SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE:	INTEGRATED RESOURCE MANAGEMENT
CODE NO. :	NRT 220 **SEMESTER:** 4
PROGRAM:	FISH AND WILDLIFE CONSERVATION, FOREST CONSERVATION, ADVENTURE RECREATION AND PARKS
AUTHOR:	BOB CURRELL

DATE:	JAN. 2009 **PREVIOUS OUTLINE DATED:**	Dec. 2007
APPROVED:	"B. Punch"	
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	CHAIR	**DATE**

TOTAL CREDITS:	4
PREREQUISITE(S):	NONE
HOURS/WEEK:	3 HOURS/WEEK

I.

COURSE DESCRIPTION:

This course will explain the principles and practices involved in carrying out Sustainable Resource Management. The full range of values provided by forests will be described and methods of protecting, maintaining or enhancing those values will be presented. Forest, wildlife and recreation management practices, which integrate the management of all forest values, will be introduced.

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1.   Explain the principles of Sustainable Resource Management and describe the principles, which must be followed if it is to be successfully carried out.

    Potential Elements of the Performance:
    • Distinguish between a forest use and a forest value
    • List and discuss at least 10 uses and values provided by forests
    • Describe the four types of diversity found in forested landscapes
    • Explain the reasons that biodiversity is important
    • Discuss ways that biodiversity can be maintained while carrying out resource management
    • List and describe Criteria and Indicators of Sustainable Forest Management in Canada
    • Describe the Emulation of Natural Disturbance Guidelines

    This learning outcome will constitute 15% of the course's grade.

2.   Describe an old-growth forest, explain the values provided by these
      ecosystems, and explain Ontario's strategy for old-growth
      conservation.

      Potential Elements of the Performance:
      •   Describe a typical old-growth forest in terms of its age and
          disturbance history
      •   List and give examples of at least four types of values provided by
          old-growth forest ecosystems
      •   Discuss the age pattern of forests in Ontario and using age
          criteria for each forest type, evaluate how much old-growth of
          each forest type exists in this province
      •   Explain why the preservation of large areas of unmanaged forests
          is important
      •   Summarize the recommendations of Ontario's strategy for old-
          growth conservation

      This learning outcome will constitute 10% of the course's grade.

3.   Explain the potential effects of resource development on wildlife and
      make suggestions of how management activities can be modified to
      provide adequate wildlife habitat.

      Potential Elements of the Performance:
      •   Compare and describe the differences between the effects that
          logging and natural disturbances have on wildlife habitats
      •   Describe the habitat needs of major Ontario generalist and
          specialist wildlife species
      •   Explain the concepts of Featured Species and Endangered
          Species management and show how to apply these concepts
      •   Describe habitat needs of selected species and the forest
          management guidelines prepared for these species

      ; This learning outcome will constitute 10% of the course's grade.

4.   Explain how non-timber values are currently being protected when
      resource management activities take place on Crown land in Ontario

      Potential Elements of the Performance
      • Describe forest management plan requirements
      • Show how non-timber values are identified during the forest
        management planning process
      • Prepare AOC prescriptions and draw AOCs to scale on forest
        maps
      • Describe the compliance monitoring process as it is currently
        carried out on Crown land in Ontario

      This learning outcome will make of 10% of the course's grade.

5.   Describe Ontario's system of protected areas and explain the values
      provided by these unmanaged spaces.

      Potential Elements of the Performance

      • Describe at least 5 benefits that protected areas provide to our
        society
      • List three types of protected area systems that occur in Ontario
        and explain how each is different
      • Describe the objective of the National Park system and explain
        how the four types of National Parks fulfill this objective
      • List the six classes of Provincial Park in Ontario, giving examples,
        and describe the goal of each park type
      • Explain provincial park zoning

      This learning outcome will make up 5% of the course's grade.

6.   Explain the current Crown land use strategy in Ontario and use the
      Ontario Crown Land Use Atlas.

      • Describe the current system of Land Use Planning in Ontario.
      • Describe Ontario's Living Legacy strategy.
      • Present informed opinions about current Crown land use
        planning.
      • Explain the function of the Crown Land Use Atlas and use it to
        describe the permitted land uses of any area of Crown land.

      This learning outcome will make up 10% of the course's mark.

7.   Evaluate the effectiveness of co-management agreements in meeting
     sustainable resource management objectives.

     Potential Elements of the Performance:
     • Distinguish between state management, self-management and
       co-management
     • Describe the process for developing a co-management
       agreement
     • Report on a co-management agreement and discuss how
       effectively it is working

     This learning outcome will constitute 5% of the course's grade.

8.   Participate effectively in processes used to resolve land use conflicts

     Potential Elements of the Performance

     • Describe the forest values of importance to a wide variety of
       Crown land user groups
     • Explain why there are land-use conflicts between specific user
       groups

     This learning outcome will constitute 5% of the course's grade

9.   Explain concepts relating to forest hydrology and watershed
     management and describe natural resource methods that can be
     used to manage watersheds.

