

Des Moines Area Community College

COURSE INFORMATION

Acronym/Number BIOL155

Title ECOLOGY OF IOWA

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

PREREQUISITE(S):

COURSE DESCRIPTION:

Surveys the major landforms of Iowa including the Mississippi River Valley, northern prairie lakes region, loess hills, and southern hills area. Landforms are emphasized from the standpoint of climate, soils, geology, water resources, forestry, wildlife and environmental concerns. One Saturday field trip.

COURSE COMPETENCIES:

During this course, the student will be expected to:

1. Relate the principles of geology to the Iowa landscape.
 - 1.1 Explain the theory of Continental Drift.
 - 1.2 Discuss the formation of sedimentary bedrock.
 - 1.3 Relate life and environments in the past to paleontological discoveries.
 - 1.4 Discuss the role of glaciation in forming the Iowa landscape.
2. Identify the seven landforms of Iowa.
 - 2.1 Discuss the formation of each landform.
 - 2.2 Discuss the general physiography of each landform.
 - 2.3 Describe ecosystem types common to each landform.
 - 2.4 Discuss the impact of human society on each landform.
 - 2.5 Describe environmental issues that relate to each landform.
3. Relate Iowa's water resources to the hydrologic cycle.
 - 3.1 Discuss alluvial and surface water resources.
 - 3.2 Discuss factors affecting Iowa's water quality.
4. Relate the principles of soil science to Iowa's soils.
 - 4.1 Identify factors involved in forming Iowa's soils.
 - 4.2 Discuss soil conservation practices that are used on Iowa's croplands.
5. Relate the major groups of plants to Iowa's native vegetation.
 - 5.1 List the major categories of plants and their characteristics.

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- 5.2 Discuss the occurrence of relict plant communities in Iowa.
- 6. Relate prairie ecology to the Iowa landscape.
 - 6.1 List types of prairie communities in Iowa and their characteristics.
 - 6.2 Discuss prairie management and preservation in Iowa.
- 7. Relate the principles of forestry to Iowa's woodlands.
 - 7.1 List types of forests in Iowa and their characteristics.
 - 7.2 Discuss forest management and preservation in Iowa.
- 8. Relate wetland ecology to Iowa's floodplains, marshes, and bogs.
 - 8.1 List types of wetland communities in Iowa and their characteristics.
 - 8.2 Discuss wetland management and preservation in Iowa.
- 9. Relate principles of aquatic biology to Iowa's lakes and rivers.
 - 9.1 Identify characteristics of Iowa's lakes and rivers.
 - 9.2 Discuss the management of Iowa's lake and river ecosystems.
- 10. Discuss the past and present distribution of Iowa's fauna.
 - 10.1 List factors that have caused declines in animal populations in Iowa.
 - 10.2 Summarize wildlife management trends in Iowa.
- 11. Discuss Iowa's human ecology.
 - 11.1 Describe Iowa's prehistorical cultures.
 - 11.2 Identify patterns of settlement in Iowa and its impact on the environment.
 - 11.3 Discuss the establishment of a conservation ethic in Iowa.

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INSTRUCTIONAL MATERIALS:

Textbooks: For each text used in this course, identify the minimum chapters to be covered in this course.

Iowa's Natural Heritage, Cooper, 1983, Iowa Natural Heritage Foundation and the Iowa Academy of Science.

Study guide

Transparencies

Test banks

Computer hardware/software

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

Eight-part film series "Land Between Two Rivers," Iowa Public Television, 6450 Corporate Drive, Johnston, IA 50131

Computer Laboratory

Preparation

date 7/93

by: Gary Nelson

Campus: A B C U OC

extension: 6531

verified by: _____

Competencies are reviewed annually.