



SEMESTER

Life and Natural Sciences Department School of Science, Technology, Engineering, and Mathematics

Program Name: Biology
Course Name: Anatomy and Physiology I – Lecture
Course Number: BIO211 **Section:** XXX
Meeting Day(s) & Time(s):
Credits: 4 credit hours combined (Lecture and Laboratory)
Contact Hours: 3
Text: *Human Anatomy and Physiology, 3rd Edition*, Amerman, Erin C., Pearson Education, 2024.

Instructor Name:

Office Location:

Office Hours:

Virtual Office Hours:

Owens CC Phone:

Owens CC Email:**

**Please use only Owens email for course communications.

CATALOG DESCRIPTION

Focuses on an integrated approach to life science centering on the human body. Discusses life functions necessary to power the human body: to move, control, regulate. Structure and function of the cell are stressed with its relationship to other levels of organization within the body: tissues, organs and organ systems. Discusses biochemistry essential to life processes, the integumentary system provides the understanding for protection and homeostatic functions, the skeletal system provides the basis for an understanding of support of the body, the muscular system provides the basis for an understanding of movement, and the nervous system allows control and regulation of the body. A student retaking the course must repeat both the lecture and the laboratory portion.

PREREQUISITE: None

COREQUISITE: None

TEXTBOOKS and MATERIALS

- *Human Anatomy and Physiology, 3rd Edition*, Amerman, Erin C., Pearson Education, 2024.
- *Anatomy and Physiology I Laboratory Manual 3rd Edition*, Mika, Thomas, et. al., Van-Griner Publishing, 2023.
- Disposable gloves (for laboratory)

*Your **print book, e-book, or access code** required for class can be accessed through the Owens Community College e-Campus Bookstore by accessing the online link, called “Find Books” on the course schedule for each course section.*

Inclusive Access (I.A.) Materials are included in the cost of the course to save students money through lower negotiated rates with publishers. Courses containing I.A. materials will have it noted on the online class schedule. If your course includes I.A. digital materials, you will receive an email with subject line, “Your inclusive Access Materials,” and it will include any codes or digital links.

The email will come to your Owens Community College email from the Owens e-Campus Bookstore on the first day of class, if not before. Be sure to check your spam (junk email) if you do not find it in your inbox. If the email is not in your inbox or spam folder, contact your instructor immediately. You may also see a folder at the top of your course labelled “Course Materials by eCampus.” This folder will contain any needed codes or links to needed materials.

If the I.A. materials also include a printed book or are in print form, the item will be shipped to your address of record automatically based on your enrollment in the course. Please note that some courses do not include printed materials in I.A and those materials would need to be purchased separately using the link on the course schedule. When you access the Find Books link you will see which items in a course are included in I.A.

GENERAL COURSE INFORMATION

Course Objectives

- Provides students in the Health Technologies at Owens Community College with a basis in life science.
- Describes the life functions that power, support, and move parts of the human body.
- Prepares students to read and study science.
- Prepares students to utilize this knowledge to be critical thinkers in their other health technology courses.

Institutional General Education Competencies:

As a student at Owens Community College, you will take General Education courses as part of your degree program. While specific to the General Education courses, will be reinforced in many of your degree program major courses and may be measured in your capstone course(s) and others as identified.

Competency	Assessed
Think analytically, critically, and creatively	Homework Assignments/Question Sets/Lab Reports
Communicate effectively	Exams/Quizzes/Lab Reports

