



UNIVERSITY of HAWAII®
WINDWARD
COMMUNITY COLLEGE

Zoology 142L Anatomy and Physiology Laboratory Section

One (1) Credit CRNs 60046 and 60085

Mondays 8:30 am – 11:15 am or 11:30 am – 2:15 p.m., 103 'Imiloa

INSTRUCTOR: Allison Beale
OFFICE: Hale 'Imiloa 118
OFFICE HOURS: TBA – See office door or Laulima Homepage for course
TELEPHONE: Please use email **EMAIL:** abeale@hawaii.edu
EFFECTIVE DATE: Spring 2019

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

Laboratory to accompany ZOOL 142. Reinforces the facts and concepts of human anatomy and physiology discussed in ZOOL 142 through dissections, examination of models, laboratory activities, and other hands-on experiences. This course is intended for students entering health care or medically-related fields such as nursing, physical therapy and medical technology.

Prerequisite: Credit for or registration in ZOOL/PHYL 142 or equivalent preparation or consent of instructor.

DY.

Activities Required at Scheduled Times Other Than Class Times: **Writing Lab.** There may be **OPTIONAL** activities.

STUDENT LEARNING OUTCOMES

The student learning outcomes for the course are as follows:

1. Use the scientific method to design and conduct a clinical research study.
2. Describe the anatomy of the endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and reproductive systems from prepared slides, models, and real and virtual animal dissections.
3. Use basic laboratory and medical equipment (microscopes, sphygmomanometers, stethoscopes, ECG apparatus, and respiratory spirometers) 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.

COURSE CONTENT

Concepts or Topics (the terms, topics, or concepts students should know or understand)

- Scientific method
- Chemistry including biochemistry related to osmosis, diffusion, metabolism and respiration.
- Homeostasis
- Anatomical terms
- Cell anatomy and physiology
- Tissue anatomy and physiology
 - Connective
 - Epithelial
 - Muscular
 - Nervous
- Organ system anatomy and physiology
 - Fat (adipose tissue)
 - Skeletal (bone, cartilage and joints)
 - Muscle, including origins and insertions of major muscles.
 - Nervous system including sensory and motor aspects
 - Cardiovascular system
 - Respiratory system
 - Digestive system
 - Endocrine
 - Blood and Lymphatic systems
 - Urogenital and reproductive systems

Skills or Competencies (what students should be able to do in order to complete the student learning outcomes)

1. Explain the physiology of major cell types;
2. Explain the physiology of major tissues;
3. Identify the gross and microscopic anatomy of major organ systems;
4. Explain the physiology of major organs.
5. Identify the major cellular components of major tissues and organs.
6. Use the “tools of the trade” appropriately, including microscopes, dissection tools, microscope slides, blood pressure cuffs, ECG recording devices, tissue stains, spirometers, pulse oximeters and other lab equipment.
7. Interpret visual, hands-on materials, including slides, models and virtual dissections into an oral and written presentation and lab notebook.
8. Interpret visual, hands-on materials and data into clinical profiles.
9. Present findings orally to the class and in writing to the instructor.

COURSE TASKS

1. Attend class at scheduled times, **without arriving late or leaving early without prior consent** of instructor.
2. Participate in all lab activities, including:
 - a. Making yourself familiar with all lab safety procedures
 - b. Taking appropriate precautions at all times to ensure your own safety and the safety of others and the environment
 - i. Know the locations of important safety equipment and the fundamentals of their use including:
 1. Eyewash stations
 2. Safety shower(s)
 3. Fire extinguisher
 4. First Aid kit
 5. Who to summon in the event of an accident or emergency

