

Zoology 142 Human Anatomy and Physiology II

(CRN 60140)

MW: 4:00-5:15 PM, Imiloa 123

INSTRUCTOR: Ross Langston, PhD
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EFFECTIVE DATE: Spring, 2014

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

The second semester of a two-semester course in human anatomy and physiology. Topics include: human embryology, gross anatomy, 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 hrs. lect)

Activities Required at Scheduled Times Other Than Class Times: None

STUDENT LEARNING OUTCOMES

Upon successful completion of ZOOL 142, the student should be able to:

- 1) Describe the anatomy and function of the circulatory, lymphatic, endocrine, digestive, urinary, and reproductive systems and discuss how these systems maintain homeostasis in the human body.
- 2) Describe the link between the anatomy of human tissues and organs and their functions within the human body.
- 3) Describe how lipids, carbohydrates, proteins and nucleic acids are digested, assimilated, and catabolized to obtain energy and raw materials.
- 4) Discuss how negative feedback maintains homeostasis in the human body.
- 5) 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:

- Anatomy of the endocrine systems and physiology of hormone actions
- Functions and components of blood
- Anatomy of the heart and regulation of heart rate and cardiac output
- Anatomy of blood vessels and regulation of blood pressure and blood flow
- Mechanisms of general and specific resistance
- Anatomy and physiology of the respiratory system
- Digestive anatomy, processes, nutrition, and metabolism
- Anatomy of the urinary system, renal physiology, and fluid & electrolyte homeostasis
- Anatomy and physiology of male and female reproductive systems
- Physiology of pregnancy and fetal development
- Genetics and inheritance

COURSE TASKS

- 1) Attend class at scheduled times.
- 2) Complete assigned readings prior to lecture.
- 3) Complete weekly quizzes
- 4) Complete class examinations.
- 5) Complete nutrition activity.

ASSESSMENT TASKS AND GRADING

EXAMINATIONS (600 points total-200 points for each exam). The student will take THREE exams (non-cumulative) to demonstrate knowledge and understanding of information presented in the lectures, lecture outlines, text readings, and study guide activities. They will be timed (typically 70 minutes) and may consist of multiple-choice, short answer, or essay questions. You will be allowed to take the exam one time only.

QUIZZES (200 points- 20 points for each quiz). The student will take 12 online quizzes which will cover material from the lecture and reading. **Quizzes may be taken from home, but they MUST be taken by the indicated deadline (typically 11:00 PM each Friday).** Each quiz can be taken up to THREE times; only the highest score will be saved. Please note that quizzes cannot be made up for any reason, including network problems, or personal emergencies. The lowest two quiz grades will be dropped at the end of the semester. As with exams, quizzes will be timed (typically 30 s to 1 min per question, depending on difficulty). Quizzes may be taken open-book, but be warned that if you do not study beforehand you will not be able to complete the quiz before the deadline lapses.

NUTRITION ACTIVITY (50 points): As part of this course, you will be required to track and analyze your food intake for one week using the [mypyramidtracker](#) website. You will also be required to prepare and analyze the nutritional content of a “homemade” dish which will be shared with the rest of the class.

ATTENDANCE (50 points): Attendance and class participation are mandatory. Each student is allowed two absences without penalty. Each unexcused absence above two will result in a deduction of points from the student's attendance score.

METHOD OF GRADING

The assignment of points will be according to the following:

Exams	600 points
Quizzes	200 points
Assignments	50 points
<u>Attendance/Class Part</u>	<u>50 points</u>
TOTAL	900 points

GRADING SCALE

Percentage Points	Grade
90-100	A
80-89	B
70-79	C
60-69	D
0- 59	F

Please not that "N" grades are not given for this course.

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. 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.**

ACADEMIC DISHONESTY

Students involved in academic dishonesty will receive an "F" grade for the course.

Academic dishonesty includes cheating on exams and plagiarism. See the 2013-2014 course catalog for a description of the University's policies concerning academic dishonesty.

LEARNING RESOURCES

Textbooks: Marieb, E.N. and K. Hoehn. Human Anatomy and Physiology. 9th Ed. Pearson/Benjamin Cummings. San Francisco. ISBN: 978-0-321-74326-8

Lecture Outlines: Powerpoint outlines for course lectures are available on the course website.

Laulima: Your instructor has created a [laulima website](#) to accompany this course. This website contains links to lecture outlines, lab activities, and review materials. All students enrolled in the class are automatically granted access to the course website. You will need a UH email account to access the Laulima site.

Adobe Reader: You will need to download a recent copy of adobe reader to view the narred lecture files on the course website. A copy is available at: <http://get.adobe.com/reader/>

Additional Information

STUDENT RESPONSIBILITIES

The student is expected to attend all lectures and complete the assigned reading as indicated by the schedule attached to the syllabus. Quizzes, examinations and course assignments must be completed by the indicated deadline or the student will receive a zero grade for the missed assignment. 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 about deadlines critical to making registration changes (e.g., last day for making an official withdrawal).

