Master Course Syllabus

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

Semester: Spring
Year: 2025
Course Prefix: BIOL
Course and Section #: 3700-001
Course Title: General Ecology
Credits: 3

Course Description

Introduces the relationships between organisms and their environment, including processes at the individual, population, community, ecosystem, and biosphere levels. Includes specific topics such as adaptation to abiotic factors in terrestrial and aquatic habitats, global climate patterns and biomes, evolution of life histories, reproductive strategies and social behaviors, population distributions and dynamics, species interactions, community structure and succession, energy flow and nutrient cycles in ecosystems, global biodiversity, and the impact of humans on ecological processes.

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. Paul Dunn

Student Learning Outcomes

1) Identify the levels at which ecology can be studied and the questions that can be addressed at each level.
2) Describe the abiotic challenges organisms face in aquatic and terrestrial habitats and the adaptations they have evolved to cope with these challenges.
3) Differentiate between the characteristics of earth's terrestrial and aquatic biomes as well as the processes that contribute to their formation.
4) Describe the characteristics of a population's distribution and its dynamics through time.
5) Explain how evolutionary processes have led to distinct life-history, reproductive, and social traits and strategies.
6) Contrast the different types of species-species interactions and the characteristics of each.

7) Describe how ecological communities develop, persist, and change through time.
8) Examine the flow of energy through ecosystems, the cycling of vital nutrients within ecosystems, and the impacts that humans have on these processes.
9) Discuss ways in which biodiversity can be valued and the role humans have in causing or avoiding loss of this biodiversity.

Course Materials and Texts

Ecology: The Economy of Nature (8th Edition) by Rick Relyea & Robert Ricklefs, W.H. Freeman 2018.

Course Requirements

Course Assignments, Assessments, and Grading Policy

Lecture Exams: I'll check for comprehension of course concepts using three midterm exams and one comprehensive final exam. Exams will consist of multiple choice, short answer, and free response questions. You will take these exams online using Proctorio. I will post instructions on how to do this on Canvas. All of the exams will be **open book/open note** and **timed**. Limit your sources to course materials only (no Google searches, phoning a friend, etc.). Students should also have all their exam materials (notes, PowerPoint slides, etc.) ready BEFORE they begin the exam. Proctorio does NOT allow students to download material during the exam and will kick you out if you try, which wastes valuable time as you try to get back in. Exams missed due to an **excused absence** may be made up at my discretion.

Reading Quizzes: To help students make sure they are getting what they need out of their assigned readings, I offer ten reading quizzes on Canvas during the course of the semester. Each quiz may be taken up to **three** times, with the recorded score being the **average of all attempts**. Please complete all quizzes individually. I'll give you a full week to complete each quiz, so make sure to complete it during that window.

Ecology in the News: Each student will discover current research in ecology by producing four reports about ecology-related stories they come across from reputable news outlets (e.g. npr.org, phys.org, sciencedaily.com). Each report should cite the **news article** as well as the **original** source(s) for the information. The original source should be a scientific journal article (also called a research article or peer-reviewed article). To find the original source, look for where news stories will say things like "according to a paper recently published in the journal *Nature*…" followed by a link or a citation or "journal reference" at the end of the news article. In addition to these citation(s), each report should include a short summary of the story (no less than 200 words) **in the student's own words** (plagiarism or using AI to write for you can result in a 0). Submit your completed assignments to Canvas on or before the posted deadlines to receive full credit. I've posted an example and a rubric on Canvas to help you get started.

Research Proposal: We need students like you to come up with bold new ideas on how to improve our knowledge of how ecological systems work. We also need to know how to critically assess another scientist's ideas. To help you practice these important skills, I ask each student to write a

research proposal outlining an ecological question the student would like to answer if he/she had the resources to do so. The proposal need not be long (minimum of two pages, double-spaced), but it must clearly outline the student's research question, explain why the question is of interest, provide citations of at least **5 scientific research articles from scientific journals** (not news articles, websites, textbooks, etc.) that relate to the proposed project, and briefly explain the procedure the student would follow to test his/her hypotheses regarding the question. There is a module on Canvas with more information regarding this assignment including a grading rubric, an example proposal, and a video teaching students how to find the correct kinds of research articles.