- c. Follow instructions
 - d. Dress appropriately for lab
 - i. **Closed toed shoes are REQUIRED**
 - ii. Safety glasses and gloves are REQUIRED for any lab using chemicals, hot-plates or which may expose you or others to body fluids.
 - iii. **Lab coat or other appropriate covering is REQUIRED**
 - 1. You may substitute scrubs for a lab coat
 - 2. Lab coats may be purchased at the WCC bookstore; lab coats and scrubs are available for purchase (inexpensively) at stores such as Walmart and Target.
 - e. Report any chemical spills, broken glassware or other hazardous situations immediately to the instructor
 - i. Place all broken glass, sharps and dissected specimens in the appropriate receptacles (usually red plastic sharps boxes), NOT IN THE TRASH.
 - ii. All tissues and body fluids, human or otherwise, including saliva, blood, or other tissues, must be disposed of in the appropriate red plastic bio-hazard container, NOT IN THE TRASH.
 - f. Chemicals used in lab may be poisonous, corrosive or flammable.
 - i. Do not ingest any chemical, even those known to be safe, in the lab.
 - ii. Do not touch any chemical in the lab without wearing gloves unless specifically instructed by your instructor to do so.
 - iii. Unless otherwise instructed, chemical wastes should NOT GO DOWN THE DRAIN.
 - iv. **DO NOT CONSUME FOOD OR BEVERAGES IN LAB.**
 - v. Again: **NO FOOD OR BEVERAGES ALLOWED IN THE LAB!**
 - g. Know how to safely use and operate all lab equipment and tools, including:
 - i. Microscopes
 - ii. Glass microscope slides
 - iii. Hematology supplies
 - iv. Scalpels and other dissection tools
 - h. **Treat all organisms, living or dead, with care and respect.**
 - i. Always handle dissection specimens **carefully** while wearing gloves.
 - ii. Wash your hands, even if you have been wearing gloves, after handling dissection specimens.
 - iii. Use dissection trays. Never put dissection materials or equipment directly on the lab bench. Wash and dry trays after use.
 - i. **Clean all lab supplies and return them** to their proper location before leaving lab.
 - j. Clean your bench top before leaving by using the cleaning solutions available at the back of the lab and wiping down the counter with paper towels.
 - k. **WASH YOUR HANDS** immediately following lab to reduce the possibility of infection or contamination.
- 3. Record results of lab activities in a lab notebook or your computer.
 - a. You may keep your notes on a computer, but make sure to **personally** label all figures, drawings, and photos.
 - 4. Complete weekly in class quiz, if given.
 - 5. Complete 2 in-class practical exams.
 - 6. Present (orally and in writing) results of lab activities.
 - 7. Meet with Writing Center staff/volunteers/embedded tutor(s) to improve writing skills.

ASSESSMENT TASKS AND GRADING

Item	Points	Frequency	Description
Quizzes	100	One per week (most weeks, but not all, check schedule)	<p>10 points each quiz.</p> <p>Quizzes cover: Material from lab.</p> <ul style="list-style-type: none"> Quizzes are based on review question sets in ATS tool in Laulima, and are meant to make sure you have studied BEFORE coming to lab. May include multiple choice and/or fill-in-the-blank questions.
Practical Exams	200	Two	<p>100 points each exam.</p> <p>Online Practical exams, taken in lab, cover:</p> <ul style="list-style-type: none"> Anatomy (gross and cellular structures) and physiology (function) of major systems covered in lab. The practical exams will be similar in content to the quizzes, and contain fill-in-the-blank and multiple-choice questions.
Lab Notebook	240	Three (check schedule)	<p>80 points each.</p> <p>THREE (3) lab notebook sections will be submitted. See lab schedule for due dates. Each encompasses multiple lab exercises. Each requires a minimum of one Writing Lab appointment, and potentially, in-class work with a writing tutor.</p> <ol style="list-style-type: none"> a. Endocrine (Ex 27 - 28) b. Lungs - respiratory anatomy and physiology (Ex 36 – 37) c. Renal anatomy and physiology (Ex 40 – 41) <ol style="list-style-type: none"> 2. Using a rubric and standard science lab write-up style guides, each of these three labs will be thoroughly documented and submitted for grading. 3. Due at the start of the subsequent (next) lab. No late work accepted. 4. May be handwritten or created on a computer, but all figures must be labeled by the student. 5. Each of these three labs must include ONE (1) primary literature citation that reflects the primary objectives of the lab exercise. This may include a Clinical Trial evaluation. <ol style="list-style-type: none"> a. Primary literature is peer-reviewed and written by someone who has actually done the research being described. 6. Students are required to make Writing Lab appointments (see Laulima homepage for contact information) and work with Writing Center tutor(s) as part of completing this task.

Assessment tasks table, continued.

