

# Biology 10 (Biol 10) Introduction to Life Science

<i>Semester: Spring 2022</i>		<i>Reedley Community College</i>
Lecture Instructor: Dr. Christopher Emerling Email: christopher.emerling@reedleycollege.edu		<i>Class No. 52584, 50768</i> Lecture: TR 3:30–4:45 pm Online Synchronous (Zoom)
Office Hours: MTWRF 11:00–11:50 am, LFS 13 Zoom ID: 990 6009 7271 Phone: extension 3134 Can request appointments		
<i>Class Dates: 1/10/22–5/20/22</i>		

## Catalog Description:

This lecture 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. Not open to students with credit in Biology 3. (A, CSU-GE, UC, I)

## Prerequisites:

None, English 1A or 1AH recommended.

## Student Learning Outcomes:

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

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

## Course Objectives:

In the process of completing this course, students will:

1. compare anatomical and physiological features seen in the animal kingdom
2. compare and contrast Eukaryote and Prokaryote cell structure.
3. demonstrate knowledge of evolutionary theory and identify the different mechanisms responsible for biological change.
4. describe energy flow and nutrient cycling within an ecosystem. -consider human impact on natural systems.
5. diagram plant life cycles and identify major plant adaptations.
6. distinguish the processes of transcription and translation and identify their roles in protein synthesis.
7. explain and compare the processes of photosynthesis and cellular respiration.
8. read scientific literature and apply the steps of the scientific method to laboratory research.

9. recognize chemical elements, bonds and properties of water.
10. relate principles of population ecology to the study of the global human population.
11. calculate genetic probabilities based on the principles of Mendelian genetics. -identify human genetic mutations and explain probable causes for their occurrence.

### TENTATIVE SCHEDULE

<b>Week</b>	<b>Lecture</b>	<b>Assignments</b>
Week 1: 1/10–1/14	Lecture 1: Science	
Week 2: 1/17–1/21	Lecture 2: Science cont'd	
	Lecture 3: Science cont'd	
Week 3: 1/24–1/28	Lecture 4: Science cont'd	
	Lecture 5: Molecules	
Week 4: 1/31–2/4	Lecture 6: Molecules cont'd	
Week 5: 2/7– 2/11	Lecture 7: Characteristics of Life	Paper: Choose Topic
	Lecture 8: Characteristics of Life cont'd	
Week 6: 2/14–2/18	Exam 1	
	Lecture 9: Eukaryotes	
Week 7: 2/21–2/25	Lecture 10: Multicellular life	
	Lecture 11: Multicellular life cont'd	
Week 8: 2/28–3/4	Lecture 12: Multicellular life cont'd	
Week 9: 3/7– 3/11	Lecture 13: Evolution	Paper: Choose Research Sources
	Lecture 14: Evolution cont'd	
Week 10: 3/14–3/18	Lecture 15: Ecology	
	Lecture 16: Ecology cont'd	
Week 11: 3/21–3/25	Lecture 17: Prokaryotes, protists	Paper: Outline Due
	Lecture 18: Fungi, plants	

Week 12: 3/28–4/1	Exam 2  Lecture 19: Animals	
Week 13: 4/4–4/8	Lecture 20: Animals cont'd  Lecture 21: Animals cont'd	
4/11–4/15	<b>SPRING BREAK</b>	<b>SPRING BREAK</b>
Week 14: 4/18–4/22	Lecture 22: Humans and life  Lecture 23: Humans and life contd	Paper: Rough Draft Due
Week 15: 4/25–4/29	Lectures 24 & 25: TBD	
Week 16: 5/2–5/6	Lectures 26 & 27: TBD	Final Paper Due (& Presentation for Biol 10 honors)
Week 17: 5/9–5/13	Exam 3	
Week 18: 5/16–5/20	Cumulative Final Week	

### Required Course Materials

- There are no required course materials, but there is an **optional** free textbook available here: <https://openstax.org/details/concepts-biology>

### Technology Requirements

- The web/online portion of this course will occur through Zoom (synchronous lectures) and Canvas. All students must have access to a device with internet access to that allows students to retrieve and complete assignments through Canvas.
- Check Canvas and your Reedley College email accounts regularly (multiple times per week) for announcements.
- If you need access to technology in order to complete your course, please make sure to contact the [Information Center](#) to check out a laptop or other needed technology.

### ATTENDANCE AND DROP/ADD POLICY

Attendance is expected of all students every week in this class. In order to avoid being dropped from this class, you must attend the first day of lecture and/or lab, unless you contact me ahead of time to provide a legitimate excuse for your absence.

