



BIOL 2404 - Anatomy and Physiology BIOL 2404L.002 and BIOL 2404L.003 Course Syllabus

Description

A single-semester course. This course is not acceptable in the ADN, HIT, (remove HIT) or OTA programs. Study of the structure and function of human anatomy, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive and circulatory systems. Content may be either integrated or specialized.

Semester Offered

Every Fall
Fall Flex terms
Spring
Spring Flex terms
Summer 1
Summer 2
Summer Flex

Credits 4

Lecture Hours 3

Lab Hours 3

Extended Hours 0

Contact Hours 96

State Approval Code 26.0707.51 03

Instructor Name Dr. Kevin Rutherford

Semester/Year Spring 2025

Meeting Time and Location

BIOL 2404L.002 meets on Mondays and Wednesdays 2:30-3:55 p.m. in PSC 1308

BIOL 2404L.003 meets on Tuesdays and Thursdays 7:45-9:05 a.m. in PSC 1308

Alternate Operations During Campus Closure

In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Panola College to move to altered operations. During this time, Panola College may opt to continue delivery of instruction through methods that include, but are not limited to: online learning management system (CANVAS), online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor Panola College's website (www.panola.edu) for instructions about continuing courses remotely, CANVAS for each class for course-specific communication, and Panola College email for important general information.

Student Basic Needs

Unexpected circumstances may arise, but Panola College offers various resources to support students. If you need mental health services or are facing challenges with transportation, affording class materials and supplies, or accessing food regularly—issues that may impact your class performance—please visit panola.edu/resources.

Class Attendance

Regular and punctual attendance of classes and laboratories is required of all students. When a student has been ill or absent from class for approved extracurricular activities, he or she should be allowed, as far as

possible, to make up for the missed work. If a student has not actively participated by the census date, they will be dropped by the instructor for non-attendance. This policy applies to courses that are in-person, online, hybrid, and hyflex.

Attendance in online courses is determined by submission of an assignment or participation in an activity. According to federal guidelines, simply logging into a distance learning course without participating in an academic assignment does not constitute attendance. Distance learning is defined as when a majority (more than 50%) of instruction occurs when the instructor and students are in separate physical locations. Students must engage in an academic activity prior to the course census date.

When an instructor feels that a student has been absent to such a degree as to invalidate the learning experience, the instructor may recommend to the Vice President of Instruction that the student be withdrawn from the course. Instructors may seek to withdraw students for non-attendance after they have accumulated the following number of absences:

Fall or spring semesters:

3 or more class meeting times per week - 5 absences

2 class meeting times per week - 3 absences

1 class meeting per week - 2 absences

The student is responsible for seeing that he or she has been officially withdrawn from a class. A student who stops attendance in a class without officially withdrawing from that class will be given a failing grade; consequently, the student must follow official withdrawal procedures in the Admissions/Records Office.

Please note: Health Science and Cosmetology courses may require more stringent attendance policies based on their accreditation agencies. Please see the addendum and/or program handbook for further information concerning attendance.

Pregnant/Parenting Policy

Panola College welcomes pregnant and parenting students as a part of the student body. This institution is committed to providing support and adaptations for a successful educational experience for pregnant and parenting students. Students experiencing a need for accommodations related to pregnancy or parenting will find a Pregnancy and Parenting Accommodations Request form in the Student Handbook or may request the form from the course instructor.

Artificial Intelligence (AI) Course Policy

No use of Generative AI permitted.

This option assumes that all work submitted by students will be generated by the students themselves, whether they are working individually or in groups. Students should not have another person or entity do the writing of any portion of an assignment, which includes hiring a person or a company to write assignments and/or using artificial intelligence (AI) tools like ChatGPT. Use of any AI-generated content in this course qualifies as academic dishonesty and violates Panola College's standards of academic integrity.

Instructional Goals and Purposes

Introductory Anatomy and Physiology is a one semester foundation course that surveys human anatomy and physiology. This course is geared toward students who are pursuing career in the allied health fields or who wish to increase their success rate in BIOL 2401 and BIOL 2402. This course does not substitute for Biology 2401 or 2402 unless specified by your program director. The purpose of this course is to provide the student with an in-depth study of the anatomy and physiology (structure and function) of the human body. In so doing, the student will be educated in the core components/college student learning outcomes (listed above) and the course learning outcomes (listed below).

Learning Outcomes

After studying all materials and resources presented in the course, the student will be able to:

1. Demonstrate an understanding of the anatomical structure and physiological function of the body's organ systems.
2. Demonstrate an understanding of the interrelationships of body's organ systems.

Course Content

A general description of lecture/discussion topics included in this course are listed in the Learning Outcomes section of this syllabus.

