

Virginia Western Community College

BIO 285

Biological Problems in Contemporary Society

Prerequisites

None

Course Description

Discusses major biological problems facing society, which may include environmental and health concerns such as pollution, bioengineering, drug abuse, conservation, famine and others.

Semester Credits: 3

Lecture Hours: 3

Required Materials

Textbooks:

Living in the Environment. Miller, Spoolman. 18th edition. Cengage Learning. ISBN: 9781133940135

Course Outcomes

At the completion of this course, the student should be able to:

- Demonstrate an understanding of the basic scientific principles involved in the complex environmental issues examined.
- Demonstrate proficiency in independent research and the writing of reports.
- Demonstrate proficiency in oral presentation of technical materials.
- Demonstrate the ability to utilize online sources to accurately research current environmental issues and to effectively communicate findings and opinions in both written and oral format.
- Utilize their increased awareness and improved investigative skills to be better-informed global citizens in their personal decision making.

Topical Description

<u>Week</u>	<u>Lecture Topics</u>
1	Course Introduction – syllabus, project, etc. Chapter 1 – Environmental Problems, Their Causes and Sustainability
2	Chapter 2 – Science, Matter, Energy and Systems Chapter 5.3 – Population Growth Chapter 6 – The Human Population & Its Impact
3	Chapter 7 – Climate and Terrestrial Biodiversity Chapter 8 – Aquatic Biodiversity
4	Chapters 9 & 10 – Sustaining Biodiversity: Species Approach & Ecosystem Approach Chapter 11 – Sustaining Aquatic Biodiversity
5	Chapter 12 – Sustaining Natural Resources: Food & Soil

6	Chapters 13 & 20 – Water Resources and Water Pollution Chapters 14 & 15 – Nonrenewable Minerals and Energy
7	Chapter 15 – Nonrenewable Energy Chapter 16 – Energy Efficiency
8	Cradle to Cradle Concept – Assigned Readings
9	Chapter 19 – Climate Change
10	Chapter 22 – Sustainable Cities
11	Chapter 22 – Sustainable Cities (cont.) Chapter 21 – Solid and Hazardous Waste
12	Chapter 21 – Solid and Hazardous Waste (cont.)
13	Student Presentations, Chapters 12 & 16 revisited
14	Students Presentations, Chapters 20 & 22 revisited
15	Chapter 23 – Economics, Environment & Sustainability Chapter 25 – Environmental Worldviews, Ethics & Sustainability

Notes to Instructors

1. Departmental policy dictates that instructors do not allow students to keep tests.
2. A comprehensive final exam counting 15%-20% of the total grade will be given at the end of the semester.
3. The syllabus should state what the course grade will be based on, such as tests, quizzes, a comprehensive final exam, and any other assignments made by the instructor.
4. The VWCC Biology Department uses a 10-point grading scale.