# ANSC 151
# Clinical Laboratory Techniques Lecture

3 credits
Hale ʻImiloa 133
Tues & Thurs 2:30-3:45pm


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| **INSTRUCTOR:** | Jan Chouljian, DVM |
| **OFFICE:** | Hale ʻImiloa 118 |
| **OFFICE HOURS:** | Wednesdays & Thursdays 4:00-5:00 pm or by appointment |
| **TELEPHONE:** | 265-6790 (cell) |
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| **EFFECTIVE DATE:** | Spring 2012 |


**WINDWARD COMMUNITY COLLEGE MISSION STATEMENT**

*Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawaiʻi and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide Oʻahu's Koʻolau 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 or consent of instructor. Credit for or registration in ANSC 151L.

## STUDENT LEARNING OUTCOMES

Upon successful completion of ANSC 151, the student should be able to:

1) Describe the procedures for safely collecting specimens from domestic animals.
2) Describe the procedures for routine diagnostic tests performed in domestic animals.
3) Compare the technologies used by automated hematology and blood chemistry machines and discuss their impacts on the accuracy and reliability of test results.
4) Identify internal and external parasites common to companion animal species.
5) Describe the functions and physiology of the digestive, endocrine, circulatory, respiratory, reproductive and urinary systems.
6) Discuss the clinical tests used to assess function of the above body systems and be able to distinguish normal vs. abnormal results.

## 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 two lectures weekly
2) Complete assigned readings **prior** to the lectures
3) Participate in class discussions
4) Complete 9 quizzes
5) Complete 3 examinations
6) Complete Zoonotic Disease Project

## ASSESSMENT TASKS AND GRADING

**ATTENDANCE** (25 points) Attendance is mandatory. Each student is allowed two absences without penalty. Each unexcused absence beyond two will result in a deduction of points from the student's attendance score**. Students who miss guest lectures or the class presentations will receive a double deduction.**

**QUIZZES:** 80 points total – Each quiz will be worth 10 points. The student will take **9 quizzes** but only the top 8 quiz scores will count.

**EXAMINATIONS:** 350 points total -- Exam 1 and Exam 2 will each be worth 100 points and the Final Exam will be worth 150 points.

**ZOONOTIC DISEASE PROJECT:** (75 points) The student will select a zoonotic disease to research using library and online references, design and prepare a multi-media presentation and make a 10 minute presentation of their project during week 14 of the semester.

**METHOD OF GRADING:**
The assignment of points will be according to the following:

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| Attendance | 25 points |
| Quizzes | 80 points |
| Exams | 350 points |
| Zoonotic Disease Project | 75 points |
| **TOTAL** | **530 points** |

**GRADING SCALE:**

| Total Points | Percentage Points | Grade |
|---|---|---|
| 477-530 | 90-100 | A |
| 424-476 | 80-89 | B |
| 371-423 | 70-79 | C |
| 318-370 | 60-69 | D |
| <317 | 0- 59 | F |

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.

## POLICY ON MAKE-UP QUIZZES AND EXAMS:

Q**uizzes will be given during the first 10-15 minutes of class. If you are late, you will not be allowed additional time**. If you miss a 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 quiz. You may need to provide a doctor's note to take a make-up quiz. A make-up quiz may not be the same quiz 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.

If you miss an exam 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. You may need to provide a doctor's note to take a make-up exam. 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.

## ACADEMIC DISHONESTY

**Students involved in academic dishonesty will receive an "F" grade for the course.**
Academic dishonesty includes cheating on exams and plagiarism. See pages 20-21 of the 2009-2011 course catalog for a description of the University's policies concerning academic dishonesty.

## LEARNING RESOURCES

**Required Textbooks:**

1. Hendrix, Charles and Margi Sirois, Laboratory Procedures for Veterinary Technicians, 5th edition, St. Louis, MO, Mosby Inc, 2007. (ISBN: 978-0-323-04572-8)

2. Bassert, Joanna and Dennis McCurnin, McCurnin's Clinical Textbook for Veterinary Technicians, 7th edition, St Louis, MO, Saunders Elsevier, 2010. (ISBN: 978-1-4160-5700-0)

**Additional Useful Textbooks:**

1. Cowell, Rick et al, Diagnostic Cytology and Hematology of the Dog and Cat, 3rd edition, St. Louis, MO, Mosby Inc., 2008. (ISBN: 978-0-323-03422-7) **(Excellent chapters on hematology and urinalysis; copy at WCC library)**

2. Foreyt, William, Veterinary Parasitology Reference Manual, 5th edition, Ames, IA, Blackwell Publishing, 2001. (ISBN: 0-8138-2419-2) **(Excellent for identification and life cycles of internal and external parasites; copy at WCC library)**

**Laulima Website:**

There is a Laulima website to accompany this course which contains the course syllabus, PowerPoint lecture presentations, other references, and online resources. Students enrolled in ANSC 151 have automatic access to the ANSC 151 site.

To access: go to https://laulima.hawaii.edu/portal. Login using your UH username and password and click on ANSC 151**.**

## STUDENT RESPONSIBILITES

1) Students are expected to attend all lectures, bring her/his textbook to every class, participate in question & answer discussions, and complete all course assignments and examinations on time. You will be called upon during class frequently.

