BIOLOGY 10L: Introduction to Life Science Lab
Summer 2023

Instructor: Miss Trathen
E-mail: Danielle.trathen@reedleycollege.edu
Lab 53002:Tues., Wed., Thurs. 8;00am-10:50am; LFS 17
Office Hours: via email, I can make an appointment

I. COURSE DESCRIPTION

A. **Title:** Biology 10L – Introduction to Life Science Lab
B. **Prerequisite or Co-requisite:** Biology 10.
C. **Summary:** This lab course is recommended for the nonbiological science and pre-education majors. This is an introductory course using biological concepts. The organismal structure, function, inheritance, evolution, and ecology are covered. Field trips may be required. Not open to students with credit in Biology 3.
D. Biology 10L is a 1 unit lab class.

II. COURSE CONTENT

Student Learning Outcomes:

Upon completion of this course, students will be able to:

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

Objectives:

In the process of completing this course, students will:

- compare and contrast Eukaryote and Prokaryote cell structure.

- recognize chemical elements, bonds and properties of water.
- compare anatomical and physiological features seen in the animal kingdom with emphasis on human body systems.
- calculate genetic probabilities based on the principles of Mendelian genetics.
- distinguish the processes of transcription and translation and identify their roles in protein synthesis.
- diagram plant life cycles and identify major plant adaptations.
- explain and compare the processes of photosynthesis and cellular respiration.
- demonstrate knowledge of evolutionary theory and identify the different mechanisms responsible for biological change.
- describe energy flow and nutrient cycling within an ecosystem.
- consider human impact on natural systems.
- relate principles of population ecology to the study of the global human population.
- read scientific literature and apply the steps of the scientific method to laboratory research.
- use the compound light microscope to examine cellular anatomy and reproduction.
- apply taxonomic classification in identifying animals through the use of a dichotomous key.

III. REQUIRED MATERIALS:

1. E-mail address. This can be obtained free through the school

IV. ATTENDANCE:

You will be dropped if you fail to attend the first lab. You will also be dropped if you miss more than two labs in the first 9 weeks.

V. TESTS AND EVALUATIONS:

A. Grading

Description	Points Possible
16 Lab Assignments (15 pts. each)	240
10 Lab Quizzes (5-10 pts. each)	75
Project	50
	365

Approximate Total Points =

B. Grading scale:

90% = A 80% = B 70% = C 60% = D 59% and below = F

At any point you can check your grades on our Canvas site through the Reedley College homepage: ***www.reedleycollege.edu*** You are encouraged to check this site regularly and keep track of your own grades!

C. *Quizzes* will include multiple choice questions, true/false and Matching questions. The information on the quizzes is taken from the labs we have performed in class. There are no make-up quizzes.

VI. Other information:

Drops: You have until half way through the semester to drop. If you elect to do so, be sure to drop yourself. Do not assume you have been automatically dropped. This is very important, as after the half way point a grade must be given, by state law, whether you attend class or not.

VII. Help:

If you should have difficulty grasping the material presented during the course be sure to talk to your instructor at the first sign of trouble. Often, a few minutes can clear up many problems! If you are having trouble studying, perhaps you need a few study hints or a tutor at the Tutorial Center. Please go in for help!

Success comes before work only in the dictionary. Overall, I hope you have a fun semester and learn Biology along the way. Good Luck.

VIII. 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.

IX. Accommodations

If you have a verified need for an academic accommodation or material in alternate media (i.e. Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

Biol 10L Summer Schedule

	Tuesday	Wednesday	Thursday
Week 1 6/20 -6/22	Lab 1 How Scientists Think	Lab 2 We are What we Eat	Lab 3 On the Small Side
Week 2 6/27-6/29	Lab 4 Cell's Kitchen	Lab 5 Cells Need Energy	Lab 6 Living On Sunshine
Week 3 7/4-7/6	Campus Closed	Lab 7 Putting Genes to Work	Lab 8 From on Cell Comes Many
Week 4 7/11-7/13	Lab 9 The Traits we Have	Lab 10 Sick of It	Lab 11 Living Things Change
Week 5 7/18-7/20	Lab 12 Diversity of Life I	Lab 13 Diversity of Life II	Lab 14 Diversity of Life
Week 6 7/25-7/27	Lab 15 River Walk	Lab 16 Our Impact	Presentations

DATE	DAY	EVENT / DEADLINE
20-Jun	(T)	Start of 6-week Summer Session
21-Jun	(W)	Last day to add/Last day to drop with no W
1-Jul	(S)	Deadline to apply for graduation for Summer 2023 completion
4-Jul	(T)	Independence Day holiday observed (no classes held, campus closed
11-Jul	(T)	Last day to drop with a W
28-Jul	(F)	End of 6, 8, and 10-week Summer Sessions