

U200-115L: Human Biology Lab

Course Format: Online

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Course credits: 1

Pre/Corequisites: Concurrent enrollment in or completion of U200-115 Human Biology with a C or better or the equivalent recommended; Appropriate for advanced high school and first-year or higher college students.

Course Description: This course investigates the structure and function of the human body as related to areas of health and disease. You will study the: chemistry of life, organization and regulation, cardiovascular, nervous, reproductive, immune, respiratory, digestive, and lymphatic systems; infectious diseases and epidemiology, human evolution, ecology, human interactions with ecology, and population dynamics through labs.

Required Course Materials

Textbook

- Mader, S. & Windelspecht, M. (14th Ed.). (2016). *Human Biology (WCB General Biology)*. New York, NY: McGraw-Hill Education. ISBN-13: 978-1259245749

Hardware

- For some assignments, you will need to upload a scanned document of completed work. If you do not have access to a scanner, you can take a picture, and upload the picture in place of a scanned document.

Lab Materials

- A list of materials required for each lab will be provided to you. The labs have been designed so that you can use house-hold items that are already located around your house, and can be performed with as little of cost as possible. You can expect to spend around \$100 if you needed to buy all materials on this list.

Course Learning Objectives

- Perform at home and virtual laboratory experiments.
- Collect data using the appropriate scientific standards and units.
- Draw conclusions from experimental data.

Course Overview

MODULE #	MODULE TOPIC	EVALUATED ACTIVITIES
Unit 1: Atoms to Organ Systems		
1	The Scientific Method	<ul style="list-style-type: none"> Syllabus Quiz Scientific Method Lab
2	DNA Extraction and Enzymes	<ul style="list-style-type: none"> DNA Extraction and Enzymes Lab
3	Osmosis and Cellular Respiration	<ul style="list-style-type: none"> Osmosis and Cellular Respiration Lab
4	Integumentary System	<ul style="list-style-type: none"> Integumentary System Lab
Unit 2: Blood, Lymph, and Pathogens		
5	Cardiovascular System: Heart and Blood Vessels	<ul style="list-style-type: none"> Heart Anatomy and Physiology Lab Heart Anatomy and Physiology Lab Lab Report
6	Blood Typing	<ul style="list-style-type: none"> Blood Typing Lab
7	The Immune System	<ul style="list-style-type: none"> Immune System Lab
8	Disease and Epidemiology	<ul style="list-style-type: none"> Disease Detective Lab
Unit 3: Eat, Breathe, Reproduce, and Control		

9	Digestion and Nutrition	<ul style="list-style-type: none"> • Digestion and Nutrition Lab
10	Respiratory System	<ul style="list-style-type: none"> • Respiratory System Lab
11	Nervous System	<ul style="list-style-type: none"> • Nervous System Lab • Nervous System Lab Report
12	Frog Dissection	<ul style="list-style-type: none"> • Frog Dissection Lab
Unit 4: Humans and the Environment		
13	Natural Selection	<ul style="list-style-type: none"> • Phylogenies and Natural Selection Lab
14	Ecology and Ecosystems	<ul style="list-style-type: none"> • Ecosystem Lab
15	Population Dynamics	<ul style="list-style-type: none"> • Population Dynamics Lab

Evaluation Methods

Your final grade will be based on your performance on the following:

1. Syllabus Quiz = 10 points
 2. Module Labs (15 total) = 461 points
 3. Module Lab Reports (2 total) = 50 points
- Total = 521 points**

Syllabus Quiz

This short quiz will be required to ensure that you begin the course with a solid grasp of course management and operations, along with what is expected of you.

Module Labs

There are a total of fifteen labs in the course, one for each module. The type of lab will vary, depending on module content material. Some you will complete in-person, and others will require the use of a virtual lab. Points will vary from 20 to 50 points, based on the activities required in the lab.

Module Lab Reports

As a lab course, you will be expected you demonstrate the skill of writing a lab report. The first module will help you learn how to draft a lab report. In later modules, you will be expected to create your own experiment, and write a full lab report. These are worth 25 points apiece. **Note:** Lab reports will be submitted to a separate dropbox folder from the lab folder. These will be located in the Lab Reports section of the dropbox.

Exam Method: There are no exams in this course

Grading Scale

The following grading scale is used to evaluate all course requirements and determine your final grade:

A = 93–100	B = 83–87.9	C = 70–77.9	D = 60–69.9
AB = 88–92.9	BC = 78–82.9		F = Below 60

Pass/Fail Option

Students who enroll in an Independent Learning (IL) course under the pass/fail option will receive a final grade of S in place of a final grade equivalent to an A, AB, B, BC, or C and a final grade of U in place of a final grade equivalent to a D or F.