

ANSC 151 Clinical Laboratory Techniques

3 Credits

Mon 10:00-12:30 **or** 2:30-5:00

CRN: 64109 or 64158

INSTRUCTOR: Sam Geiling, RVT
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EFFECTIVE DATE: Spring 2017

OFFICE HOURS: Mon 1-2 & Fri 10-11, or by appt
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OFFICE: Hale Kako'o 128

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai'i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide O'ahu's Ko'olau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

CATALOG DESCRIPTION

Provides students with the background knowledge needed to perform and interpret laboratory techniques commonly used in veterinary practice. Topics include: commonly used laboratory equipment, hematology, clinical chemistry, urinalysis, internal and external parasitology of companion animal species. Will include a review of the physiology of major body systems and an overview of common diseases seen in veterinary practice. This course is intended for students entering veterinary assisting, veterinary technology or other animal-related fields.

Prerequisite: Credit for ANSC 142 and 142L. Credit for or registration in ANSC 151L.

STUDENT LEARNING OUTCOMES

- Describe the procedures for safely collecting specimens from domestic animals
- Discuss the clinical tests performed in hematology, urinalysis, clinical chemistries, and cytology
- Compare the technologies used by automated hematology and blood chemistry machines and discuss their impacts on the accuracy and reliability of test results
- Recognize accurate vs. erroneous results in order to provide maximum diagnostic benefit

COURSE CONTENT

- Commonly used laboratory equipment
- Proper collection and handling of laboratory specimens
- Laboratory safety/OSHA regulations and MSDS information
- Hematology
- Blood chemistry analysis
- Urinalysis
- Parasitology: Identification and life cycle of internal and external parasites
- Zoonotic Diseases
- Anatomy and physiology review of the circulatory, respiratory, urinary, digestive endocrine, reproductive systems as related to laboratory diagnostics

COURSE TASKS

- 1) Attend lectures, on time
- 2) Complete assigned readings **prior to** the lectures
- 3) Participate in class discussions
- 4) Complete 10 quizzes
- 5) Complete 3 examinations and 3 Exam Reviews

ASSESSMENT TASKS AND GRADING

ATTENDANCE: 20 points – Attendance will be taken at the beginning of each class period. Both tardiness and early departure from class are considered forms of absenteeism. Students are **NOT entitled to any unexcused absences and will be docked 10 points for each absence.** After the 20 points are lost, the student must meet with the instructor to discuss options for completing the course. If a student has an emergency or is too ill to come to class, the instructor should be notified via email prior to class. A doctor's note or documentation of extenuating circumstances will be required within 48 hours of the absence. For absences due the observance of religious holidays, jury duty, and for calls to active duty, students must confer with the instructor prior to the absence. Students absent from class for any reason are still responsible for all work missed. In the event of severe weather or other emergency, students are expected to check-in via Laulima for instructor updates. Students who stop attending class, but do not formally withdraw, may receive an "F" grade and face financial aid repercussions in future semesters as a result.

CASE STUDY: 20 points – Students will be required to create a case study for the class. The format for the case study will be discussed in class.

QUIZZES: 100 points total – Students should expect a quiz most class periods and are expected to keep up with the material and be prepared every class. Each quiz is worth 10 points.

EXAM REVIEWS: 30 points total – Students are expected to complete reviews prior to each exam. Each review is worth 10 points.

Instructions: each student will write **10 questions** with the CORRECT answers from the chapters for the upcoming exam, **post it** to Laulima under resources, and **bring one copy** to my office by 2:15 pm FRIDAY BEFORE the REVIEW. (Example: Exam #1 is Feb 6, the review day is Jan 30, so questions are due on Laulima and at my office by 2:15 on Friday, Jan 23)

LAB MANUAL ASSIGNMENTS: (60 points) On the day of the review, we will discuss the corresponding section in the Lab Manual that accompanies the textbook. (We will NOT complete the parasitology section.)

Section 1 Intro to Lab Section 5 UA – Section 2-3 Hematology & Hemostasis – Section 6 Clin Chem – Section 9 Cytology (10 points for each section)

EXAMINATIONS: 350 points total – Exam 1 is worth 50 points, Exam 2 is worth 100 points and the Final Exam is cumulative and will be worth 200 points.

