



Evolution & Ecology

BIOL 320 - Fall 2025

Instructor	Dr. John R. Taylor
E-mail	taylorjr@suu.edu
Course Meeting Days and Time	Tuesday & Thursday 2:30-5:00 pm in the MuR/SLAB
Office Hours	Email for Appointment (Generally MW 12-2:00 pm; TR 1-2:30 pm)
Office Location	Harlaxton Manor
Office Phone	N/A
Course Mode	In-Person
Lab Fee	\$50

Catalog Description:

Introduces principles and concepts of evolution and ecology, with emphasis on the intricate and intrinsic relationship between these disciplines. Examines mechanisms of evolutionary change and interactions of organisms, populations, and communities of organisms within their environment. Addresses how these interactions occur, what effects they have on the functioning of natural communities, and how they influence the evolution of populations and species. Three hours lecture, three hours lab. Prerequisites: BIOL 118 with a grade of C- or better.

Credit Hour Policy Statement:

Combination of standard lecture and other academic activities:

“This class meets the federal credit hour policy through a combination of lecture + laboratory (or lecture + practicum) for a total of 45-75 hours of supervised learning activities for each credit.”

Course Learning Objectives:

Understand Mechanisms of Evolutionary Change:

Students will be able to explain the key mechanisms driving evolutionary change, including natural selection, genetic drift, gene flow, and mutation, and evaluate their roles in shaping biodiversity.

Analyze Ecological Interactions:

Students will demonstrate the ability to analyze interactions between organisms, populations, and communities, including competition, predation, mutualism, and their impact on ecological balance.

Integrate Evolutionary and Ecological Concepts:

Students will synthesize evolutionary and ecological principles to interpret how environmental factors influence the evolution of species and the structure and function of ecosystems.

HARLAXTON



Evaluate Case Studies:

Students will apply knowledge of evolution and ecology to evaluate real-world case studies, such as the impact of invasive species, habitat loss, or climate change on natural populations and ecosystems.

Methods of Instructions:

A combination of in-class discussion, group work, in-class activities, lectures, and laboratory exploration.

Textbooks and Required Reading:

- Openstax, Biology 2e. [Download for free](#)
- Quammen, D., & Gardner, G. (2006). *The reluctant Mr. Darwin: An intimate portrait of Charles Darwin and the making of his theory of evolution.*

Course Schedule:

WEEK 1

Discussion: Course Intro and Intro to Ecology

Discussion: Intro to Evolution

Activity: What is Science?

WEEK 2

Discussion: The Myths of Science

Discussion: Misconceptions of Evolution

Activity: Undivided Attention

WEEK 3

Discussion: Formation of New Species

Discussion: Reconnection and Speciation Rates

Activity: The Problem with Classification

Find-A-Paper: Recent changes in classification

WEEK 4

Quiz: Chapter 18—Bring completed to class.

Discussion: Population Evolution

Discussion: Population Genetics

Activity: Hardy-Weinberg—Large Populations

WEEK 5

Discussion: Adaptive Evolution

Activity: Natural Selection with Dots

Activity: Jelly Beans and Migration



Find-A-Paper: Evidence of Evolution through Hardy-Weinberg Principles

WEEK 6

Quiz: Chapter 19—Bring completed to class

Discussion: Phylogenies, Determining Evolutionary Relationships

Quiz: Chapter 20—and Prep for Mid-term Exam

WEEK 7

Exam #1: Chapters 18-21

Discussion: The Reluctant Mr. Darwin

WEEK 8 MID-TERM BREAK No Classes

WEEK 9

Discussion: The Scope of Ecology and Biogeography

Activity: Biogeography Ping Pong

WEEK 10

Discussion: Ecosystems

Activity: Nature Journaling—Scale--(Let's Get Outside)

WEEK 11

Discussion: Biomes

Discussion: Climate and the Effects of Climate Change

WEEK 12

Quiz: Chapter 44--Bring completed to class

Discussion: Population Demography & Life Histories

Discussion: Population Limits, Dynamics and Regulation

WEEK 13

Activity: Research Methods (Mark/Recapture and Quadrats)

Activity: Species Distribution Patterns

Activity: Demography-- The Local Cemetery

WEEK 14

Discussion: Population Dynamics and Regulation

Discussion: Community Ecology

Quiz: Chapter 45—Bring completed to class



WEEK 15

Exam #2: Final Exam

Get Involved: Due

Information contained in this syllabus, other than the grading, late assignments, make-up work, and attendance policies, may be subject to change with advance notice, as deemed appropriate by the instructor.

