

## **ZOOLOGY 141 HUMAN ANATOMY & PHYSIOLOGY**

THREE (3) Credits

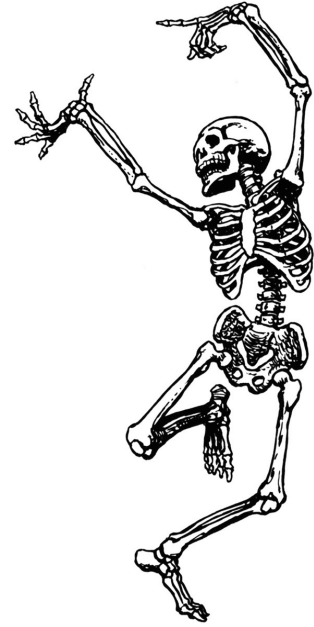
CRN 61015, 11:30 A.M. – 12:45 P.M.

CRN 61030, 1:00-2:15 P.M.

Monday and Wednesday

HALE 'IMILOA 133

**INSTRUCTOR:** ALLISON BEALE  
**OFFICE:** 118 'IMILOA  
**OFFICE HOURS:** TBA  
**TELEPHONE:** Use email  
**EMAIL:** [abeale@hawaii.edu](mailto:abeale@hawaii.edu)  
**EFFECTIVE DATE:** Fall 2017



### **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**

This is the first semester of a two-semester course in human anatomy and physiology. Topics include: gross anatomy, human embryology, microanatomy, physiology, pathology, and homeostatic relationships. This course is intended for students entering health care or medically related fields such as nursing, physical therapy, and medical technology. (3 hours lecture).

Pre-requisites: High school chemistry or equivalent preparation, or consent of instructor.

Recommended preparation: High school biology, BIOL 100, BIOL 101 or ZOOL 101, co-registration in ZOOL 141L.

### **Activities Required at Scheduled Times Other Than Class Times**

- Read assigned text book chapter PRIOR to class section
- Take online quizzes

### **STUDENT LEARNING OUTCOMES**

The student learning outcomes for the course are as follows:

1. Use the scientific method to design a medical research study.
2. Critically evaluate scientific claims made in primary journal articles and popular literature.

3. Discuss the major chemical elements found in the human body and describe the different ways in which these elements combine to form molecules and compounds.
4. Understand the functions of cellular organelles, and be able to trace the path of protein manufacture in the cell.
5. Compare and contrast the physical, chemical, and biological factors governing the transport of materials across the cell membrane.
6. Discuss the link between cells and tissues and describe how tissue structure determines its suitability for secretion, absorption, support, or protection.
7. Use standard medical terminology to describe body positions and the orientations.
8. Describe the anatomy and function of the integumentary, skeletal, muscular, and nervous systems, and discuss how these systems maintain homeostasis in the human body.
9. Discuss how negative feedback maintains homeostasis in each of the above body systems. Also, be able to explain how disease and disorders disrupt the homeostasis of each of the above body systems and discuss how common medical treatments and drugs are used to restore homeostasis.

## 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:

- Philosophy and characteristics of science and the scientific method;
- The difference between hypotheses, theories and laws;
- Hierarchical architecture of the human body (cells, tissues, organs, and organ systems);
- The chemical composition of the human body and the functions of the major groups of biological molecules;
- Anatomy and physiology of cells including: protein synthesis, cellular respiration, cell division (mitosis and meiosis), senescence and cell death (apoptosis);
- Anatomy and physiology of the systems that make up the human body, including skeletal, integumentary, muscular, and nervous systems;
- Mechanisms for maintenance of homeostasis in the human body.

### *Skills or Competencies*

- 1. Critically read and evaluate research data**
- 2. Associate physiological concepts learned in lecture with anatomical structures covered in lab**
- 3. Develop a system of memorization**

## COURSE TASKS

1. Attend class at scheduled times
  - a. **Provide a valid MEDICAL excuse for any absences by the next class session**
    - i. Attendance is REQUIRED and tracked. Students are expected to be responsible for providing valid excuses by the next class session and excuses will not be accepted after that time resulting in deduction of attendance points.
  - b. **Do not get up and leave the classroom during class**
2. Complete assigned readings prior to lecture
3. Participate in class discussions and activities
4. Present a short (10 minute) oral report on a clinical aspect of a topic covered in lecture
5. Complete 3 in-class examinations (2 midterms, 1 final)
6. Take online quizzes

## ASSESSMENT TASKS AND GRADING

There are approximately 1000 points possible in this class. The grading scale is a straight percentage, so keep track of your points! Midterm grades will NOT be calculated, it is expected that students keep track of their own points by using the Grade Book tool in Laulima.

