
Term Information

Effective Term Autumn 2026

General Information

Course Bulletin Listing/Subject Area Evol, Ecology & Organismal Bio
Fiscal Unit/Academic Org Evolution, Ecology & Org Bio - D0390
College/Academic Group Arts and Sciences
Level/Career Graduate
Course Number/Catalog 7010
Course Title Principles of Evolution
Transcript Abbreviation Princ Evolution
Course Description A discussion-based course focusing on classic and current literature in evolutionary biology.
Semester Credit Hours/Units Fixed: 3

Offering Information

Length Of Course 14 Week
Flexibly Scheduled Course Never
Does any section of this course have a distance education component? No
Grading Basis Letter Grade
Repeatable No
Course Components Seminar
Grade Roster Component Seminar
Credit Available by Exam No
Admission Condition Course No
Off Campus Never
Campus of Offering Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites No specific prerequisites.
Exclusions
Electronically Enforced No

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code 26.1310
Subsidy Level Doctoral Course
Intended Rank Masters, Doctoral

Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- (1) demonstrate ability to read and evaluate the primary literature, and (2) demonstrate ability to identify and discuss current controversies in evolutionary research.

Content Topic List

- Heritability, Allele-Trait Association, Gene-Environment and Plasticity, Life History and Developmental Evolution, Selection and Adaptation, Effective Population Size and Population Demography, The Neutral Theory of Molecular Evolution

Sought Concurrence

No

Attachments

- EEOB Curriculum Maps 2025.xlsx: curriculum map
(Other Supporting Documentation. Owner: Freudenstein,John Vincent)
- EEOB 7010 Principles of Evolution Syllabus updated.pdf: syllabus
(Syllabus. Owner: Freudenstein,John Vincent)

Comments

- Please see Subcommittee feedback email sent 11/13/25. *(by Neff,Jennifer on 11/13/2025 01:09 PM)*

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Freudenstein,John Vincent	10/20/2025 01:28 PM	Submitted for Approval
Approved	Freudenstein,John Vincent	10/20/2025 01:38 PM	Unit Approval
Approved	Vankeerbergen,Bernadette Chantal	10/21/2025 09:33 AM	College Approval
Revision Requested	Neff,Jennifer	11/13/2025 01:09 PM	ASCCAO Approval
Submitted	Freudenstein,John Vincent	12/15/2025 10:29 AM	Submitted for Approval
Approved	Freudenstein,John Vincent	12/15/2025 10:33 AM	Unit Approval
Approved	Vankeerbergen,Bernadette Chantal	12/15/2025 11:02 AM	College Approval
Pending Approval	Jenkins,Mary Ellen Bigler Neff,Jennifer Vankeerbergen,Bernadette Chantal Steele,Rachel Lea	12/15/2025 11:02 AM	ASCCAO Approval

Principles of Evolution

EEOB 7010

Department of Evolution, Ecology, and Organismal Biology

In-person Course

3 Credit Hours

Two 80-minute periods per week

Prerequisites

This course has no formal prerequisites. Familiarity with basic genetics, basic evolution terminology, and basic statistical concepts consistent with a typical undergraduate science curriculum is recommended.

Course Objectives

Principles of Evolution (EEOB 7010) will provide instruction and discussion in the fundamental concepts, current research frontiers, and unresolved controversies in modern evolutionary biology research for graduate students. Meetings for this course will be interactive discussions and short lectures. Assessment will be based on leadership and participation in primary literature discussions and two non-cumulative exams.

Learning Objectives

By the end of this course students are expected to: (1) demonstrate understanding of the conceptual foundations of evolutionary biology (2) demonstrate an ability to read and evaluate the primary literature (i.e., determine the primary goals of the study, evaluate experimental outcomes, and identify potential errors and assumptions), and (3) demonstrate an ability to identify and discuss current controversies in evolutionary research.