Grading Criteria:

UNIT EXAMS (50% of Grade)

Two tests will consist of approximately 50-70 questions (M.C., short answer, T/F and matching) equally covering all chapters discussed within the designated time period. Questions are based upon concepts also covered in readings and quizzes. The date and time of these exams are listed below in the course outline and plans should be made well in advance to be in attendance. **There are no exceptions for missed tests.** Tests cannot be taken late, though arrangements can be made to take a test early. It is your responsibility to make these arrangements and I reserve the right to deny your petition.

ACTIVITIES (25% of Grade)

Each week you will be engaged in class activities. These are meant to be group activities and they cannot be made up if missed.

FIND-A-PAPER (15% of Grade)

You will receive 4 reading assignments spread out through the course. Each article must be thoroughly read and digested. Once confident with the material, you must write a POM (Point of Most Significance).

GET INVOLVED (10% of Grade)

You're living at Harlaxton Manor, hopefully spending a semester abroad exploring. Make one of those explorations to something that is science (especially biologically) based. A museum? An aquarium? Get creative and get involved in something new and science-y. Write a short paper describing what you did and a reflection of what you learned.

A=93%, A- =90%, B+ =87%, B=84%, B- =80%, C+ =77%, C = 74%, C- =70%, D+ =67%, D =64%, D- =60%

Withdrawal and Attendance policies:

Harlaxton College expects regular class attendance by all students. Students are considered sufficiently mature to appreciate the necessity of regular and punctual attendance, to accept this personal responsibility and to accept the consequences of failure to attend. When absences occur due to emergency or medical



reasons, students are expected to notify their instructors of the absence prior to class or to seek the assistance of the College nurse or a member of the Student Experience Team for help in notifying instructors.

Instructors have the authority to grant excused absences for medical, psychological, or personal reasons upon review of appropriate documentation and professional recommendation supporting such a request. In the event of long-term illness, reasonable accommodations will be made to allow a student to complete a course. In these cases, the Dean will need to approve the long term nature of the accommodation.

The Dean of Harlaxton College has the authority to grant excused absences for medical, psychological, or personal reasons.

Each instructor is expected to maintain an attendance policy in keeping with the nature of the Harlaxton program and may consider it in evaluating performance in their courses.

Policy Governing Unexcused Absences:

Harlaxton College operates an attendance policy that is binding on all faculty and students. The number of unexcused absences that are allowed before incurring a penalty is related to the number of times a class meets each week. For courses which meet three times a week, students are allowed a maximum of three unexcused absences during the semester without attracting penalty points. For courses meeting twice a week two such absences are permitted, and for courses meeting once a week a single absence is allowed. More than two unexcused absences will attract a grade penalty of third-letter grade penalty (A- would drop to a B+, and so forth, for each additional absence).

Policy Governing Excused Absences.

- Excused absences are not given to facilitate student travel independent of College-sponsored travel.
- Students may be permitted to miss class because of participation in academic field trips.
- Instructors must co-ordinate and confirm academic fieldtrips with the Dean, prior to the commencement of the Semester to ensure their inclusion in the Semester timetable.

- Where authorization for an academic fieldtrip is requested after the commencement of the semester, the request must be submitted to the Dean.

The following information is required:

- Purpose and brief description of the official Harlaxton event or academic fieldtrip.
- Dates, location, and times (as applicable).
- Alphabetical list of students involved [Last Name/First Name] along with their student identification number.

If approval is granted:

- Instructors affected will be notified at least one week prior to the class period during which absence is anticipated, or as soon as possible.
- Missed class time due to student participation is to be considered an excused absence.
- The grade of a student may not be lowered in any class due to excused absences.



