

**Course Description**

- **Title:** Biology 10L – Introduction to Life Science Lab
- **Prerequisite or Co-requisite:** Biology 10.
- **Summary:** 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. Field trips may be required. Not open to students with credit in Biology 3.
- Biology 10L is a 1 unit lab class.

<b>SYLLABUS FOR BIOLOGY 10L, INTRO TO LIFE SCIENCE LAB</b>	
<b>(55171)</b>	
Fall 2018	Reedley College
<b>Office Number:</b> LFS Room 13	<b>Instructor Name:</b> Joseph Lin, M.S.
<b>Course Number:</b> 56640; 1 Unit Lab Class	<b>E-Mail:</b> <a href="mailto:joseph.lin@reedleycollege.edu">joseph.lin@reedleycollege.edu</a>
<b>Lab:</b> Wednesday 09:00-11:50AM Life Science, Room 11	<b>Telephone:</b> 559-638-0300 Ext. 3407
<b>Website:</b> To access the course login to <a href="https://sccd.instructure.com/courses/5237">https://sccd.instructure.com/courses/5237</a> using your SCCCD username and password.	<b>Office Hours:</b> Monday Online and upon request Tuesday/Thursday 4:00-5:00 PM Wednesday 2:00-3:00 PM Friday 4:30-5:30 PM

**Learning with Canvas**

Additional course resources including all lecture notes and assignments are available and accessible through the Canvas Learning System. All course announcements, assignments, rubrics, etc. will be available so there should be no confusion on what is expected or how your performance will be evaluated. Check the Canvas site **daily** so that you are aware of any course changes. Accessing online class lecture notes in place of lecture attendance is unacceptable, and will be suitably dealt with on an individual basis. The Canvas Learning System is accessed at <https://sccd.instructure.com/courses/5237>.

**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 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.

**Textbooks: Text:**

- Reedley College Biology Handouts. This can be obtained in the school bookstore.
- E-mail address. This can be obtained free through the school

**Examinations and Major Assignments**

Description	Possible Points
15 Lab Assignments (13 pts each)	225 points
10 Lab Discussion Question (3 pts each)	
17 Lab Quizzes (10 pts each)	170 points
Performance Art Project	50 points
<b>Total points</b>	<b>445</b>

To calculate your grade, total all points earned and divide that number by the total points available (445).

**Grading scale:**

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

At any point you can check your grades on our Blackboard site through the Reedley College homepage:

[www.reedleycollege.edu](http://www.reedleycollege.edu)

**You are encouraged to check this site regularly and keep track of your own grades!**

- *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.

**Professional Behavior is expected at ALL TIMES**

Please respect other student, the laboratory materials, and me. No food, cellular phones, pagers, or profanity at any time! I am aware that emergencies arise, but place your electronics on silent or “manner” mode.

You will be given a Safety Rules sheet to sign in the lab, which delineates further safety procedures that you **MUST** follow. **OTHER COURSES USE THE MODELS AND THE LAB. PLEASE BE RESPONSIBLE.** Do not use pencils to point out structures on the models. Please remember to clean up the lab after every exercise, as areas left dirty or messy at the end of the period will result in those student groups being **docked 5 points** for every offense.

No food or beverages allowed. Cell phone use will not be tolerated in this class; turn off your cell phones prior to class. Students are allowed to do audio recordings of lectures but not video. Web or internet posting of recorded lecture materials are not allowed. Laptops may be used in this class; laptop users should sit in the back row to avoid distracting others.

**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.

**ATTENDANCE AND DROP/ADD POLICY**

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

**Cheating and Plagiarism: I DO NOT TOLERATE CHEATING. PERIOD. Most of you are entering 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 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.

### **Teaching Philosophy and Course Expectations**

Learning new concepts occurs most effectively when it is built on what students *already know*, when students work and *think* like a real scientist, and when they become self-aware of *how* they learn, not just *what* they learn (Donovan, 2005). Learning is a deliberate and conscious decision, one that involves breaking established neural patterns and creating new ones. This can be a frustrating and emotionally draining process for those unused to authentic learning. To best facilitate your growth, my expectations are for you to:

- **Think critically.** This course will develop your critical thinking abilities. People that analyze, infer, evaluate, and make reasoned judgments perform better in college, make better daily decisions, and have greater professional success. Developing critical thinking skill should be a goal of every student in this course.
- **Apply yourself.** Success in this course will require a lot of your time and energy. If you have high learning expectations, that is what you will achieve. Expect to invest significant effort (several hours of study time for each hour of class). Depending on your science background, you may need to spend study time. Attend class regularly, be on time, and budget the time and energy needed to accommodate the workload.
- **Ask questions.** Cell biology is fascinating, and new discoveries are made every day. Ask questions. If you aren't clear on something, there are likely others who are equally unclear on the topic. I expect interactive dialogue during all course meetings.
- **Be informed.** People sometimes use scientific information to manipulate others' behaviors and decision-making in ways not always to your benefit. If you don't understand the scientific basis of an issue, you can't make an informed decision about it. Be curious; try and find out all you can about a topic before you make a choice that may profoundly affect your life.
- **Be respectful.** We will discuss controversial issues in this course. Everyone will respect others' right to express their opinions even if you disagree. Respectful discourse is simple good manners, and is a minimal expectation of every student.
- **Take responsibility.** The level of effort you put in is directly related to your academic and eventual professional success. Whether you choose to do excellent or shoddy work is up to you. I will not disrespect you by giving a grade you did not earn. If you mess up, take responsibility, grow from it, and move on. The best learning comes from making mistakes. This course is designed to help you evaluate and revise poor learning habits.
- **Communicate clearly.** Effective written and oral communication is a sign of an intelligent mind. Clarity, proper format, spelling, and grammar are expected of every student. Don't expect me to evaluate what I can't read or understand.
- **Use common sense.** Don't cheat on assignments or exams, and don't plagiarize others' work – either will result in a zero and the possibility of disciplinary action by the university). Don't bother turning in late assignments, since I won't accept *anything* late unless you have written documentation from an appropriate source or have made prior arrangements with me. If you have a problem that prohibits you from turning something in on time, let me know ahead of time. In all instances, good communication with me will prevent the vast majority of problems.

### **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.

**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.

**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.

**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.

**Students with Disabilities/Special Accommodations: Any student in need of an accommodation due to a disability is encouraged to provide the instructor with their notification of authorized services form from DSP&S and consult with the instructor immediately so that arrangements can be made.**

**X. TENTATIVE SCHEDULE**

<b>Week</b>	<b>Dates</b>	<b>Lab Schedule</b>
1	8/15	Microscope safety/use Letter e slides
2	8/22	Cell Lab
3	8/29	Mitosis Lab
4	9/5	Online Leaf Lab
5	9/12	Protein Synthesis & DNA
6	9/19	Macromolecules Chemistry
7	9/26	Genetics
8	10/3	Dot Game
9	10/10	Disease Lab
10	10/17	River Walk
11	10/24	Pollination Video
12	10/31	Animal Diversity Part I
13	11/7	Animal Diversity Part II
14	11/14	Food Inc.
15	11/21	<b>Pollination Project</b>
16	11/28	Demography Lab Assign Carbon Footprint Worksheet
17	12/5	Carbon Footprint Lab Extra Credit
<b>Finals</b>	<b>12/13</b>	<b>Final Quiz</b>