



UNIVERSITY of HAWAII®
WINDWARD
COMMUNITY COLLEGE

ANSC 151, Lab Techniques

3 Credits (CRN 62063)

Online Asynchronous

INSTRUCTOR: Sarah Krupp, RVT
OFFICE: Zoom Office Hours by Appointment.
TELEPHONE: 808) 341-8855 **EMAIL:** skrupp@hawaii.edu
EFFECTIVE DATE: Summer, 2022

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 the Ko‘olau region of O‘ahu 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: Homeostatic relationships, cytology, histology, parasitology and clinical physiology of major body systems. Includes a discussion of common disorders affecting major body systems and the techniques used for diagnosis. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields.

STUDENT LEARNING OUTCOMES

As a result of taking this course, students can expect to attain the following 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

LEARNING RESOURCES

1. Margi Sirois, Laboratory Procedures for Veterinary Technicians, 7th edition, St. Louis, MO, Mosby Inc, 2019.
2. **and** accompanying LAB MANUAL
3. Reagan, William, et al. Veterinary Hematology: Atlas of Common Domestic and Non-Domestic Species, 3rd edition, Ames, IA, Wiley-Blackwell, 20019 (ISBN-13: 978-1-119-06497-8)
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)
5. *****OPTIONAL:** Sink, Carolyn A and Weinstein, Nicole M., Practical Veterinary Urinalysis, 1st edition, Ames, IA, Wiley-Blackwell, 2012 (ISBN 978-1-119-94602-1)

*** available as e-books through the WCC library

COURSE TASKS

- 1) Listen to weekly lectures (Oahu: before Tuesday labs)
- 2) Complete assigned readings
- 3) Complete Case Study Project
- 4) Complete Lab Manual (Purple workbook) assignments
- 5) Complete 5 examinations and 5 Exam Reviews

ASSESSMENT TASKS AND GRADING

CASE STUDY: 50 points – Students will be required to create a case study to present to the class. The format for the case study will be discussed in class.

EXAM REVIEWS: 50 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 the class Google Drive, and **upload it** to the Assignment tab in Lulima.

LAB MANUAL ASSIGNMENTS: 30 points - Complete the Lab Manual that accompanies the textbook. (We will NOT complete the parasitology section.) 5 points for each section.

Intro to Lab – Urinalysis (**June 5**) - Hematology - Hemostasis (**July 3**) - Clin Chem - Cytology (**July 24**)

EXAMINATIONS: 300 points total – Exams 1-4 are 50 points each, the final exam is cumulative and worth 100 points.

Case Study	50	
Review Qs	50	A = 90-100%
Lab Manual	30	B = 80-89%
Exams 1-4	200	C = 70-79%
<u>Final Exam</u>	<u>100</u>	Anything lower than 70% - student will not move forward in the
Total:	430	program. <i>Please note that “N” grades are not given for this course</i>

Grades may be curved at the instructor’s discretion; however, the student should use the above grading scale to evaluate their performance throughout the class. If you miss an examination because of an illness or legitimate emergency, you must contact the instructor **within 48 hours** to arrange a time to take a make-up exam. The instructor will request that the student present evidence of the illness or emergency that caused the student to miss the exam. While make-up exams will cover the same content area as a missed exam, the exam format and specific questions may be different. **No retests will be given for any reason.**

COURSE CONTENT – These are the AVMA skills in ANSC 151/151L

Unit	Skill	Req	Lab/Lecture
1	Select and maintain laboratory equipment	Req	Hands on
1	Prepare, label, package, and store specimens for laboratory analysis	Req	Hands on
1	Understand how to ensure safety of patients, clients and staff in the collection and handling of samples	Req	
1	Prepare diagnostic specimens for shipment	Req	
2	Perform CBC: packed cell volume	Req	Hands on
2	Perform CBC: total protein	Req	Hands on
2	Perform CBC: white cell count	Req	Hands on
2	Perform CBC: red cell count	Req	Hands on
2	Perform microscopic exam of blood film: prepare film and stain using a variety of techniques	Req	Hands on
2	Perform microscopic exam of blood film: perform leukocyte differential – normal vs abnormal	Req	Hands on
2	Perform microscopic exam of blood film: evaluate erythrocyte morphology – normal vs abnormal	Req	Hands on
2	Perform microscopic exam of blood film: correct white blood cell counts for nucleated cells	Req	Hands on
2	Perform microscopic exam of blood film: estimate platelet numbers	Req	Hands on
2	Perform microscopic exam of blood film: calculate absolute values	Req	Hands on
2	Perform cytologic evaluation: prepare and stain bone marrow specimens		Hands on
2	Perform CBC: hemoglobin	Req	
2	Identify blood parasites: <i>Anaplasma</i> sp.		
2	Calculate hematologic indices	Req	
5	Perform Urinalysis: determine physical properties	Req	Hands on
5	Perform Urinalysis: test chemical properties	Req	Hands on
5	Perform Urinalysis: examine and identify sediment	Req	Hands on
5	Identify blood parasites: Hemotropic <i>Mycoplasma</i> sp. (Hemoplasmas) (formerly <i>Haemobartonella</i> sp. and <i>Eperythrozoon</i> sp.)	Req	
6	Understand and identify substances that when ingested result in toxicity: identify common poisonous plants	Req	
6	Understand and identify substances that when ingested result in toxicity: be familiar with substances (organic and inorganic) that cause toxicity	Req	
8	Perform diagnostics procedures for parasites: fecal flotations	Req	Hands on
8	Perform diagnostics procedures for parasites: direct smears	Req	Hands on
8	Perform diagnostics procedures for parasites: centrifugation with flotation	Req	Hands on
8	Identify blood parasites: <i>Dirofilaria</i> sp./ <i>Acanthocheilonema</i> sp. (formerly <i>Dipetalonema</i> sp.)	Req	Hands on
8	Identify common parasitic forms: Nematodes	Req	
8	Perform parasitologic procedures for external parasites and identify: lice	Req	
8	Identify blood parasites: <i>Babesia</i> sp.		
8	Perform coprologic tests		
8	Identify blood parasites: <i>Ehrlichia</i> sp.		

