

VTHT 1349
AUSTIN COMMUNITY COLLEGE
Semester:

PROGRAM: **Veterinary Technology**

COURSE NUMBER: **VTHT 1349 - Pharmacology**

COURSE TIME/LOCATION:

FACULTY NAME:

OFFICE HOURS/LOCATION:

Phone:

Email:

Website:

Arranging conferences/appointments:

COURSE DESCRIPTION: This lecture and laboratory course covers the fundamentals of pharmacology including recognition, calculation, labeling, packaging, and administration of veterinary drugs, biologics, and therapeutic agents. Other topics to be covered include: mechanism of drug actions, normal and abnormal responses to medication, toxicity, routes and techniques of administration, dosage calculation and measurement, and proper methods of handling, storing, and dispensing drugs. The class will also cover pharmacy mathematics. This course is designed to prepare veterinary technicians to perform pharmacologic calculations and procedures in veterinary practice.

COURSE PREREQUISITES: VTHT 1301, 1205, 1413, and 1191

COURSE RATIONALE: This is an intermediate level course for students in the Veterinary Technology program at Austin Community College. . The purpose is to help the student develop a clear understanding and appreciation of the complex nature of veterinary pharmacology. This course will prepare students with the knowledge and experience required to work successfully in the veterinary pharmacy. Students will also be prepared to continue their education in the veterinary technology program.

COURSE OBJECTIVES: Upon completion of the course the student will be able to:

1. Explain general principles of pharmacology (pharmacodynamics/pharmacokinetics).
2. Explain the mechanism of action of specific drugs.
3. Explain and use appropriate routes and methods of drug administration.
4. Prepare, label, package, and dispense pharmaceuticals in an ethical/legal manner.
5. Calculate dosages using proper weights, units, and measures.
6. List and identify general types and groups of drugs.

7. Differentiate between normal and abnormal, desired and undesired responses to medication.
8. Be aware of side effects which occur with specific drugs.
9. Discuss drug-drug interactions.
10. Describe the toxicity potential of specific drugs.
11. Be familiar with and know how to use various drug references.
 - a. Read and follow veterinarian's pharmacy orders and prepare medications; perform accurate calculations; label and package dispensed drugs correctly.
 - b. Recognize groups of drugs, their mechanisms, and clinically relevant side effects.
 - c. Recognize the safe and effective manner in which vaccines must be administered; recognize and explain common side effects.
 - d. Accurately perform appropriate calculations; use weights and measures correctly.
 - e. Safely and effectively administer drugs by common parenteral and enteral routes; be able to explain appropriate routes and methods and when used.
 - f. Monitor therapeutic responses.
12. Understand principles of fluid and electrolyte replacement; calculate doses and administration rates.
 - a. Demonstrate the ability to accurately record medical information.
 - b. Demonstrate understanding of controlled substance regulations, including record-keeping.
 - c. Demonstrate compliance with all federal regulatory guidelines for drug purchase, storage, administration, withdrawal, dispensing, disposal, and inventory control (e.g., biologics and therapeutic agents, pesticides, and hazardous wastes).
 - d. Demonstrate compliance with regulations governing legend drugs versus over-the-counter drugs.
 - e. Relay drug information to clients (e.g., handling, storage, administration, side-effects, drug interactions, safety, reasons for use of drug).

DISCIPLINE/PROGRAM STUDENT LEARNING OUTCOMES:

Upon completion of the **Associate of Applied Science Degree in Veterinary Technology**, the student will be able to:

1. Contribute to the efficient operation of the veterinary facility by:
 - a. Acquiring and conveying information appropriately.
 - b. Being able to carry out duties, staying within the legal boundaries and maintaining high ethical standards
 - c. Providing quality service to clients, patients, and the facility.
2. Calculate, dispense and administer medication in the correct amount and in the prescribed form to maximize therapeutic benefits and minimize adverse effects. The student will be able to differentiate between normal and abnormal responses to medications and communicate necessary information to the client. The student will be able to perform inventory control procedures proficiently.
3. Safely obtain subjective and objective data that will allow accurate evaluation of the patient. The student will be able to: 1) implement techniques to promote wellness,

achieve maximum health benefits, and reduce injury and stress to the patient; and, 2) recognize normal from abnormal behavior patterns.

