

# Summer 2021 Biology 10 Lab: Introduction to Life Science Lab

---

## Course Information

Summer 2021 Reedley College	1 unit, 3 Lab hours
<b>Instructor:</b> Evelin Munoz	<b>Email:</b> evelin.munoz@reedleycollege.edu Please allow 24 - 48 hours for response
<b>Website:</b> To access the course login to Canvas at <a href="https://sccd.instructure.com/">https://sccd.instructure.com/</a> using your Reedley College username and password. For help with Canvas, contact the Help Desk at 1.844.887.2223	<b>Class Meetings:</b> 100% online lab <b>Section:</b> 53451 <b>Summer session:</b> 6/21/21 – 7/30/21

## Course Description

The purpose of this course is to help you develop an understanding of fundamental processes that form the basis of biological life. This is a course providing a basic understanding and working knowledge of the biological sciences.

This course is taught in a traditional lecture and laboratory format in combination with additional online content; however, due to the current pandemic, this summer will be taught fully online. Laboratory will be largely visual based, utilizing a variety of resources including PowerPoint, multimedia, prepared microscope slides, models, and human and animal specimens. The course outcomes are designed to help you *understand and apply* (**not just memorize**) biology concepts, and to help you think in an analytical and critical way about contemporary cellular issues.

## 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.
3. By examining anatomical and physiological features.
4. By investigating chemical and energy relationships.
5. Assess human impacts on natural systems and critically evaluate solutions to environmental problems.
6. Explore the cellular basis of life.
7. Apply the principles of Mendelian genetics to evolutionary theory and human medicine.
8. Recognize the function of DNA and how its discovery has impacted modern science.

9. Classify the wide range of living organisms and identify the evolutionary mechanisms that have impacted this diversity.
10. Recognize the chemical basis of life.

## **Course Objectives**

In the process of completing this course, students will

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.

## **Prerequisites or Co-requisite for the Course**

Biology 10

## **Required Materials**

Lab Manual is available for on Canvas or to purchase in the Reedley College bookstore. All lab assignments will be submitted as a Word document, PDF, or high-quality scan. Photos of lab pages will not be accepted. If you do not have a scanner, there are apps that use your phone camera to create a scanned document (such as CamScanner.)

## **Technology Requirements**

Due to the current pandemic, all course material will be delivered through Canvas. All students must have access to a device with reliable internet to navigate through Canvas.

If you need a device such as a laptop or Wi-Fi hotspot, Reedley College can provide you these resources for the semester at no cost. Contact the IT department at (559) 637-2555 for help on obtaining the equipment you may need.

## **Class Policies: Communication, Attendance, Drop, and Late Work**

## Communication Policy

- The most effective way of communicating with me is to email me at: [Evelin.munoz@reedleycollege.edu](mailto:Evelin.munoz@reedleycollege.edu) or by sending me a message through Canvas
- When you email me, please follow the following:
  - Subject line: class name, class number
  - State your first and last name and include your message
- Emails, canvas messages, and discussion board questions will be answered within 24 hours Monday-Friday. If I do not respond within the 24-hour period, please email me again because I might have missed your message.

## Attendance and Drop Policy

- In order to avoid being dropped from this class, the following tasks must be completed on Canvas by the end of the first week of instruction (6/27/2021 by 11:59PM):
  - Post a profile picture on your canvas
  - Participate in the Ice Breaker: Meet & Greet Discussion Board
  - Complete all tasks in the WEEK 1 Module
- It is the student's responsibility to drop this course if he/she feels necessary. The instructor will NOT drop any students after the first week of instruction.
  - You will be dropped if you miss more than two labs in the first 3 weeks of the course.
- Communicate with me if there are any serious and compelling reasons for your attendance.

## Late Work Policy

- **Assignments/Activities:** No late work will not be accepted, ever. There will be NO EXTENSIONS, MAKE UPS, NO EXCEPTIONS.
- **Lab quizzes:** All quizzes will be given through Canvas. Please see the tentative schedule for quiz dates. Quizzes must be taken when they are scheduled. I will NOT accept late quizzes unless prior arrangements with the instructor were made (minimum of one week notice) for extreme circumstances that are documented in writing and provided to instructor. The instructor holds final decision on what constitutes an acceptable circumstance. I will work with you if you communicate with me.

## 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. 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.

## Grading Policy

Course grades are non-negotiable; 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 percent range:

Percent Range	Grade
90-100	A
80-89.99	B
70-79.99	C
60-69.99	D
Less than 60	F

I WILL NOT give an individual student separate extra credit at the end of the course to increase their percentage grade. I do not mind correcting honest mistakes so do not hesitate to contact me regarding them, but do NOT ask for special treatment. Do not contact me to request that I “give” you a higher grade: **you earn the grade you receive in this course.**

### Course Point Breakdown

Assignment Description	Points	Point Breakdown
Icebreaker Discussion	5 points	5 points total
Lab Quizzes	105 points	7 total; 15 points each
Lab Reports	240 points	16 total; 15 points each
Performance Art Project	50 points	50 points total
<i>Total</i>	<i>400 points</i>	

## Course Exams and Assignments

### Lab Quizzes

Quizzes will be completed through Canvas (See Canvas and tentative schedule for due dates). Quizzes must be completed in one sitting and completed within the given time allowed. Each quiz will include

true/false, multiple-choice, matching, fill in the blank, and short answer/essay questions. *Quizzes will not be accepted late, no makeups, no exceptions.*

### **Lab Reports**

Each week will have an associated lab report(s). Lab reports are due at the end of each week, unless otherwise informed by the instructor. No late lab reports will be accepted. For detailed instructions on how to access and complete lab reports, see Canvas. Lab reports may be typed up or handwritten.

