

**Veterinary Pharmacology and Medical Calculations**  
**Fall 2018**  
**ANHLT 142**  
**Section 0506**  
**1.5 units**

Instructor: Susan Caputo, DVM  
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Office Hours: 5:30-6:00 pm every Tuesday Kathleen Doyle Hall, Room 229 or in the adjunct faculty office -room 203

**Course 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.
- Basic veterinary pharmacology including pharmacotherapeutics, pharmacokinetics, and pharmacodynamics of major classes of drugs used in veterinary medicine. Mathematics of dose calculations, filling prescriptions, controlled drug handling.

This course is part of the SRJC program that fulfills the academic requirements to be eligible to sit for the California Registered Veterinary Technician board exam via the Alternate Route.

***Please save this syllabus if you intend to sit for the California board examinations for Registered Veterinary Technicians.*** The board **will** ask to review syllabi to verify course content for all required courses.

**Student Learning Outcomes:**

Upon successful completion of this course students will be able to:

1. Identify and explain the effects, risks and use of common veterinary medications.
2. Perform patient specific dose and medication related calculations.

**Course Objectives:**

Discuss veterinary pharmacology, pharmacy protocols and common items dispensed with emphasis on understanding type of drugs, proper labeling and dispensing instructions.

Perform routine Veterinary **Mathematic** calculations related to nursing, dosing, pharmaceuticals and solutions.

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, antiparasitic, 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.

### **Recommended Preparation:**

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

### **Texts:**

Required:

- Essential Calculations for Veterinary Nurses and Technicians 3rd edition, 2017, by Terry Lake and Nicola Green
- Applied Pharmacology for Veterinary Technicians, 5<sup>th</sup> edition, 2015, by Wanamaker and Massey

### **Course and Classroom Policies:**

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#### **Attendance:**

Course Schedule: Every week on Tuesday at 6:00-7:30 pm

Kathleen Doyle room 229

**First Day of class January 21- finals on December 18, 2018**

**No class on September 4**

1. It is important for students to attend every class. Every class is a new topic. Being absent in a single class will mean missing the information on specific pharmacology and calculations.
2. Do **not** contact the instructor to be updated on information from missed classes.
  - a. **It is the responsibility of each student to be present during all course hours or arrange with another student to obtain missed information.**
3. NO POINTS CAN OR WILL BE EARNED FOR A MISSED CLASS ASSIGNMENT OR A MISSED EXAMINATION EXCEPT BY PERMISSION OF THE INSTRUCTOR.  
Permission for making up any missed work will be granted only for authorized absences arranged in ADVANCE of the absence in case of sickness, injury, college approved field trip or activity, or death in the immediate family. In those cases, it is the responsibility of the student to notify the professor prior to the class. Make-ups for missed work and examinations will be considered only if all of the following conditions have been met:
  - a. You emailed the instructor before the class meeting you will miss.
  - b. You have a valid, legitimate, and substantiated excuse, which you discussed with the instructor. A substantiated excuse requires something that is written on official letterhead stationary, that can be verified.
4. An authorized absence does not excuse students from any course work.
5. Work missed due to unauthorized absence can not be made up and a grade of zero will be recorded. Also, work not made up within one week of returning to class, due to authorized absence will receive a grade of zero.
6. Students who miss 10% of instruction (two classes) are subject to being dropped from the class. This is not a guarantee. If a student intends to drop the course it is their responsibility to do so.

7. If student is late to class, they will not be allowed to take the quiz and will be marked as late attendance.

### **Communication and Class notes:**

1. Email is the primary means of communication outside of class instruction time
2. It is the student's responsibility to ensure that SRJC has your correct email address and that the student checks their email regularly.
3. A copy of the text component of the lecture presentations will be made available to students via Canvas. Additional communications, the syllabus, and some handouts will be made available through email and your SRJC student portal.
4. Students are responsible for knowing and adhering to due dates for readings, and other in-class activities.
5. Changes to the schedule will be announced during class time and emailed to students. Students are responsible for noting all changes and adhering to them.