Participation: I've been teaching long enough to learn a few things about participation. First, I've learned that attendance in lecture helps students learn AND earn better grades. For this reason, I strongly recommend that you attend all offered lectures in this class, and I promise to make an effort to make each class interesting. To help you help yourself, I require attendance and will take roll **every class period** during the semester (for a total of 28 points). One "freebee" absence is permitted, but each additional absence will result in a deduction of 1pt from your participation grade. If you have a university-excused or medical reason for missing class (e.g. you are sick), you need to **communicate** that to me to be excused for the day. Second, I've learned that discussing ideas and concepts with others helps us to learn and understand them better. For this reason, I ask each student to participate in **SIX virtual discussions** with their classmates. These discussions will be about six scientific research articles I have selected for us to critically read and respond to found in the Discussions tab on Canvas. To earn full points, you need to **respond to the article in a thoughtful way** (e.g. what did you learn, what questions did the study answer, what were the authors' hypotheses, how did they gather and analyze their data, do you agree with their conclusions, etc.) and then **respond to at least two of the responses & questions of other members** of your discussion group in respectful ways. Don't procrastinate on this or the discussion won't be as good.

Grade Breakdown

		Grading Scale (%)			
Midterm Exams (3 x 100)	307pts	A	94 and above	C	75.9-73
Final Exam	150pts	A-	93.9-90	C-	72.9-70
Quizzes	105pts	B+	89.9-86	D+	69.9-66
News Reports (4 x 10)	40pts	B	85.9-83	D	65.9-63
Research Proposal	75pts	B-	82.9-80	D-	62.9-60
Participation	52pts	C+	79.9-76	E	59.9 and below
Total	**729pts**				

Required or Recommended Reading Assignments

Relyea Textbook: Ch. 1-23

General Description of the Subject Matter of Each Lecture or Discussion

Intro to Ecology
Aquatic Environments
Terrestrial Environments
Variable Environments

Climates & Soils
Biomes
Evolution & Adaptation
Life Histories
Reproductive Strategies
Social Behaviors
Population Distributions
Population Dynamics
Predation & Herbivory
Parasitism
Competition
Mutualism
Communities & Succession
Ecosystems & Energy
Ecosystems & Elements
Landscape Ecology
Global Biodiversity & Conservation Strategies

Required Course Syllabus Statements

Generative AI
Artificial Intelligence programs are not a replacement for your human creativity, originality, and critical thinking. Writing, thinking, and researching are crafts that you must develop over time to develop your own individual voice. At the same time, you should learn how to use AI and in what instances AI can be helpful to you.

The use of generative AI tools (e.g. ChatGPT, Google Bard, etc.) is permitted in this course for the following activities:

- Brainstorming and refining your ideas;
- Fine tuning your research questions;
- Finding information on your topic;
- Drafting an outline to organize your thoughts; and
- Checking grammar and style.

The use of generative AI tools is not permitted in this course for the following activities:

- Impersonating you in classroom contexts, such as by using the tool to compose discussion board prompts/responses assigned to you or content that you put into a Teams/Canvas chat.
- Writing entire sentences, paragraphs or papers to complete class assignments.
- Finding answers to quiz or exam questions.

You are responsible for the information you submit based on an AI query (for instance, that it does not violate intellectual property laws, or contain misinformation or unethical content). Your use of AI tools must be properly documented and cited in order to stay within university policies on academic honesty.

Any student work submitted using AI tools should clearly indicate what work is the student's work and what part is generated by the AI. In such cases, no more than 25% of the student work should be generated by AI. As stated above, in cases of misuse of AI, I reserve the right to give you a **zero for the assignment** and report the incident to the Office of Student Rights and Responsibilities. If any part of this is confusing or uncertain, please reach out to me for a conversation before submitting your work.

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.