*Note:* If you choose to hand write your lab report, **DO NOT** submit photos of your report. Photos of lab reports are often too small, blurry, and illegible. If you choose to hand write it, you must scan your report and submit it as a **PDF**. There are phone apps that can utilize you phone camera to create a high-quality PDF scan such as CamScanner. Scans must be quality, legible, and be a single document. **Do not submit each page individually.** Make sure every page is included in order on your scan.

### **Performance Art Project**

Each student will be responsible for completing a performance art project by the end of the course. At the conclusion of the semester, each student will submit a visual infographic based on the instructors posted on Canvas. Detailed instructions (including topics, formatting requirements, rubrics, due dates, etc.) for the assignment are available on Canvas.

### **Participation Standards and Study Expectations**

Professional Behavior is expected at ALL TIMES. Please respect other students and me. Disruptive behavior that interferes with the teaching and learning processes will be cause for appropriate penalties as described under the Reedley College policies.

*How to be Successful in this Course:*

- Read the chapter before you watch the lecture on it. Really, do this! It will make your life easier in this class and solidify your understanding of the topics.
- When you read the chapter, take your own notes. Write down questions when you don't understand something.
- If you should experience difficulty understanding the material presented in the course, it is **your responsibility** to contact me at the earliest possible time. Do not wait until the final weeks of the course.
- This course requires that you become familiar with and understand a great deal of information about the human body. Keep up with both lecture and lab material provided weekly.
- **Listen in lecture and take good notes.** Organize your notes and redo them if necessary, after lecture. **Review your notes frequently, not just before a test.**
- Keep a **vocabulary list of all terms** mentioned in lecture, in bold print in the text, or listed at the end of each chapter. Know the **meaning** of each of these terms.
- **Spend some time studying each day.** You are learning a new language; immerse yourself in it! Review notes for 15-30 minutes at one time. The best way to absorb book chapters is to read for one hour at a time. Don't try to complete your study hours all in one sitting or on the same day, as your efficiency will drop dramatically. Review an additional 3-5 hours a day prior to examinations.

- **Form study groups to work together.** Make your own review sheet or, if you work in a study group, have each person make a review sheet for a chapter and teach each other.
- Use all materials available materials provided to you. If one study method does not work, try another! Use as many ways to access your memory as possible (auditory, visual, kinetic, etc.).
- Stay healthy and get adequate sleep!

## Student Expectations

- Keep up with assignments and lectures. This course is fast paced and requires student engagement and participation.
- This is a 1-unit class (3 hrs./week), you should expect to study an average of at least 3 hours outside of class each week. Some students may need more outside study time and some less. “
- Check Canvas and your Reedley College email regularly, as announcements will be posted periodically.
- If you have questions or confused, email me immediately. Ask questions. All questions related to the course are welcomed.
- Be considerate and respectful to your instructor and classmates at all times.
- Participate actively in class discussions.
- Try different learning tactics. Ask for help when needed.

## Important Resources

- Tutoring services: <https://www.reedleycollege.edu/academics/tutoring-services/index.html>
- Technology Support: <https://www.reedleycollege.edu/campus-life/technology-help.html>
- Health and Psychological Services: <https://www.reedleycollege.edu/campus-life/health-services/index.html>
- Reedley College Library Resources: <https://www.reedleycollege.edu/campus-life/library/index.html>
- Student Services: <https://www.reedleycollege.edu/student-services/index.html>

## Accommodations

Video content included in this course will be closed-captioned. Documents and online pages will meet accessibility requirements. If you have a verified need for other academic accommodations 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

## Subject to Change Statement

This syllabus and tentative schedule are subject to change with notification. If you are absent from class, it is **your responsibility** to check on announcements made while you were absent.

## Tentative Course Schedule

<b>Week</b>	<b>Lab</b>	<b>Assignments/ Quizzes</b>
Week 1	Microscopes and safety lab Biological molecules lab	Icebreaker Discussion Quiz 1
Week 2	Cell structure and function lab Fermentation lab Mitosis lab	Quiz 2 Quiz 3
Week 3	Photosynthesis DNA and protein synthesis lab Genetics lab	Quiz 4
Week 4	Natural selection lab Infectious disease lab Protists lab	Quiz 5
Week 5	Pollination lab Animal diversity lab River lab	Quiz 6
Week 6	Population demography lab Carbon footprint lab Biology Performance Art Project	Quiz 7