Readings

Readings will consist of chapters from *Elements of Evolutionary Genetics*

(<https://www.macmillanlearning.com/college/us/product/Elements-of-Evolutionary-Genetics/p/0981519423>). One to two sections of a chapter per week will be assigned. The readings will be

supplementary to the lectures and specific details will not be included on tests unless specifically mentioned.

Additional readings and video tutorials will be provided as optional supplementary readings. Readings for journal discussion days will be a single article of medium length or review article appropriate for introductory graduate students.

Course Schedule

Week	Topic
1	Introduction
2	Heritability
3	Allele-Trait Association
4	Gene-Environment and Plasticity
5	Life History and Developmental Evolution
6	Selection and Adaptation
7	Effective Population Size and Population Demography
8	The Neutral Theory of Molecular Evolution
9	Center-Margin Hypothesis and Predictors of Genetic Diversity
10	Reproductive Isolation and Speciation
11	Genic Views on Speciation
12	Genomic Islands of/and Speciation
13	Molecular Clock and Relative/Absolute Dating
14	Diversification Rates
15	Machine Learning and Artificial Intelligence in Evolutionary Genetics

Course meetings will alternate between instructor-led lecture-discussion and student-led primary literature discussions. Discussions will explore the development of the foundational concepts of evolutionary biology, genetics, and related disciplines, as well as discussion of the historical context of these discoveries and theory developments.

Assessment

Attendance: Attendance will be recorded and is expected at all course meetings

Discussion: Students are expected to engage with the material and the other people in the class discussion. Since a large component of any job as a professional scientist is the ability to clearly articulate an argument and to evaluate the arguments of other scientists, reading seminars such as this represent an important training opportunity. That only works if the student (i) is prepared to discuss the readings prior to class and (ii) willing to do so verbally in the class session itself.

Tests: Tests will be paper tests with short and long answer responses, including conceptual and quantitative reasoning. Tests will cover general principles of the lectures, but not specific points from the readings unless specifically specified by the instructor. Tests will be graded on a 100-point scale.

Course Grade

This course is graded as A-E.

Test 1 = 35%. Tests 2 = 35%. Discussion leadership = 20%. Participation in discussions = 10%.

Course Grade	Grade
A	93-100%
A-	90-92.99%
B+	87-89.99%
B	83-86.99%
B-	80-82.99%
C+	77-79.99%
C	73-76.99%
C-	70-72.99%
D+	67-69.99%
D	60-66.99%
E	59.99% and below

Course Policies

Absences: If you are sick with an airborne transmissible illness, please do not attend the class meeting or take appropriate precautions to protect your fellow students. Please see the University Policy statements below for additional policies on exceptions for excused absences.

University Policies

Academic Misconduct

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute Academic Misconduct.

The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: Any activity that tends to compromise the academic integrity of the University or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct, so please review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If an instructor suspects that a student has committed academic misconduct in this course, the instructor is obligated by University Rules to report those suspicions to the Committee on Academic Misconduct. If COAM determines that a student violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in the course and suspension or dismissal from the University.

If students have questions about the above policy or what constitutes academic misconduct in this course, they should contact the instructor.

Artificial Intelligence and Academic Integrity

There has been a significant increase in the popularity and availability of a variety of generative artificial intelligence (AI) tools, including ChatGPT, Sudowrite, and others. These tools will help shape the future of work, research and technology, but when used in the wrong way, they can stand in conflict with academic integrity at Ohio State.

All students have important obligations under the Code of Student Conduct to complete all academic and scholarly activities with fairness and honesty. Our professional students also have the responsibility to uphold the professional and ethical standards found in their respective academic honor codes. Specifically, students are not to use unauthorized assistance in the laboratory, on field work, in scholarship, or on a course assignment unless such assistance has been authorized specifically by the course instructor. In addition, students are not to submit their work without acknowledging any word-for-word use and/or paraphrasing of writing, ideas or other work that is not your own. These requirements apply to all students undergraduate, graduate, and professional.