### **Classroom Behavior:**

1. The SRJC has a diverse student population. Students will treat each other with respect regardless of differences in experiences or experience level. Students with extensive workplace experience who wish to share with classmates will be given opportunities and encouraged through class participation and discussion.
2. Every student will abide by the SRJC Student Code of Conduct. Because personal accountability is inherent in an academic community of integrity, this institution will not tolerate or ignore any form of academic dishonesty.
  - a. Academic dishonesty is regarded as any act of deception, benign or malicious in nature, in the completion of any academic exercise. Examples of academic dishonesty include cheating, plagiarism, impersonation, misrepresentation of idea or fact for the purpose of defrauding, use of unauthorized aids or devices, falsifying attendance records, violation of testing protocol, inappropriate course assignment collaboration, and any other acts that are prohibited by the instructor of record.
3. Please refer to SRJC policy 3.11 on Academic Integrity and the Student Conduct Code, which is in the SRJC Catalog and part of Policy 8.2.8, Student Discipline for more information.
4. Distracting activity such as cell phone use and texting must be done outside of class. Have all cell phones out of sight and off or in "silent" mode during class. Any use of cell phones, including having an audible ring or vibration, will result in a deduction of 1% of from the course grade.
5. No personal pets are allowed on SRJC or Petaluma campus. This includes in your car or in the classroom.
6. **Student Conduct:** We will conduct ourselves in a manner which reflects our awareness of common standards of decency and the rights of others. All students are expected to know the Student Conduct Code (<http://www.santarosa.edu/forstudents/rules-regulations/scs/section1.shtml>) and adhere to it in this class. Students who violate the code may be suspended from two (2) classes and referred to Vice President of Student Services for discipline.
7. **Respect:** The best way to learn is through active participation; therefore, we respect others when talking by being on-time, listening actively, and by being polite even when we disagree with another's viewpoint. Please turn off all electronic devices. If you use a laptop for note taking, please sit in the front row with the sound off. No pets in class.

8. **Academic Integrity:** All written work is to be original; plagiarism of any kind will result in a failing grade on that assignment. Students who plagiarize or cheat may be suspended for one or two class meetings by the instructor and referred to the Vice President of Student Services for discipline sanction, in cases of egregious violation. Please read the college policy/procedure on academic integrity at: <http://www.santarosa.edu/polman/3acadpro/3.11P>.

### **Academic Support and Students with Disabilities**

Accommodations for Students with Disabilities If you need disability related accommodations for this class, such as a note taker, test taking services, special furniture, etc., please provide the Authorization for Academic Accommodations (AAA letter) from the Disability Resources Department (DRD) to the instructor as soon as possible. You may also speak with the instructor privately during office hours about your accommodations. If you have not received authorization from DRD, it is recommended that you contact them directly. DRD is located in Analy Village on the Santa Rosa campus, and Jacobs Hall on the Petaluma Campus. **It is the student's responsibility to arrange for taking the midterm or final exam, with extra test time, at the disability office. Please notify the instructor.**

<b>Program</b>	<b>Location</b>	<b>Phone</b>
College Skills	Analy Village #601	527-4834
Disability Resources	Analy Village #637	527-4278
In Petaluma:	Jacobs Hall #101	778-2491
Tutorial Center	Doyle Library #4251	521-6903
In Petaluma:	Doyle Hall	778-2409
Writing Center	Emeritus Hall, #1629	527-4351
In Petaluma:	Call Building #690	

### **Emergencies**

**Emergency Evacuation Plan:** In the event of an emergency during class that requires evacuation of the building, please leave the class immediately, but calmly. Our class will meet at the courtyard by Jacobs hall to make sure everyone got out of the building safely and to receive further instructions. Do not use the elevator. Use the stairs to the left of our classroom. If you are a student with a disability who may need assistance in an evacuation, please see me during my office hours as soon as possible so we can discuss an evacuation plan.

