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Course Name

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Code No.**I. COURSE DESCRIPTION:**

This course will provide the biological background for management of wetland habitats, emphasizing aquatic community component identification, biology and management. Students will learn how to evaluate wetlands, assess their limitations, and research and design a plan for their enhancement to optimize recreational, social, aesthetic and economic values.

**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, identify causes for their loss and conservation efforts.*
  - Potential Elements of the Performance:
  - Research the classes of wetlands from reference material
  - Summarize characteristics of each wetland class
  - Describe the values of each wetland class and potential reasons for wetland loss
  - Summarize planning efforts and legislation in place to mitigate wetland loss
  - *This outcome will constitute approximately 15% of final grade*
  
2. *Identify and discuss the role of the biological component of wetlands.*

Potential Elements of the Performance:

  - Review written reports on the role of indicator species in wetlands (from "readings" study manual) and complete response sheets
  - Using actual specimens, study skins, slides or visual materials, identify indicator species of amphibians, reptiles, macro-invertebrates, aquatic plants, birds and mammals commonly found in wetlands.
  - Fill in the data sheet assignment (from study manual) to describe the identifying features, sites and roles of the above species.

*This outcome will constitute approximately 45% of final grade*

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3. *Follow steps to evaluate local wetland(s) by the Environment Canada/ Ministry of Natural Resources "Ontario Wetland Habitat Evaluation" survey protocol.*

Potential Elements of the Performance:

- Review the procedures described in the Ontario Wetland Habitat Evaluation Manual (Northern Region)
- Perform a field survey of a wetland using the above procedure while at field camp
- Complete the maps and forms required for this survey after returning to the College
- Compare other wetland evaluation systems to this survey in terms of methodology, time requirements and results.
- *This outcome will constitute approximately 20% of final grade*

4. *Compare physical, chemical, and biological methods of vegetation management in wetlands, and water level control.*

Potential Elements of the Performance:

- Review the assigned readings on vegetation management, and discuss why vegetation and vegetation control may constitute a problem to managers
- Discuss and rate the advantages of the methods of physical, chemical, and biological vegetation control
- Prepare a chart to summarize the above
- Review assigned readings to assess the purpose and types of water level manipulation and control
- Discuss the relative merits and draw-backs of various control devices

*This outcome will constitute approximately 10% of final grade*

5. *Carry out a wetland monitoring survey following existing protocols as the Marsh Monitoring Program survey.*

Potential elements of the performance:

- Complete a marsh bird survey in the field using a broadcast audio device.
- Complete field forms accurately to conduct amphibian survey.
- Map out and record survey plot description and vegetation forms.
- Discuss the application of the Marsh Monitoring Program.

*This outcome will constitute approximately 10% of final grade*

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Code No.**III. TOPICS:**

1. Wetlands and their roles in Ecosystems
2. Biological components of Wetlands
3. Wetland losses
4. Wetland evaluation
5. Vegetation management & water level control
6. Wetland wildlife surveys

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

1. *Wetland Management course manuals*. There are 2 parts:
  - a. Study Guide & Lab Manual
  - b. Readings in Wetland Management
2. MacCulloch, R.D., 2002. *The Royal Ontario Museum Field Guide to Amphibians and Reptiles of Ontario*. McClelland and Stewart Ltd. Toronto, Ontario. 168 pp.
3. Newmaster, S., 1997. *Wetland Plants of Ontario*. Lone Pine Publishing.
4. Peterson, R.T., 2002. *Birds of Central and Eastern North America*. Houghton Mifflin Company. New York, New York.

## RESOURCE MATERIALS AVAILABLE IN THE COLLEGE LIBRARY :

1. Bellrose, F.C., 1980. Ducks, Geese and Swans of N.A., 3<sup>rd</sup> E., Stackpole, Penn. 540 pp.
2. Bookhout, T.A., E. 1994, Research and Management Techniques for Wildlife and Habitats, Fifth ed., The Wildlife Society, Bethesda, Md., 740 pp.
3. Linde, A.F., 1969. Techniques for Wetland Management. Department of Natural Resources, Madison, Wisconsin. 156 pp.
4. Rue, L.L. III, 1980. Fur-bearing Animals of North America. Crown publ. N.Y. 343 pp.
5. U.S.D.I. 1988-1994. Waterfowl Management Handbook. U.S. Department of the Interior, Washington, D.C. Series of Fish & Wildlife leaflets.

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**V. EVALUATION PROCESS/GRADING SYSTEM:**

Evaluation Process:

Quizzes	- 5%
Assignments	- 15%
Term tests based on theory	- 30%
Wetland evaluation summary/maps	- 20%
Practical tests	<u>- 30%</u>
	100%

Practical test marks will be based on the following:

1. Aquatic vegetation quiz (7%)
2. Wetland bird-mammal quiz (7%)
3. Herptile quiz (7%)
4. Marsh monitoring (7%)
5. Jeopardy (2%)

The following semester grades will be assigned to students:

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

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Code No.**VI. SPECIAL NOTES:**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.

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.

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. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

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

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

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.

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.

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Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Code of Conduct*. A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment of a lower grade with explanation, (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade “C”, (iv) make an automatic assignment of a failing grade, (v) recommend to the Chair dismissal from the course with the assignment of a failing grade. 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.

Student Portal:

The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations, in addition to announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more. Go to <https://my.saultcollege.ca>.

Electronic Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

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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. *It is the departmental policy that once the classroom door has enclosed, the learning process has begun. Late arrivers will not be granted admission to the room.*

Tuition Default:

Students who have defaulted on the payment of tuition (tuition has not been paid in full, payments were not deferred or payment plan not honoured) as of the first week of November will be removed from placement and clinical activities. This may result in loss of mandatory hours or incomplete course work. Sault College will not be responsible for incomplete hours or outcomes that are not achieved or any other academic requirement not met as of the result of tuition default. Students are encouraged to communicate with Financial Services with regard to the status of their tuition prior to this deadline to ensure that their financial status does not interfere with academic progress.