To maintain a culture of integrity and respect, these generative AI tools should not be used in the completion of course assignments unless an instructor for a given course specifically authorizes their use. Some instructors may approve of using generative AI tools in the academic setting for specific goals. However, these tools should be used only with the explicit and clear permission of each individual instructor, and then only in the ways allowed by the instructor.

Religious Accommodations

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an

exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement and the student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the Civil Rights Compliance Office.

Policy: Religious Holidays, Holy Days and Observances (<https://oaa.osu.edu/resources/policies-and-procedures/religious-holidays-holy-days-and-observances>)

Disability Statement (with Accommodations for Illness)

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If students anticipate or experience academic barriers based on a disability (including mental health and medical conditions, whether chronic or temporary), they should let their instructor know immediately so that they can privately discuss options. Students do not need to disclose specific information about a disability to faculty. To establish reasonable accommodations, students may be asked to register with Student Life Disability Services (see below for campus-specific contact information). After registration, students should make arrangements with their instructors as soon as possible to discuss your accommodations so that accommodations may be implemented in a timely fashion.

If students are ill and need to miss class, including if they are staying home and away from others while experiencing symptoms of viral infection or fever, they should let their instructor know immediately. In cases where illness interacts with an underlying medical condition, please consult with Student Life Disability Services to request reasonable accommodations.

slds@osu.edu

<https://slds.osu.edu/>

098 Baker Hall, 113 W. 12th Ave

614-292-3307 phone

Intellectual Diversity

Ohio State is committed to fostering a culture of open inquiry and intellectual diversity within the classroom. This course will cover a range of information and may include discussions or debates about controversial issues, beliefs, or policies. Any such discussions and debates are intended to support understanding of the

approved curriculum and relevant course objectives rather than promote any specific point of view. Students will be assessed on principles applicable to the field of study and the content covered in the course. Preparing students for citizenship includes helping them develop critical thinking skills that will allow them to reach their own conclusions regarding complex or controversial matters.

Grievances and Solving Problems

According to University Policies, if you have a problem with this class, you should seek to resolve the grievance concerning a grade or academic practice by speaking first with the instructor or professor. Then, if necessary, take your case to the department chairperson, college dean or associate dean, and to the provost, in that order. Specific procedures are outlined in Faculty Rule 3335-8-23. Grievances against graduate, research, and teaching assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant's department.

Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a welcoming community. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Civil Rights Compliance Office (CRCO):

Online reporting form: <http://civilrights.osu.edu/>

Call 614-247-5838 or TTY 614-688-8605

civilrights@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Civil Rights Compliance Office to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

Copyright

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Counseling and Consultation Services / Mental Health Statement

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th floor of the Younkin Success Center and 10th floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766 and 24-hour emergency help is also available through the 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

Content Warning Language

Some content in this course may involve media that may elicit a traumatic response in some students due to descriptions of and/or scenes depicting acts of violence, acts of war, or sexual violence and its aftermath. If needed, please take care of yourself while watching/reading this material (leaving classroom to take a water/bathroom break, debriefing with a friend, contacting a confidential Sexual Violence Advocate 614-267-7020, or Counseling and Consultation Services at 614-292-5766 and contacting the instructor if needed). Expectations are that we all will be respectful of our classmates while consuming this media and that we will create a safe space for each other. Failure to show respect to each other may result in dismissal from the class.

Military-Connected Students

The [Military and Veterans Services](#) (MVS) Office offers a wide range of resources for military-connected students. Whether using educational benefits or not, all military-connected students are encouraged to learn more about how the university supports military-connected students (i.e., information about tutoring, transition services, access to the veteran's lounge, etc.). For service members, should you receive military orders during the semester or know of classes that will be missed due to service commitments, please speak with your instructor as soon as possible on possible accommodations. MVS contact information: milvets@osu.edu; 614-247-VETS; veterans.osu.edu/; 185 Student Academic Services Building, 281 W. Lane Avenue.