

# ZOOLOGY 141L SYLLABUS

Fall 2018

Aug 20-Dec 14, 2018

Sec 64013 ZOOL 141L M 8:30-11:15 Imiloa 103

Sec 64028 ZOOL 141L T 8:30-11:15 Imiloa 103

**Rooms:** Imiloa 103

**Instructor:** Michelle Smith

**Office:** Imiloa 136

**Office Hours:** MTW 8-8:30 Imiloa 103; T 11:30-12:30 Imiloa 136

**Email:** [miliefsk@hawaii.edu](mailto:miliefsk@hawaii.edu)

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## 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.*

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## CATALOG DESCRIPTION

Laboratory to accompany ZOOL 141. Reinforces major concepts of human anatomy and physiology through dissections, examination of models, laboratory experiments, and other hands-on activities. This course is intended for students entering health care or other medically related fields such as nursing, physical therapy, and medical technology. (3 hrs. lab)

**Activities Required** Pre-Requisite(s): Credit for or registration in ZOOL 141 or equivalent preparation or consent of instructor.

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## STUDENT LEARNING OUTCOMES

Upon successful completion of ZOOL 141L, the student should be able to:

- 1) Use the scientific method to design and conduct a clinical research study.
- 2) Describe the anatomy of the integumentary, skeletal, muscular, and nervous systems from prepared slides, models, and real and virtual animal dissections.
- 3) Use basic laboratory and medical equipment to evaluate functions of the above body systems.
- 4) Use critical thinking to analyze and interpret clinical data.
- 5) Prepare an oral presentation and written summary of lab activities using the scientific method.

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## LEARNING RESOURCES

- **Lab Manual:** Marieb, E.N. & S. Mitchell, 2017. Human Anatomy and Physiology Laboratory Manual. (Custom Edition)). Pearson Benjamin Cummings, San Francisco, CA.
- **Textbook:** Marieb, E. & Hoehn, K. (2016) *Human Anatomy & Physiology* with Mastering 8/e (10<sup>th</sup> ed.). NY: Pearson Pub.

\* In addition, many students find it helpful to bring a digital camera and USB flash drive to class in order to photograph anatomical specimens and exchange data files and pictures from the digital microscopes.

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## **COURSE CONTENT**

### ***Concepts or Topics***

The student will describe and integrate basic biological principles and define basic biological terms presented in lecture, required texts, and other instructional materials. These principles include the following areas:

- ☐ Scientific Method
- ☐ Chemical Reactions
- ☐ Homeostasis
- ☐ Osmosis and Diffusion
- ☐ Cell Anatomy and Cell Division
- ☐ Classification of Tissues
- ☐ Body Fat
- ☐ Skeletal System and Bone Tissue
- ☐ Joints
- ☐ Muscular System and Muscle Tissue
- ☐ Nervous System and Nervous Tissue
- ☐ Sensory Systems
- ☐ Reflex Physiology

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## **COURSE TASKS**

- 1) Attend class at scheduled times.
- 2) Participate in lab activities.
- 3) Complete required exercises in lab manual.
- 4) Complete 2 Practicals.
- 5) Present results of lab activities.
- 6) Write a lab report

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## **GRADING**

### **Grading:**

Laboratory practical exam	2x 250	500 points
Pre-Lab Quizzes		100 points
Research Paper		100 points
Lab Manual exercises		200 points
Lab Notebook		100 points
Attendance		50 points
Participation		50 points
TOTAL		1000 points

**LABORATORY PRACTICAL EXAM** (500 points). Two laboratory practical exams will be given throughout the semester. Each is worth 250 points each toward your lab grade.

The exam questions may consist of multiple choice, fill in the blank or a word bank, and pertain to: 1) any of the structures in the lab manual, or noted on handouts (referring to anatomical models and dissections); 2) the information related to physiology experiments performed; 3)

any of the structures and functions on the assigned Slides.

Typically, exams cannot be made up; however, under unusual circumstances (emergencies) I may be able to fit a student in another lab time.

**DO NOT THAT THE LAST LAB PRACTICAL WILL BE HELD DURING THE LAST WEEK OF CLASSES, NOT FINALS WEEK.**

**PRELAB QUIZZES** (100 points total). A prelab quiz will be taken on Laulima prior to each lab related to that day's material. There is a Prelab Quiz information list on my website. Please review it before taking the quiz. You need to have computer access. You will have 72 hours prior to lab to take the quiz and have 10 minutes to complete it. There is no scheduled prelab quiz when a lab practical is scheduled.

