

Anatomy and Physiology II Lab (BIO202L)

Course Materials

- Custom Lab Kit from [eScienceLabs.com](https://www.esciencekits.com/) (please use the “find my kit” button) which is \$211.65 (plus shipping); please enter this code [Kit5202] to ensure that you purchase the correct Lab¹.

Course Description

Building on Anatomy & Physiology I Lab, this lab-only course is designed as a standalone addition to StraighterLine’s 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

StraighterLine suggests, though does not require, 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.

¹ Students also planning to enroll in StraighterLine’s Anatomy & Physiology I Lab course (BIO201L) can save money by purchasing a combined lab kit for \$330.65 (plus shipping) using the code [Kit5219].

- 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.

Course Evaluation Criteria

StraighterLine provides a percentage score and letter grade for each course. See [Academic Questions](#) section in FAQ for further details on percentage scores and grading scale. A passing percentage is **70%** or higher.

If you have chosen a Partner College to award credit for this course, your final grade will be based upon that college's grading scale. Only passing scores will be considered by Partner Colleges for an award of credit².

There are a total of 1000 points in the course³:

Topic	Assessment	Points
1	Blood and the Heart Lab Worksheet	83
	Lab Exam	42
2	The Circulatory System Lab Worksheet	83
	Lab Exam	42

² Please note that all required materials (as reflected in lab instructions) must be completed to be eligible for a transcript. Required materials include lab exercises (Worksheets) and digital photographs of laboratory exercises. If these files are not submitted, StraighterLine will not be able to provide students a final grade.

³ Note that the actual total reflected here is 1125. However, your lowest lab worksheet and lowest lab exam grade will be dropped for a final total of 1000 possible points.

3	The Lymphatic System and Immunity Worksheet	83
	Lab Exam	42
4	The Respiratory System Worksheet	83
	Lab Exam	42
5	The Urinary System Worksheet	83
	Lab Exam	42
6	Electrolytes, Water, Acids, and Bases Worksheet	83
	Lab Exam	42
7	The Digestive System Worksheet	83
	Lab Exam	42
8	Nutrition Worksheet	83
	Lab Exam	42
9	The Reproductive System Worksheet	83
	Lab Exam	42
Total		1000

Course Topics and Objectives

Lab	Title	Objectives
10	Blood and the Heart	<ul style="list-style-type: none"> ● Explain the structures and functions of the chambers of the heart. ● Describe the flow of blood through the heart. ● List the valves of the heart and give their locations, structures, and functions. ● Describe the components of blood.
11	The Circulatory System	<ul style="list-style-type: none"> ● Describe the different types of capillaries, arteries, and veins. ● Trace the flow of blood through the pulmonary circulation. ● List the major arteries and veins and describe the body areas

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