Lecture Student Learning Outcome

Outcome	Assessed
1. Identify and understand body plan and organization of human anatomy.	Quiz 1/Exam 1
2. Define the major structural levels of organization in the human body and explain how they relate to one another	Quiz 1/Exam 1
3. Identify and examine the function of the cells, tissues, organs, and organ systems that comprise the body.	Quiz 1/Exam 1
4. Describe the core principles in anatomy and physiology (homeostasis, feedback loops, structure and function, cell to cell communication, gradients)	Quiz 1/Exam 1
5. Identify and examine the principles of chemistry that are involved in physiological processes that control the functioning of the human body.	Quiz 1/Exam 1
6. Identify and examine the basic principles of physics that control the functioning of body organs and systems.	Quiz 1/Exam 1
7. Identify and discuss importance of organic compounds	Quiz 1/Exam 1
8. Identify main parts of cell and know general functions of each	Quiz 1/Exam 1
9. Understand the means of transport throughout the body (active/passive)	Quiz 1/Exam 1
10. Describe the cell cycle	Quiz 1/Exam 1
11. Describe both the basic structure and functions carried out by the integumentary system	Quiz 2/Exam 2
12. Describe functions of skeletal system	Quiz 2/Exam 2
13. Identify bone based off of both classification of shape and structure	Quiz 2/Exam 2
14. Describe the microscopic components of bone	Quiz 2/Exam 2
15. Understand and describe the types of bone formation and how bones are repaired	Quiz 2/Exam 2
16. Identify and describe the types of joints along the skeletal system	Quiz 2/Exam 2
17. Describe the structural properties and components of skeletal muscle	Quiz 3/Exam 3
18. Describe the events involved in the contraction of a muscle	Quiz 3/Exam 3
19. Describe the major functions of the nervous system	Quiz 3/Exam 3
20. Describe the structures and basic functions of the central and peripheral nervous system	Quiz 3/Exam 3
21. Explain the major differences between the two functional divisions of the peripheral nervous system	Quiz 3/Exam 3

22. Describe and identify the structures and functions of each component of nervous tissue	Quiz 3/Exam 3
23. Explain electrophysiology of neurons	Quiz 3/Exam 3
24. Compare and contrast electrical and chemical synapses	Quiz 3/Exam 3
25. Describe the structural and functional properties of the major classes of neurotransmitters	Quiz 3/Exam 3
26. Describe the structural and functional areas of the brain	Quiz 3/Exam 3
27. Explain how motor and sensory functions are distributed among the lobes	Quiz 3/Exam 3
28. Describe the areas of the cortex responsible for cognition and language	Quiz 3/Exam 3
29. Identify and describe the anatomical features of the spinal cord	Quiz 4/Exam 4
30. Explain the overall pathway for movements and sensation	Quiz 4/Exam 4
31. Identify and describe the cranial nerves	Quiz 4/Exam 4
32. Identify and describe the spinal nerves	Quiz 4/Exam 4
33. Describe the locations and functions of first-, second-, and third-order neurons	Quiz 4/Exam 4
34. Describe the structural and functional details of the sensory and motor (autonomic)	Quiz 4/Exam 4
35. Describe components of visceral reflex arc	Quiz 4/Exam 4
36. Differentiate between somatic and autonomic pathways	Quiz 4/Exam 4
37. Understand the roles of each division of the autonomic nervous system	Quiz 4/Exam 4
38. Explain the effects of the parasympathetic nervous system and how it maintains homeostasis	Quiz 4/Exam 4 Quiz 4/Exam 4
39. Explain the effects of the sympathetic nervous system and how it maintains homeostasis	
40. Describe the basic process of sensory transduction	Quiz 4/Exam 4
41. Compare and contrast general and special senses	Exam 4
42. Describe the location and structures of each special sense	Exam 4

Laboratory Student Learning Outcomes

Outcome	Assessed
Understanding and Identify body plan and organization	Lab exam 1
Identify basic organic compounds and their importance in the body	Lab exam 1
Know the function of the cell and its parts (cell membrane and organelles)	Lab exam 1
Understanding basics of Osmosis and Diffusion	Lab exam 2
Identify each type of tissue through the body	Lab exam 1-epithelial tissue Lab exam 2-bone and cartilage tissue

	Lab exam 3-muscle tissue Lab exam 4-nervous tissue
Identify location/functions of bones and structures of skeletal system	Lab exam 2
Identify location/action/name of major skeletal muscles	Lab exam 3
Understand the organization of the nervous system	Lab exam 4
Identify locations and structures of the nervous system	Lab exam 4
Identify the parasympathetic vs the sympathetic nervous system	Lab exam 4
Knowledge of the human senses and identification of structures	Lab exam 4

Course Rules

- Attendance at lectures is very important, because most of the exam material will come from the lecture notes.
- Required readings from the texts will be assigned to support the lectures and laboratories.
- Notes from both lectures and the readings should be kept in some form of a notebook.
- Laboratory rules and attendance: This information will be listed in a separate laboratory syllabus and presented by the laboratory instructor. Any questions should be directed to the laboratory instructor.
- **IMPORTANT:** Any exam or quiz will be declared invalid if the student does not attend the proper course section assigned at registration, unless the student has received prior permission from the instructor.