     Potential Elements of the Performance
     •   Define important hydrological terms
     •   Classify streams based on how long they carry water each
           year and how they are 'ordered' in a watershed
     •   Calculate a watershed's drainage density
     •   Reproduce a flow chart of the water cycle
     •   Describe 6 methods that can be used to slow the run off from
           a natural ecosystem
     •   Describe 4 types of wetlands and discuss the values that they
           provide
     •   Explain at least 5 ways that beaver dams benefit the natural
           environment

     This learning outcome will constitute 10% of the course's grade

10. Discuss the potential impact of natural resource activities on terrestrial and aquatic ecosystems.

Potential Elements of the Performance:
- Describe the potential effects of forest harvesting on water quality and quantity
- List the potential effects of recreational activities on watersheds
- List the pesticides commonly used in forest management activities, describe the toxicity of each and explain how they might accidentally enter aquatic ecosystems
- Explain how forest management activities should be carried out to minimize the risk of environmental damage
- Describe the potential effects of road building on the forest environment
- Explain how roads should be planned, located and constructed to minimize negative environmental effects

This learning outcome will constitute 10% of the course's grade.

11. Undertake an erosion control program to protect shorelines and stream banks from erosion.

Potential Elements of the Performance

- Explain the processes at work building and eroding shorelines and stream banks
- Describe the different kinds of erosion caused features found along shorelines and stream banks and explain how they are formed
- Recommend protection measures to protect stream banks and shorelines from erosion

- Identify the activities carried out by Conservation Authorities to meet their mandate

This learning outcome will constitute 10% of the course's grade.

III.   TOPICS:

1.   Maintaining Biodiversity – Uses and values provided by forests and principles to follow when practicing sustainable resource management are described. Diversity and its importance to forest ecosystems is explained. Criteria and Indicators of sustainable forest management are introduced.

2.   Old Growth Forests – Criteria by which to identify Old Growth forests is presented and the values which they provide explained. Ontario's strategy to conserve Old Growth forests is introduced.

3.   Protecting Wildlife Habitats – The habitat needs of selected game and non game wildlife species is described and the effects that resource management can have on these habitats is presented.

4.   Co-management of Natural Resources- Cooperative management will be introduced. A case study examining resource conflicts and processes for resolution will be examined.

5.   Forest Hydrology – The hydrologic processes which take place in undisturbed watersheds will be explained and techniques for classifying watersheds presented. Natural features, which regulate water flows throughout an ecosystem, are introduced.

6.   Impacts of Forest Management on Terrestrial and Aquatic Environments -The potential effects of forest management is presented and ways to minimize those impacts through Adaptive management is explained.
      Land Use Planning - The current Crown land-use strategy will be examined and discussion will take place regarding its implementation.

7.   Shoreline and Streambank Management and Protection – the concept of erosion and how this process takes place on shorelines and stream banks is presented. Measures which can be taken to protected affected areas are described.

8.   Protecting Forest Values – This module introduces the process of Forest Management Planning and describes how non-timber values are identified and protected during resource management activities.

9.   Land Use Planning – The current land use strategy in Ontario will be
       examined and discussion will take place regarding its
       implementation.

10.   Parks and Protected Areas – the role of parks and protected areas in
       Ontario will be introduced and the types of protected areas in this
       province will be described. Park system mandates, classifications
       and park zoning will be discussed.

IV.   REQUIRED RESOURCES/TEXTS/MATERIALS:
Integrated Resource Management Study Guide; 2009 edition (preferred)

V.   EVALUATION PROCESS/GRADING SYSTEM:

Tests – 3 tests worth 50%
Assignments, Quizzes 50% There will be 8 to 10 assignments throughout
the course. Video presentations or guest speakers may be followed by a
quiz.

The following semester grades will be assigned to students in
postsecondary courses:

Grade	Definition	Grade Point Equivalent
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00

CR (Credit)	Credit for diploma requirements has been awarded.
S	Satisfactory achievement in field /clinical placement or non-graded subject area.
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.
NR	Grade not reported to Registrar's office.
W	Student has withdrawn from the course without academic penalty.

VI.   SPECIAL NOTES:

Disability Services:
If you are a student with a disability (e.g. physical limitations, visual
impairments, hearing impairments, or learning disabilities), you are
encouraged to discuss required accommodations with your professor
and/or the Disability Services office. Visit Room E1101 or call Extension
2703 so that support services can be arranged for you.

Retention of Course Outlines:
It is the responsibility of the student to retain all course outlines for possible
future use in acquiring advanced standing at other postsecondary
institutions.

Communication:
The College considers **WebCT/LMS** as the primary channel of
communication for each course. Regularly checking this software platform
is critical as it will keep you directly connected with faculty and current
course information. Success in this course may be directly related to your
willingness to take advantage of the **Learning Management System**
communication tool.

Plagiarism:
Students should refer to the definition of "academic dishonesty" in *Student
Code of Conduct*. Students who engage in academic dishonesty will
receive an automatic failure for that submission and/or such other penalty,
up to and including expulsion from the course/program, as may be decided
by the professor/dean. In order to protect students from inadvertent
plagiarism, to protect the copyright of the material referenced, and to credit
the author of the material, it is the policy of the department to employ a
documentation format for referencing source material.

Course Outline Amendments:
The professor reserves the right to change the information contained in
this course outline depending on the needs of the learner and the
availability of resources.

Substitute course information is available in the Registrar's office.

Assignments:
Assignments received after 4:00 pm. on the day they are due will receive a
10% deduction. For every day an assignment is late, 10% will be
deducted. No assigned will be accepted after the assignment has been
returned to the class.

<u>Tests:</u>
Tests will be announced 1 week ahead of the day they are scheduled. It is the responsibility of the student to inform the instructor ahead of time if a test will be missed otherwise a mark of 0 will be assigned.

VII.   PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.