### EXAMINATIONS – approximately 550 points, subject to change.

1. Quizzes based on each reading assignment – 10 points each, approximate total = 250 points
  - a. Taken online in the Laulima tool known as Assignments Tests and Surveys (ATS)
    - i. Timed (10-20 minutes)
    - ii. Matching, 10 items/responses
    - iii. Open book/note
    - iv. Two quizzes per week, each open for the applicable week (M-F)
2. Midterms – 100 points each
  - a. Taken online in the testing center
    - i. Timed (1.25 hour)
    - ii. 100 Multiple choice questions based on review questions in ATS
    - iii. Closed book, no notes, no aides
    - iv. Two per semester, NOT comprehensive
  - b. If you miss a midterm due to illness or a legitimate emergency, you must email me within 24 hours to arrange a time for a make-up exam.
    - i. Make up exams ARE NOT the same exam as taken by the rest of the class.
    - ii. If you miss an exam for any other reason, you will not be allowed to take a make up and will thus forfeit any potential points for that exam.
    - iii. NO RETESTS for ANY reason.
    - iv. “N” grades are NOT given in this course.
3. Final exam – 200 points
  - a. Taken online in the testing center
    - i. Timed (2 hours)
    - ii. 100 multiple choice questions worth 2 points each
      - 75% will be verbatim from review questions, 25% may be rewritten or new questions based on the material covered
      - **COMPREHENSIVE (covers material from the entire course)**

- iii. Closed book, no notes, no aides
- b. If you miss the final, you must contact me by email within 24 hours of the start of the exam. You will only be scheduled for a make up exam if you have a legitimate excuse. You may be asked to prove legitimacy (e.g., doctor's note).

### ATTENDANCE –

1. Attendance is taken at the start of class, and you must be seated at that time to be marked present.
  - a. Excessive absenteeism is grounds for failure in the course.
    - i. Every late arrival or early departure = “absent”
    - ii. Every time you get up during class and leave, even if you return
    - iii. Any unexcused absence (bring a doctor's note by the NEXT class session!)
  - b. Excessive absenteeism means more than three unexcused absences or five disruptions (e.g., arriving late, leaving early, etc.).

### ORAL PRESENTATION – 100 points

1. 10 minute, oral presentation on a **clinical aspect of a topic covered in lecture** (cells, tissues, muscles, bones, nervous system). If it was a disease specifically addressed in lecture, **it is not fair game**.
  - a. Diseases are on a 1<sup>st</sup> come, 1<sup>st</sup> serve basis
    - i. A sign up sheet will be brought to class, it is the student's responsibility to sign up.
  - b. You will be graded on presentation skills, knowledge of the topic, ability to field questions and comments, and relevance to Zoology 141. The grading matrix may be found as a PDF link on our Lualima homepage.

### STUDENT CONDUCT

- ANY student who engages in behavior or language inconsistent with accepted codes may be subject to academic disciplinary action. Please review the following policies if you have any question about what constitutes appropriate behavior. **Absolutely not tolerated** will be swearing, racist or sexist speech or behavior meant to intimidate any person in class. All UH policies may be found online at <http://www.hawaii.edu/policy/?action=search>
  - EP 1.204 – Sexual Harassment and Sexual Assault
  - EP 7.205 – System-wide Student Disciplinary Sanctions
  - EP 7.208 – System-wide Student Conduct Code

### ACADEMIC DISHONESTY

- Any student involved in academic dishonesty will receive an “F” grade for the course.
  - Academic dishonesty includes, but is NOT LIMITED to:
    - Cheating on exams, or helping someone else cheat
    - Plagiarism
  - See the current WCC Course Catalog for a description of the College's policies concerning academic dishonesty.

### LEARNING RESOURCES

Required text: Marieb, E. & K. Hoehn, 2012/2014. *Human Anatomy & Physiology 9<sup>th</sup> or 10<sup>th</sup> ed.* Pearson Publishers, NY. Mastering is NOT required for these sections of A&P.

Options for purchasing the text:

1. WCC bookstore

2. Through Pearson (<http://www.mypearsonstore.com/index.asp>)
  - a. Hardback text
  - b. E-text with a 2-year subscription
  - c. 3-ring binder edition (purchase chapters “a la carte”).

Options for purchasing the Mastering Anatomy & Physiology 9/e:

1. WCC bookstore
2. Through Pearson (<http://www.masteringaandp.com/>)
  - a. This is the same site where you register for Mastering

## Additional Information

### STUDENT RESPONSIBILITIES

- You are expected to attend all lectures, participate in all course activities, and complete all examinations, quizzes, and course assignments on time.
- Please be considerate of others by turning your cell phone to “plane” mode or vibrate if you can’t turn it off.
- **Please do NOT DISRUPT class by leaving during lecture to use the bathroom, get a drink or any other activity that is more appropriately done before or after class.**
- Any changes in the lecture schedule, such as exam dates, deadlines, etc., will be announced in class ahead of time, and/or in an announcement posted on the homepage for our section of ZOOL 141. It is the STUDENT’S responsibility to be informed about these changes, including those that are critical to making registration changes (e.g., the last day to withdraw without a “W” on your transcript).
- The Grade Book in Laulima does not allow for extra credit points to be tracked separately. We will probably have at least 100 points of extra credit. It is the student’s responsibility to keep track of their points so they know their grade. The instructor will only calculate the grade at the end of the course.
- Students must take responsibility for their own learning. If you do not understand the review questions, you must do one of the following:
  - a. Allocate additional time to study
  - b. Attend scheduled weekly review sessions
  - c. Make an appointment with either myself to arrange tutoring or seek tutoring through TRIO
  - d. Find a study partner and test each other on material in the Natural Sciences study room (112B Imiloa).