8	Perform parasitologic procedures for external parasites and identify: ticks	Req	
8	Perform parasitologic procedures for external parasites and identify: mites	Req	
9	Perform cytologic evaluation: assist in collecting, preparing and evaluating transudate, exudate and cytologic specimens (joint, cerebrospinal, airway, body cavity)		Hands on
9	Perform cytologic evaluation: understand timing; types of pregnancy testing		Hands on
9	Perform cytologic evaluation: perform fine needle tissue aspirates and impression smear preparation (differentiate benign vs. malignant)		Hands on
9	Perform cytologic evaluation: evaluate semen		Hands on
9	Perform cytologic evaluation: collect, prepare, and evaluate ear cytology	Req	Hands on

ADDITIONAL INFORMATION

The student is expected to view all lectures, participate in all course activities, and complete all examinations and course assignments **on time**. Any changes in the course schedule, such as examination dates, deadlines, etc., will be announced ahead of time on the course website or by UH email. Students should check their UH email address regularly (at least every 48 hrs.) so that they can be informed of course changes in a timely manner. It is the student's responsibility to be informed of these changes. It is also the student's responsibility to be informed about deadlines critical to making registration changes (e.g., last day for making an official withdrawal).

Participating in our Learning Community: Class Communication

A discussions forum will be established for this course in Campuswire. This is where all course communication will happen.

Class Feed:

- General feed is where announcements, reminders, surveys will be posted by the instructors.
- Student Posts feed will be used by all students in the course if they are stuck, unsure, or need some guidance. Students are able to answer other student questions, and the instructor will chime in as needed. You are able to ask and answer questions anonymously.
- If you'd like to post funny_memes_random that chatroom place where students and the instructor can share humor or clever tips along the way. This is a place of fun, but please keep it clean (no cursing, no nudity)...basically, if you wouldn't show it to MY mom, don't post it here.

Netiquette: (Network etiquette - appropriate behavior online)

- Do not use CAPS lock - it indicates anger, yelling, or an aggressive tone
- Use correct spelling, capitalization, and punctuation in all correspondence
- Use standard English, not "texting" language
- Be respectful to each other, choose your words wisely, and do not reply while upset or angry. When communicating online, it is difficult to convey tone and words can be misunderstood. Take time to be calm, proofread, and consider how someone else might interpret what you are typing.
- Express differences in opinion in a polite and rational manner.

- Maintain an environment of constructive criticism when commenting on the work of other students.
- Avoid bringing up irrelevant topics when involved in collaborative activities.
- If you ever receive an email or a response in discussions that is not appropriate, please contact the instructor privately and immediately. The vet tech program has no tolerance for anything that appears to be harassing, impolite or insulting. Situations like this may be referred to the program director, Dean, or Vice Chancellor of Student Affairs and corrective action will be taken.

All students are expected to read: [UH Netiquette and Safety](#)

Contacting the Instructor

If you have questions or anything course/content related, please post to Campuswire Feed, so all of your classmates can benefit. Sam and Sarah will monitor these questions and assist.

If it is grade related, private, or very specific to your situation, you can email Sarah at skrupp@hawaii.edu

Timeline: whether over Campuswire or email - I will answer within 24 hrs Mon-Fri. If you contact me over the weekend, you can expect a response sometime on Monday.

TUTORS:

Nora Sender: vettechtutornora.youcanbook.me

Mele Summa: vettechtutorme.youcanbook.me

Ka Piko is WCC's academic support hub. Please visit: <https://windward.hawaii.edu/kapiko/>

TRiO student support services: https://windward.hawaii.edu/TRIO/Student_Support_Services.php

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.

DISABILITIES ACCOMMODATIONS

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 Accessibility Counselor to discuss reasonable accommodations that will help you succeed in this class. Roy Inouye can

be reached at (808) 235-7448, royinouy@hawaii.edu, or you may stop by Hale Kāko‘o 106 for more information.

