



Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: <https://catalog.uvu.edu/>

Semester: Spring

Course Prefix: BIOL

Course Title: General Biology

Year: 2025

Course and Section #: 1010 Section 015

Credits: 3

Course Description

Introduces major themes and concepts of biology including cell and molecular biology, genetics, diversity, evolution, and ecology. Provides students with necessary information and skills to critically evaluate what they hear, read, and see in the living world; communicate clearly; and apply methods to interpret data for making informed decisions concerning the role of biology in a world of which they are a part. May be delivered online

Course Attributes

This course has the following attributes:

- General Education Requirements
- Global/Intercultural Graduation Requirements
- Writing Enriched Graduation Requirements
- Discipline Core Requirements in Program
- Elective Core Requirements in Program
- Open Elective

Other: *Click here to enter text.*

Instructor Information

Instructor Name: Michael C. Rotter

Student Learning Outcomes

- 1 Distinguish the process of science from other ways of understanding the world.
- 2 Evaluate evidence to solve problems using scientific thinking.
- 3 Apply scientific literacy to issues of today, such as evolution, human population growth, genomic medicine, climate change, GMOs, vaccination and disease, ecosystem health and conservation, among others.
- 4 Explain evolution as the cornerstone of modern biology, uniting the main topics of cell, molecular biology, genetics, organismal biology, and ecology.

5 Apply knowledge of the interconnectedness of all life and the environment to personal attitudes and actions concerning the health of this planet

Course Materials and Texts

Concepts of Biology <https://openstax.org/details/books/concepts-biology>

Losos, J. B., & Lenski, R. E. (Eds.). (2016). *How evolution shapes our lives: essays on BIOLOGY and society*. Princeton University Press.

Course Requirements

Course Assignments, Assessments, and Grading Policy

Grading Scheme

A: 94%, A-: 90, B+: 86, B: 83, B-: 80, C+: 76, C: 73, C-: 70, D+: 66, D: 63, D-: 60, E: below 60

Assignments as percentage of overall grade:

Problem Sets.....	30%
Exams	25%
Quizzes.....	20%
In class assignments.....	20%
Professionalism.....	5%

Problem Sets (30%)

Over the course of the semester there will be 4 problem sets. These problem sets will consist of a series of essay questions and require a strict formatting method (this will allow me to grade them quickly) as well as a plagiarism check. Problem sets are designed to evaluate your knowledge of the course material and your ability to synthesize this material and apply it to “real world” situations. Students will be given a few days to complete these in their own time and are open note and open book.

Exams (25%)

There will be 3 exams throughout the semester. Exams will cover everything from the class up to the point of the exam. The final exam is comprehensive. These exams will draw heavily from the readings.

All exams are open book and open note and do not have to be completed in class. However, students should be very familiar with the material and study before the exams as the questions are designed for the student to reason through a series of problems. The exams will generally be multiple choice, fill in the blank, and matching.

Quizzes (20%)

Roughly, once a week, we will have an open book, open note quiz. These quizzes will focus mostly on the reading from the course and cover all the material up to these quizzes. They will be structured like the exams being open note, open book and consisting of multiple choice, fill in the blank etc... The goal of these will be to allow students to monitor their progression with the course.

In Class and Other Assignments (20%)

Typically, on Fridays we will be doing in class discussions or activities. Participation and completion of these activities will be scored. Students need to make sure to be prepared and ready to fully engage in

these assignments. Typically, these will be announced beforehand but occasionally they might be given with little warning. There will also be a few other assignments that I wasn't sure what category to stick in, they will be here.

Professionalism (5%)

Asking questions, completing reading, showing up (online or in person), and treating your peers with respect are all important aspects of being a good biologist and citizen. I will consider these broad categories into the final grade. All students start out with all points and may be deducted at my discretion.

Required or Recommended Reading Assignments

See Below

General Description of the Subject Matter of Each Lecture or Discussion

Daily Schedule – Schedule is subject to change. Days highlighted in blue are days that have in class discussions or activities. CB is from *Concepts of Biology*, HESOL is from *How Evolution Shapes Our Lives*. Numbers after are the chapters you should read.

Date	Topic	Reading	Assignments Due
1.6	What is Science?		
1.8	How do you do science?	CB: 1 HESOL: 1	
1.10	...and science says? Science and the popular mind	Why you must not do your own research HESOL: 19	Quiz #1, Late Policy Discussion Board
1.13	What is life?		
1.15	What are cells?	CB: 3	
1.17	One or two? Biological Individuals	HESOL: 22	Quiz #2
1.20	MLK Jr Day (No Class)		
1.22	What is metabolism?	CB: 4	
1.24	Fermentation Station		Quiz #3
1.27	How do I fuel my body?		
1.29	Why do we eat plants?	CB: 5	
1.31	RuBisCO problems		Quiz #4
2.3	Is life out there? Astrobiology		
2.5	Exam and Problem Set 1 Review		
2.7	Exam and Problem Set 1		Exam 1, Problem Set 1
2.10	What is DNA?	CB: 6	
2.12	What does DNA do?	CB: 9	

2.14	GMOs in our society?		Quiz #5
2.17	Presidents Day (No Class)		
2.19	How are genes inherited?	CB: 8 HESOL: 12	
2.21	Genetics family tree case study?		Quiz #6
2.24	What is evolution?	CB: 11 HESOL: 2	
2.26	How does evolution work?		
2.28	UCUR – Dr. Rotter gone (No Class)		Quiz #7
3.3	How do we get new species?		
3.5	Do humans evolve?	HESOL: 3	
3.7	Humans, evolution, and society	HESOL:17 and 18	Quiz #8
3.10- 3.14	SPRING BREAK		
3.17	Why do we get sick?	CB 16 and 17 HESOL: 9 and 10	
3.19	How do we stay healthy?	HESOL: 8	
3.21	Keeping us healthy? Human health and society		Quiz #9
3.24	How do medicine and vaccines work?	HESOL: 7	
3.26	Exam and Problem Set 2 Review		
3.28	Exam and Problem Set 2		Exam 2, Problem Set 2
3.31	Why are there so many organisms?	CB 19	
4.2	How do organisms live with each other?	CB 21 HESOL: 15	
4.4	Friendly neighbors?		Quiz #10
4.7	What are earths climates?		
4.9	How do we know climate change is happening?	HESOL: 16	
4.11	What can we do about climate change?		Quiz #11
4.14	What other questions do you have about biology?	HESOL:23	
4.16	Exam and Problem Set 3 Review		
4.18	Exam and Problem Set 3		Exam 3, Problem Set 3
4.21	Final Review Day		
4.23	Interim Day (No Classes)		
4.28	Final Exam Day 9-10:50am – Problem Set 4		Problem Set 4

Required Course Syllabus Statements

Generative AI

Click here to enter text.

Using Remote Testing Software

This course does not use remote testing software.

This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities

Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU [Accessibility Services](#) at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity

At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their [rights and responsibilities](#). In each course, they are responsible for knowing the requirements and restrictions regarding research and

writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in [UVU Policy 541: Student Code of Conduct](#).

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.

To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a [specially dedicated space](#) for meditation, prayer, reflection, or other forms of religious expression.