



## Course Syllabus

### **BIOL 2402 - Anatomy and Physiology 2**

**Catalog Description:** Study of the structure and function of human anatomy, including the endocrine, circulatory, respiratory, digestive, urinary, and reproductive systems.

**Prerequisites:** TSI reading completed and must have passed BIOL 2401 with at least a grade of "C".

**Semester Credit Hours:** 4

**Lecture Hours per Week:** 3

**Lab Hours per Week:** 3

**Extended hours:** 1

**Contact Hours per Semester:** 112

**State Approval Code:** 26.0707.51.03

**Class section meeting time:** day/time or online (NEW)

#### **Core Components and Related College Student Learning Outcomes**

This course counts as part of the academic requirements of the Panola College Core Curriculum and an Associate of Arts or Associate of Science degree.  Yes  No: If no, skip to Instructional Goals.

The items below marked with an X reflect the state-mandated outcomes for this course **IF this is a CORE course:**

- Critical Thinking Skills – to include creative thinking, innovation, inquiry and analysis, evaluation and syntheses of information
  - CT1: Generate and communicate ideas by combining, changing, or reapplying existing information
  - CT2: Gather and assess information relevant to a question
  - CT3: Analyze, evaluate, and synthesize information
- Communication Skills – to include effective development, interpretation, and expression of ideas through written, oral, and visual communication
  - CS1: Develop, interpret, and express ideas through written communication
  - CS2: Develop, interpret, and express ideas through oral communication
  - CS3: Develop, interpret, and express ideas through visual communication
- Empirical and Quantitative Skills – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
  - EQS1: Manipulate and analyze numerical data and arrive at an informed conclusion
  - EQS2: Manipulate and analyze observable facts and arrive at an informed conclusion
- Teamwork – to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal
  - TW1: Integrate different viewpoints as a member of a team

- TW2: Work with others to support and accomplish a shared goal
- Personal Responsibility – to include the ability to connect choices, actions, and consequences to ethical decision-making
  - PR1: Evaluate choices and actions and relate consequences to decision-making
- Social Responsibility – to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities
  - SR1: Demonstrate intercultural competence
  - SR2: Identify civic responsibility
  - SR3: Engage in regional, national, and global communities

**Instructional Goals and Purposes:**

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: [from the ACGM catalog]**

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

Lecture

1. Use anatomical terminology to identify and describe locations of major organs of each system covered.
2. Explain interrelationships among molecular, cellular, tissue and organ functions in each system.
3. Describe the interdependency and interactions of the systems.
4. Explain contributions of organs and systems to the maintenance of homeostasis.
5. Identify causes and effects of homeostatic imbalances.
6. Describe modern technology and tools used to study anatomy and physiology.

Lab

1. Apply appropriate safety and ethical standards.
2. Locate and identify anatomical structures.
3. Appropriately utilize laboratory equipment, such as microscopes, dissection tools, general lab ware, physiology data acquisition systems, and virtual simulations.
4. Work collaboratively to perform experiments.
5. Demonstrate the steps involved in the scientific method.
6. Communicate results of scientific investigations, analyze data and formulate conclusions.
7. Use critical thinking and scientific problem-solving skills, including, but not limited to, inferring, integrating, synthesizing, and summarizing, to make decisions, recommendations and predictions.

**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 structure, function and clinical considerations of the endocrine system.
2. The structure, function and clinical considerations of the heart.

3. The physiological aspects of cardiac output and blood flow.
4. The structure, function and clinical considerations of the lymphatic system.
5. The structure, function and clinical considerations of the respiratory system.
6. The structure, function and clinical considerations of the digestive system.
7. The metabolism of macromolecules and energy regulation.
8. The structure, function and clinical considerations of the urinary system.
9. The structure, function and clinical considerations of the reproductive system.
10. The structure, function and clinical considerations of developmental anatomy and inheritance.

#### Lab

1. The structure, function and clinical considerations of the endocrine system.
2. The structure, function and clinical considerations of the formed elements of the blood.
3. The structure, function and clinical considerations of the heart.
4. The physiological aspects of cardiac output and blood flow.
5. The structure, function and clinical considerations of the lymphatic system.
6. The structure, function and clinical considerations of the respiratory system.
7. The structure, function and clinical considerations of the digestive system.
8. The structure, function and clinical considerations of the urinary system.
9. The structure, function and clinical considerations of the reproductive system.
10. The structure, function and clinical considerations of developmental anatomy and inheritance.

