ANSC 151 L
Clinical Laboratory Techniques Lab (CRN 60345)

Thursday 5:30-8:15 PM
‘Imiloa 103

INSTRUCTOR: Sam Craddock, RVT
OFFICE: ‘Imiloa 121
OFFICE HOURS: Tuesday 11:30-1:00 Thursday 3:00-5:00
TELEPHONE: 282-9660 (cell)
EMAIL: scraddoc@hawaii.edu
EFFECTIVE DATE: Fall, 2010

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College is committed to excellence in the liberal arts and career development; we support and challenge individuals to develop skills, fulfill their potential, enrich their lives, and become contributing, culturally aware members of our community.

CATALOG DESCRIPTION

Laboratory to accompany ANSC 151. Provides students with the knowledge and skills necessary to perform common veterinary lab tests including urinalysis, hematology, blood chemistry, cytology and parasitology. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields (3 hrs. lab).

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

Activities Required at Scheduled Times Other Than Class Times: None

STUDENT LEARNING OUTCOMES

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

1) Properly package, handle and store specimens for laboratory analysis.

2) Demonstrate proficiency in the use of veterinary lab equipment (e.g. microscopes, blood chemistry analyzers, centrifuges, and refractometers).

3) Determine proper maintenance and quality control procedures necessary to ensure accurate results.

4) Properly carry out analysis of laboratory specimens, including urinalysis, CBC, blood chemistry and common cytological and parasitological procedures.
5) Recognize accurate vs. erroneous results in order to provide maximum diagnostic benefit.

6) Use critical thinking to analyze and interpret clinical data to determine if a need exists for additional laboratory tests that will provide useful diagnostic information.

**COURSE CONTENT**

### Concepts or Topics

The student will demonstrate and integrate basic laboratory procedures and define basic laboratory results presented in lecture, required texts, and other instructional materials for specimen collection, management and analysis. These procedures include the following areas:

1. Urinalysis (includes physical and chemical properties as well as examination of urine sediment)
2. Complete Blood cell Count
3. Hematocrit (PCV)
4. Microscopic exam of blood film
5. Coagulation testing
6. Hematologic indices
7. Blood chemistry and serologic tests
8. Identification of blood, skin and fecal parasites
9. Cytological components of vaginal, ear and skin samples
10. Culture of bacteria and sensitivity tests
11. Equipment maintenance and quality control
12. Storage and packing of lab specimens
13. Laboratory safety

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**COURSE TASKS**

1) Attend class at scheduled times.
2) Participate in lab activities.
3) Complete both in-class practicums.
4) Record results of lab activities in lab notebook.
5) Complete weekly quizzes.

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**ASSESSMENT TASKS AND GRADING**

**QUIZZES** (100 points total - 10 points for each quiz). Students will take a short (10 min) quiz at the beginning of each lab. The quiz will be based on the material covered in the previous week as well as the reading for the current lab.

**LAB ACTIVITIES** (100 points). Students are expected to record the results and interpretation of all lab procedures in their laboratory notebook. The format for the notebook will be discussed on the first day of class. The notebook will be collected twice during the semester and evaluated for accuracy, organization and completeness.
LAB PRACTICUMS (100 points total-50 points for each practicum). The student will take two lab practicums (cumulative) to demonstrate knowledge and understanding of information presented in lab activities. Format and material will be discussed in class.

ATTENDANCE (50 points): Attendance is mandatory and is worth 50 points towards the final grade. Each student is allowed one absence without penalty. Each unexcused absence above one will result in a deduction of 25 points per absence from the student’s attendance score. Students with more than three un-excused absences will receive an “F” grade in the class. Because most laboratory sessions require special equipment and preparation, make-up labs will NOT be given.

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

<table>
<thead>
<tr>
<th>Points</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>100</td>
<td>Quizzes (10)</td>
</tr>
<tr>
<td>100</td>
<td>Lab Activities</td>
</tr>
<tr>
<td>100</td>
<td>Practicums (2 x 50)</td>
</tr>
<tr>
<td>50</td>
<td>Attendance</td>
</tr>
<tr>
<td><strong>350</strong></td>
<td>TOTAL</td>
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GRADING SCALE

<table>
<thead>
<tr>
<th>Total Points</th>
<th>Percentage Points</th>
<th>Grade</th>
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<tbody>
<tr>
<td>314-350</td>
<td>90-100</td>
<td>A</td>
</tr>
<tr>
<td>279-313</td>
<td>80-89</td>
<td>B</td>
</tr>
<tr>
<td>244-278</td>
<td>70-79</td>
<td>C</td>
</tr>
<tr>
<td>209-243</td>
<td>60-69</td>
<td>D</td>
</tr>
<tr>
<td>&lt; 243</td>
<td>0-59</td>
<td>F</td>
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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 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. **No retests will be given for any reason.**
LEARNING RESOURCES

Textbooks:
Urine Crystals in Domestic Animals, A Laboratory Identification Guide. Osborne, Carl A., Clinton, Chris W., and Davenport, Marina P. Veterinary Medicine Publishing Co., 1990

Additional Information

LAB ATTIRE, CONDUCT, AND HYGEINE
Because biology labs often involve working with chemicals or hazardous materials, students MUST wear close-toed shoes. In addition, some lab activities will require students to wear gloves and safety glasses (provided by the college). Students failing to dress appropriately for lab will not be permitted to participate in laboratory exercises and will be considered absent. Students engaged in conduct that threatens themselves or others in the lab will be refused access to the lab for the remainder of the semester and receive and “F” grade for the course.