HOW TO SUCCEED IN THIS CLASS

You will not succeed in this class without viewing the assigned lectures and taking detailed notes on the corresponding material in the textbook (merely reading the chapter will not suffice). Science courses at WCC generally require a minimum of two to three hours of independent study time for each hour in class. It is your responsibility to allocate the appropriate amount of time needed for study and be realistic about all personal and professional commitments that may cut into your study time.

As part of your studies, you will need to understand a veritable *mountain* of medical and anatomical terms, most of which will probably be foreign to you (e.g., Sphincter of Oddi, progeria, trabeculae, and post-synaptic potential). Most important vocabulary words appear in **boldface** throughout your textbook. One way to learn these vocabulary words is to make flash cards to quiz yourself. Answering the matching and fill-in-the-blank questions located in the back of each text chapter can also be a helpful way to learn new vocabulary. Some of these questions may even show up on your quizzes or exams! Be warned: merely knowing the *definitions* of vocabulary words will be of little use if you do not know how the anatomy of the structures they represent.

In addition to vocabulary, you will be expected to have a detailed understanding of the mechanisms regulating human body systems. In many cases, these systems are regulated by negative feedback loops. **Knowledge of negative feedback mechanisms is absolutely crucial to understanding how the human body maintains homeostasis.** For example, you should know how the body maintains optimal blood calcium levels. To answer this type of question effectively, you will need to develop an intuitive understanding of how the body monitors blood calcium and what actions it takes when blood calcium is too low or too high. One way to do this is to make a diagram of how the feedback loop works (see figure 6.11). Most negative feedback loops have 3 parts. 1) a **receptor**, which monitors the condition (in this case, blood calcium levels) 2) a **control center** which “decides” when the condition has exceeded optimal set point values 3) and an **effector** which modifies the values of a controlled condition as directed by the control center. Once you have created your diagram (and labeled the above parts) you should ask yourself what types of **stimuli** may cause the controlled condition to drop below or exceed the set point and then trace the steps necessary to bring the controlled condition back into homeostasis (back to the set point).

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 ‘Akoakoa 213 for more information.

ZOOLOGY 142 SPRING 2014
CRN 60140
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* Please note this schedule is tentative and subject to change. Any changes will be announced in class or posted on the class website.

Week	Date	Topics	Reading	Quizzes (due by 11 PM FRIDAY)
1	1/13 1/15	Course Introduction Endocrine System	Syllabus Chapter 16	
2	1/20 1/22	Holiday: MLK Day Blood	Chapter 17	Quiz 1: Endocrine System (1/24)
3	1/27 1/29	The Heart	Chapter 18	Quiz 2: Blood (1/31/)
4	2/3 2/5	Blood Vessels & Hemodynamics	Chapter 19	Quiz 3: The Heart (2/7)
5	2/10 2/12	Lymphatic System	Chapter 20	Quiz 4: Blood Vessels (2/14)
6	2/17 2/19	Holiday: President's Day Exam #1- Chapters 16-20	None	Quiz 5: Lymphatic System (2/21)
7	2/24 2/26	Immunity	Chapter 21	None
8	3/3 3/5	Respiratory System	Chapter 22	Quiz 6: Immunity (3/7)
9	3/10 3/12	Digestive System	Chapter 23	Quiz 7: Respiratory System (3/14)
10	3/17 3/19	Nutrition & Metabolism	Chapter 24	Quiz 8: Digestive System (3/21)
11	M 3/24 W 3/26	Spring Break		
12	M 3/31 W 4/2	Nutrition Activity Due! Exam #2: Chapters 21-24	None	Quiz 9: Nutrition & Metabolism (4/4)
13	M 4/7 W 4/9	Urinary System	Chapter 25	None
14	M 4/14 W 4/16	NO CLASS (JABSOM LAB) Male Reproductive System	Chapter 27	Quiz 10: Urinary System (4/18)
15	M 4/21 W 4/23	Female Reproductive System Pregnancy and Human Development	Chapter 27 Chapter 28	Quiz 11: Reproduction (4/25)
16	M 4/28 W 4/30	Pregnancy and Human Development Heredity	Chapter 28 Chapter 29	Quiz 12: Pregnancy and Dev (5/2)
17	M 5/5 W 5/7	Heredity Review	Chapter 29	
	M 5/12	Final Exam: Chapters 25, 27, 28, & 29 4:00-6:00 PM, Imiloa 123		

- Last day to drop without "W" grade: 2/3
- Last day to Withdraw ("W" entered on transcript): 3/20