminar**

Cr. 1. Repeatable. F.S.SS.

A seminar of graduate research at the time of thesis or dissertation defense.

**V PTH 606: Diagnostic Interpretation**

Cr. R. F.S.SS.

*Prereq: permission of instructor*

A comprehensive examination in the diagnostic description and interpretation of case materials relevant to veterinary pathology and areas of specialization for the graduate degree preliminary examination.

**V PTH 606A: Diagnostic Interpretation: Veterinary Pathology**

Cr. R. F.S.SS.

*Prereq: permission of instructor*

A comprehensive examination in the diagnostic description and interpretation of case materials relevant to veterinary pathology and areas of specialization for the graduate degree preliminary examination.

**V PTH 606B: Diagnostic Interpretation: Veterinary Parasitology**

Cr. R. F.S.SS.

*Prereq: permission of instructor*

A comprehensive examination in the diagnostic description and interpretation of case materials relevant to veterinary pathology and areas of specialization for the graduate degree preliminary examination.

**V PTH 606C: Diagnostic Interpretation: Veterinary Toxicology**

Cr. R. F.S.SS.

*Prereq: permission of instructor*

A comprehensive examination in the diagnostic description and interpretation of case materials relevant to veterinary pathology and areas of specialization for the graduate degree preliminary examination.

**V PTH 606D: Diagnostic Interpretation: Veterinary Clinical Pathology**

Cr. R. F.S.SS.

*Prereq: permission of instructor*

A comprehensive examination in the diagnostic description and interpretation of case materials relevant to veterinary pathology and areas of specialization for the graduate degree preliminary examination.

**V PTH 655: Cellular and Molecular Pathology I**

(3-0) Cr. 3. Alt. S., offered odd-numbered years.

*Prereq: Graduate course in biochemistry, genetics, or cell biology*

Cellular and molecular mechanisms of cell injury, cellular responses to injury, and inflammation.

**V PTH 656: Cellular and Molecular Pathology II**

(Cross-listed with TOX). (3-0) Cr. 3. Alt. S., offered even-numbered years.

*Prereq: Graduate course in biochemistry, genetics, or cell biology*

Cellular and molecular mechanisms of carcinogenesis.

**V PTH 660: Pathogenesis of Persistent Infections**

(Cross-listed with V MPM). (2-0) Cr. 2. Alt. S., offered odd-numbered years.

*Prereq: Permission of instructor*

Study of current knowledge related to host pathogen interactions during persistent and chronic infections by bacteria, viruses and parasites.

**V PTH 661: Comparative Immunology and Infectious Disease**

(Cross-listed with IMBIO). (2-0) Cr. 2. Alt. S., offered odd-numbered years.

*Prereq: Graduate level Immunology or permission of instructor.*

Discuss and define similarities and differences of varied host responses to infectious challenge. Learning will focus on comparative aspects of the host response and the unique aspects of immunity from different organisms, while highlighting molecular and mechanistic similarities of pathogen recognition, response and resolution.

**V PTH 679: Histopathology of Laboratory Animals**

(1-2) Cr. 2.

*Prereq: V PTH 570 or V PTH 571; permission of instructor*

Study of microscopic lesions in laboratory animals with emphasis on description, etiology, pathogenesis, and diagnosis.

**V PTH 699: Research**

Cr. arr. Repeatable.

Course restricted to graduate program within the department.

**V PTH 699A: Research: Veterinary Pathology**

Cr. arr. Repeatable.

Course restricted to graduate program within the department.

**V PTH 699B: Research: Veterinary Parasitology**

Cr. arr. Repeatable.

Course restricted to graduate program within the department.

**V PTH 699C: Research: Veterinary Toxicology**

Cr. arr. Repeatable.

Course restricted to graduate program within the department.

**V PTH 699D: Research: Veterinary Clinical Pathology**

Cr. arr. Repeatable.

Course restricted to graduate program within the department.