4. Understand and explain appropriate and inappropriate dietary components for various life stages and therapeutic regimens (e.g., therapeutic foods) in order to promote optimal health, enhance recovery and manage chronic disease conditions. The student will also explain nutritional recommendations to clients and reinforce owner compliance.
5. Recognize a patient's dental health status and perform techniques, as prescribed by a veterinarian, appropriate to the species and its condition in order to promote and maintain dental health.
6. Work with the veterinarian to: 1) Assess patient's risk to determine appropriate anesthetic and pain management protocols; 2) Choose and utilize appropriate techniques and equipment to monitor patient's status; 3) Recognize and respond to equipment malfunctions to provide maximum benefit and ensure safety of patient and staff; 4) use medical records to assure patient and scheduled procedures are correct; 5) Obtain the patient's vital signs, physical parameters to ensure pre-surgical tests and patient assessment are reported to the veterinarian.
7. Position patients correctly for maximum benefit for the surgeon and the patient; utilize appropriate aseptic techniques for patient and personnel; and, administer appropriate post-operative care to the patient.
8. Select, wrap and sterilize appropriate instruments and supplies and prepare and maintain the surgical environment to ensure maximum safety and benefit to the patient.
9. Prepare, handle and submit appropriate samples for diagnostic analysis; and be able to: 1) recognize accurate vs. erroneous results; 2) determine appropriate methods and carry out analytical procedures to provide accurate diagnostic information; and, 3) work with the veterinarian to determine if laboratory tests will be needed.
10. Accurately 1) prepare the imaging site and equipment; 2) position patients for the appropriate study; 3) properly use radiographic and darkroom equipment positioning, measuring, and using appropriate radiographic technique to produce a diagnostic image; 4) determine if image is diagnostic, and if not, be able to offer options to correct image to create a diagnostic radiograph to minimize repeat exposures; and, 5) exercise professional judgment to minimize risks to patient and personnel.
11. Describe the basic principles of animal research and understand the utilization of laboratory animals in animal research. The student will also have a working knowledge of federal, state, and local animal welfare regulations.

SCANS Competencies

In 1990, the U.S. Department of Labor established the Secretary's Commission on Achieving Necessary Skills (SCANS) to examine the demands of the workplace and whether our nation's students are capable of meeting those demands. The Commission determined that today's jobs generally require competencies in the following areas:

Resources: Identifies, organizes, plans and allocates resources

Interpersonal: Works with others

Information: Acquires and uses information

Systems: Understands complex interrelationships

Technology: Works with a variety of technologies

The Texas Higher Education Coordinating Board requires that all degree plans in institutions of higher education incorporate these competencies and identify to the student how these competencies are achieved in course objectives.

VTHT 1349 COMPETENCE	EXAMPLE OF LEVEL
Resources	Identifies resources used in course and allocates time for studying.
Interpersonal	Shares experiences and knowledge with classmates, works as a member of a team for any assigned activities.
Information	Identifies drug types, and categorizes according to action or use.
Systems	Identifies systems affected by the pharmaceutical and has to match expected outcome of drug administration.
Technology	Uses online databases and information to look for drug actions and trade names of identified drugs.
Basic Skills	Reads assigned pages.
Thinking Skills	Identifies and prepares for tests, quizzes and research activities.
Personal Qualities	Works as a team member for any assigned activities. Asserts self and networks with classmates and virtual lab to obtain information on current topics.

TEXTBOOK:

Fundamentals of Pharmacology for Veterinary Technicians, 2nd ed., Janet A. Romich, Delmar Cengage Learning, 2010

INSTRUCTIONAL METHODOLOGY: Classroom and Online

GRADING SYSTEM: The Veterinary Technology courses use the following scale for determination of final grades:

A = 90-100%

B = 80-89%

C = 70-79%

D= 60-69%

F= Below 60

A grade of 70% or above is required for both lecture and lab to pass any subject area.

METHOD OF EVALUATION:

30 % of your grade will be based on assignments, quizzes and presentations

50 % on exams

20 % on Final

If you have a 85% or higher average in the class you will not be required to take the comprehensive final. You can, however, take it to try and raise your grade. Completion of chapter worksheets is critical! Do **NOT** gamble that you can pass this course without doing the worksheets!

*****NOTE:** You must pass both the lab and lecture portion with a 70% or above to pass the class. If you have above a 70% in both, the grades will be combined for your final grade.

Quizzes: No make-up quizzes. If students are late or absent from the class grades will be passed on points earned only. No exception.

