

# Biology 10L: Introduction to Life Science Lab

Reedley College

Fall 2021

**Class No:**

55009

**Class Format:**

Fully online

**Units (Hours):**

1 (3)

**Instructor:**

Sara Blake

**Meeting Time:**

Monday 3:00-5:00

**Email:**

sara.blake@reedleycollege.edu

**Location:**

<https://scccd.zoom.us/j/97331154622>

**Office Hours:**

Tuesday 2:00-4:00

**Website:**

<https://scccd.instructure.com>

Log in with your SCCCDC credentials

**Office Location:**

<https://cccconfer.zoom.us/j/97440277758>

## Course Description

Corequisites: Biology 10. Advisories: Eligibility for English 1A.

This lab course is recommended for the non-biological science and pre-education majors. This is an introductory course using biological concepts. The organismal structure, function, inheritance, evolution, and ecology are covered in this course. Field trips may be required. This course is not open to students with credit for Biology 3. (A, CSA-GE, UC, I)

## Course Structure

Biol 10L is being held entirely online this semester. Though it is possible to complete the course asynchronously, I highly recommend attending the synchronous zoom meetings as an opportunity to talk to fellow students, discuss real-world applications and the lab activities with Professor Blake, and keep yourself on track.

## Required Materials

Access to our Canvas course is essential as it is where all our class information and material is held. There is no traditional textbook but the lab activities are included as downloads within the weekly modules.

A printer or way to manipulate pdf documents is essential. A scanner or app that can convert an image to a pdf (search for free apps like CamScanner or Tap Scanner on a smart phone) will be very helpful if you are printing out the lab reports to complete by hand.

## Communication

As a fully online course, it is important to be conscious of the difference in communication styles. When representing yourself in this course you must identify yourself by your real name. Be mindful of your word choice and avoid sharing personal information in online discussions.

Be professional, clear, and respectful in your messaging. Much of human communication is conducted through physical cues and tone of voice, this makes humor and sarcasm difficult to convey through text and should be treated with caution online.

## Learning Environment

This is a fully online course using both synchronous online lecture meetings and asynchronous activities, discussions, and assessments. The LMS (learning management system) for this course, Canvas, is where all the assignments, readings, and supplemental materials are organized.

## Student Learning Expectations

1. Evaluate current scientific literature and examine how the scientific method is employed in biological research.
2. Identify levels of biological organization and apply these concepts to living systems.
  - By examining anatomical and physiological features.
  - By investigating chemical and energy relationships.
3. Assess human impacts on natural systems and critically evaluate solutions to environmental problems.
4. Explore the cellular basis of life.
5. Apply the principles of Mendelian genetics to evolutionary theory and human medicine.
6. Recognize the function of DNA and how its discovery has impacted modern science.
7. Classify the wide range of living organisms and identify the evolutionary mechanisms that have impacted this diversity.
8. Recognize the chemical basis of life.

## Student Learning Objectives

1. Compare and contrast Eukaryote and Prokaryote cell structure.
2. Recognize chemical elements, bonds and properties of water.
3. Compare anatomical and physiological features seen in the animal kingdom with emphasis on human body systems.
4. Calculate genetic probabilities based on the principles of Mendelian genetics.
5. Distinguish the processes of transcription and translation and identify their roles in protein synthesis.
6. Diagram plant life cycles and identify major plant adaptations.
7. Explain and compare the processes of photosynthesis and cellular respiration.
8. Demonstrate knowledge of evolutionary theory and identify the different mechanisms responsible for biological change.
9. Describe energy flow and nutrient cycling within an ecosystem.
10. Consider human impact on natural systems.
11. Relate principles of population ecology to the study of the global human population.
12. Read scientific literature and apply the steps of the scientific method to laboratory research.
13. Use the compound light microscope to examine cellular anatomy and reproduction.
14. Apply taxonomic classification in identifying animals through the use of a dichotomous key.