Beyond this, I reserve the right to drop students (both enrolled and waitlisted) based on the following policy:

1. Student does not attend the remainder of the first week
2. Student does not attend the second week assignment and does not respond to contact efforts from the professor during the third week

## ASSESSMENTS

Assignment Description	Points
Exams (3)	45% (15% each)
Final Cumulative Exam	15%
Quizzes & Quiz Reflections	10%
Writing Assignment and related activities	30%

The final course grade is based on the traditional scale:

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

**Course grades are non-negotiable.** Instructor reserves the right to adjust individual tests and/or assignments should it be to the benefit to the entire class. Final grades may be adjusted to the benefit of the students, should there be a justifiable reason for doing so. I do not round up grades to the next letter grade given that there are multiple opportunities to boost grades during the course.

## ASSESSMENTS

**Exams** These may be any combination of multiple-choice, true-false, matching, short-answer and essay questions based on the main objectives of each lecture and may be based on words only or may include images. Given that cheating in online courses is pervasive, efforts will be made to ensure that the exam reflects your actual knowledge as opposed to you reading off of your notes or googling answers, including time limits, randomization of questions, etc. Some questions will require critical thinking and cannot simply be searched in your notes or online. Please note that I require spelling and grammar be as close to accurate as reasonably possible; spelling must be at least phonetically approximate, such that it is unambiguous what your answer is. If I can't clearly understand it, I can't give you points it. Lecture Exams will be given online over a 72-hour period to accommodate schedules as reasonably as possible.

**Final exam** This will be comprehensive. Since I am ultimately trying to assess your knowledge when you leave a course, rather than during the middle of a course, this is arguably the best way to do so.

**Writing assignment** You will be writing a paper on an organism of your choice, and your grade will depend on coming up with a topic, finding sources, writing an outline, completing a rough draft, giving feedback to your peers on their drafts, completing a final version of the paper and then creating a visual representation of your topic. **For Honors students enrolled in Biol 10H:** your writing assignment, while

very similar to that of students in Biol 10, will be more extensive in its depth. Details will be provided at a later stage.

**Presentation (Honors students only)** If you are an honors student enrolled in Biol 10H, you will be doing an oral presentation of your topic that you researched for the paper. It will not be live, but rather recorded.

**Quizzes** These will not be traditional quizzes for which you will be graded on the accuracy of your answers. Rather, these will be used to prepare you for the exams by giving you a feeling for the format and helping you to assess your level of knowledge so you know what to focus on before the exam. Furthermore, there will be reflection assignments to help you to evaluate how you're performing on these quizzes.

### **LATE ASSIGNMENTS AND EXAM MAKE-UP POLICY**

Unless otherwise indicated, assignments can be turned in late, but for each day late, I will automatically deduct 10% of the possible points. One "day late" constitutes turning something in within the 24 hours following an assignment due date and time. For example, if an assignment is due on a Monday @ 7:00 pm, any point between Monday @ 7:01 pm and Tuesday @ 7:00 pm, the assignment will lose 10% of the points. This will policy may apply to discussions up to a point, as students that reply to slowly to other students will render certain discussions irrelevant.

Exams can only be made up if the student falls victim to extreme, *documentable* circumstances, and therefore making up the exam will be fully at the discretion of the instructor. A file entitled "Online Exam Make-Up Policy" can be requested by students that wish to read it, and it will be offered to students in such situations.

### **EXTRA CREDIT**

I do not provide extra credit opportunities in a traditional sense. My belief is that you need to learn and complete what we are doing in class, not something beyond the scope of the normal content. However, I do believe strongly in providing the chance to learn from your mistakes and redeem yourself. As such, I do have opportunities to earn back points on certain assessments, as part of my 'redemption' policy.

### **REDEMPTION POLICY**

Students often make mistakes on assignments and exams, whether due to lack of proper studying or personal life crises. However, the way classes are typically structured, any damage done early in the semester can permanently damage a student's standing, such that their grade is irrecoverable. This is problematic from the perspective of learning because it punishes mistakes without rewarding any learning from those mistakes. To correct for this imbalance, I will be providing two forms of 'redemption' in the course: 'exam autopsies' and 'final exam redemption'. Typically, only on the first exam, you will have an exam autopsy in which you will get a chance to earn back points if you reflect on everything you missed. The final exam redemption involves using your final exam score to boost your score on certain previous assessments, should the grade be high enough. The hope is that this incentivizes students to learn from their mistakes and apply their new knowledge on the final exam.

An example of the final exam redemption policy is as follows: if you received a 56% on exam 3, but you received an 86% on the final, your exam 3 score will change to 86%. In other words, if your final exam grade (%) is higher than a qualifying assessment grade, then I will replace that grade with your final exam grade %. More specifics regarding this policy will be given later on in the course.