**LAB REPORT** (100 points): A research paper on **osmosis** or an alternative lab exercise will be due one week after the lab experiment. You will need to include the Title page, Purpose, Introduction, Procedures, Results, Discussion and References.

**LAB MANUAL EXERCISES** (100 points): Complete all lab manual exercises related to that weeks activity to be checked off by the instructor. Lab exercises need to be fully complete for full credit and turned in on time for a total of 200 points.

**LAB NOTEBOOK** (100 Points): Students are required to maintaining a lab notebook. A lab notebook is a separate composition book used to document experiments, draw microscopic images, and to keep track of valuable lab information. It will be checked at the 1<sup>st</sup> lab practical and the last lab, prior to the last lab practical.

**ATTENDANCE** (50 points): Attendance is mandatory. Each unexcused absence will result in a deduction of 5 points.

**PARTICIPATION** (50 points):

This includes participating in all laboratory activities and working cooperatively within your group. You are also responsible for cleaning up the lab after an activity (e.g., putting specimens away, cleaning equipment you use, and bleaching table after dissecting).

**Final Grade:**

Tentative grades associated with semester exam scores are **only** to give a rough estimate of relative class standing, and are not used to determine the final grade

The standard grade scale will be used to determine your final grade. ( $\geq 90\%$ =A, 80%-89%=B, 70%-79%=C, 60%-69%=D,  $\leq 59\%$ =F)

#### 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). Several labs will involve body measurements (e.g., body fat), light exercise, or the placement of electrodes or sensors on the body. Students should therefore wear loose-fitting clothing that allows for a free range of movement (i.e. no tight-fitting pants or jeans). 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 an “F” grade for the course.

### **LAB SUBJECT POLICY**

Most labs involve non-invasive clinical measurements (e.g., skin-fold measurement, reflex tests, etc). ALL students are required to participate in these activities. If you have a health condition or other reason why you should not participate you should inform the instructor. Experiments involving invasive or semi-invasive procedures (e.g., finger sticks and urinalysis) will be performed on volunteers only.

### **ACADEMIC DISHONESTY**

Academic dishonesty includes cheating on exams and plagiarism. See page 15-16 of the 2017-2018 course catalog for a description of the University's policies concerning academic dishonesty.

[https://windward.hawaii.edu/Catalogs\\_Schedules/WCC\\_Catalog\\_2017-2018.pdf](https://windward.hawaii.edu/Catalogs_Schedules/WCC_Catalog_2017-2018.pdf)

*\*The instructor reserves the right to notify the administrative offices of any academic dishonesty violations – this can incur separate consequences such as probation or worse.*

### **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](mailto:lemke@hawaii.edu), or you may stop by Hale 'Akoakoa 213 for more information.

### **TWO-WAY COMMUNICATION DEVICES:**

These devices are not allowed in the classroom. Please see to it that these devices are turned off while in class.

### **UH POLICY ON EMAIL COMMUNICATION:**

The electronic communications policy adopted in December 2005 establishes the University of Hawai'i Internet service as an official medium for communication among students, faculty, and staff. Every member of the system has a hawaii.edu address, and the associated username and password provide access to essential Web announcements and email. You are hereby informed of the need to regularly log in to UH email and Web services for announcements and personal mail. Failing to do so will mean missing critical information from academic and program advisors, instructors, registration and business office staff, classmates, student organizations, and others.

### **ACADEMIC GRIEVANCE STATEMENT:**

In instructional activities, the students are responsible for meeting all of the instructor's attendance and assignment requirements. Failure to do so may affect their final grade. In all college-related activities, including instruction, they must abide by the college's conduct codes and regulations, refraining from behavior that interferes with the rights and safety of others in the learning environment. Finally, if they decide to file a grievance, they are fully responsible for providing proof that they have been wronged.

### **CLASS CANCELLATION:**

Lecture is cancelled if, without prior notice, the instructor is more than 15 minutes late for 75 minute classes or 10 minutes for 50 minute classes.

*This Syllabus is subject to change, when appropriate.*

## **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 used.
- 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.