

DOC. #341

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

COURSE OUTLINE

COURSE TITLE: ENVIRONMENTAL ISSUES

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CODE NO.: LIB102-3

SEMESTER: I

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PROGRAM: LIBERAL STUDIES

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AUTHOR: BRAD KIRK

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DATE: DECEMBER 1994

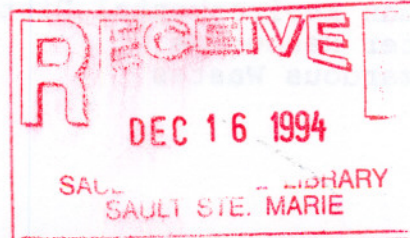
PREVIOUS OUTLINE DATED: NEW

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APPROVED: \_\_\_\_\_

DEAN

Dec 13/94  
DATE



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TOTAL CREDITS 48

PREREQUISITE(S): NONE

I. PHILOSOPHY/GOALS:

To present the basic knowledge necessary for the student to develop an understanding of current environmental issues.

II. STUDENT PERFORMANCE OBJECTIVES (OUTCOMES):

Upon successful completion of this course the student will:

1. Explain basic ecological concepts, including energy flow, food chain and food web.
2. Describe the major nutrient cycles.
3. Discuss the environmental impacts of population growth, urbanization and industrialization.
4. Describe the major sources of energy and discuss the environmental impact of energy consumption.
5. Discuss major human environmental disturbances, including the greenhouse effect, acid rain, "holes" in the ozone layer, and smog.
6. Discuss technological considerations and planning requirements for water resources management.
7. Discuss the identification and management of hazardous wastes, including nuclear, biomedical and chemical wastes.

III. TOPICS TO BE COVERED:

1. Introduction to Ecology
2. Population and Economic Growth
3. Energy Growth
4. Human Environmental Disturbances
5. Water Resources
6. Hazardous Wastes



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IV. LEARNING ACTIVITIES/REQUIRED RESOURCES:

1. Introduction to Ecology (8 hours)
  - basic definitions
  - energy flow in ecosystems
  - food chain & food web
  - nutrient cycles
  - elements of limnology
  - eutrophication
  - the Great Lakes as a case study
  
2. Population and Economic Growth (8 hours)
  - population growth
  - industrialization
  - urbanization
  - environmental impacts
  - the dilemma of industrialization and urbanization
  
3. Energy Growth (7 hours)
  - sources of primary energy
  - current consumption of energy
  - future consumption and availability of energy sources
  - environmental impacts
  
4. Human Environmental Disturbances (7 hours)
  - basic structure and composition of the atmosphere
  - carbon dioxide and the greenhouse effect
  - acid rain
  - the ozone layer
  - photochemical smog
  
5. Water Resources (8 hours)
  - water resource management
  - technological considerations
  - planning requirements
  - legislative controls
  
6. Hazardous Wastes (10 hours)
  - nuclear wastes
  - biomedical wastes
  - chemical wastes
  - environmental effects
  - identification of hazardous wastes
  - management of hazardous wastes
  - treatment and disposal of chemical wastes
  - secure landfills



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**V. EVALUATION METHODS:**

There will be an assignment at the end of each topic. Each assignment must be submitted by its specified due date. All assignments will have the same weighting. The grades from the six assignments will be combined to determine a final mark.

**Grades:**

A+ 90 - 100%  
A 80 - 89%  
B 70 - 79%  
C 60 - 69%

Students who have achieved less than 60% but more than 55% on all of the assignments have the opportunity to write a supplemental test covering all of the course material. This is only granted where all of the assignments have been completed and attendance is satisfactory.

**VI. PRIOR LEARNING ASSESSMENT:**

Students who wish to apply for advanced credit in the course should consult the instructor.

**VII. REQUIRED STUDENT RESOURCES:**

There is no specified text for this course. There will be handouts from the instructor as required.

**VIII. ADDITIONAL RESOURCE MATERIALS AVAILABLE IN THE COLLEGE LIBRARY:**

J.G. Henry & G.W. Heinke: Environmental Science and Engineering, Prentice-Hall

Biology texts with sections on ecology

**IX. SPECIAL NOTES:**

Students with special needs (eg. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.