Item	Points	Frequency	Description
Lab Reports	50	One	ONE written lab report, on Cardiovascular physiology (Lab Exercise 33 with Supplemental activities). You MUST incorporate information from Ex 29-33). A rubric and guidance are provided for the student. Students are required to make Writing Lab appointments (see Laulima homepage for contact information) and work with the Writing Center tutor(s) as part of completing this task.
Lab Presentations	100 per person	One	Each lab team will choose and present a 10-minute oral presentation summarizing the activities of the previous lab. A rubric and guidance is provided. <ul style="list-style-type: none"> a. One student covers basic data collected and it's analysis. 5 minutes. b. One student covers application of lab results to clinical medicine topics. 5 minutes. c. A sign up sheet will be made available after the 1st lab session. Teams will reserve a later lab by signing up.
Participation and attendance	Loss of points!	As needed.	Attendance is mandatory. <ul style="list-style-type: none"> • Each student is allowed one absence without penalty, if the student brings a doctor's work-release note to the following lab. Students will not be reminded. <ul style="list-style-type: none"> ○ Second, or any unexcused absence will result in the student not achieving points for the daily quiz (10 points), lab write-up (if due) and EC (5 points). ○ If a student arrives after the start of the daily quiz, the quiz will not be reset to accommodate them. EC will not be accepted from late students, nor will late lab reports be accepted resulting a potential point losses. ○ Make up labs are not an option, so two unexcused absences will result in a failing grade (an "F"). • Any unexcused absence, which includes late arrivals or early departures, will require the student to schedule an appointment with the instructor within one week of the absence to discuss how the student is going to ensure they meet the requirements for passing the lab. <ul style="list-style-type: none"> ○ Excused absences include a medical emergency for yourself or an immediate family member. Excused absences must be confirmed with a written, signed and dated waiver on official stationary (e.g., a doctor's work release note).

			<ul style="list-style-type: none"> • Make up labs are not an option, so two unexcused absences will result in a failing grade (an “F”). • Some labs involve non-invasive clinical measurements (such as weight and height measurements). Often these measurements are taken following exercise or another activity designed to alter blood pressure or heart rate. If you have a health condition or other reason why you should not be required to participate in these activities, you must notify the instructor. Experiments involving invasive or semi-invasive procedures will be performed on volunteers only. Such procedures may include having to touch each other to take measurements such as blood pressure and heart rate or to palpate surface anatomical features. Otherwise, all students are expected to fully participate and to share in the roles of subject and administrator.
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Optional lab

- Cadaver lab at the UH John A. Burns School of Medicine (JABSOM)
- Scheduled for an evening and it replaces one normal lab session
- Cost: nonrefundable \$25.00 to cover JABSOM administration and personnel
- Details to be announced in class

NOTE: All assignments are due ON or BEFORE the due date (at the **START** of lab on the due date). The following are NOT ACCEPTED:

1. Late assignments, including work submitted AFTER THE START OF LAB.
2. eMailed work
3. Materials left in my office or mailbox.

Extra Credit –

- **5 points per lab**
- Involves completion of **ALL** the review questions at the end of each lab manual exercise performed in class.
 - **No partial credit**, all the questions for any lab exercise performed must be completed
 - Must be **100% complete**, anything missing will result in no credit.
 - Due at the start of the following (subsequent) lab.
 - No late work

Total points for the course: approximately 690.

Total optional, EC: approximately 50 points. Doing the EC can raise your grade a full grade!!

Grade is a straight percentage of the total points.

SUMMARY OF ASSESSMENT AND EXTRA CREDIT AWARD STRUCTURE

Assessment	Number	Type	Points each	Total
Quizzes	Up to 10	Matching, fill-in-the blank, multiple-choice	10	100
Lab practical	Two	Multiple-choice	100	200
Notebook	Three	Written lab write ups	80	240
Paper	One	Written	50	50
Oral report	One	Oral	100	100
TOTAL AVAILABLE POINTS				690
Extra credit	Up to 10	Matching, fill-in-the blank, multiple-choice	5	45-50

POINTS	PERCENTAGE (%)	GRADE
621-690	90-100	A
552-620	80-89	B
483-551	70-79	C
414-482	60-69	D
345-413	50-59	F

LEARNING RESOURCES

Lab manual: Marieb, EN. 2011. *Human Anatomy and Physiology Laboratory Manual*. 11th Ed or 12th Ed. (Cat Version). Pearson Benjamin Cummings, San Francisco, CA. Available in the WCC bookstore.

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 and picture files. You may choose to use your phone or tablet for this purpose.

