



BIOL-2402-222CL
Anatomy and Physiology II
Spring 2024
Tue & Thu, Lecture - Lab 6:00-8:50pm (STEM-340)

Instructor Information: Alex Peniche, Ph.D., apenichetrujill@com.edu, 409-933-8244
(Administrative Assistant Julie Kellagher)

Student (Office) hours and location:

Office Hours: Before class or by
appointment *Location:* STEM-340

Required Textbook/Materials:

Textbook: Marieb, E.N. & Hoehn, K., 2019. *Human Anatomy and Physiology, 11th edition* (eText), Boston, MA; Pearson Education, Inc. Publisher bundled with MODIFIED Mastering A&P on-line component. ISBN13: 978-0-13-458099-9. This e-book and the Modified Mastering A&P are purchased at the time of registration through VitalSource and you will gain access to them in Blackboard on first day of class.

Lab manual: Amerman, E., 2022. *Exploring Anatomy & Physiology in the Laboratory, 4th edition*. Englewood, Colorado, Morton Publishing Company (customized for College of the Mainland) ISBN-13: 9781640436206. You will have to buy this; it is **not** part of registration payments.

Course Description: Anatomy and Physiology II is the second part of a two-course sequence. It is a study of the structure and function of the human body including the following systems: endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis.

Course prerequisites: BIOL 2401 with a grade of "C" or better.

Determination of Course Grade/Detailed Grading Formula: The grade for this course consists of both a lecture and laboratory component. Students must earn 70% or better in the laboratory component to successfully pass the course. Earning less than 70% in the laboratory component will result in an F for the course regardless of the lecture grade. Passing the laboratory component and failing the lecture component will not guarantee a passing grade for the course. Deviations from this policy will be at the sole discretion of the instructor. All grades matter!! Keep track of your class

grades as a reflection of your knowledge and skills. Evaluation will be based on the following and weighted as indicated:

Lecture: Counts for 75% of the final course grade. Five (5) exams (15% each) will be administered.

Laboratory: Counts for 25% of the final course grade.

Final Grade Grading Scale:

A – A weight of the points earned for course assessments that equals 90% or more

B – A weight of the points earned for course assessments that equals between 80% and 89% inclusive

C – A weight of the points earned for course assessments that equals between 70% and 79% inclusive

D – A weight of the points earned for course assessments that equals between 60% and 69% inclusive

F – A weight of the points earned for course assessments that equals 59% or less, or for lab assessment that fails to meet either the lab science policy or the lab attendance policy.

FN – A weight of the points earned for course assessments that equals 59% or less due to poor participation.

I – An incomplete may be assigned at the discretion of the instructor in accordance with the college policy.

W – A withdrawal may be assigned in accordance with college policy.

Lecture Exams: Counts for 75% of the final course grade. Five (5) exams (15% each) will be administered. Exams will consist of a combination of multiple choice, short answer, and essay questions. The material covered by each exam is listed on the syllabus. To prepare for an exam, students must read, understand, and master all chapters to be examined. It is very important that students understand the terms, complete exercises at the end of each chapter. Some of them will be used as exam questions. No phones or other electronic or communication equipment are allowed during exams. In the event that examinations are moved into on-line format due to bad weather, Respondus lockdown browser will be required.

Laboratory and laboratory reports: Grade is earned from individual laboratory assignment using D2L Brightspace on dates indicated in the section “Course outline”. Laboratory assignments consist of a combination of identify, multiple choice, and short answer based on laboratory manual. The material covered by assignment is listed on the section “Course outline”. Failure to submit Laboratory assignment in D2L Brightspace will be scored as a zero (0) toward the laboratory grade average. There will be no make-ups for missed laboratories or laboratory reports.

Quizzes (bonus Points): Here is an opportunity for you to earn bonus points. Bonus points are not part of the course requirements so any bonus points earned will help your grade and any bonus points not taken will not affect your grade negatively. No make-up opportunity will be allowed for Quizzes once the due date has passed unless you can provide documentation for an emergency that keeps them away from taking the quiz that is approved by me.