2) Students should finish the required readings before the scheduled lecture on that topic. This will maximize understanding of the lecture material.

3) Any changes in the course schedule, such as examination dates, deadlines, etc., will be announced ahead of time on the Laulima website or students will be notified directly by email. 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).

## 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 PowerPoints 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.

## SCHEDULE & READING ASSIGNMENTS

Required readings in *Laboratory Procedures for Veterinary Technicians* by Hendrix and Sirois are indicated in **bold face type** on the schedule below. Information from the assigned readings may be tested on quizzes or examinations.

Recommended readings are indicated in *italic type*; this information will not be included directly on quizzes or exams but will increase the student's understanding of the class material.

Everything covered in the lecture -- even if it not from the required textbook-- may be covered in quizzes or exams.

## ACCOMODATION FOR STUDENTS WITH DISABLIITIES

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 ʻAkoakoa 213 for more information.

**ANSC 151**
**Schedule of Lectures, Required Readings and Testing**
**Spring 2012**

| Week | Date | Lecture | Topic | Required reading in bold type<br>*Recommended reading italic type* |
|---|---|---|---|---|
| 1 | Tues<br>1/10 | 1 | Course introduction<br>Laboratory equipment | **Hendrix: Ch. 1 pp. 1-12** |
| | Thurs<br>1/12 | 2 | Lab Measurements<br>Lab safety/OSHA/MSDS | **McCurnin: Ch. 6 pp. 121-130** |
| 2 | Tu 1/17 | 3 | **QUIZ #1**<br>Hematology 1 | **Hendrix: Ch. 2**<br>**McCurnin: Ch. 16 pp. 427-446**<br>*Cowell: Ch. 26* |
| | Th 1/19 | 4 | Hematology 2 | **Same as above**<br>**Handout** |
| 3 | Tu 1/24 | 5 | **QUIZ #2**<br>Hematology 3 | **Same as above** |
| | Th 1/26 | 6 | Hematology 4 | **Same as above** |
| 4 | Tu1/31 | 7 | **QUIZ #3**<br>Library & Media Resources | **Handouts** |
| | Th 2/2 | 8 | Clinical Chemistry 1 | **Hendrix: Ch. 3**<br>**McCurnin: Ch. 16 pp. 446-450** |
| 5 | Tu 2/7 | 9 | Clinical Chemistry 2 | **Same as above** |
| | Th 2/9 | 10 | **QUIZ #4**<br>Clinical Chemistry 3 | **Same as above** |
| 6 | Tu 2/14 | 11 | Clinical Chemistry 4 | **Same as above** |
| | Th 2/16 | | **Exam #1**<br>Zoonotic disease topic deadline | |
| 7 | Tu 2/21 | 12 | Urinalysis 1 | **Hendrix: Ch. 5**<br>**McCurnin Ch. 16 pp. 450-456**<br>*Cowell: Ch. 23* |
| | Th 2/23 | 13 | Urinalysis 2 | **Same as above** |

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| 8 | Tu 2/28 | 14 | **QUIZ #5**<br>Urinalysis 3 | **Same as above** |
| | Th 3/1 | 15 | Internal Parasites 1 | **Hendrix: Ch. 6**<br>**McCurnin: Ch. 17 pp. 459-472**<br>*Foreyt Reference* |
| 9 | Tu 3/6 | 16 | **QUIZ #6**<br>Internal Parasites 2 | **Same as above**<br>**Handouts** |
| | Th 3/8 | 17 | Internal Parasites 3 | **Same as above**<br>**Handouts** |
| 10 | Tu 3/13 | 18 | **QUIZ #7**<br>Internal Parasites 4 | **Same as above**<br>**Handouts** |
| | Th 3/15 | 19 | Heartworm Disease 1 | **Handouts** |
| 11 | Tu 3/20 | 20 | Heartworm Disease 2 | **Handouts** |
| | Th 3/22<br><br>3/26-4/1 | | **Exam #2**<br><br>**Spring Break** | |
| 12 | Tu 4/3 | 21 | External Parasites 1 | **Hendrix: Ch. 7**<br>**McCurnin Ch. 17 pp. 488-504**<br>*Foreyt Reference* |
| | Th 4/5 | 22 | External Parasites 2 | **Same as above** |
| 13 | Tu 4/10 | 23 | **QUIZ #8**<br>External Parasites 3 | **Same as above** |
| | Th 4/12 | 24 | External Parasites 4 | **Same as above** |
| 14 | Tu 4/17 | | **All Zoonotic Disease Projects Due**<br>Project Presentations | |
| | Th 4/19 | | Project Presentations | |
| 15 | Tu 4/24 | 25 | Avian Diagnostics | **Handout** |
| | Th 4/26 | 26 | **Quiz #9**<br>TBA | |
| 16 | Tu 5/1 | 27 | TBA | |
| | Tuesday<br>May 8 | | **Final Exam (cumulative)**<br>**2:30-4:30pm** | |

- ✓ Last day to drop without "W" grade: January 30, 2012
- ✓ Last day to Withdraw with "W" entered on transcript: April 2, 2012