Laulima: <https://laulima.hawaii.edu/portal>. Students need a UH email account and access to a computer (available in Imiloa and the WCC Library Learning Commons). Laulima hosts a webpage for our course where you will find additional resources including, guidance and instructions, updates, announcements, links to lab activities and some Extra Credit materials.

A number of supplemental learning resources are available for the student, online in Laulima through our webpage.

- Camtasia recordings explaining lab procedures, and illustrating data collection, recording and analysis options.
- Links to lab images for use in lab write-ups and reports.
- Announcements with details of and links to resources to be used for each lab.
- Detailed rubrics for all assignments.
- Practice questions for quizzes and practical exams to help students master the Student Learning Objectives.
- Guidance documents such as “How to write an A&P paper” by Dr. Langston and guidance for the oral presentation.
- Supplemental sheets to tailor the experiments to our resources.
- Administrative links to:
 - The syllabus

- Lab schedule
- Rubrics
- WCC services
 - Computer services
 - Counseling and advising
 - Disabilities
 - Library and Ka Piko Student Services
 - Testing center

ADDITIONAL INFORMATION

LAB ATTIRE, CONDUCT AND HYGEINE

1. Biology labs often involve the use of chemicals, including potentially hazardous materials, and potentially dangerous equipment, including sharps such as scalpels and glassware.
 - a. Therefore students **MUST** wear:
 - i. Closed toe shoes
 - ii. A lab coat or scrubs
 - iii. And may be required to wear safety glasses and/or protective gloves or other protective equipment.
 - b. Therefore students **MUST** adhere to a strict code of conduct.
 - i. Any student engaging in conduct that threatens the safety of themselves or others in lab will be expelled from class and receive an “F” grade for the course.
2. Some lab activities involve body measurements (such as body fat determination through skin fold analysis), light exercise, or the placement of electrodes or sensors on the body. Therefore, students should wear:
 - a. Loose-fitting clothing that allows for a free range of movement
 - b. Students failing to wear appropriate clothing will not be allowed to participate in lab exercises and will be considered absent for the day.
3. Some lab activities involve contact with chemicals as described in #1 above, other students, as described in #2 above, or with biological fluids during dissections. Therefore, students should:
 - a. Maintain a clean lab bench, free of excess personal belongings;
 - b. Promptly clean up any spills;
 - c. NEVER bring food or beverages into the lab;
 - d. ALWAYS WASH YOUR HANDS at the end of lab.

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 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

MySuccess Student Support System

At Windward Community College we want every student to be successful. **MySuccess** is a system-wide effort that seeks to support students early in the semester, if and when they first begin experiencing difficulty in class. If, within the first few weeks of the semester, your scores, or attendance record, indicate that you're having difficulty in this class (e.g. missing class, missing assignments, or low test scores) you may be referred to your assigned counselor. A referral is a tool to help you get on track. Once referred, MySuccess will:

- Call you and send an email to your Hawaii.edu account to let you know about the referral;
- Have a Counselor follow up with you by phone or by email to find out what kinds of help you might need. They can then connect you with the necessary resources to help you devise a strategy for success.

If you are referred, know that I am doing so in an effort to connect you with all of the help you may need to do well this semester as your success is important to me.

ACADEMIC INTEGRITY

Work submitted by a student must be the student's own work. The work of others should be explicitly marked, such as through use of quotes or summarizing with reference to the original author. Such work must be credited using standard citation styles (MLA or APA for instance). Style guides may be found in the library, or:

- Modern Language Association (MLA): <https://style.mla.org>
- American Psychological Association (APA): www.apastyle.org/index.aspx

Academic dishonesty includes, but is NOT LIMITED to:

- Cheating on exams, or helping someone else cheat
 - During quizzes and practicals, only ONE window may be open on the student's computer during the assessment.
- Plagiarism

In this class, students who commit academic dishonesty, cheating or plagiarism will have the following consequence(s):

- At a minimum, students will receive a failing grade for plagiarized assignments.
- All cases of academic dishonesty are referred to the Vice Chancellor for Student Affairs.

See the current WCC Course Catalog for a description of policies concerning academic dishonesty.

DISABILITIES ACCOMMODATIONS

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 ʻĀkoakoa 213 for more information.