ACADEMIC DISHONESTY
Students involved in academic dishonesty will receive an "F" grade for the course. Academic dishonesty includes cheating and plagiarism. See page 16 of the 2008-2009 course catalog for a description of the University’s policies concerning academic dishonesty.

ACCOMODATION FOR STUDENTS WITH DISABILITIES
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.

LAB SAFETY RULES
1) Be familiar with lab safety procedures and take appropriate precautions at all times to insure the safety of all lab students.
2) Follow all instructions carefully, especially when hazardous materials are being
3) Know the locations of important safety equipment: eyewash, safety shower, fire extinguisher, and first aid kit.
4) Report all injuries to the instructor immediately.
5) Dress appropriately for lab. Closed-toe shoes are required for ALL labs. Safety glasses and gloves are required for labs utilizing chemicals, bodily fluids, or hot-plates.
6) Report any hazardous conditions (e.g. chemical spills or broken glass) to the instructor immediately.
7) NO FOOD ALLOWED IN LAB
8) Chemicals used in lab may be poisonous, corrosive, or flammable. No chemicals, even those known to be safe, should be ingested or touched with un-gloved hands unless you are specifically directed to do so by your instructor.
9) Know how to safely operate all lab equipment and tools (e.g., microscopes, scalpels, and hematology supplies). Safe usage will be demonstrated by your instructor.
10) Clean all lab supplies and return them to their proper location before leaving lab.
11) Treat all organisms, living or dead, with care and respect. Use gloves when handling dissected specimens.
12) Place broken glass, sharps, and dissected specimens in the appropriate receptacles (NOT IN THE TRASH!)
13) Unless otherwise instructed, chemical wastes should NOT be disposed of down the drain.
14) Human tissues and bodily fluids (e.g., saliva and blood) must be disposed of in appropriate bio-hazard containers (NOT IN THE TRASH!).
15) Wash your hands immediately following each lab to reduce the possibility of contamination or infection.

**ANSC 151L (CRN 60345) Fall, 2010**
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<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics</th>
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<tbody>
<tr>
<td>1</td>
<td>8/26</td>
<td>Course introduction, lab safety, microscope use and cleaning, intro to blood smears and anticoagulants</td>
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<tr>
<td>2</td>
<td>9/2</td>
<td>Hematology – sample collection and handling, CBC</td>
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<td>3</td>
<td>9/9</td>
<td>Clinical chemistry, CBC</td>
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<td>4</td>
<td>9/16</td>
<td>Run full CBC, chem panel</td>
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<td>5</td>
<td>9/23</td>
<td>Urinalysis</td>
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<td>6</td>
<td>9/30</td>
<td>Urinalysis</td>
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<td></td>
<td>Date</td>
<td>Activity</td>
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<tr>
<td>7</td>
<td>10/7</td>
<td>Review – CBC, chem, urine</td>
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<td>8</td>
<td>10/14</td>
<td><strong>Lab Practicum #1</strong></td>
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<tr>
<td>9</td>
<td>10/21</td>
<td>Intestinal parasites, fecal float, direct smear, Baermann, centrifugation, common nematodes and cestodes</td>
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<tr>
<td>10</td>
<td>10/28</td>
<td>Intestinal parasites – fecal float, direct, common protozoa and trematodes</td>
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<td>11</td>
<td>11/4</td>
<td>External parasites – skin scrape, cellophane tape test, ear mites, lice, fleas, flies, ticks, start DTM</td>
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<tr>
<td>12</td>
<td>11/11</td>
<td>Holiday - move this around - Microbiology, start agar, Gram stain bird specimen, discuss sending samples out (lab forms) and preventing contamination</td>
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<tr>
<td>13</td>
<td>11/18</td>
<td>Gram stain agar colony, read DTM, ear cytology</td>
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<tr>
<td>14</td>
<td>11/25</td>
<td>Thanksgiving</td>
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<tr>
<td>15</td>
<td>12/2</td>
<td>ELISA (heartworm, FeLV/FIV, cPL) Other heartworm diagnostics</td>
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<td>12/9</td>
<td>Review for final practicum</td>
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<tr>
<td>12/14</td>
<td><strong>Final Practicum – Remember that the final exam will be cumulative.</strong></td>
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1. Last day to drop: Aug 27th
2. Last day to withdraw (“W” entered on transcript): Oct 26th
3. Final Exam: See schedule of classes for exam schedules.