Devices

Phones and other electronic communication devices must be in silent mode during class. Unauthorized use of a phone, e-watch or tablet is not permitted during an exam. Use of these devices could result in forfeiture of exam points. Phones cannot be substituted for calculators.

GRADING PROCEDURE

EVALUATIONS

1. **Lecture Quizzes:** Four announced quizzes will be given, each worth 25 points. Each quiz will cover either a single topic or a single chapter (determined by the instructor and pace of the course). The question types may consist of multiple choice, matching, short answer, identification, or fill-in the blank questions with a time limit as determined by the instructor.
2. **Laboratory Grade:** See laboratory syllabus for this information.
3. **Homework Assignments:** Weekly chapter homework assignments will be assigned, with varying point values, utilizing Pearson's Mastering A&P or other instructor-specified activities.
4. **Lecture Exams:** Four exams will be given, each worth 100 points. Exams topics may cover multiple chapters and material that are presented in both the lecture and the laboratory

(Determined by the instructor and pace of the course). The question types may consist of either multiple choice, matching, short answer, identification, essay, or fill-in the blank.

There are NO open book or open note exams.

During exams, unauthorized use of a phone, tablet, e-watch or any other electronic device is prohibited. Use of these devices during an exam, could result in forfeiture of exam points.

Contact the instructor **immediately** if an exam must be missed. Documentation may be required in order to qualify for a makeup exam or quiz. A student has one week from the date of the missed exam to make up Exams 1, 2 or 3. Exam 4 must be made up within two days, as it is given at the end of the semester. Likewise, missed quizzes must be taken within a week of the regularly scheduled quiz.

Any exam not taken during the regularly scheduled laboratory period will be essay format. This includes if the student arrives late after the scheduled exam is over. Each exam can only be taken once. A student who misses an exam may choose one of the following options:

- Take an essay exam by the date and time as assigned by the instructor.
All make-up exams will be in an essay format. The number of questions will be determined by the instructor for a maximum of 50 points. Partial credit will be given on essay questions.
- Not take the exam and receive 0 points.

GRADING

There is no provision for extra credit.

Grading for BIO211 is based on a total point accumulation system. Allocation of points for the lecture exams, lecture quizzes, and the laboratory portion of the course as well as the conversion of total points to a letter grade is as follows:

1. Lecture Quizzes: 4 x 25 points each	= 100 points
2. Lecture Exams: 4 x 100 points each	= 400 points
3. Lecture Homework	= 75 points
4. Laboratory Exams: 4 x 50 points each	= 200 points
5. 11 Laboratory Reports/Question Sets, 10 points each (Lowest assignment score dropped)	= <u>100 points</u>
	Total = 875 points

Letter grades are assigned according to the following scale:

875 to 788 points	A	611 to 525 points	D
787 to 700 points	B	524 and below	F
699 to 612 points	C		

To pass the entire course, a student must have no fewer than 180 points (60%) in the laboratory portion of the course.

Your letter grade is determined by which bracket your point total fits into. Even if your point total is 699, one point from a B grade, you will receive a C grade. As stated earlier in this syllabus, there is no extra credit in this course. The points you earn determine your letter grade. Do not ask for any extra points at the end of this course. You will not receive it. You cannot negotiate your points at the end of the course because you do not accept your grade or you are close to a higher grade. It is your responsibility to gain every point possible in both lecture and in laboratory to obtain the highest letter grade possible. Exceptions to the course rules and guidelines will not be made for anyone for any reason.

WEB SECTIONS

Using LockDown Browser for Online Exams

This course requires the use of LockDown Browser and video monitor for online exams. Watch the video (*link below*) to get a basic understanding of LockDown Browser and the webcam feature. To get started on your computer, watch the instructional video and then download and install LockDown Browser from the link.

- <http://www.respondus.com/products/lockdown-browser/student-movie.shtml>

To get started on your computer, download and install LockDown Browser from this link.

- <http://www.respondus.com/lockdown/download.php?id=139313370>

To take an online test, start LockDown Browser and navigate to the exam. (*You won't be able to access the exam with a standard web browser.*) For additional details on using LockDown Browser, review the quick start guides from Owens and Respondus in Course Content.

