

# **Anatomy and Physiology II Lab**

## **Course Materials**

Custom Lab Kit from [eScienceLabs.com](https://www.escience-labs.com) (please use the "Have a code?" button) which is \$213 (plus shipping); please enter this code [Kit5311] to ensure that you purchase the correct Lab.

Students also planning to enroll in the Anatomy & Physiology I Lab (BIO201L) can save money by purchasing a combined lab kit for \$330 (plus shipping) using the code [Kit5312].

## **Course Description**

Building on Anatomy & Physiology I Lab, this lab-only course is designed as a standalone addition to the Anatomy & Physiology II course. Students will complete at-home laboratory experiments, track and record results, answer lab-based questions reflected in graded lab reports, and complete lab-based assessments to meet the lab requirement. The labs are provided by eScience Labs, a leading provider of at home lab kits and online lab instructional materials and resources.

## **Course Prerequisites**

It is suggested, though not required, that students take Anatomy & Physiology I and Anatomy & Physiology I Lab or its equivalent before enrolling in Anatomy & Physiology II Lab. We also recommend concurrent enrollment in Anatomy & Physiology II (BIO202).

## **Course Objectives**

After completing this course, you will be able to:

- Explain the structure and physiology of the heart.
- Describe the structures and functions of the circulatory system.
- Explain the regulation of blood pressure.
- Describe the structures and functions of the lymphatic system.
- Describe the structures and functions of the respiratory system.
- Describe the structures and physiology of the digestive system.
- Explain nutrition and the dietary composition of foods.
- Describe the anatomy and physiology of the urinary system.
- Explain water, electrolyte, and acid-base balance in the body.
- Explain the structures and functions of the reproductive systems.

## Important Terms

In this course, different terms are used to designate tasks:

- **Tutoring:** memberships include online tutoring for students to access with any content/subject related questions in the place of faculty. If your tutor is not able to answer your questions please contact a student advisor.
- **Lab Worksheets:** These are experiments that you will complete at home and be assessed on through online exercises.
- **Lab Exam:** A graded online test.

**Important Note** All lab uploads must represent your own individual work. Even if you are working in a group with other students, each individual student must submit independent work. If you submit identical submissions or share submissions with another student, you will earn a zero for the assignment and will not earn credit for the course.

## Academic Integrity Statement

Academic integrity is the pursuit of scholarly activity in an honest, truthful and responsible manner. Violations of academic integrity include, but are not limited to, plagiarism, cheating, fabrication and academic misconduct. Failure to comply with the Academic Integrity Policy can result in a failure and/or zero on the attempted assignment/examination, a removal from the course, disqualification to enroll in future courses, and/or revocation of an academic transcript.

## Course Completion Policy

In order for a course to be considered complete, all required coursework must be attempted, submitted, and graded. Required coursework consists of graded assignments. Any Academic Integrity Policy violations may prevent a course from being considered complete.

## Course Evaluation Criteria

Your score provides a percentage score and letter grade for each course. A passing percentage is 70% or higher. There are a total of 1000 points in the course:

Topic	Assessment	Points
Introduction	Upload: Lab Kit Photos	10
10	Lab Exam 10	15
10	Lab 10 Worksheet: Blood and the Heart	109
11	Lab Exam 11	15
11	Lab 11 Worksheet: The Circulatory System	96

Topic	Assessment	Points
12	Lab Exam 12	15
12	Lab 12 Worksheet: The Lymphatic System and Immunity	65
13	Lab Exam 13	15
13	Lab 13 Worksheet: The Respiratory System	117
14	Lab Exam 14	15
14	Lab 14 Worksheet: The Urinary System	117
15	Lab Exam 15	15
15	Lab 15 Worksheet: Electrolytes, Water, Acids, and Bases	35
16	Lab Exam 16	15
16	Lab 16 Worksheet: The Digestive System	129
17	Lab Exam 17	15
17	Lab 17 Worksheet: Nutrition	110
18	Lab Exam 18	15
18	Lab 18 Worksheet: Reproductive System	77
Total		1000

### Course Topics and Objectives

Lab	Title	Objectives
10	Blood and the Heart	<ul style="list-style-type: none"> <li>• Explain the structures and functions of the chambers of the heart.</li> <li>• Describe the flow of blood through the heart.</li> </ul>

Lab	Title	Objectives
		<ul style="list-style-type: none"> <li>• List the valves of the heart and give their locations, structures, and functions.</li> <li>• Describe the components of blood.</li> </ul>
11	The Circulatory System	<ul style="list-style-type: none"> <li>• Describe the different types of capillaries, arteries, and veins.</li> <li>• Trace the flow of blood through the pulmonary circulation.</li> <li>• List the major arteries and veins and describe the body areas the supply/drain.</li> <li>• Explain how blood pressure is maintained.</li> </ul>
12	The Lymphatic System and Immunity	<ul style="list-style-type: none"> <li>• Describe the structures of the lymphatic system and their functions.</li> <li>• Explain the formation and flow of lymph</li> </ul>
13	The Respiratory System	<ul style="list-style-type: none"> <li>• Describe the anatomy and functions of the parts of the respiratory system.</li> <li>• Explain the roles of the thoracic wall and pleural membranes in respiration.</li> <li>• Describe the events of inhalation and exhalation.</li> </ul>
14	The Urinary System	<ul style="list-style-type: none"> <li>• Describe the locations of the organs of the urinary system.</li> <li>• Describe the function and anatomy of the kidneys.</li> <li>• Explain the blood flow through the kidney.</li> <li>• Describe the process of urine formation.</li> </ul>
15	Electrolytes, Water, Acids, and Bases	<ul style="list-style-type: none"> <li>• Explain how buffer systems in the body work.</li> <li>• Describe how fluid volumes are regulated in the body.</li> <li>• Describe the causes and effects of acid-base imbalances.</li> </ul>
16	The Digestive System	<ul style="list-style-type: none"> <li>• Explain the roles of mastication and enzymes in the digestive process.</li> <li>• Discuss the histology of the digestive tract.</li> <li>• List the structures and functions of the major organs of the digestive system.</li> <li>• Describe the process of swallowing.</li> </ul>
17	Nutrition	<ul style="list-style-type: none"> <li>• Describe the important vitamins and minerals for body health.</li> <li>• Describe the dietary sources and uses in the body for carbohydrates, lipids, and proteins.</li> </ul>

<b>Lab</b>	<b>Title</b>	<b>Objectives</b>
18	The Reproductive System	<ul style="list-style-type: none"><li>• List and describe the organs of the male and female reproductive systems.</li><li>• Discuss the histology of reproductive tissues.</li></ul>

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