#### **Methods of Instruction/Course Format/Delivery:** (text in paragraphs)

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

#### **Major Assignments / Assessments:**

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

#### **Assessment(s):**

##### Lecture

1. **Class Quizzes:** Several quizzes will be administered during the semester. Any lecture session may begin or end with a quiz. Quiz questions will be drawn from lecture notes, reading assignments and text objectives normally for a specific chapter in the textbook. Each quiz may consist of multiple-choice, true/false and matching questions.
2. **Mastering A&P Quizzes:** There will be several publisher-administered quizzes which are accessed via Canvas. The professor will determine the opening and closing date of these quizzes. Each quiz may consist of multiple-choice, true/false, matching, fill-in-the-blank, and short-answer questions.
3. **Exams:** Several exams will be administered during the semester. Exam questions will be drawn from lecture notes, reading assignments, text objectives and review sheet. Each exam may consist of multiple-choice, matching, true/false, fill in the blank, and essay type questions for a specified block of chapters in the textbook.
4. **Final Exam:** A final comprehensive examination will be administered the week of final exams and will cover material from the entire semester. The final comprehensive exam may consist of multiple-choice, true/false and matching questions.

## Lab

1. Lab Quizzes: Several lab quizzes will be administered during the semester. Any laboratory session may begin or end with a quiz. Questions are normally drawn from information covering one to a few exercises in the lab manual. Each quiz may consist of multiple-choice, true/false and matching questions.
2. Mastering A&P Quizzes: There will be several publisher-administered quizzes accessed via Canvas. These are untimed quizzes. They will be opened and closed at a date and time set by the professor. Each quiz may consist of multiple-choice, true/false, matching, fill-in-the-blank, and short-answer questions.
3. Lab Exercises: Laboratory exercises may include drawings, laboratory reports, topic presentations, or any other methodologies deemed important by the professor.
4. Lab Practicals: Lab practicals will cover items studied in lab including, models, charts, pictures, diagrams, dissections, and experiments, text objectives and review sheet. Lab practicals will consist of fill in the blank and short-answer questions.
5. A&P Concepts: A&P Concepts is a separate component of the course which meets at a different time than the lab. Although a separate section of the course, the student's work in Concepts is counted towards their lab grade. To earn credit the student must be both present and participating in A&P concept activities. All students are required to sign up for an A&P Concepts section along with their lecture section and lab section.

## Course Grade:

The grading scale for this course is as follows:

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

## 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 may have the final exam replace the lowest lecture exam grade only 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
- Mastering A&P Quizzes – 10% of lab grade
- Lab Exercises – 20% of lab grade
- Lab Practicals – 40% of lab grade
- A&P Concepts – 10% of lab grade

A student can earn up to 2 points on their final lab average by active & studious participating in lab activities and not exceeding the college's attendance policy.

## Texts, Materials, and Supplies:

#### Required

- Martini and Nath. 2018. Fundamentals of Anatomy and Physiology 11<sup>th</sup> ed.+ Modified Mastering A&P Access Code. Pearson, San Francisco, CA.
- Wood. 2017. Laboratory Manual for Anatomy and Physiology – Main version 6th ed. + Practice Anatomy Lab (PAL) CD. Pearson Education, Boston, MA.

#### Optional

- Krieger. 2013. A Visual Analogy Guide to Human Physiology & Physiology 3<sup>rd</sup> ed. Morton Publishing, Englewood, CO.
- Perez. 2008. Anatomy (Flash Cards). Bar Charts Publishing, Boca Raton, FL.
- Kapit and Elson. 2013. Anatomy Coloring Book 12<sup>th</sup> ed. Pearson Education, Boston, MA.

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#### Other:

- For current texts and materials, use the following link to access bookstore listings: <http://www.panolacollegestore.com>
- For testing services, use the following link: <http://www.panola.edu/elearning/testing.html>
- 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 <http://www.panola.edu/student-success/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, *The Pathfinder*: <http://www.panola.edu/student-success/documents/pathfinder.pdf>