# Syllabus: Biology 10L – Intro to Life Science Lab

## Course Information

Instructor: Mr. Edgar Munoz
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Semester: Spring 2024
Section: 50009
Lab Meeting: Wednesday 6:00pm-8:50pm, Life Science 11

## Course Description

Biology 10L is a 1-unit biology course with 3 lab hours per week. This is a course is recommended for 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. Field trips may be required. Not open to students with credit in Biology 3.

### Student Learning Outcomes

Upon completion of this course, students will be able to

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.
    a. By examining anatomical and physiological features.
    b. 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.

### Course 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 using a dichotomous key.

## Course Requirements and Policies

### Prerequisites

Prerequisite or Co-requisite: Biology 10.

### Required Course Materials

Reedley College Biology Handouts. This can be obtained in the bookstore or on Canvas.

### Technology Requirements

- Electronic Device in class daily; laptop, tablet, smart phone.
- Check Canvas and your Reedley College email accounts regularly. (Multiple times per week) for announcements.
- All lab PowerPoints, handouts, notes, schedules, grades, etc. will be posted on Canvas.

### Class Policies

#### Communication Expectations

Identify yourself by your real name. Be mindful of your language, and avoid including personal information, such as phone numbers or addresses, in discussion forums. All online communications should be transmitted with the intent to inform, inspire, etc. and not to offend or breach personal privacy.

Use humor, joking, or sarcasm with caution. We often rely on non-verbal cues such as facial expressions to communicate joking or sarcasm, but these cues are not always clear in an online environment. These cues can be simulated with emoticons to reduce misunderstandings.

Be Professional, Clear and Respectful. Clear and effective writing translates to clear and effective communication. Writing the way, you would speak is a good rule of thumb, use a positive tone and adhere to the same rules you would follow in face- to-face communications.

#### Learner Expectation

- Regular engagement throughout the semester.
- Review the assignments on the Course Schedule and print it out for easy reference as you complete each task.
- You are expected to plan your study time around the course schedule and recommended completion dates.
- While the due dates for the course are just suggestions, it is expected that all lab reports to be submitted based on due dates.

- Check your email account regularly for updated information. Use e-mail for private messages to the instructor and other students.
- If you have questions or confusion about an assignment, act promptly!
- We are human and sometimes links or other pages need updating or become inactive.
- Read directions carefully.

## Course Exams and Major Assignments

### Point Breakdown

| Assignment Description | Points | Breakdown |
|---|---|---|
| Lab Reports | 240 points | 16 lab reports @ 15 points each |
| Lab Exams | 160 points | 16 quizzes @ 10 points each |
| Citizen Science Project | 50 points | |
| **Total** | **450 points** | |

### Grading Policy

To calculate your grade, total all points earned and divide that number by the total points available (450). Course grades are non-negotiable; Instructor reserves the right to curve individual tests and/or assignments. FINAL GRADES WILL NOT BE CURVED… ALSO, I DO NOT round up your grades to the next letter grade. The final course grade is based on the following scale:

A: 90.00% and above

B: 80.00% to 89.99999%

C: 70.00% to 79.99999%

D: 60.00% to 69.99999%

F: 59.99999% and below

### Attendance and Drop Policy

- Students are expected to attend person class sessions.
- Excessive tardies (10 min late) will NOT be tolerated (three tardies equals one absence).
- Students will be dropped from this course if they do not attend the first lab without prior notification to the instructor.
- Students will be dropped from this course if they have excessive absences of 8 hours or more of lab by the end of the third week of instruction.
- Attendance is mandatory and will affect your grade
    - 3 absences = grade drops a full letter grade
    - 4 absences = grade drops 2 letter grades
    - 5 absences = fail the course
- It is the student's responsibility to drop this course if he/she feels necessary. The instructor will NOT drop any students after the third week of instruction.

### Late Work Policy

No late work for any assignments/activities in-person or online, including but not limited to quizzes and lab reports, will be accepted for any reason. No exceptions!

## Lab Reports

Each lab session will have an associated lab report. Lab reports must be submitted on the lab report forms found in the lab manual. Lab reports are due at the end of their scheduled class session. No late lab reports will be accepted. You cannot turn in a lab report for a lab that you were not in attendance of.

- Plagiarism Detection: The campus subscribes to Turnitin plagiarism prevention service through Canvas, and you will need to submit written assignments to Turnitin. Your work will be used for plagiarism detection and for no other purpose. Turnitin Originality Reports will be available for your viewing.

## In-class Participation

All students must turn in their own lab reports even if you are instructed to work with a partner or group. When working with a partner or groups you must each fill out your own lab report and turn in your own lab report individually.

## College Policies

The university 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.

## Cheating and Plagiarism

I DO NOT TOLERATE CHEATING. PERIOD. Most of you are entering into the health care field and could harm or seriously injure other human beings if you do not know the basic information in this course. The University policy reads, "Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one's grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations. However, it is the intent of this definition that the term 'cheating' not be limited to examination situations only, but that it includes any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means.

Any student caught cheating, or plagiarizing will be subject to the Reedley College disciplinary procedures (review the Reedley College catalog section on academic dishonesty). Electronics of any kind are not permitted during exams and will result in an automatic zero for that exam.

Students with diagnosed disabilities should contact the Disabled Students Programs and Services' (DSP&S). Please give me a copy of the letter you receive from DSP&S detailing class accommodations you may need. If you require accommodation for test-taking, please make sure I have the letter no less than three days before the test. If you have a need for an academic accommodation or materials 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.

### Diversity Statement:

"Respect for Diversity: It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. 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.

## *Subject to Change Statement

This syllabus and tentative schedule are subject to change with notification. It is your responsibility to check on announcements made for up-to-date assignments.

## Tentative Course Schedule*

| | |
|---|---|
| Week 1 – 01/08 | Lab Safety, Lab 1 How Scientists Think |
| Week 2 – 01/15 | Lab 2 We Are What We Eat |
| Week 3 – 01/22 | Lab 3 On the Small Side |
| Week 4 – 01/29 | Lab 4 Cell's Kitchen |
| Week 5 – 02/05 | Lab 5 Cells Need Energy |
| Week 6 – 02/12 | Lab 6 Living on Sunshine |
| Week 7 – 02/19 | Lab 7 Putting Genes to Work |
| Week 8 – 02/26 | Lab 8 From One Cell Comes Many |
| Week 9 – 03/04 | Lab 9 The Traits We Have |
| Week 10 – 03/11 | Lab 10 Sick of It |
| Week 11 – 03/18 | Lab 11 Living Things Change<br>**Introduction to Citizen Science Project** |
| Week 12 – 03/25 | No Class: Spring recess (no classes held, campus open Mar 25-28) |
| Week 13 – 04/01 | Lab 12 The Diversity of Life I<br>Lab 13 The Diversity of Life II |
| Week 14 – 04/08 | Lab 14 The Diversity of Life III |
| Week 15 – 04/15 | Lab 15 Come Together |
| Week 16 – 04/22 | Lab 16 Our Impact |
| Week 17 – 04/29 | Lab 17: TBA |
| Week 18 – 05/06 | **Citizen Science Project Day** |

Other Important Dates: **Final Drop Date to avoid "W":** January 28th **Final Drop Date:** March 8th.