Late Assignment Policy: Assignments are expected to be turned in on time. If for some reason you are not able to get it turned in on time you can submit the next business day for a 50% deduction, an additional 10% deduction for each day thereafter. The assignment can be submitted in person, faxed, or scanned and e-mailed to the instructor. If a student knows they will miss a class they can submit their assignment electronically for full credit the day it is due. For any other circumstances the student needs to contact the instructor.

Exam Policy: You are expected to be present for all exams. If you miss an exam, arrangements must be made up within a week of when it was given. Make up exams are usually an essay type of exam. If it is not taken by that time, you will receive a "0" for that exam. To take an exam at a time other than the class time in which it is given, the absence must be "excused" by the instructor. "Excused" absences include illness, death, and other unavoidable circumstances. Written evidence must be presented. **ONLY ONE EXAM MAY BE MADE UP.** If more than one exam is missed, you will receive a "0" on all other missed exams.

COURSE POLICIES:

Attendance/Class Participation

Regular and punctual class and laboratory attendance is expected of all students. If attendance or compliance with other course policies is unsatisfactory, the instructor may withdraw students from the class.

Withdrawal Policy

It is the responsibility of each student to ensure that his or her name is removed from the roll should he or she decides to withdraw from the class. The instructor does, however, reserve the right to drop a student should he or she feel it is necessary. If a student decides to withdraw, he or she should also verify that the withdrawal is submitted before the Final Withdrawal Date. The student is also strongly encouraged to retain their copy of the withdrawal form for their records.

State law permits students to withdraw from no more than six courses during their entire undergraduate career at Texas public colleges or universities. With certain exceptions, all course withdrawals automatically count towards this limit. Details regarding this policy can be found in the ACC college catalog.

Incompletes

An instructor may award a grade of “I” (Incomplete) if a student was unable to complete all of the objectives for the passing grade in a course. You will not be able to carry an incomplete beyond the final deadline for withdrawal in the next semester of the program.

Statement on Scholastic Dishonesty

A student attending ACC assumes responsibility for conduct compatible with the mission of the college as an educational institution. Students have the responsibility to submit coursework that is the result of their own thought, research, or self-expression. Students must follow all instructions given by faculty or designated college representatives when taking examinations, placement assessments, tests, quizzes, and evaluations. Actions constituting scholastic dishonesty include, but are not limited to, plagiarism, cheating, fabrication, collusion, and falsifying documents. Penalties for scholastic dishonesty will depend upon the nature of the violation and may range from lowering a grade on one assignment to an “F” in the course and/or expulsion from the college. See the Student Standards of Conduct and Disciplinary Process and other policies at <http://www.austincc.edu/handbook>

The complaints and grades dispute process can also be found at the above site and is located in your Veterinary Technology Program handbook at <http://www.austincc.edu/health/vtth/handbook.php>

Student Rights and Responsibilities

Students at the college have the rights accorded by the U.S. Constitution to freedom of speech, peaceful assembly, petition, and association. These rights carry with them the responsibility to

accord the same rights to others in the college community and not to interfere with or disrupt the educational process. Opportunity for students to examine and question pertinent data and assumptions of a given discipline, guided by the evidence of scholarly research, is appropriate in a learning environment. This concept is accompanied by an equally demanding concept of responsibility on the part of the student. As willing partners in learning, students must comply with college rules and procedures.

Statement on Students with Disabilities

Each ACC campus offers support services for students with documented disabilities. Students with disabilities who need classroom, academic or other accommodations must request them through the Office for Student Accessibility Services and Assistive Technology. Students are encouraged to request accommodations when they register for courses or at least three weeks before the start of the semester, otherwise the provision of accommodations may be delayed.

Students who have received approval for accommodations from SAS for this course must provide the instructor with the 'Notice of Approved Accommodations' from SAS before accommodations will be provided. Arrangements for academic accommodations can only be made after the instructor receives the 'Notice of Approved Accommodations' from the student.

Students with approved accommodations are encouraged to submit the 'Notice of Approved Accommodations' to the instructor at the beginning of the semester because a reasonable amount of time may be needed to prepare and arrange for the accommodations. Additional information about the Student Accessibility Services and Assistive Technology is available at <http://www.austincc.edu/support-and-services/services-for-students/student-accessibility-services-and-assistive-technology>

Safety Statement

Austin Community College is committed to providing a safe and healthy environment for study and work. You are expected to learn and comply with ACC environmental, health and safety procedures and agree to follow ACC safety policies. Additional information on these can be found at <http://www.austincc.edu/ehs>.

