Course Syllabus

Course Information

COURSE PREFIX: BIO 126
COURSE TITLE: Biology II
CREDIT HOURS: 4

Preliminary Class Plan and Topics

Please see the schedule provided in the course.

Communicating With the Instructor

This course uses a "three before me" policy in regards to student to faculty communications. When questions arise during the course of this class, please remember to check these three sources for an answer before asking me to reply to your individual questions: 1. Course syllabus

2. Announcements in Canvas
3. The Canvas Inbox and Conversations

This policy will help you in potentially identifying answers before I can get back to you and it also helps your instructor from answering similar questions or concerns multiple times.

If you cannot find an answer to your question, please first post your question to the Canvas Inbox and Conversations. Here your question can be answered to the benefit of all students by either your fellow students who know the answer to your question or the instructor. You are encouraged to answer questions from other students in the discussion forum when you know the answer to a question in order to help provide timely assistance. If you have questions of a personal nature such as relating to a personal emergency, questioning a grade on an assignment, or something else that needs to be communicated

privately, you are welcome to contact me via email. **Please allow 24 hours for me to respond to emails Monday-Friday and 48 hours on the weekend.**

If you have a question about the technology being used in the course, please contact the Doane University Help Desk help@doane.edu for assistance (contact information is listed below).

Course Catalog Description

This 4 credit-hour course will introduce students to the concepts and connections between

evolution and ecology. Students will learn how populations evolve, including what factors are necessary for the process of evolution to occur, and how evolution accounts for both the diversity and similarity among all forms of life on Earth. Students will use this information to understand the association between how life on Earth has evolved and how animal form (i.e., structure) relates to function. Finally, by learning about the different types of environments on Earth, students will understand how organisms, populations, and communities are affected by the dynamics of their surroundings (i.e., the ecosystem), and how the process of evolution ties together the form and function of all organisms with their local ecology. There are no prerequisites; however, some knowledge regarding ecology and evolution will be useful.

Course Prerequisites

For successful completion of this course, it is recommended that students are familiar with Biology I or its equivalent.

Course Textbook and Materials

In addition to the textbooks listed below, you must have access to the internet.

Starr, Evers, Starr Biology: Concepts and Applications, 10e; Cengage, 1305967909; ISBN 13: 9781305967908

Course Lab

As this is a 4 credit course, you can expect to complete a weekly lab to fulfill the course Requirements.

Objectives/Topic for each weekly lab:

- Unit 1 Lab - Natural Selection
- Unit 2 Lab - Genetic Drift and Population Genetics
- Unit 3 Lab - Shared Characters and Phylogenies
- Unit 5 Lab - Plant and Fungi Diversity
- Unit 6 Lab - Identifying Homologous Proteins
- Unit 8 Lab - Analyzing Biodiversity

Estimated time per lab: Each lab will take approximately 3 hours to complete.

Learning Objectives

When students finish this course, they will be able to do the following:

1. Describe the theory of evolutionary and the mechanisms of evolution. a. Explain the factors necessary for evolution to occur.
   b. Describe behavioral, morphological and physiological adaptations of individual organisms to their environments.
   c. Differentiate between, explain the significance of, and give examples of,

homologous and analogous traits.
   d. Explain how natural selection can change the variation and prevalence of a trait within a population.
2. Determine whether populations are evolving using principles of population genetics.
   a. Use the Hardy-Weinberg equation to calculate allele frequencies.
   b. Use the Hardy-Weinberg equation to calculate the frequency of genotypes of future generations.
3. Describe phylogenetic relationships and classification schemes.
   a. Describe the hierarchical system for classification of organisms and the species concept
   b. Explain how shared characteristics (homologous traits) and DNA are used to construct phylogenies.
   c. Apply the basic rules of Phylogenetic Systematics (cladistics) to show evolutionary relationships among taxa.
4. Compare and distinguish between organisms in all three domains of life.
   a. Describe biodiversity and phylogeny of prokaryotes.
   b. Describe biodiversity and phylogeny of macroscopic fungi.
   c. Describe biodiversity and phylogeny of macroscopic algae and plants. d. Describe biodiversity and phylogeny of important invertebrate animal phyla, including sponges, cnidarians, flatworms, nematodes, molluscs, annelids, arthropods, and echinoderms.
   e. Describe biodiversity and phylogeny of vertebrate animals.
5. Analyze the role of the environment, resources, disturbances and individuals on population and community ecology
   a. Explain how populations grow both with and without density dependence.
   b. Define carrying capacity and explain how it relates to the regulation of population growth.
   c. Explain and give examples of how a population's size is regulated.

Proctored Exams

This course will require some proctored assessments using Examity. For these proctored assessments, students will be required to use a webcam.

Course Requirements

Online Course

This is an online course and there will not be any face-to-face class sessions. All assignments and course interactions will utilize internet technologies. You must have a reliable internet connection throughout the duration of the course.

This course uses Canvas for the facilitation of communications between faculty and students, submission of assignments, and posting of grades. The Canvas Course Site can be accessed at https://doane.instructure.com/

Attendance in an online course means logging into the Canvas on a regular basis and

participating in all of the activities that are posted in the course. In addition, check your Doane University e-mail account regularly, as your instructor may send important information via email.

Attendance/Participation

Doane University expects active participation by a student in a course, whether the course is on-ground or online. A student is expected to be prompt and regularly attend on-ground classes in their entirety. Regular engagement is expected for online courses.