Presentations (bonus Points): Here is another opportunity for you to earn bonus points. Bonus points are not part of the course requirements so any bonus points earned will help your grade and any bonus points not taken will not affect your grade negatively. Presentation requires that students survey the scientific literature (peer reviewed journals) related to the “clinical applications” section from book chapters 16-29. Students should submit to me via email the subject proposed for presentation. Presentation dates will be organized according to assignment arrival. The presentation should be planned for 15 min (~10 slides), plus 5 min dedicated for discussion. All presentations should be made on PowerPoint file format. Student should present his/her understanding of the subject, his concepts and perception of the scientific matter analyzed by the paper.

Late Work, Make-Up, and Extra-Credit Policy:

Attendance Policy: Students are expected to attend all laboratory practices. An accurate record of each student’s attendance is kept for the duration of the course. It is the student’s responsibility to follow up with classmates for assignments, announcements, material covered, etc. if he/she misses a session. If student decides stop attending class, missed activities (tests, and laboratory reports) will be scored with a zero (0). In other words, you will most likely fail the course if you stop attending class and you don’t withdraw yourself.

If a student misses a test, a zero (0) will be earned. No incomplete grades will be granted. The instructor reserves the right to reassign seats during lectures, laboratory sessions and/or before/during a test is administrated. If you must miss a test, please contact me, I understand that emergencies happen, and these emergency situations will be given consideration on a case by case basis

Communicating with your instructor: ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means.

Student Learner Outcome	Maps to Core Objective	Assessed via this Assignment
1. Use anatomical terminology to identify and describe locations of major organs of each system covered.		Diagram questions on Exams 1-5
2. Explain interrelationships among molecular, cellular, tissue, and organ functions in each system.		Questions on Exams 1-5
3. Describe the interdependency and interactions of the systems.		Group Case-Study Activities
4. Explain contributions of organs and systems to the maintenance of homeostasis.	Critical Thinking	Essay Questions on Lecture Exams 1,2 and 3
5. Identify causes and effects of homeostatic imbalances.	Communication Skills	Student presentations, Lab reports
6. Describe modern technology and tools used to study A&P		Lab reports
7. Apply appropriate safety and ethical standards.		Lab reports
8. Locate and identify anatomical structures.		Lab reports

9. Appropriately utilize laboratory equipment, such as microscopes, dissection tools, general lab ware, physiology data acquisition systems, and virtual simulations.		Lab reports
10. Work collaboratively to perform experiments.	Teamwork	Construct a Lung Experiment
11. Demonstrate the steps involved in the scientific method.		Exercise 25-1 The Model Kidney w/ added Hypothesis
12. Communicate results of scientific investigations, analyze data and formulate conclusions.		Exercise 19-2 Blood Typing and Exercise 19-3 Murder Mystery
13. Use critical thinking and scientific problem-solving skills, including, but not limited to, inferring, integrating, synthesizing, and summarizing, to make decisions, recommendations, and predictions.	Empirical & Quantitative Skills	Urinalysis Experiment within Laboratory Assignment
1. Use anatomical terminology to identify and describe locations of major organs of each system covered.		Diagram questions on Exams 1-5
2. Explain interrelationships among molecular, cellular, tissue, and organ functions in each system.		Questions on Exams 1-5

Academic Dishonesty: Academic dishonesty includes activities and behaviors such as cheating on tests, collusion, and plagiarism (the practice of taking someone else's work or ideas and passing them off as one's own). Disciplinary actions will be taken for students who exhibit disorderly conduct, cheat on exams, submit plagiarized work, or are involved in collusion (helping others cheat and/or plagiarize). The consequences for violating the academic integrity include one or more of a zero score for the test/assignment, “F” grade in the course, and withdrawal from the class. The student may also be referred to the Vice President of Student Success and Conduct for further disciplinary action including dismissal from the college.

Student Concerns: If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact Sheena Abernathy, the Science Department Chair, at 409-933-8330 or sabernathy@com.edu.

Course outline: This is a tentative schedule of lecture and laboratory activities and may be subject to change as the course proceeds. Students will be notified in class and posted/uploaded in the Blackboard. It is the student’s responsibility to check the Blackboard for amendments or updates to the syllabus.