Because some health and safety circumstances are beyond our control, we ask that you become familiar with the Emergency Procedures poster and Campus Safety Plan map in each classroom. Additional information about emergency procedures and how to sign up for ACC Emergency Alerts to be notified in the event of a serious emergency can be found at <http://www.austincc.edu/emergency/>.

Please note, you are expected to conduct yourself professionally with respect and courtesy to all. Anyone who thoughtlessly or intentionally jeopardizes the health or safety of another individual will be dismissed from the day's activity, may be withdrawn from the class, and/or barred from attending future activities.

Use of ACC email

All College e-mail communication to students will be sent solely to the student's ACCmail account, with the expectation that such communications will be read in a timely fashion. ACC will send important information and will notify you of any college related emergencies using this account. Students should only expect to receive email communication from their instructor using this account. Likewise, students should use their ACCmail account when communicating with instructors and staff. Instructions for activating an ACCmail account can be found at <http://www.austincc.edu/accmail/activation-and-login-assistance>

For help setting up your ACCeID, ACC Gmail, or ACC Blackboard, see a Learning Lab Technician at any ACC Learning Lab.

Testing Center Policy

Under certain circumstances, an instructor may have students take an examination in a testing center. Students using the Academic Testing Center must govern themselves according to the Student Guide for Use of ACC Testing Centers and should read the entire guide before going to take the exam. To request an exam, one must have:

- ACC Photo ID
- Course Abbreviation (e.g., ENGL)
- Course Number (e.g., 1301)
- Course Synonym (e.g., 10123)
- Course Section (e.g., 005)
- Instructor's Name

Do NOT bring cell phones to the Testing Center. Having your cell phone in the testing room, regardless of whether it is on or off, will revoke your testing privileges for the remainder of the semester. ACC Testing Center policies can be found at <http://www.austincc.edu/testctr/>

Student and Instructional Services

ACC strives to provide exemplary support to its students and offers a broad variety of opportunities and services. Information on these services and support systems is available at: <http://www.austincc.edu/s4/>

Links to many student services and other information can be found at: <http://www.austincc.edu/current-students>

ACC Learning Labs provide free tutoring services to all ACC students currently enrolled in the course to be tutored. The tutor schedule for each Learning Lab may be found at: <http://www.austincc.edu/support-and-services/tutoring-and-academic-help/tutoring-services-and-schedules>

Course Outline / Calendar

Date	Topic Area/Objective	Reading/Other Assignments	ACTIVITIES
Week 1	Pharmacy Kinetics/Dynamics	Chp. 1 – 4 pg. 1 -86	Pre-Quiz Group
Week 2	Systems of Measurement	Chp. 6 pg. 129 – 167	Quiz / Smarter than RVT
Week 3	Drugs of nervous System	Chp. 7 & 22 pg. 177 – 219	Quiz
Week 4	Respiratory & Urinary	Chp. 9 pg. 260 – 270, Chp. 12 pg. 343 – 356	Exam #1
Week 5	Cardio vascular	Chp. 8 pg. 225 -255	Quiz
Week 6	Gastrointestinal	Chp. 11 pg. 314 – 338	Quiz
Week 7	GI & Review	Chp. 11	Quiz
Week 8	Hormonal – Repro	Chp. 10 pg. 275 – 304	Exam #2 (Midterm)
	Spring Break		
Week 9	Topicals – Eye & Skin	Chp 17 & 18 pg. 473 – 504	Quiz
Week 10	Antimicrobials & Antiparasitics	Chp. 14 & 15 pg. 512 – 547	Quiz
Week 11	Anti-inflammatories, Fluid Therapy	Chp. 16 pg. 446 – 468, Chp. 19 pg. 512 – 547	Quiz
Week 12	Anti-neoplastic & Vaccines	Chp 20 & 21 pg. 552 – 590	Exam #3
Week 13 Apr 20	Drug use / Pharmacy management	Chp. 5 pg. 90 – 122	Quiz
Week 14	Behavior Modifying drugs	Chp. 22 pg. 593 – 606	Quiz
Week 15	Misc. Therapies	Chp. 23 pg. 611 – 627	Exam #4 – PreFinal
Week 16	Review for Final		Final Exam – Comprehensive!

VTHT 1349 – Pharmacology

By signing below I declare that I have received a copy of the course syllabus for VTHT 1349, Pharmacology and have had a chance to review it and understand the contents of the syllabus. This is for the semester inclusive of the date below.

Student Signature

Date