Attendance	20	Points		Letter
Case study	40	537-600	90-100%	A
Quizzes	100	475-536	80-89%	B
Exam Review	30	417-474	70-79%	C
Lab Manual	60	357-416	60-69%	D
Exams	350	0-356	0-59%	F
Total	600			

LEARNING RESOURCES

Required Textbooks:

1. Margi Sirois, Laboratory Procedures for Veterinary Technicians, 6th edition, St. Louis, MO, Mosby Inc, 2014. (ISBN: 978-0-323-16930-1) **and** the accompanying Lab Manual (ISBN: 978-0-323-16926-4)
2. Reagan, William, et al. Veterinary Hematology: Atlas of Common Domestic and Non-Domestic Species, 2nd edition, Ames, IA, Wiley-Blackwell, 2008 (ISBN-13: 978-0-8138-2809-1)
3. Bassert, Joanna and Dennis McCurnin, McCurnin's Clinical Textbook for Veterinary Technicians, 8th edition, St. Louis, MO, Saunders Elsevier, 2010. (ISBN: 978-1-4160-5700-0)
4. **OPTIONAL:** Voigt, Gregg and Swist, Shannon, Hematology Techniques and Concepts for Veterinary Technicians, 2nd edition, Hooken, NJ, Wiley-Blackwell, 2011. (ISBN: 978-0-8138-1456-1)

Additional Information

Quizzes will be given at the start of class and take about 5-10 minutes. If you are late, you will not be allowed additional time.

If you miss an exam or quiz due to a **serious illness or legitimate emergency**, you **must** contact the instructor **within 48 hours** to arrange a time to take a make-up exam/quiz. You may need to provide a doctor's note. The make-up exam may not be the same exam that was given to other students and will need to be taken at the WCC Testing Center within a timeframe agreed upon by the instructor and student.

The instructor may request that the student present evidence of the illness or emergency that caused the student to miss the exam. If the student misses an exam for any other reason, the student may be prohibited from taking a make-up exam, thus failing to receive any points for the missed exam. While make-up exams will cover the same content area as a missed exam, the exam format and specific questions may be different.

HOW TO SUCCEED IN THIS COURSE

- 1) Science courses at WCC generally require a minimum of 3 hours of independent study for **each** hour of class; therefore you should expect to spend **9 hours per week studying OUTSIDE of class** to fully understand the complexities of the wide range of information presented in this class.
- 2) Although you can download the lecture PowerPoint outlines and read the textbook, you will not succeed in this class without attending the lecture and taking notes on the corresponding material in the textbook. You need to **study** this material.
- 3) This class covers a variety of clinical laboratory techniques that requires a good understanding of animal anatomy and physiology. You may need to review your physiology textbook and class notes to fully understand how to use and apply diagnostic laboratory tests.
- 4) Form effective study groups with your classmates. Come prepared, meet on a schedule, change up the format. If you'd like more guidance on study groups, please ask.

SCHEDULE & READING ASSIGNMENTS

Required readings in *Laboratory Procedures for Veterinary Technicians* by Margi Sirois are indicated on the schedule below, in the hematology section RB means chapters in the red book (Veterinary Hematology.) Information from the assigned readings may be tested on quizzes or examinations. Everything covered in the lecture -- even if not from the required textbook-- may be covered in quizzes or exams.

ACADEMIC DISHONESTY

Students involved in academic dishonesty will receive an "F" grade for the course.

Academic dishonesty includes cheating on exams and plagiarism. See the WCC course catalog for a description of the University's policies concerning academic dishonesty.

DISABILITIES ACCOMMODATION STATEMENT

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, lemke@hawaii.edu, or you may stop by Hale 'Akoakoa 213 for more information.

ANSC 151 Course Schedule

Week	Date	Topic	Reading
1	M 1/9	Syllabus - Urinalysis – A&P kidney, Urinalysis overview	Ch 25-26
2	M 1/16	~~MLK Jr Day~~	
3	M 1/23	Urinalysis	Ch 27-29
4	M 1/30	Urinalysis & Review	Ch 29
5	M 2/6	EXAM #1 (50 points) Hematology – hematopoiesis, CBC overview	Ch 6-8 RB: 1
6	M 2/13	Hematology - Hgb, PCV, RBC Indices, Blood Films	Ch 9-10 RB: 1,2,5,8
7	M 2/20	~~President's Day~~	
8	M 2/27	Hematology - Abnormalities	Ch 11 RB: 3,4,6,7
9	M 3/6	Hematology – Additional Tests, Anemia Hemostasis – Coagulation Abnormalities	Ch 12-18
10	M 3/13	Review	
11	M 3/20	EXAM #2 (100 points) Case study assignments will be covered	
	M 3/27	~~Spring Break~~ ~~Have fun, be safe!~~	
12	M 4/3	Clinical Chemistry	Ch 30-36
13	M 4/10	Parasitology	***
14	M 4/17	Cytology	Ch 51-53
15	M 4/24	Cytology	Ch 54
16	M 5/1	Review (CASE STUDY IS DUE)	
17		FINAL EXAM: _____ (200 points – cumulative)	