SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE:	WETLAND CONSERVATION
CODE NO. :	NET210 **SEMESTER:** 3
PROGRAM:	NATURAL ENVIRONMENT TECHNICIAN/TECHNOLOGIST FISH & WILDLIFE CONSERVATION TECHNICIAN
AUTHOR:	T. Winter (Modified by C. Marcinkowski)
DATE:	AUG 2014 **PREVIOUS OUTLINE DATED:** AUG 2013
APPROVED:	"C. KIRKWOOD"

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DEAN **DATE**

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

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For additional information, please contact Colin Kirkwood; Dean, Environment/Design/Business, School of Environment, Technology, Business (705) 759-2554, Ext. 2688

WETLAND CONSERVATION NET 210
COURSE NAME **COURSE NO.**

I. COURSE DESCRIPTION:

This course provides the biological background for conservation and management of wetland habitats, emphasizing aquatic community component identification, biology and structure. Students will learn how to identify many types of wetlands and categorize them based on their structure. Means by which wetlands are afforded protection will be explored, including conservation limitations, and enhancement to optimize recreational, social, aesthetic and economic values. Steps in the Ontario Wetland Evaluation System process will be completed through both in-field and in-class activities.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Compare the classes of wetlands in Canada, and the ecological characteristics of each class.

Potential Elements of the Performance:

- Research the classes of wetlands from reference material.
- Identify wetland types and summarize characteristics of each, including hydrological criteria.
- Describe the values wetlands have and the major reasons for wetland loss.
- Identify wildlife habitat enhancement features including nesting structures for marsh birds.
- Review waterfowl ecology and management and discuss the role wetlands play in their conservation.

2. Identify and discuss the role of biological components of wetlands including indicator species.

Potential Elements of the Performance:

- Using actual specimens and/or visual materials, identify indicator species commonly found in wetlands.
- Describe the habitat and roles of wetland dwelling species including; amphibians, reptiles, aquatic plants, marsh birds and mammal.
- Read about and answer questions pertaining to management aspects of wetlands including flora, invertebrates, marsh birds and mammals.
- Learn about different methods for surveying wetland species.

3. Perform steps involved in completing an assessment of a local wetland and submit a written wetland evaluation using the Ministry of Natural Resources "Ontario Wetland Evaluation System".

Potential Elements of the Performance:

- Review the procedures described in the Ontario Wetland Evaluation System (Northern Manual).
- Perform a field survey of a wetland using the above procedure focusing on the Biological, Social, Hydrological and Special Feature Components learned about in class.
- Complete the maps and forms required for a wetland survey.
- Use GIS to delineate vegetation communities to determine total wetland size and fractional areas as required for scoring the wetland.
- Review and compare an evaluation of a local provincially significant wetland to the wetland assessed by the student.

4. Compare physical, chemical, and biological methods of vegetation management in wetlands in terms of methods of application, economic and ecological costs and public acceptance.

Potential Elements of the Performance:

- Review the assigned readings and case studies on vegetation management, and discuss why vegetation and vegetation control may constitute a problem for managers.
- Discuss and evaluate the advantages/disadvantages of the methods of physical, chemical, and biological vegetation management.

5. Discuss structures and methods of water-level control for the conservation and enhancement of wetland productivity.

Potential Elements of the Performance:

- Describe types of water level manipulation devices, discussing the purpose and function of each.
- Describe the ecological effects of implementing the use of water-level control structure, with emphasis on vegetation and benthic communities.
- Discuss how water control structures are used for biological vegetation control.

6. Research issues and planning initiatives in wetland conservation, rehabilitation and restoration.

Potential Elements of the Performance:

- Using literature, media and electronic resources prepare and report on a wetland profile or issue as a case study.
- Summarize planning efforts and legislation in place to mitigate wetland loss and afford protection.

III. TOPICS:

Note: These topics sometimes overlap several areas of skill development and are not necessarily intended to be explored in isolated units or in the order below

1. Wetland ecosystem characteristics
2. Biological components and indicators in wetlands
3. Wetland evaluation systems
4. Vegetation management & water level control
5. Wetland conservation and enhancement

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Harding, J.H., 1997. ***Amphibians and Reptiles of the Great Lakes Region.*** The University of Michigan Press. Ann Arbor, MI. 400 pp.

A bird field guide of your choosing that covers birds of North America (Sibley, Peterson or National Geographic)

Ontario Wetland Evaluation System; Northern Manual. Ontario Ministry of Natural Resources. 288 pages **available on LMS as a pdf and hard-copies available for sign-out from your instructor**

LMS (it is very important that you log into LMS daily)

Calculator, Pencils, Clip Board, Mylar Sheet

Hardhat, Safety Boots, Reflective Vest, (Recommended: Rubber Boots, Rain Suit)

Recommended/Optional:

Newmaster, S.G., 1997. ***Wetland Plants of Ontario***. Lone Pine Publishing. Edmonton, AB. 240 pp. ***currently out of print, but the best well-rounded field guide for Ontario if you can get your hands on one***

Kurta, A. 1995. ***Mammals of the Great Lakes Region.*** Rev. Ed. The University of Michigan Press. Ann Arbor. 376 pp.

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V. EVALUATION PROCESS/GRADING SYSTEM:

Exams & Quizzes	45%
Participation	5%
Wetland Evaluation	20%
Wetland Profile	10%
Reading Assignments	20%
TOTAL	100%

The following semester grades will be assigned to students:

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:

Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

Conduct**:**

Any student who, in the judgement of the instructor, behaves inappropriately in scheduled classes or copies the work of another student without the instructor's permission, will be subject to all the terms and conditions in the student's rights and responsibilities hand book and may, after reviewing the situation with the instructor, be asked to leave the course with an F grade.

Evaluation:

To be eligible to make up for a missed test, the instructor must be contacted via phone or email ASAP to discuss make-up options. **Students not contacting the instructor prior to a missed test/quiz or within a day afterwards will get a zero except under extenuating circumstances; e.g. doctor's note.**

Late assignments **WILL NOT** be accepted, except under extenuating circumstances; e.g., doctor's note

The instructor cannot guarantee responses to questions in the 24-hour period prior to assignment deadlines and tests/exams via phone message or email.

VI. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.