## Grading

Your grade will be determined by calculating the amount of points you earned divided by the total points available in the course. Do not hesitate to email me if you notice a mistake in your online grades, however emails regarding extra credit opportunities or requests to give you a higher grade will not be entertained. Letter grades are distributed on the following scale:

PERCENT	GRADE
90 – 100	A
80 – 89.99	B
70 – 79.99	C
60 – 69.99	D
0-59.99	F

The point breakdown for this course (as it stands now) is as follows:

TASK	POINTS
Lab Assignments (16 x 15points)	240
Lab Quizzes (12 x 10points)	120
Culminating Project	50
<b>Total Available</b>	<b>410</b>

## Significant Assignments

**Lab Assignments:** Labs will be via worksheets included as pdf's on **Canvas** and worth 15 points each.

**Lab Quizzes:** Quizzes will be posted on Canvas and will relate to material from the previous week.

**Culminating Project:** This will be the culminating project for the semester and will be in place of a final exam. Details for the project will be discussed in detail around half way through the semester.

## Course Policies

**Add/Drop:** If you do not complete the first week's assignments before the first Friday of the semester, you may be dropped as a no-show. The drop deadline for this class is August 29, after this date I must assign a grade to you in this course!

**Late Work:** Late work will be accepted for assignments and quizzes BUT will result in a 10% reduction per day late. If you have extenuating circumstances, PLEASE communicate with me so we can work together to help you pass this course. Exams will NOT be given late. If you miss one, you will receive a zero.

## College Policies

The college has several policies that you will be expected to adhere to in my course. The Policy on Students with Disabilities, the University Honor Code, the Policy on Cheating and Plagiarism, a statement on copyright, and the university computer requirement, portions of which are below, can all be found in the University Catalog (Policies and Regulations) and Class Schedule.

**Academic Dishonesty:** Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure this education is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entire honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences. See college catalog for details.

**Subject to Change:** This syllabus and schedule are subject to change in the event of extenuating circumstances. It is your responsibility to check on announcements made while you were absent.

## Diversity Statement

It is my intent that students from all diverse backgrounds and perspectives feel welcomed and be well-served in this course. The backgrounds and identities that each of you bring to this class are resources, strengths, and benefits. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. If at any point in the term you notice something that could be improved, I would appreciate your suggestions. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.

## Tentative Course Schedule

<b>Week</b>	<b>Dates</b>	<b>Lab Topic</b>	<b>Quiz</b>
<b>1</b>	9/8 – 13/8	Introduction to Microscopy	---
<b>2</b>	16/8 – 20/8	Biological Molecules	Microscopy
<b>3</b>	23/8 – 27/8	Cell Structure and Function	Biological Molecules
<b>4</b>	30/8 – 3/9	An Inconvenient Truth	Cells
<b>5</b>	6/9 – 10/9	Taxonomy	---
<b>6</b>	13/9 – 17/9	Mitosis and Meiosis	Taxonomy
<b>7</b>	20/9 – 24/9	DNA and Protein Synthesis	Mitosis and Meiosis
<b>8</b>	27/9 – 1/10	Genetics	DNA and Protein Synthesis
<b>9</b>	4/10 – 8/10	Food Inc	Genetics
<b>10</b>	11/10 – 15/10	Carbon Footprint	---
<b>11</b>	18/10 – 22/10	Evolution	Carbon Footprint
<b>12</b>	25/10 – 29/10	Pollination	Evolution
<b>13</b>	1/11 – 5/11	Protists	Pollination
<b>14</b>	8/11 – 12/11	Population Demography	Protists
<b>15</b>	15/11 – 19/11	Cadillac Desert	Population Demography
<b>16</b>	22/11 – 26/11	Pollination Project work	---
<b>17</b>	29/11 – 3/12	TBD	---
<b>18</b>	6/12 – 10/12	Pollination Project Due	---