1. In an emergency, District Police can be reached at (707) 527-1000.
  - a. This same number is used on all SRJC campuses
2. AlertU: SRJC official emergency communication channel. AlertU communicates official information during critical SRJC emergencies via text message to your cell phone. Sign up: <http://police.santarosa.edu>
3. Nixle: keeps you up to date with relevant information from your local public safety department and schools. Sign up: <http://police.santarosa.edu>

### **Textbooks on reserve**

The textbooks for class ANHLT 142 are at the library for checkout. Bring your SRJC ID and the barcode to the library for checkout.

Animal Health 142 - Caputo (D)	Lake, Green	Essential calculations for veterinary nurses and technicians				33155005985679
Animal Health 142 - Caputo (D)	Wanamaker, Massey	Applied Pharmacology for Veterinary technicians				SF915W362015

### **Assessment and Grading:** Total points possible= 500

#### **Exams** – 200 points total

There will be two exams in this class. Each exam is worth 100 points.

- The mid-term examination will be on October 23.
- The final examination will be on December 18 at 6 pm and will cover material presented after the mid-term.
- Exam questions may be multiple choice and true/false. 100 point Scantrons are required. No wrinkled scantrons accepted.

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#### **Writing and skill exercises** – 240 points total

There will be 12 in class exercises.

- Each exercise is worth 20 points.
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#### **Problem solving/Calculation Worksheets** – worth 55 points total

- Each is worth 5 points.
- There will be 11 calculations exercises to be done as homework.
- Each assignment is due at the beginning of the following class period.
- Calculation practice sheets must be neat and readable, or reduced or no credit will be given.
- ***We will be correcting our quizzes in class. You will need a red colored pen/marker to use to correct the quizzes.***

#### **Attendance/participation** - 5 points

Your final grade will be given on the following scale:

90-100%	= A	Excellent
80-89%	= B	Good
70-79%	= C	Satisfactory
60-69%	= D	Less than satisfactory
Below 60%	= F	Failing

This syllabus is an agreement. Continued registration in this course means that you agree to the policies and procedures outlined in this syllabus. This syllabus is intended to give the student guidance in what may be covered during the semester and will be followed as closely as possible. However, the instructor reserves the right to modify, supplement and make changes as the course needs arise.

## ANHLT 142-Veterinary Pharmacology and Medical calculations

Date	Topic	Calc Text	Pharm Text
8/21	Course Introduction, Metric System and Body Weight Calculations; Basics of pharmacology	Ch 7	Ch 1; appendix B
8/28	Routes of drug administration; dosage forms; common abbreviations; ratio and proportions; Quiz <b>No Class 9/4</b>	Ch 4	Ch 2 Appendix A
9/11	Prescriptions/legal considerations/inventory; dimensional analysis; Quiz	Ch 5	Ch 19 appendix A,F
9/18	Internal and external Parasiticides. Quiz		Ch 13
9/25	Respiratory system drugs; solution calculations; Quiz	Ch 11	Ch 5
10/2	Hormone/endocrine and reproductions drugs; more solutions calculations; Quiz	Ch 11	Ch 9
10/9	Immunosuppressant/chemotherapy drugs; chemotherapy calculations; Quiz		Ch 16
10/16	Urinary System Medications/Review game; Quiz		Ch 6
10/23	Midterm exam		
10/30	Oral medication calculations; drugs used to relieve pain and inflammation	Ch 8	Ch 14:appendix F
11/6	Parenteral Medication calculations; otic and ophthalmic medications; quiz	Ch 9	Ch 10

11/13	Gastrointestinal pharmacology; Quiz		Ch 8
11/20	IV fluid therapy and IV fluid calculations <b>Take-home quiz on GI pharmacology due here</b>	Ch 13	Ch 15
11/27	Antibiotics; constant rate infusion calculations; Quiz; antibiotic worksheet to review before next quiz	Ch 14	Ch 12
12/4	Dermatological drugs and topical therapies; fluid calculations review; Quiz on antibiotics/CRI	Chp 13,14	Ch 11
12/11	Cardiac medications/dilution calculations; review game	Ch 15,16	Ch 7
Read on own	Miscellaneous therapeutics: anti-viral and anti-fungal drugs		Ch 18, 17
12/18	<b>Final Exam</b>		