Students in all sections of this course will learn the following content:

Lecture

1. The basic concepts concerning anatomy and physiology.
2. The inter-relationship of chemistry with anatomy and physiology.
3. The structural components of the cell and their genetic regulation.
4. The importance of enzymes, energy and metabolism to cell function.
5. The importance of membrane transport and membrane potentials to cell functions.
6. The classification, structure and function of tissues.
7. The structure, function and clinical considerations of the integumentary system.
8. The structure, function and clinical considerations of bone tissue including bone development.
9. The bones and structures comprising the axial and appendicular skeletons.
10. The structure, function and clinical importance of articulations.
11. The structure, function, and clinical considerations of muscles and muscle tissue.
12. The major muscles of the human body.
13. The functional organization of the nervous system.
14. The characteristics, components and functions of the central nervous system.
15. The characteristics, components and functions of the peripheral nervous system.
16. The characteristics, components and functions of the autonomic nervous system.
17. The structure, function and clinical considerations of sensory organs.
18. The structure, function and clinical considerations of the endocrine system.
19. The structure, function and clinical considerations of the blood.
20. The structure, function and clinical considerations of the cardiovascular system.
21. The physiological aspects of cardiac output and blood flow.
22. The structure, function and clinical considerations of the lymphatic system.
23. The structure, function and clinical considerations of the respiratory system.
24. The structure, function and clinical considerations of the urinary system.
25. The structure, function and clinical considerations of the digestive system.
26. The metabolism of macromolecules and energy regulation within the body.
27. The structure, function and clinical considerations of the reproductive systems.
28. The structure, function and clinical considerations of developmental anatomy and inheritance.

Lab

1. The basic concepts concerning anatomy and physiology.
2. The inter-relationship of chemistry with anatomy and physiology.
3. The structural components of the cell and their genetic regulation.
4. The importance of enzymes, energy and metabolism to cell function.
5. The importance of membrane transport and membrane potentials to cell functions.
6. The classification, structure and function of tissues.
7. The structure, function and clinical considerations of the integumentary system.
8. The structure, function and clinical considerations of bone and describe bone development.
9. The bones and structures comprising the axial and appendicular skeletons.
10. The structure, function and clinical importance of articulations.
11. The structure, function, and clinical considerations associated with muscles.
12. The major muscle of the body.
13. The characteristics, components and functions of the central nervous system.
14. The characteristics, components and functions of the peripheral nervous system.
15. The structure, function and clinical considerations of sensory organs.
16. The structure, function and clinical considerations of the endocrine system.
17. The structure, function and clinical considerations of the formed elements of the blood.
18. The structure, function and clinical considerations of the heart.
19. The physiological aspects of cardiac output and blood flow.

20. The structure, function and clinical considerations of the respiratory system.
21. The structure, function and clinical considerations of the urinary system.
22. The structure, function and clinical considerations of the digestive system.
23. The structure, function and clinical considerations of the reproductive system.
24. The structure, function and clinical considerations of developmental anatomy and inheritance.

Methods of Instruction/Course Format/Delivery

This course is offered in a variety of formats: face to face, hybrid, and online. The course typically includes lecture, class discussion, reading assignments, laboratory performance, web-based assignments including and web-based tutorials.

Major Assignments/Assessments

The following items are assigned and assessed during the semester and used to calculate the student's final grade.

Course Grade

The grading scale for this course is as follows:

- A=90-100%
- B=80-89%
- C=70-79%
- D=60-69%
- F=< 60%

Lecture (70% of course grade)

- Lecture Quizzes – 10% of lecture grade
- Mastering A&P Quizzes – 10% of lecture grade
- Exams – 60% of lecture grade
- Final exam – 20% of lecture grade.
 - A student can have the final exam can replace the lowest lecture exam grade by participating in lecture activities, and not exceeding the college's attendance policy (see below). A missed exam is recorded as a zero and must be made-up. The comprehensive final cannot replace a missed exam score of zero

Lab (30% of course grade)

- Lab Quizzes – 20% of lab grade
- Lab Exercises – 40% of lab grade
- Lab Practicals – 40% of lab grade.
 - A student can earn up to 2 points on their final lab average by active and studious participating in lab activities and not exceeding the college's attendance policy.

Other

- Courses conducted via video conferencing may be recorded and shared for instructional purposes by the instructor.
- For current texts and materials, use the following link to access bookstore listings: <https://www.panolacollegestore.com>.
- For testing services, use the following link: <https://www.panola.edu/student-services/student-support/academic-testing-center>.
- If any student in this class has special classroom or testing needs because of a physical learning or emotional condition, please contact the ADA Student Coordinator in Support Services located in the Charles C. Matthews Student Center or go to <https://www.panola.edu/student-services/student-support/disability-support-services> for more information.
- Withdrawing from a course is the student's responsibility. Students who do not attend class and who do not withdraw will receive the grade earned for the course.
- Student Handbook: <https://www.panola.edu/> (located on at the bottom under student)