

**JAMESTOWN COMMUNITY COLLEGE**  
**State University of New York**

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**INSTITUTIONAL COURSE SYLLABUS**

**Course Title:** Intro to Environmental Science

**Course Abbreviation and Number:** BIO 1550

**Credit Hours:** 4

**Course Type:** Lecture/Lab

**Course Description:** Students will study environmental science emphasizing the history of environmental concerns, biomes, and how species interact with each other's and their environment (air, water, and soil). Through lecture and laboratory discussions and activities, students will investigate biological resources, population dynamics, toxicology, energy resources, land use management, and other related topics. This course is appropriate for both science and non-science majors.

Eligibility: ENG 1510 without supports or Corequisite: ENG 1510 with supports; Corequisite: MAT 0550 or Eligibility: college level mathematics.

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**General Education Requirements Met**

**SUNY**

Natural Sciences

**JCC**

Applied Learning

Global Perspectives

Scientific Reasoning

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**Student Learning Outcomes:**

Students who demonstrate understanding can:

1. Demonstrate an understanding of the basics of environmental science.
  2. Demonstrate awareness of global issues and the impact of individual and collective decisions on life around the world. [JCC Gen Ed – Global Perspectives - I]
  3. Weigh diverse perspectives in the face of opposing viewpoints and understand the source of one's own assumptions and biases. [JCC Gen Ed – Global Perspectives - II]
  4. Students will demonstrate understanding of the methods scientists use to explore natural phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical analysis. [SUNY Gen Ed – Natural Sciences]
  5. Students will demonstrate application of scientific data, concepts, and models in one of the natural sciences. [SUNY Gen Ed – Natural Sciences]
  6. Effectively apply knowledge and skills to a real-world experience, creative project, or independent intellectual investigation. [JCC Gen Ed – Applied Learning]
  7. Thoughtfully reflect on connections between concepts studies in the classroom and insights gained from an applied learning experience/project. [JCC Gen Ed – Applied Learning]
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**Topics Covered:**

- Introduction to concepts in environmental science
- Environmental problems
- Science, matter, energy, and systems
- Ecosystems: what are they and how do they work
- Biodiversity and evolution
- Species interactions, ecological succession and population control
- The human population and urbanization
- Climate and biodiversity
- Sustain biodiversity: saving species and ecosystem services
- Food production and the environment
- Water resources and water pollution
- Geology and nonrenewable mineral resources
- Energy resources
- Environmental hazards and human health
- Air pollution, climate change, and ozone depletion
- Solid and hazardous waste
- Environmental economics, politics, and worldviews
- Environmental awareness
- Aquatic species diversity
- Hydrology and soils
- Urban ecosystems
- Experimental design: range of tolerance & environmental contamination
- Allelopathy
- Global positional system & geographic information system

- Human survivorship
- Environmental forensics
- Waste water and sewage treatment

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**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
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- 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.

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**Effective Date:** Fall 2021