

SYLLABUS  
PART I  
EDISON STATE COMMUNITY COLLEGE  
VET 190S VETERINARY PHARMACOLOGY AND CALCULATIONS  
3 CREDIT HOURS

**COURSE DESCRIPTION**

Overview of drug classifications, their mechanisms of action, and side effects. Legal guidelines for dispensing, documenting, conducting inventory, properly disposing, and regulating controlled substances will be discussed. Students will learn how to properly perform dosage calculations including basic conversions, drug calculations, and fluid rate calculations. Prerequisite: VET 125S.

**COURSE GOALS**

The student will:

Bloom's Level		Program Outcomes
3	1. Administer veterinarian's pharmacy orders.	1, 2, 3, 5, 8, 9
2	2. Explain drug information, including handling, storage, administration, side-effects, drug interactions, safety, and reasons for the use of various drugs.	1, 2, 3, 8, 9
2	3. Explain how to safely and effectively administer vaccines.	1, 2, 3, 8, 9
4	4. Analyze therapeutic responses.	1, 2, 3, 6, 9
3	5. Demonstrate compliance with all federal regulatory guidelines for drug purchase, storage, administration, withdrawal, dispensing, disposal, and inventory control for all pharmaceuticals including controlled substances.	1, 2, 3, 5, 7, 8, 9
3	6. Prepare medications for dispensing, including performing accurate calculations.	1, 2, 3, 8, 9

**CORE VALUES**

The Core Values are a set of principles that guide in creating educational programs and environments at Edison State Community College. They include communication, ethics, critical thinking, human diversity, inquiry/respect for learning, and interpersonal skills/teamwork. The goals, objectives and activities in this course will introduce/reinforce those Core Values wherever appropriate.

**TOPIC OUTLINE**

1. Definitions and basic terminology
2. Regulatory agencies
3. Routes of administration and dosage forms
4. Controlled substance regulations
5. Withdrawal times for food animals
6. Package inserts
7. Compounded drugs
8. Prescription guidelines: prescription labels, legal aspects, and veterinary technician's role in dispensing medications
9. Pharmaceutical calculations: metric system, dosage calculations, dilutions and solutions, drip rates, and constant rate infusion calculations

10. Influence of pharmacokinetics and pharmacodynamics on dosages, benefits, and adverse effects.
11. Classes of drugs: handling, storage, administration, mechanisms, clinically relevant side effects, drug interactions, safety, and reasons for use of drug
  - a. Antimicrobial drugs
  - b. Analgesic and anti-inflammatory drugs
  - c. Anesthetic and other central nervous system drugs
  - d. Cardiovascular drugs
  - e. Respiratory drugs
  - f. Gastrointestinal drugs
  - g. Antiparasitic drugs
  - h. Endocrine drugs
  - i. Immunological drugs including vaccines
  - j. Topical drugs
  - k. Nutraceuticals