

V T 61: PATHOPHYSIOLOGY OF ANIMAL DISEASE

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2022
Units:	4
Hours:	4 lecture per week (48 total per quarter)
Prerequisite:	BIOL 41.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Student Learning Outcomes

- Know and explain the basic pathophysiology of the common diseases of domestic animals.
- Identify common ecto- and endoparasites of domestic animals and explain the clinical significance of each to veterinary patients.

Description

Pathophysiology of animal disease is presented, using a "systems" approach. Students learn mechanisms of response to disease of common domestic animals. Includes study of the common diseases of domestic animals with emphasis on the dog and cat. Emphasis is on learning how patients respond to disease and how the effective veterinary technician assesses and intervenes to benefit the patient. Topics include: etiology, pathogenesis, clinical signs, diagnostics, and nursing management of selected diseases. Principles of vaccination, disease prevention, public health, client education, and zoonosis. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.

Course Objectives

The student will be able to:

- Describe physiology of the immune system and immune functions within specific organ systems.
- Explain how vaccinations protect animals from disease.
- Explain the role of veterinary technicians in the compassionate nursing care of patients.
- Explain the etiology, pathogenesis, clinical signs, diagnostics, treatment, nursing assessments and clinical management of selected diseases organized by body systems.
- Describe select infectious and parasitic diseases of domestic animals, including etiology, mode of transmission, natural history or life cycle, pathogenesis, clinical signs, diagnostic procedures and clinical nursing management.
- Explain the role of the veterinary technician in "One Health."
- Identify common pathogenic organisms by gross and microscopic examination.

- Create a plan for learning about disease and the role of the veterinary nurse.

Course Content

- Review of immune system and immune functions
 - Homeostasis
 - Normal anatomy and physiology in wellness
 - Pathology and pathophysiology in disease
 - The evolution of disease
 - Stressors: causes of cellular adaptation, injury and death
 - Adaptive/maladaptive responses to stressors
 - Importance of signalment
 - Signs of disease
 - Non-specific
 - Localizing
 - Classification of disease processes
- Vaccination
 - Sources of infection
 - Animal sources
 - Vectors
 - Inanimate sources
 - Contamination vs. infection
 - Transmission of disease
 - Direct transmission
 - Indirect transmission
 - Common portals of entry
 - Contamination prevention
 - Aseptic technique
 - Universal precautions
 - Host-pathogen interactions
 - Clinical classification of organisms
 - Pathogenic organisms
 - Host defenses
 - Immunity
 - Inflammation
 - Role of the veterinary technician
- Veterinary technicians and compassionate nursing care of patients
 - Veterinary technician practice model
 - Nursing assessments
 - Nursing interventions
- Selected diseases organized by body systems
 - Cardiovascular system diseases
 - Pathophysiology
 - Clinical signs
 - Diagnostics
 - Nursing assessments
 - Treatment and nursing interventions
 - Client education
 - Respiratory system disease
 - Pathophysiology
 - Clinical signs
 - Diagnostics
 - Nursing assessments

5. Treatment and nursing interventions
6. Client education
- iii. Integumentary
 1. Pathophysiology
 2. Clinical signs
 3. Diagnostics
 4. Nursing assessments
 5. Treatment and nursing interventions
 6. Client education
- iv. Gastrointestinal system
 1. Pathophysiology
 2. Clinical signs
 3. Diagnostics
 4. Nursing assessments
 5. Treatment and nursing interventions
 6. Client education
- v. Renal system
 1. Pathophysiology
 2. Clinical signs
 3. Diagnostics
 4. Nursing assessments
 5. Treatment and nursing interventions
 6. Client education
- vi. Endocrine
 1. Pathophysiology
 2. Clinical signs
 3. Diagnostics
 4. Nursing assessments
 5. Treatment and nursing interventions
 6. Client education
- vii. Musculoskeletal
 1. Pathophysiology
 2. Clinical signs
 3. Diagnostics
 4. Nursing assessments
 5. Treatment and nursing interventions
 6. Client education
- viii. Neurologic
 1. Pathophysiology
 2. Clinical signs
 3. Diagnostics
 4. Nursing assessments
 5. Treatment and nursing interventions
 6. Client education
- ix. Reproductive system
 1. Pathophysiology
 2. Clinical signs
 3. Diagnostics
 4. Nursing assessments
 5. Treatment and nursing interventions
 6. Client education
- e. Infectious and parasitic diseases of domestic animals
 - i. Pathophysiology
 - ii. Clinical signs
 - iii. Diagnostics and identification
 - iv. Nursing assessments
 - v. Treatment and nursing interventions
 - vi. Client education
 - f. "One Health" (One Medicine)
 - i. Common zoonotic and vector-borne diseases
 - ii. Veterinary technician's role in public health and zoonoses
 - g. Identify common pathogenic organisms by gross and microscopic examination
 - h. Create a plan for learning about disease and the role of the veterinary nurse

Lab Content

Not applicable.

Special Facilities and/or Equipment

1. Veterinary instructional software and access to subscription online learning resources.
2. Fully equipped classroom with teaching station and internet access.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Regular short assignments on each topic—these may be quizzes or other modalities

One mid-term written examination, a written final examination

Case studies as individual or group assignments

One-page written assignments related to topics of study completed online

In-course journal club

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture

Discussion

Collaborative workshops

Journal discussions

Representative Text(s) and Other Materials

Bassert, Joanna, Angela Beal, and Oreta Samples. [McCurnin's Clinical Textbook for Veterinary Technicians, 10th ed.](#) 2021.

Merck & Co., Inc.. [Merck Veterinary Manual.](#) 2021.

Hendrix, Charles M., and Ed Robinson. [Diagnostic Parasitology for Veterinary Technicians, 5th ed.](#) 2016.

Although the Hendrix text is older than the suggested "5 years or newer" standard, it remains seminal in this area of study.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

- a. Weekly reading assignments from textbooks and online resources, ranging from 30-60 pages per week
- b. Writing assignments (some or all of the following projects may be assigned):
 - i. Written nursing assessments and treatment plans for a variety of diseases
 - ii. One-page written assignments related to topics of study completed online
 - iii. Written short answer essay questions
- c. Participation in a journal club for this course
- d. One-health project may be developed as a group assignment

Discipline(s)

Registered Veterinary Technician