

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: Principles of Evolution (WE)

Year: 2025

Course and Section #: 4500-002

Credits: 3

Course Description

Evolutionary biology seeks to understand the processes that have led to the extraordinary diversity of life forms on earth. This course focuses on the concepts of evolution as a fundamental principle of biology. Emphasizes the mechanisms and explanations of the tremendous diversity of life. Studies classical, molecular and current explanations of evolution in the background of current techniques and understanding of the genetic processes. Examines the principles of evolution and the various aspects of natural selection and speciation.

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: Dr. Jessica A. Cusick

Student Learning Outcomes

1. Discuss classic literature and historical figures on the subject of evolutionary biology.
2. Identify misconceptions of evolution in popular culture
3. Explain the molecular and genetic basis for evolution.
4. Explain the concepts of microevolution including natural selection, the genetics of populations, and sources of variability.
5. Comprehend the mechanisms of evolution: natural selection, migration, genetic drift, mutation, and nonrandom mating.
6. Apply Hardy-Weinberg calculations to various populations.
7. Describe the mechanisms of speciation and origin of new species.
8. Explain how the fossil record relates to current views on evolution.
9. Analyze evolutionary trends demonstrated by phylogeny.

10. Investigate the course of evolution in prokaryotes and eukaryotes, including major groups of plants, animals, with emphasis on hominins.
11. Discuss, write about, and present on various evolutionary topics in biology.

Course Materials and Texts

Evolution 3rd Ed by Bergstrom and Dugatkin and supplemental readings and videos
 Laptop with webcam and microphone
 Internet access
 Calculator if needed

Course Requirements

Course Assignments, Assessments, and Grading Policy

Unit Exams (32% of grade)
 Assignments (10% of grade)
 Evolution Project (33% of grade)
 Literature Critique (10% of grade)
 Discussion Board Participation (10%)
 In-Class Quizzes and In-Class Activities/Participation (5% of grade)

Required or Recommended Reading Assignments

Evolution 3rd Ed by Bergstrom and Dugatkin and supplemental readings and videos changed as needed

General Description of the Subject Matter of Each Lecture or Discussion

Week	Topics
1	Introduction to course/Nature of Science (Ch1) Nature of Science/What is Evolution and why Study it?
2	History of evolutionary Biology/ Darwin (Ch 2) Darwin/Patterns and Evidence of Evolution (Ch 2)
3	Evidence of Evolution Natural Selection and Adaptation (Ch 3)
4	Natural Selection and Adaptation Inferring Evolutionary Relationships (Ch 4)
5	Inferring Evolutionary Relationships (Ch 5) How to Study Evolution (Sherman 1988)
6	Speciation Part 1 (Meyer 1996; Ch 14) Speciation Part 2 (Meyer 1981; Ch 14)
7	Exam 1 Sources of Variation (Ch 6)
8	Sources of Variation Part 2 Fundamental Population Genetics (Ch 7 and 8)
9	Fundamental Population Genetics (Ch 7 and 8)

	Fundamental Population Genetics (Ch 7 and 8)
11	Fundamental Population Genetics (Ch 7 and 8)
	Fundamental Population Genetics (Ch 7 and 8)
12	Sexual Selection (Ch 16 and supplemental paper) Sexual Selection (Ch 17 and supplemental paper)
13	Social Behavior (Ch 19)
	Evolution of Social Behavior (Ch 19)
	Social/Behavior/Human Evolution (Ch 19)
	Human Evolution
14	Human Evolution Exam 2
15	Poster
16	Final Presentation

Grading scale:

We will follow this standard grading scale:

A	94 - 100%	A-	90 - 93%		
B+	87 - 89%	B	83 - 86%	B-	80 - 82%
C+	77 - 79%	C	73 - 76%	C-	70 - 72%
D+	67 - 69%	D	63 - 66%	D-	60 - 62%
E	<60				

Standard rounding rules will be followed for grade determination

Required Course Syllabus Statements

Generative AI

The use of generative AI tools is **not** permitted in this course. Any form of artificial intelligence or other websites that are designed to produce/summarize written work is not permitted in this class. Students are expected to write all responses in their own words without the assistance of artificial intelligence or other related programs.

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.