SEX DISCRIMINATION AND GENDER-BASED VIOLENCE RESOURCES (TITLE IX)

Windward Community College is committed to providing a learning, working, and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking.

If you or someone you know is experiencing any of these, WCC has staff and resources to support and assist you. To report an incident of sex discrimination or gender-based violence, as well as receive information and support, please contact one of the following:

Jojo Miller, Confidential Advocate

Phone: (808) 348-0663

Email: advocate@hawaii.edu

Office: Hale Kāko‘o 110

Desrae Kahale, Mental Health Counselor & Confidential Resource

Phone: (808) 235-7393

Email: dkahale3@hawaii.edu

Office: Hale Kāko‘o 101

Karla K. Silva-Park, Title IX Coordinator

Phone: (808) 235-7468

Email: karlas@hawaii.edu

Office: Hale ‘Ākoakoa 220

As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and I cannot guarantee confidentiality, you will still have options about how your case will be handled. My goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need.

For more information regarding sex discrimination and gender-based violence, the University’s Title IX resources and the University’s Policy, Interim EP 1.204, go to manoa.hawaii.edu/titleix/

ACADEMIC INTEGRITY (This section is optional)

Students involved in academic dishonesty will receive demerit points, lost points, and be referred to the Vice Chancellor for Student Affairs.

Academic dishonesty includes cheating on exams and plagiarism.

Work submitted by a student must be the student’s own work. The work of others should be explicitly marked, such as through use of quotes or summarizing with reference to the original author.

In this class, students who commit academic dishonesty, cheating or plagiarism will have the following consequence(s):

Students will receive a failing grade for plagiarized assignments, lab sheets or lab notebooks, and for cheating on a quiz/exam. Students will receive demerit points, to go into their VETT Student record, per the VETA/VETT Student Handbook

All cases of academic dishonesty are referred to the Vice Chancellor for Student Affairs. See the 2021-2022 course catalog for a description of the University's policies concerning academic dishonesty.

Policy on Late Assignments: Late submissions are not accepted. If an assignment was missed due to an unforeseen emergency, communication must be established with your instructor within 48 hours and documentation must be provided. Unless previously consulted with by your instructor, uploaded files with edits made after the due date will not be accepted.

Wrong file submission policy: It is the student's responsibility to ensure that the correct file was uploaded. Submissions of wrong files will be categorized as a late assignment.

ALTERNATE CONTACT INFORMATION

If you are unable to contact the instructor, you can contact:

- Sam Geiling: scraddoc@hawaii.edu
- Dr. Kelly: jennyrk@hawaii.edu
- Stacie Kissel: kupahu@hawaii.edu

If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office:

- Location: Alaka'i 121
- Phone: (808) 235-7422

	Date	Lecture Topic	Reading	Assignments
WEEK	DATES	TOPICS	CHAPTER	WHAT'S DUE?
1	May 23-29	Syllabus – UNIT 5 – Urinalysis: A&P review & sample collection Physical, Chem, Micro UA	Ch 25-29	DUE May 29th at 10pm: Case Study: select topic Exam 1 Review Qs
2	May 30 - June 5	UNIT 1 - Safety, OSHA - Lab Equipment, Microscope, Metrics/Math, QC, Records EXAM 1 (50 POINTS)	Ch 1-5	DUE June 5th at 10pm: Lab Manual due (Urinalysis, Veterinary Laboratory) Exam 1
3	June 6-12	UNIT 2 - Hematology UNIT 3- Hematopoiesis, CBC overview	Ch 6-10 Atlas: 1, 2, 5, 8	DUE June 12th at 10pm: Exam 2 Review Qs
4	June 13-19	UNIT 2 - Hematology - Abnormal RBCs, Abnormal WBCs Exam 2 (50 POINTS)	Ch 11 Atlas: 3-4, 6-7	DUE June 19th at 10pm: Exam 2 Case Study: 1st draft
5	June 20-26	UNIT 2 and UNIT 3 - Hematology, additional tests, anemia; Hemostasis	Ch 12-13 UNIT 3 (Ch 14-18)	DUE June 26th at 10pm: Exam 3 Review Qs
6	June 27-July 3	Exam 3 (50 POINTS)		DUE July 3rd at 10pm: Case Study: peer edits due Lab Manual due (Hematology, hemostasis) Exam 3
7	July 4-10	UNIT 6 - Clinical Chemistry	UNIT 6 (Ch 30-36)	DUE July 10th at 10pm: Exam 4 Review Qs
8	July 11-17	UNIT 8 - Parasitology Exam 4	Select pages out of UNIT 8 (Ch 45-50)	DUE July 17th at 10pm: Exam 4 Case Study: final draft and video due
9	July 18-24	UNIT 9 - Cytology	UNIT 9 (Ch 51-54)	DUE July 24th at 10pm: Lab Manual due (Clin chem, cytology) Final Exam Review Qs
10	July 25-27	FINAL EXAM (100 points)		DUE July 28 at 10pm: Final Exam (100 points)