- It is the student's responsibility - to take the initiative by consulting with their instructors before the absence occurs, and - to do what is required by the instructor to make up all missed assignments and/or examinations.
- Instructors are required to assist students in these occasional situations of excused absences.

Honor Code:

All students at the University of Evansville agree to the University honor code: *I will neither give nor receive unauthorized aid, nor will I tolerate an environment that condones the use of unauthorized aid.*

AI may be used only with prior permission or direction by the instructor.

- All work submitted in this course must be your own.
- The use of generative AI composition tools, such as those offered by ChatGPT, Google Bard etc. is prohibited in this course except for specific assignments and subject to the instructor's guidelines.
- Work generated by such tools without proper attribution is plagiarism and, thereby, a breach of the University's Plagiarism and Academic Honesty policy.

Disability Policy:

It is the policy and practice of the University of Evansville to make reasonable accommodations for students with properly documented disabilities. Students should contact Disability Services within the Office of Counseling Services by calling 812-488-2663 to seek services or accommodations for disabilities. Written notification to faculty from Disability Services is required for academic accommodations.

The University of Evansville Disability Services office will share the request for academic accommodations with the Academic Support team at Harlaxton College. Staff members at Harlaxton will meet individually with students to discuss needs and provide additional information related to examinations or other assessments.

Students from partner institutions should provide the appropriate letter of accommodation from their institution to the Academic Support team at Harlaxton College.



Non-Discrimination Statement

The University of Evansville expects all members of its community to treat each other with respect and civility. Harassing behaviors directed towards any member of our community will not be tolerated. As part of its commitment to non-discrimination, the University specifically prohibits harassment based on any other characteristics set forth in its nondiscrimination statement as follows: including race, color, gender, gender identity and expression, sexual orientation, creed or religion, national origin, age, disability, veteran status and all federally protected groups/classes. Any form of harassment undermines the mission of the University and negatively impacts the University community as a whole.

Prohibited Conduct and Confidentiality

The University of Evansville is committed to fostering an atmosphere free from harassment and discrimination. This commitment includes identifying problems that may lead to sexual harassment and misconduct, as well as other forms of harassment and discrimination, by creating an atmosphere in which the entire University community is sensitive to preventing prohibited conduct. Additionally, the University is committed to providing support and resources to individuals who have experienced prohibited conduct. This commitment includes effectively responding when a student, visitor, guest or program participant is the victim of prohibited conduct.

All campus employees, students, and guests are required to abide by the Title IX and Other Sexual Harassment and Misconduct Policy, the Harassment and Discrimination Policy, and the Consensual Sexual or Romantic Relationships Between Employees and Students Policy. Violation of these policies could result in disciplinary action, up to and including expulsion for students and termination for employees.

Faculty members at the University of Evansville are considered “Responsible Employees” under the applicable federal guidelines and the University’s policies. This means that I am unable to offer you confidentiality if you report any incidence of prohibited conduct to me as defined by Title IX statute. If I am made aware of a violation, I am required to report any known information to the Office of Institutional Equity.

You may choose to report the violation yourself the following ways:

Email: · Annie Sills, Assistant Director of Institutional Equity and Title IX Coordinator:

cs175@evansville.edu ·

Keith Gehlhausen, Executive Director of HR and Institutional Equity: kg77@evansville.edu ·

Title IX: titleix@evansville.edu

Phone: 812-288-5261

Online: <https://www.evansville.edu/safety/report.cfm>

You may also choose to speak with a Confidential Resource. Confidential Resources are required to maintain confidentiality and cannot report violations to the Office of Institutional Equity:

University of Evansville



- Counseling Services: counselingservices@evansville.edu, 812-488-2633
- Health Center Professionals: healthcenter@evansville.edu, 812-488-2033
- University Chaplain: chaplain@evansville.edu, 812-488-5262

Harlaxton College

- College Nurse: Lesley Selby, RGN, +44 01476 403027, lseyby@harlaxton.ac.uk
- Counselling Services: counselling@harlaxton.ac.uk