

**ANHLT 142 Course Outline as of Spring 2021****CATALOG INFORMATION**

Dept and Nbr: ANHLT 142 Title: VET PHARM MEDICAL CALCS

Full Title: Veterinary Pharmacology and Medical Calculations

Last Reviewed: 5/8/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.50	Lecture Scheduled	1.50	17.5	Lecture Scheduled	26.25
Minimum	1.50	Lab Scheduled	0	8	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	1.50		Contact Total	26.25
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 52.50

Total Student Learning Hours: 78.75

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**

This course will provide an overview of the use of medication to treat and prevent disease within the veterinary workplace. General pharmacology and medications of all types will be covered. The indications, side effects, and administration of common specific medications will be discussed. Legal requirements for handling, labeling and dispensing medication will be covered in the context of a companion animal practice. Students will also develop the mathematical skills required to safely follow prescription instructions and administer medications.

**Prerequisites/Corequisites:****Recommended Preparation:**

Course Completion of ANHLT 50, ANHLT 120 and MATH 150A

**Limits on Enrollment:****Schedule of Classes Information:**

Description: This course will provide an overview of the use of medication to treat and prevent disease within the veterinary workplace. General pharmacology and medications of all types will be covered. The indications, side effects, and administration of common specific

medications will be discussed. Legal requirements for handling, labeling and dispensing medication will be covered in the context of a companion animal practice. Students will also develop the mathematical skills required to safely follow prescription instructions and administer medications. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Course Completion of ANHLT 50, ANHLT 120 and MATH 150A

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	<b>Effective:</b>	<b>Inactive:</b>
<b>CSU GE:</b>	<b>Transfer Area</b>	<b>Effective:</b>	<b>Inactive:</b>
<b>IGETC:</b>	<b>Transfer Area</b>	<b>Effective:</b>	<b>Inactive:</b>
<b>CSU Transfer:</b>		<b>Effective:</b>	<b>Inactive:</b>
<b>UC Transfer:</b>		<b>Effective:</b>	<b>Inactive:</b>

**CID:**

**Certificate/Major Applicable:**

Certificate Applicable Course

## **COURSE CONTENT**

### **Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Identify and explain the effects, risks and use of common veterinary medications.
2. Perform calculations necessary to determine patient specific dosing, fill prescriptions and related tasks.

### **Objectives:**

At the conclusion of this course, the student should be able to:

1. Describe basic veterinary pharmacology and discuss risk factors and safety concerns of common veterinary medications.
2. Evaluate protocols for medication administration.
3. Identify common veterinary medications and mechanism of action of medications including analgesic, antimicrobial, anti-parasitic, ophthalmic and otic medications.
4. Define the legal veterinary/client/patient relationship and discuss the legal requirements for prescription labels.
5. Discuss the current legal requirements for dispensing controlled, compounded, and extra-label use of medications.
6. Evaluate and discuss proper pharmacy record keeping including inventory and record keeping requirements for controlled substances.
7. Perform drug dosage calculations for oral and parenteral medications.
8. Perform calculations for dilution of medications and fluids for IV use.
9. Perform calculations for fluid therapy including constant rate infusions.

### **Topics and Scope:**

1. Veterinary Pharmacology
  - a. Bioavailability and pharmacology
  - b. Routes of administration including oral, aural, ophthalmic, subcutaneous, intramuscular and intravenous
  - c. Common veterinary analgesic medications
  - d. Common veterinary antimicrobial medications
  - e. Common veterinary antiparasitic medications
  - f. Common veterinary ophthalmic and otic medications
  - g. Common veterinary gastrointestinal medications
  - h. Other common veterinary medications
  - i. Pharmacy inventory, prescription labeling and pharmacy record keeping
  - j. Veterinarian/Client/Patient relationship, compounding, and other legal considerations for veterinary medications
  - k. Relevant client communication
  - l. Controlled substances handling, reporting, and record keeping
2. Veterinary Calculations
  - a. Fractions, decimals and percentages
  - b. Ratios and proportion calculations
  - c. Dimensional analysis and unit conversions
  - d. Clinical dosage calculations
  - e. Prescription calculations
  - f. Solution and dilution calculations
  - g. Intravenous fluid calculations
  - h. Constant rate infusion calculations

### Assignment:

1. Reading in texts and handouts (20-40 pages/week)
2. Completing self-evaluation exercises in text
3. Completion of mock medical records, case study exercises and mock medication labeling and dispensing
4. Calculation worksheets
5. Creation and evaluation of hospital protocol sheets and client education materials
6. Quizzes (up to 10), midterms (up to 2) and final exam

### Methods of Evaluation/Basis of Grade:

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Protocol creation, client handouts
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Writing 10 - 20%
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**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Case studies, calculation worksheets
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Problem solving 10 - 30%
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**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

In-class performances of medical evaluation, mock dispensing and labeling of medications, presentations

Skill Demonstrations  
10 - 30%

**Exams:** All forms of formal testing, other than skill performance exams.

Exams to include multiple choice, true/false, matching items, completion, calculation, identification, case study comprehension

Exams  
40 - 60%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

Participation

Other Category  
0 - 10%

**Representative Textbooks and Materials:**

Applied Pharmacology for Veterinary Technicians. 5th ed. by Wanamaker, Boyce and Massey, Kathy. Elsevier. 2015

Plumb's Veterinary Drug Handbook. 8th ed. Plumb, Donald. Wiley-Blackwell. 2015

Instructor prepared materials