

Des Moines Area Community College

COURSE INFORMATION

Acronym/Number BIOL 118

Title ENVIRONMENTAL CONSERVATION

Credit breakout 3 3 0 0 0
(credit lecture lab practicum work experience)

COURSE DESCRIPTION:

This course combines the basic principles of ecology with current environmental issues. Issues examined include energy, land use, pesticides, and pollution. Wildlife, fisheries, forestry, soil and water resources are also emphasized. Designed for the non-science major.

COURSE COMPETENCIES:

During this course, the student will be expected to:

1. Identify important events and persons in the history of the conservation movement.
2. Use terms basic to the science of ecology.
3. Relate world population problems to principles of ecology.
4. Use terminology describing soils and soil conservation.
 - 4.1 Classify soils.
 - 4.2 Describe factors causing soil erosion.
 - 4.3 Describe soil conservation practices.
 - 4.4 Explain how federal and state legislation affects soil erosion.
5. Relate the Green Revolution and world population growth to current environmental issues.
6. Discuss methods of pest control and consequences of their use.
7. Use terminology related to water movement, cycling, and conservation.
 - 7.1 Identify water conservation methods.
 - 7.2 Identify solutions to flooding.
8. Classify types, causes and controls of water pollution.
9. Explain the characteristics of wastewater treatment methods.

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- 9.1 Identify characteristics of the stages of wastewater treatment.
- 9.2 Explain the benefits of types of wastewater treatment.
- 9.3 Relate septic tank and lagoon wastewater treatment methods to municipal sewage treatment methods.

10. Point out the characteristics of freshwater, estuary, and ocean environments.
 - 10.1 Differentiate between Oligotrophic and Eutrophic Lakes.
 - 10.2 Describe lake zonation.
 - 10.3 Identify characteristics of estuaries.
 - 10.4 Describe ocean zonation.
 - 10.5 Identify benefits of wetlands conservation.

11. Relate human activities to fisheries and fisheries management.

12. Relate human activities to problems in rangeland, forest, and wildlife management.

13. Summarize characteristics of methods of waste management, including method used to manage hazardous wastes.

14. Identify causes of air pollution and methods for prevention and control.

15. Identify environmental effects of mining.

16. Identify advantages and disadvantages of major nonrenewable and renewable energy sources.

17. Discuss current issues in the field of environmental conservation.

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INSTRUCTIONAL MATERIALS:

Textbook(s): For each text used in this course, identify the minimum chapters to be covered in this course. Ankeny: Natural Resource Conservation: An Ecological Approach, 5th Ed., Owen and Chiras, 1990. McMillan. Urban: Environmental Science: The Way the World Works, 4th Ed., Nebel and Wright, 1993. Prentice Hall.

Newton - Natural Resource Conservation, 6th ed, Owen, Prentice Hall (new Ed)

Study guide

Transparencies (May be available from textbook publisher)

Test banks (May be available from textbook publisher)

Computer hardware/software

Other (example: Laboratory equipment for biology/chemistry class)

Preparation

date: 8-27-96

by: Gary Nelson

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verified by: wb

Competencies are reviewed annually.