TITLE IX

Title IX prohibits discrimination on the basis of sex in education programs and activities that receive federal financial assistance. Specifically, Title IX prohibits sex discrimination; sexual harassment and gender-based harassment, including harassment based on actual or perceived sex, gender, sexual orientation, gender identity, or gender expression; sexual assault; sexual exploitation; domestic violence; dating violence; and stalking. For more information regarding your rights under Title IX, please visit: https://windward.hawaii.edu/Title_IX/.

Windward Community College is committed to the pursuit of equal education. If you or someone you know has experienced sex discrimination or gender-based violence, WCC has resources to support you. To speak with someone confidentially, contact the Mental Health & Wellness Office at 808-235- 7393 or Kaahu Alo, Designated Confidential Advocate for Students, at 808-235-7354 or kaahualo@hawaii.edu. To make a formal report, contact the Title IX Coordinator, Karla K. Silva-Park, at 808-235-7468 or karlas@hawaii.edu.

ALTERNATE CONTACT INFORMATION

If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office:

Location: Alakai 121
Phone: 808-235-7422
Email: wccaa@hawaii.edu

Human Anatomy and Physiology Zoology/Physiology (ZOOL/PHYS) 142L

Spring 2019 – subject to change
MONDAY SCHEDULE – 11:30 am – 2:15 pm – Imliloa 103
CRN 60085

Week	Date 2019	Topics: Based on Human Anatomy & Physiology Lab Manual 11 th Ed. Marieb et al. Pearson	Lab Exercise
	1/7	Introduction, syllabus, safety Endocrine – Stress experiments	Syllabus Exercise 27-28
	1/14	Blood, blood type, hematocrit <ul style="list-style-type: none"> • EC: Endocrine Exercise 27 • Quiz: Blood cells, blood type, hematocrit • Presentation on Endocrinology 	Exercise 29
	1/21	HOLIDAY: MARTIN LUTHER KING DAY	
	1/28	Anatomy of the heart and blood vessels <ul style="list-style-type: none"> • EC: Blood Exercise 29 • Quiz: Heart and blood vessel anatomy • Endocrine lab write up due – see rubric • Presentation on blood, blood tests 	Exercises 30 - 32
	2/4	Lymphatics and immunity <ul style="list-style-type: none"> • EC: Exercises 30 & 32 • Quiz: Lymphatics and immunity • Presentation on CV anatomy 	Exercise 35 Supplemental activity
	2/11	CV Physiology, EKG, Blood Pressure and Pulse <ul style="list-style-type: none"> • EC: Exercise 35 • Quiz: EKG, BP and HR • Presentation on Immunity 	Exercise 31 & 33 Supplemental activity
	2/18	HOLIDAY: PRESIDENT'S DAY	
	2/25	Lung Anatomy & Physiology <ul style="list-style-type: none"> • EC: Exercises 31 and 33 • Quiz: Lung A&P • Cardiovascular REPORT due – see rubric • Presentation on CV physiology 	Exercises 36 - 37
	3/4	Lab practical #1 – Endocrine, Lymphatics, Immunity, all CV and Lungs.	
	3/11	Cadaver lab TBA	Supplemental
	3/18	SPRING BREAK	
	3/25	Surface anatomy Last day to drop with a “W”	Exercise 46
	4/1	GIT anatomy and physiology <ul style="list-style-type: none"> • EC: Exercises 36 & 37 • Quiz: GIT A&P • Lung A&P lab write up due – see rubric • Presentation on lung A&P 	Exercise 38-39
	4/8	Kidney Anatomy and Physiology <ul style="list-style-type: none"> • EC: Exercise 38 • Quiz: Kidney A&P • Presentation on GIT A&P 	Exercise 40-41

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Week	Date	Topics: Based on Human Anatomy & Physiology Lab Manual 11 th Ed. Marieb et al. Pearson	Lab Exercise
	4/15	Male and female reproduction, embryology and development <ul style="list-style-type: none"> • EC: Exercise 40 • Quiz: Repro, embryo, development • Kidney A&P lab write up due – see rubric • Presentation on Kidney A&P 	Exercise 42-44
	4/22	Heredity <ul style="list-style-type: none"> • EC: Exercises 42-44 • Quiz: NONE 	Exercise 45 Supplemental activity
	4/29	Lab practical #2 – Comprehensive final	