### **COMMUNICATION POLICY**

The best way to get ahold of me it to send me a direct message through Canvas. The second best way is to email me at [christopher.emerling@reedleycollege.edu](mailto:christopher.emerling@reedleycollege.edu). Don't know how to send a message in canvas? Check out this quick guide [How to send a message in canvas](#).

- Please allow a 24hr response time on business days (Mon-Fri). I tend to be very prompt with my email responses, however, there are times when it may take me up to 24hrs to respond. As a rule, I try to prioritize messages and e-mails that require an immediate response over those that are less urgent, so please indicate if the message is urgent. If you do not receive a response from me after 24hrs then please double check that you have contacted me correctly (e.g., was it the correct email address?), and then try both Canvas messages and e-mail.
- Emailing and messaging can be used 24/7. If I expect to be away from my computer for any significant length of time, you will be notified in advance.

## OFFICE HOURS

Office hours are a great chance to meet one-on-one with your instructor, so you can get extra clarification on concepts that you have found difficult, practical advice on studying, additional context for completing assignments, and otherwise general support in the course. You can stop by my office directly during these hours, but if you cannot make it in person, I can jump onto Zoom and chat with you. My office hours office number, the Zoom ID and are posted on the first page of this syllabus. Office hours likely will not be posted in the first week but will be posted as soon as I have all the information I need to schedule them.

## CANVAS

All lecture videos, lecture slides, quizzes, and other lecture assignments will be located on Canvas, which you can access here: <https://sccd.instructure.com/login/ldap>. Please turn on e-mail notifications for Announcements in Canvas as well or check them regularly (i.e., at least once a day).

## DROPPING THE COURSE

It is the student's responsibility to drop themselves from the course, not the professor. Here are some important dates, derived from the [Reedley College Academic Calendar](#):

**January 21<sup>st</sup>**: last day to drop for full refund

**January 28<sup>th</sup>**: last day to drop to avoid a "W" in person; last day to Add in person

**January 30<sup>th</sup>**: last day to drop to avoid a "W" on WebAdvisor; last day to Add on Webadvisor

**February 11<sup>th</sup>**: last day to change to/from Pass/No Pass grading basis

**March 11<sup>th</sup>**: last day to drop, letter grades assigned after this date

## TUTORING

We may have a tutor embedded in our course this semester. The tutors are former, successful students who understand the material well, know how to study for the class and can help you succeed. I highly recommend most students to receive tutoring, even students who tend to do reasonably well. Students that are getting tutored are not 'less than' others who don't go to tutors. I received tutoring when I was in college (calculus and physics), and this tutoring helped me enormously to succeed in those classes.

## COLLEGE POLICIES

The university has several policies that you will be expected to adhere to in my course. The policies on **Disabled Students Programs and Services, Student Conduct Standards, Academic Dishonesty**, and the **Computer/Network Equipment Use Policy**, portions of which are below, can all be found in the Reedley College Catalog.

**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 that 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 entirely honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences." Reedley College Catalog. In an online classroom, academic dishonesty can manifest as copying other students' work, sharing answers on exams and much more. When you cheat, not only do you defraud the college, but you devalue your education and the education of others by weakening the integrity of our institution. Furthermore, in my experience, cheaters almost never succeed at their career goals, so don't ruin your opportunity to learn!

Please see the Student Conduct Standards and Grievance Procedures Handbook available in the Vice-President of Student Services office, or at the links listed below.

Student Conduct Standards: <https://www.reedleycollege.edu/about/about-us/policies-and-procedures/student%20conduct%20standards.html>

Grievance Procedures: <https://www.reedleycollege.edu/about/about-us/policies-and-procedures/grievance-procedures.html>

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

### **DIVERSITY STATEMENT**

Diversity is not only a fact of life but, to me, it is one of life's most beautiful traits and greatest strengths. My goal is for all students from all backgrounds and perspectives to be able to succeed, thrive and feel valued in my courses. My valuing of diversity encompasses gender, sexual identity, disability and health status, age, socioeconomic status, religion, philosophy, ethnicity, race, and culture. If you believe that my course and/or my instructional techniques are in any way invalidating your group identity or are in some way hampering your ability to succeed, please let me know so that I can address any concerns you have.

### **FINAL NOTES**

Every syllabus represents the intended roadmap and structure of the course, but due to unforeseen events and/or feedback during the semester, adjustments may be necessary. This is a reminder that some details described in this syllabus or potentially subject to change at the discretion of the instructor, but he will inform you as promptly and clearly as possible as to the reasoning for any changes.

Student Learning Outcomes are statements about what the discipline faculty hope you will be able to do at the end of the course. This is NOT a guarantee: the ultimate responsibility for whether you will be able to do these things lies with you, the student. In addition, the assessment of Student Learning Outcomes is done by the department in order to evaluate the program as a whole, and not to evaluate individual faculty performance.