V T 83: PHARMACOLOGY FOR VETERINARY NURSES

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2025
Units:	4
Hours:	4 lecture per week (48 total per quarter)
Prerequisite:	V T 54B.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- Know and articulate "The Five Rights" for safe and correct administration of veterinary drugs to animal patients.
- List and discuss the mechanism of action, indications, contraindications, and adverse effects of the common veterinary pharmaceuticals in all drug classes.

Description

Introduction to the basic principles of veterinary pharmacology. Preparation and dispensing of medications. Overview of the actions and interactions of the major classes of drugs, with emphasis on common veterinary uses of specific drugs. 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:

- 1. Identify and describe the basic principles of pharmacokinetics.
- 2. Identify and describe the basic principles of pharmacodynamics.
- 3. Describe various dosage forms and routes of administration.
- 4. Identify controlled substances and describe their proper storage and handling.
- Differentiate the common pharmaceuticals used in veterinary medicine in terms of their classification, indications and clinical uses, biological actions, routes of administration, dosage range, and possible adverse reactions.

Course Content

- 1. Principles of pharmacokinetics
 - a. Absorption, distribution, biotransformation, elimination
 - b. Bioavailability, partition coefficients and solubility
 - c. Routes of administration
 - d. Species differences
- 2. Principles of pharmacodynamics
 - a. Mechanisms of drug action
 - b. Receptor theory and dose-response relationships

- c. Therapeutic index; margin of safety
- d. Antibiotic resistance
- e. Drug interactions and adverse reactions
- 3. Dosage forms
 - a. Tablets
 - b. Capsules
 - c. Liquid
- 4. Controlled substances and D.E.A. regulation a. Class II, III, IV
- 5. Common pharmaceuticals used in veterinary medicine
 - a. Antiinfective drugs
 - i. Sulfonamides
 - ii. Antibiotics
 - iii. Antifungal drugs
 - iv. Anthelminthics
 - v. Insecticides
 - b. Antiinflammatory drugs
 - i. Glucocorticosteroids
 - ii. Non-steroidal antiinflammatory drugs
 - iii. Antihistamines
 - iv. Miscellaneous antiinflammatory drugs
 - c. Cardiovascular drugs
 - i. Inotropes
 - ii. Antiarrhythmic drugs
 - iii. Vasodilator drugs
 - iv. Adjunctive drugs for treatment of cardiac failure or cardiac emergencies
 - v. Anticoagulants
 - d. Gastrointestinal medications
 - i. Emetics and antiemetics
 - ii. Antidiarrheal drugs
 - iii. Drug therapy for gastrointestinal ulceration
 - iv. Cathartics, laxatives, enemas
 - v. Adsorbents and protectants
 - e. Diuretics and other drugs affecting the urinary system
 - f. Drugs affecting the endocrine system
 - Drugs affecting the central nervous system
 - i. Autonomic nervous system drugs
 - ii. Anticonvulsants
 - iii. Tranquilizers and sedatives
 - iv. Barbiturates
 - v. Narcotics
 - vi. Dissociative anesthetics
 - vii. Inhalant anesthetics

Lab Content

Not applicable.

Special Facilities and/or Equipment

- 1. Classroom with projection capabilities.
- 2. Representative veterinary pharmaceuticals for demonstration.

Method(s) of Evaluation

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

Assessments Reading assignments

Method(s) of Instruction

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

Lecture Discussion

Representative Text(s) and Other Materials

Wanamaker, Boyce P., and Kathy L. Massey. <u>Applied Pharmacology for</u> <u>Veterinary Technicians, 6th ed.</u> 2020.

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

- 1. Weekly reading assignments from text, class handouts, and outside sources, ranging from 30-60 pages per week
- 2. Creation of pharmacology "nerd book"

Discipline(s)

Registered Veterinary Technician