### HOW TO BE SUCCESSFUL IN ZOOLOGY 141

- You will be given lecture outlines and review questions, but you will NOT succeed without attending lecture prepared to take detailed notes on the corresponding material in the text. You must read the text, but merely reading it will not suffice. Zoology 141 requires you to memorize and UNDERSTAND a huge amount of medical and anatomical terms and concepts, most of which will probably be foreign to you. It will seem completely overwhelming at times, but this is time for a reality check: all undergraduate science courses have a very steep learning curve. You are going to be faced with a lot of material in a short amount of time, so plan accordingly. You must create a system to learn the material.
  - **Intend to remember** – you must actively PLAN to remember things for them to stick.
  - **Outline the task** – outlines give your brain a framework that helps make material logical.

- **Review immediately** after learning – most forgetting takes place immediately (the information isn't transferred to long-term memory), so take a minute to briefly review at the end of every study session.
- **Learn ACTIVELY** – don't just read the text! Self-testing, diagramming, telling someone else... all are far more effective at helping you remember.
- **Break big tasks into manageable smaller ones** – don't try to tackle an entire chapter, read a section or two each day. Another aspect of this is when you are trying to memorize information, you will do better by attacking the material in chunks and adding one or two new terms at a time.
- **Practice!!** – Just because we have moved on from a chapter, you shouldn't just forget it (literally!). Take a moment, at least once a week, to review.
- **Be ORGANIZED** – it is easiest to remember things that are in a logical pattern, this is especially important when you go to learn physiological concepts. Be systematic in your approach.
- Bring highlighters to lecture and use different colors to help separate information on the slides.
- The Natural Sciences courses at Windward Community College typically require a **MINIMUM of 2-3 hours of independent study time for EACH HOUR spent in class**. It is your responsibility to allocate the appropriate amount of time needed for study and to be realistic about all the personal and professional commitments that may cut into your study time.

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

Revised 3 June 2017

## General Lecture Schedule for Zoology 141 (subject to change)

Lecture	Topic(s)	Reading	
1.	Introduction, syllabus	Chp1:1-22	
2.	Basic chemistry	Chp2:23-37	
3.	Biochemistry	Chp2:38-60	
4.	Cells: membranes	Chp3:61-80	
5.	Cells: organelles and cell development	Chp3:81-115	
6.	Tissues: epithelium and connective tissues	Chp4:116-136	
7.	Tissues: muscle and nervous tissues	Chp4:136-149	
8.	The organization of tissues into organs		
9.	The integumentary system	Chp5:150-172	
	<b>Catch up</b>		
<b>Midterm #1 (intro through integument, chapters 1-5) – taken online in the testing center.</b>			
10.	Bone as a tissue	Chp6:173-198	
11.	The axial skeleton	Chp7:199-226	
12.	The appendicular skeleton	Chp7:227-248	
13.	Joints	Chp8:249-275	
14.	Muscle as a tissue	Chp9:276-305	
15.	Actions and interactions of muscles	Chp10:319-385	
16.			
	<b>Catch up</b>		
<b>Midterm #2 (bones – muscles, chapters 6-10) – taken online in the testing center.</b>			
17.	Nervous system basics, anatomy and histology	Chp11:386-427	
18.	Functional aspects of neurotransmission		
19.	The Central Nervous System: brain & spinal cord	Chp12:428-482	
20.	The special senses: vision	Chp15:544-590	
21.	The special senses: taste and hearing		
22.	The Peripheral Nervous System: Somatic/reflexes	Chp13:483-523	
<b>THANKSGIVING HOLIDAY</b>			
23.	The Autonomic Nervous System: cholinergics	Chp14:524-543	
24.	The Autonomic Nervous System: adrenergics		
	Oral presentations		
<b>COMPREHENSIVE FINAL EXAM TAKEN ONLINE IN TESTING CENTER</b>			
My Proposed Fall 2017 Schedule			
Time	MONDAY	TUESDAY	WEDNESDAY
09:00	OFFICE HOURS 118 IMILOA		OFFICE HOURS 118 IMILOA
10:00			
11:30	Z141 – 123 IMILOA CRN 63017	<b>JABSOM</b>	Z141 – 123 IMILOA CRN 63017
12:00			
1:00	Z141 – 123 IMILOA CRN 63032		Z141 – 123 IMILOA CRN 63032
2:00			
3:00			
4:00			
5:00			Generally not on campus R or F