You should plan to work on this course everyday. This is a condensed, fast-paced, course. Expect to spend approximately 20 hours a week preparing for and actively participating in this 8-week course.

Class Preparation

Preparation for class means reading the assigned readings and reviewing all information required for that week.

Computer Requirements

For the successful use of Canvas please refer to Doane University's minimum computer requirements. This also includes:

- Reliable computer and internet connection
- A web browser (Chrome or Mozilla Firefox)
- Adobe Acrobat Reader (free)
- Word processing software—Microsoft Word or Google Docs
- Webcam and mic

Campus Network or Canvas Outage

When access to Canvas is not available for an extended period of time (greater than one entire evening - 6pm till 11pm) you can reasonably expect that the due date for assignments will be changed to the next day (assignment still due by midnight).

Drop and Add Dates

If you feel it is necessary to withdraw from the course, please contact your University Advisor or the Open Learning Academy at ola@doane.edu or (402) 467-9008 for full details on the types of withdrawals that are available and their procedures. You can also review important refund and withdrawal dates via the Academic Calendar for OPENING LEARNING ACADEMY.

Academic Integrity

Fundamental to our mission, our core values, and our reputation, Doane University adheres to high academic standards. Students of Doane University are expected to conduct themselves in a manner reflecting personal and professional integrity. Disciplinary actions may be taken against students whose academic behavior is not congruent with the expectations of the University. Students are responsible for adhering to the standards detailed in this policy. Not being familiar with these standards does not mean that the students will not be accountable for adherence to them. Additional details on the Academic Integrity policy for violating academic integrity are published in the undergraduate and

graduate catalogs.

2022-2023 Academic Catalog:
https://catalog.doane.edu/content.php?catoid=27&navoid=2780

Course Grading

Submitting Assignments
All assignments, unless otherwise announced by the instructor, must be submitted via Canvas. Each assignment will have a designated place to submit the assignment. All material, assignments, and deadlines are subject to change with prior notice. It is your responsibility to stay in touch with your instructor and review the course site regularly to learn about changes to assignments or due dates. **All assignments and due dates are reflective of Central Standard Time**.

Grading Scale
Assignment of letter grades is based on a percentage of points earned. The letter grade will correspond with the percentages achieved. All course requirements must be completed before a grade is assigned.

Grading Scheme
Student final percentage will be assigned using the following criteria:

Lab Assignments-20%
Homework -10%
Assignments (Concept Maps, Article Analyses)-10%
Quizzes-20%
Discussions -10%
Final Paper-15%
Final Exam-15%
Total=100%

TOTAL 100%

Late or Missed Assignments
ALL assignments must be finished and turned in to complete the course. Unless the instructor is notified BEFORE the assignment is due and provides an opportunity for an extension or alternate assignment, late assignments will not be accepted for credit. Remember that you should allow 24 hours for your instructor to reply to emails. Contacting your instructor the evening an assignment is due does not allow sufficient time to obtain help on an assignment. It is recommended that you start assignments early so that you can obtain help if needed. Assignments submitted through alternative means (i.e. email or submission comments) **will not** be accepted for credit.

Feedback
Please allow 1-3 days for feedback on assignments. Please review instructor feedback for assignments and assessments, this will help you reflect on what you have learned while receiving suggestions for improvement.

Technical Support

If you are in need of technical assistance please access the Self Service Portal. You may reach the help desk at 402-826-8411 or by email at help@doane.edu.

Accessibility Statement

In compliance with the Rehabilitation Act of 1973, Section 504, and the Americans with Disabilities Act of 1990, professional disability specialists and support staff at Doane University facilitate a comprehensive range of academic support services and accommodations for qualified students with disabilities. Doane University staff coordinate student transitions from high schools and community colleges, conduct in-service training for faculty and staff, enable the resolution of accessibility issues, conduct community outreach, and facilitate collaboration among Doane University staff on disability policies, procedures, and accommodations.

Disability Services

Doane University's Disability Services Office will provide guidance on accommodations and universal access. To request accommodations please complete the Self-Identification Form and visit the website for additional information.

Title IX Requirements: Mandatory Reporting

At Doane, all university employees, including faculty, are considered Mandatory Reporters. As a Mandatory Reporter, I am required to report incidents of sexual misconduct and relationship violence to the Title IX Coordinator and, thus, cannot guarantee confidentiality.

This means that if you tell me about an incident of sexual harassment, sexual assault, domestic violence, dating violence, stalking and/or other forms of prohibited discrimination, I have to share the information with the University's Title IX Coordinator. My report does not mean that you are officially reporting the incident. This process is in place to ensure you have access to and are able to receive the support and resources you need. For additional information, including confidential resources, please visit the Campus Advocacy, Prevention, and Education (CAPE) Project.

Instructional Technology Accessibility and Privacy Policies

If your course uses additional technology tools, information on the Technology Policies & Guidelines

Syllabus Disclaimer

The instructor and Doane University views the course syllabus as an educational contract between the instructor and students. Every effort will be made to avoid changing the course schedule but the possibility exists that unforeseen events will make syllabus changes necessary. The instructor reserves the right to make changes to the syllabus as deemed necessary. Students will be notified in a timely manner of any syllabus changes via email or in the course site Announcements. Please remember to check your Doane University email and the course site Announcements often.

Doane Syllabus Addendum

Each student is responsible for being aware of the policies, resources, and expectations as specified in the Doane Syllabus Addendum located at:
https://www.doane.edu/Syllabus
Please review these items before your course begins.