Helpful Hints

When taking an online exam, follow these guidelines:

- Ensure you're in a location where you won't be interrupted
- Turn off all mobile devices, phones, etc.
- Clear your desk of all external materials — books, papers, other computers, or devices
- Remain at your desk or workstation for the duration of the test
- LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted

BIO211 LECTURE READING LIST/COURSE CALENDAR

Human Anatomy and Physiology, 3rd edition, Amerman, Erin C., Pearson Education, 2024

Week	Date	SL O	Topics	Chapter Sections
1	DATE	1-4	Hierarchy of organization, homeostasis	1.2-1.3; 1.5 HW due DATE
2	DATE	5	Carbohydrates, lipids, proteins, nucleic acids QUIZ 1 COVERING CHAPTERS 1 AND 2	2.5 HW due DATE
3	DATE	7	Cell, cell membrane and transport mechanisms, organelles	3.1-3.3 HW due DATE
4	DATE	8	Cell organelles and protein synthesis, cell cycle	3.4-3.8 HW due DATE
5	DATE	9-	Integumentary EXAM 1 COVERING CHAPTER 3	5.1-5.3 HW due DATE
6	DATE	11-	Bone and bone tissue	6.1-6.5 HW due DATE
7	DATE	15-	Joints and movements, Muscular system QUIZ 2 COVERING CHAPTERS 5 AND 6	8.1-8.5 & 9.1 HW due DATE
8	DATE	17	Muscle tissue, sliding filament mechanism, contractions	10.1-10.9 HW due DATE
9	DATE	18-	Nervous System and tissue (neurons, neuroglia, impulse transmission, neurotransmitters) EXAM 2 COVERING CHAPTERS 8, 9, AND 10	11.1-11.6 HW due DATE
10	DATE	25-	CNS (overview of CNS, brain)	12.1- 12.2 HW due DATE
11	DATE	27-	CNS continued (spinal cord, CNS sensory and motor pathways) QUIZ 3 COVERING CHAPTER 11	12.3-12.6 HW due DATE
12	DATE	30-	CNS continued (role of CNS in sensation and voluntary movement)	12.7-12.8 HW due DATE
13	DATE	32-	PNS continued (sensory, motor, reflex arcs) EXAM 3 COVERING CHAPTER 12	13.1-13.6 HW due DATE

14	DATE	34-	Autonomic nervous system and homeostasis QUIZ 4 COVERING CHAPTER 13	14.1-14.4 HW due DATE
15	DATE	39-	Special senses	15.1-15.9 HW due DATE
16	DATE		EXAM 5 COVERING CHAPTERS 14 AND 15	NO HOMEWORK

TENTATIVE Quiz/Exam Schedule- dates are subject to change

Date	Lecture Quiz / Exam	Points Possible
Week 2	Quiz 1	25
Week 5	Exam 1	100
Week 7	Quiz 2	25
Week 9	Exam 2	100
Week 11	Quiz 3	25
Week 13	Exam 3	100
Week 14	Quiz 4	25
Week 16	Exam 4	100

IMPORTANT

Under some circumstances, dropping a course may negatively affect your ability to receive financial aid in future semesters. Consult your academic advisor with questions.

Academic Calendar

DATE	Semester begins
DATE	Last day of classes
DATE	Exam week
DATE	Commencement

Academic Support

Disability Services Resource Center: If you have a disability or acquire one, you may be entitled to receive reasonable accommodations intended to assure you an equal opportunity to participate in and benefit from the program. To receive more information or to register for accommodations, please contact the Disability Resource Center at 567-661-7007, email disability@owens.edu, visit <https://www.owens.edu/disability/>, or stop by College Hall 124.

Tutoring Services: Owens Community College offers academic tutoring and assistance in a variety of subjects including: accounting, computing, economics, mathematics, science, and writing. For more information go to: <https://www.owens.edu/successcenters/>.

Counseling Services: Counseling Services provides assistance to students experiencing personal, educational, interpersonal/relationship, family, social, or psychological difficulties. If you feel you may benefit from this service, please contact them at counselingservices@owens.edu. More information is at <https://www.owens.edu/counseling/>.

Campus and Community Connections: The Center for Campus and Community Connections (College Hall 151) is a walk-in office created to provide retention support through resource stability initiatives and community connections. Go here for more information: <https://www.owens.edu/connection/> or contact connections@owens.edu

Owens Library: The Owens Library offers two locations (Toledo and Findlay) as well as online resources. For more information visit <https://www.owens.edu/library/>.

Students can find more information on campus resources, student support, student life, and security at this [link](#).

General Information

Student Code of Conduct: All students are expected to follow Owens Community College's [Student Code of Conduct](#), which includes academic honesty, encompassing plagiarism. See the [Board Policy](#) for more information.