Week	Date	Topic	Laboratory - Topic	Due date
1	1/16, 18	Ch16: Endocrine System	Lab Safety, Ex. 16-1 Endocrine Glands; Ex. 16-2 Endocrine Organ Histology; Ex. 16-4 (Endocrine “Mystery Cases”)	1/25
2	1/23, 25	Ch18: The Cardiovascular System: The Heart	Ex. 17-1 Anatomy of the Heart; Ex. 17-2 Cardiac Muscle Histology	2/1
3	1/30, 2/1	Ch19: The Cardiovascular System: Blood Vessels	Ex. 19-1 Heart Auscultation; Ex. 19-5 ECG & Vernier EKG Handout	2/8
4	2/6	Ch19: The Cardiovascular System: Blood Vessels	Ex. 18-1 Major Arteries of the Body & Ex.18-2 Major Veins of the Body;	2/13

			Ex. 18-3 Time to Trace!; Ex. 18-5 Clinical Applications & Ex.19-3 Blood Pressure	
	2/8	Exam 1 (Ch 16, 18, 19)	On campus	2/8
5	2/13, 15	Ch17: Blood Ch 21: The Immune System: Innate and Adaptive Body Defenses	Ex. 20-1 Formed Elements of Blood; Ex. 20-2 ABO & Rh Blood Groups; Ex. 20-4 Blood Donation	2/22
6	2/20, 22	Ch 21: The Immune System: Innate and Adaptive Body Defenses Ch 20: The Lymphatic System and Lymphoid Organs and Tissues	Ex. 20-3 Murder Mystery Game;	2/29
7	2/27	Ch 20: The Lymphatic System and Lymphoid Organs and Tissues	Ex. 21-1 Lymphatic System Anatomy; Ex. 21-2 Lymphatic Organ Histology; Ex. 21-3 The Immune Response	3/5
	2/29	Exam 2 (Ch 17, 20, 21)	On campus	2/29
8	3/5, 7	Ch 22: The Respiratory System	Ex. 22-1 Respiratory Anatomy; Ex 23-2 Pulmonary Volumes & Capacities; Ex. 23-3 pH and Ventilation; Construct a Lung Handout	3/19
	3/11-17	Spring Break, College closed	On campus	
9	3/19, 21	Ch23: The Digestive System Ch24: Nutrition, Metabolism, and Energy Balance	Ex 24-1 Digestive System Anatomy; Lactase Enzyme Activity Lab;	3/28
10	3/26	Ch24: Nutrition, Metabolism, and Energy Balance	Ex. 24-4 Time to Trace!	4/2
	3/28	Exam 3 (Ch 22,23,24)	On campus	3/28
11	4/2, 4	Ch 25: The Urinary System	Ex 25-1 Urinary System Anatomy Kidney Dissection	4/11
12	4/9, 11	Ch 26: Fluid, Electrolyte, and Acid-Base Balance	Ex 26-1 The Model Kidney Urinalysis Handout	4/18
13	4/16	Ch 26: Fluid, Electrolyte, and Acid-Base Balance	Ex. 26-3 Time to Trace!; Pig Dissection	4/23
	4/18	Exam 4 (Ch 25,26)	On campus	4/18
14	4/23, 25	Ch 27: Reproductive System	Ex. 27-1 Male Reproductive Anatomy; Ex. 27-2 Female Reproductive Anatomy	5/2
15	4/30, 5/2	Ch 28: Pregnancy and Human Development	Ex. 28-1 Fertilization and Implantation Ex. 28-2 Embryogenesis, Fetal Development and Fetal Cardiovascular Anatomy; Ex. 28-3 Heredity	5/6
16	5/7	Exam 5 (Ch 27-28)	On campus	5/7

Institutional Policies and Guidelines

Grade Appeal Process: Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook https://www.com.edu/student-services/docs/Student_Handbook_2023-2024_v2.pdf. *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.*

Academic Success & Support Services: College of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

ADA Statement: Any student with a documented disability needing academic accommodations is requested to contact Kimberly Lachney at 409-933-8919 or klachney@com.edu. The Office of Services for Students with Disabilities is located in the Student Success Center.

Textbook Purchasing Statement: A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Withdrawal Policy: Students may withdraw from this course for any reason prior to the last eligible day for a "W" grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1st 8-week session is February 28. The last date to withdraw from the 16-week session is April 22. The last date to withdraw for the 2nd 8-week session is May 1. The last date to withdraw for spring mini session is May 29.

FN Grading: The FN grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The FN grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the FN grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an FN grade.

Early Alert Program: The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

Resources to Help with Stress:

If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please click

here <https://www.com.edu/community-resource-center/>. College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students office at deanofstudents@com.edu or communityresources@com.edu.