Drop Dead Dates Spring 2019

- 1..Last day for 100% Refund 15 January
- 2..Last day for 50% Refund..... 30 January
- 3..Last day to withdraw without a “W” grade 30 January
- 4..Spring Break.....18-22 March
- 5..Last day to withdraw with a “W” grade 25 March

HOLIDAYS Spring 2019

- 1..MLK day 21 Jan
- 2..President’s day 18 Feb
- 3..Spring Break..... 18-22 Mar
- 4..Prince Kuhio day 26 Mar
- 5..Good Friday..... 19 Apr

Human Anatomy and Physiology Zoology/Physiology (ZOOL/PHYS) 142L

Spring 2019 – subject to change
WEDNESDAY SCHEDULE – 10:00 am – 12:45 pm – Imiloa 103
CRN 60046

Week	Date 2019	Topics: Based on Human Anatomy & Physiology Lab Manual 11 th Ed. Marieb et al. Pearson	Lab Exercise
1	1/9	Introduction, syllabus, safety Endocrine – Stress experiments	Syllabus Exercise 27-28
2	1/16	Blood, blood type, hematocrit <ul style="list-style-type: none"> • EC: Endocrine Exercise 27 • Quiz: Blood cells, blood type, hematocrit • Presentation on Endocrinology 	Exercise 29
3	1/23	Lymphatics and immunity <ul style="list-style-type: none"> • EC: Exercises 30 & 32 • Quiz: Lymphatics and immunity • Presentation on CV anatomy 	Exercise 35 Supplemental activity
4	1/30	Anatomy of the heart and blood vessels <ul style="list-style-type: none"> • EC: Blood Exercise 29 • Quiz: Heart and blood vessel anatomy • Endocrine lab write up due – see rubric • Presentation on blood, blood tests 	Exercises 30 - 32
5	2/6	CV Physiology, EKG, <ul style="list-style-type: none"> • EC: Exercise 35 • Quiz: EKG, BP and HR • Presentation on Immunity 	Exercise 31 Supplemental activity
6	2/13	Blood Pressure and Pulse <ul style="list-style-type: none"> • EC: Exercise 31 • Quiz: BP and HR • Presentation of CV physiology 	Exercise 33
7	2/20	Lung Anatomy <ul style="list-style-type: none"> • EC: Exercise 33 • No quiz (see next week) • Presentation on BP and HR 	Exercise 36
8	2/27	Lung Physiology <ul style="list-style-type: none"> • EC: Exercise 36 • Quiz: Lung A&P • Cardiovascular REPORT due – see rubric • Presentation on Lung anatomy 	Exercise 37
9	3/6	Lab practical #1 – Endocrine, Lymphatics, Immunity, all CV and Lungs.	
10	3/13	Cadaver lab TBA	Supplemental
11	3/18-22	SPRING BREAK	
12	3/27	Surface anatomy Last day to drop with a “W”	Exercise 46
13	4/3	GIT anatomy and physiology <ul style="list-style-type: none"> • EC: Exercises 36 & 37 • Quiz: GIT A&P • Lung A&P lab write up due – see rubric 	Exercise 38-39

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Week	Date	Topics: Based on Human Anatomy & Physiology Lab Manual 11 th Ed. Marieb et al. Pearson	Lab Exercise
14	4/10	Kidney Anatomy and Physiology <ul style="list-style-type: none"> • EC: Exercise 38 • Quiz: Kidney A&P • Presentation on GIT A&P 	Exercise 40-41
15	4/17	Male and female reproduction, embryology and development <ul style="list-style-type: none"> • EC: Exercise 40 • Quiz: Repro, embryo, development • Kidney A&P lab write up due – see rubric • Presentation on Kidney A&P 	Exercise 42-44
16	4/24	Heredity <ul style="list-style-type: none"> • EC: Exercises 42-44 • Quiz: NONE 	Exercise 45 Supplemental activity
17	5/1	Lab practical #2 – Comprehensive final	

Drop Dead Dates Spring 2019

6..Last day for 100% Refund	15 January
7..Last day for 50% Refund.....	30 January
8..Last day to withdraw without a “W” grade	30 January
9..Spring Break.....	18-22 March
10.....	Last day to withdraw
with a “W” grade	25 March

HOLIDAYS Spring 2019

6..MLK day	21 Jan
7..President’s day	18 Feb
8..Spring Break.....	18-22 Mar
9..Prince Kuhio day	26 Mar
10.....	Good Friday 19
Apr	