JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Principles of Ecology and Evolution Bio Lecture

Course Abbreviation and Number: BIO 1581 **Credit Hours:** 3 **Course Type:** Lecture

Course Description: This foundational course introduces students to the core concepts of ecology and evolutionary biology—the scientific frameworks that explain the diversity of life and the interactions among organisms and their environments. Students will identify and evaluate the general tenets of evolutionary theory, identify and apply principles of ecology and biodiversity, identify the major episodes in the geological history of life, and evaluate and describe the evolutionary history of the Earth's major plant and animal groups. The course emphasizes the integration of evolutionary theory with ecological principles to understand how life on Earth has changed over time and continues to adapt. This course is designed for science majors as a gateway to more advanced coursework in biology and related disciplines but also serves non-science majors as a general education course.

Eligibility: ENG 1510 without supports or Corequisite: ENG 1510 with supports; Pre/Corequisite: High School Chemistry or CHE 1500 (or higher); Corequisite: MAT0550 or Eligibility: MAT 1590; Corequisite: BIO 1582

General Education Requirements Met

SUNY	JCC
Natural Sciences	Scientific Reasoning

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Students will identify and evaluate the general tenets of evolutionary theory, identify and apply principles of ecology and biodiversity, identify the major episodes in the geological history of life, and evaluate and describe the evolutionary history of the Earth's major plant and animal groups. Laboratory may include one or more outdoor experiences.
2. Application of scientific data, concepts, and models in one of the natural sciences. [SUNY Gen Ed – Natural Sciences SLO 2]

Topics Covered:

- How Populations Evolve
- The Origin of Species
- The Biosphere: An Introduction to Earth's Diverse Environments
- Population Ecology
- Communities and Ecosystems
- Tracing Evolutionary History
- Microbial Life: Prokaryotes and Protists
- The Evolution of Plant and Fungal Diversity
- Plant Structure, Growth and Reproduction
- The Evolution of Invertebrate Diversity
- The Evolution of Vertebrate Diversity

Information for Students

- Expectations of Students
  - Civility Statement
  - Student Responsibility Statement
  - Academic Integrity Statement
- Accessibility Services
  Students who require accommodations to complete the requirements and expectations of this course because of a disability must make their accommodation requests to the Accessibility Services Coordinator.
- Get Help: JCC & Community Resources
- Emergency Closing Procedures

- Course grade is determined by the instructor based on a combination of factors, including but not limited to, homework, quizzes, exams, projects, and participation. Final course grade can be translated into a grade point value according to the following:

A=4.0	B+=3.5	B=3	C+=2.5	C=2	D+=1.5	D=1	F=0

- Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, VA appointments) are welcome and encouraged to communicate these to the instructor.

Effective Date: Fall 2026