Anti-Discrimination and Harassment & Title IX/Sexual Misconduct: All students, faculty, and staff are expected to follow Owens Community College's [Anti-Discrimination and Harassment Policy](#) and the College's [Title IX Policy](#)/Sexual Misconduct Procedures and Guidelines. The College strictly prohibits and will not tolerate harassment, discrimination, intimidation, or hostile/offensive working or learning environments.

Religious Accommodations: A student seeking an accommodation for an absence permitted under Ohio's Testing Your Faith Act must provide the instructor with a written email notice with the specific dates for an absence, and must do so not later than fourteen (14) days after the first day of instruction. Alternative accommodations are not retroactive, and no academic penalty will be imposed for an absence under the policy*. The request for an alternative accommodation will be kept confidential. Students with questions about a religious accommodation under Ohio's Testing your Faith Act may contact the College's Office of Academic Affairs: provost@owens.edu. The policy may be found on the Owens website: [3358:11-2-63 Accommodation](#) for a Student Absence for the Observance of Religious Beliefs and Practices Policy

Document Collection: Throughout the semester, your instructors may ask for a variety of assignments including tests and/or quizzes for student learning of institutional general education competencies or program assessment. Please save all your class materials until the end of the semester.

Classroom Admittance: OCC classes shall only be attended by the officially registered OCC students or perspective students, instructor of record, guest lecturer, or substitute. Visitors are not permitted to be in the classroom and should not be invited to attend or participate in the class. See [FERPA](#) regulations for more information.

Use of AI Tools: This course permits you to use artificial intelligence (AI) tools, such as chatbots, text generators, paraphrasers, summarizers, or solvers, to get guidance on assignments, as long as you do so in an ethical and responsible manner. Essentially, you can think of these tools as ways to help you learn but not to entirely create work for assignments like discussion board posts, essays, presentation slides, and so on. AI is more like your tutor or TA, not a replacement for your independent thinking.

This means that you must:

- Not use AI tools to replace your own thinking or analysis or to avoid engaging with the course content.
- Cite or explain any AI tools you use. Provide the name of the AI tool, the date of access, the URL of the interface, and the specific prompt or query you used to generate the output.
- Be transparent and honest about how you used the AI tool and how it contributed to your assignment. Explain what you learned from the AI tool, how you verified its accuracy and reliability, how you integrated its output with your own work, and how you acknowledged its limitations and biases.

You are accountable for any mistakes or errors made by the AI tool. Always check and edit the output before submitting your work. If you discover any inaccuracies or inconsistencies in the output after submission, notify the instructor immediately and correct them as soon as possible. Using AI tools in an unethical or irresponsible manner, such as copying or paraphrasing the output without citation or transparency, using the output as your own work without verification or integration, or using the output to misrepresent your knowledge or skills, is considered a form of academic dishonesty and will result in a zero grade for the assignment and possible disciplinary action. If you have any questions about what constitutes ethical and responsible use of AI tools, please consult with the instructor **before** submitting your work.

NOTE: Some instructors will also list specific acceptable and unacceptable uses or include a statement like “All written assignments, projects, and exams must be completed independently.”

The instructor reserves the right to amend this syllabus as necessary and will communicate amendments to students in the course. It is the responsibility of the student to regularly check emails and announcements for changes.

BIO211 GRADE CALCULATION WORKSHEET

Lecture Quizzes

Quiz 1 (25 points) _____
Quiz 2 (25 points) _____
Quiz 3 (25 points) _____
Quiz 4 (25 points) _____

Total Quizzes (100 points): _____

Lecture Exams

Exam 1 (100 points) _____
Exam 2 (100 points) _____
Exam 3 (100 points) _____
Final Exam (100 points) _____

Total Exams (400 points): _____

Lecture Homework

Total (75 points): _____

LECTURE SUBTOTAL (575 points) _____

Laboratory Exams

Exam 1 (50 points) _____
Exam 2 (50 points) _____
Exam 3 (50 points) _____
Exam 4 (50 points) _____

Total Exams (200 points): _____

Laboratory Reports/Question Sets Total (100 points): _____

LABORATORY SUBTOTAL (300 points) _____

COURSE TOTAL (875 points) _____

There is NO provision for extra points.

To pass the entire course, a student must have no fewer than 180 points (60%) in the laboratory portion of the course.