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SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



Sault College

COURSE OUTLINE

COURSE TITLE:	ECOSYSTEM CLASSIFICATION		
CODE NO. :	NRT 256	SEMESTER:	3
PROGRAM:	FISH AND WILDLIFE ,PARKS AND OUTDOOR RECREATION ,FORESTRY TECHNICIAN, FIELD NATURALIST, ECOSYSTEM SURVEYS-FIELD SKILLS		
AUTHOR:	Mark Harvey		
DATE:	May 2009	PREVIOUS OUTLINE DATED:	May 2008
APPROVED:	"B. Punch"		
		<hr/>	
		CHAIR	DATE
TOTAL CREDITS:	3		
PREREQUISITE(S):			
HOURS/WEEK:	3		

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For additional information, please contact Brian Punch Chair School of Natural
Environment / Outdoor Studies & Technology Programs
(705) 759-2554, Ext. 2681*

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

Ecosystem classification is a survey of natural aquatic and terrestrial ecosystems and associated plant communities found in central Ontario. A wide variety of plants will be identified. Emphasis will be placed on using plants for the classification of forest and wetland ecosystems using ecological classification systems designed for use in the local area. Students will gain an appreciation for the the structure, function and diversity found in forested and aquatic plant communities. Non-timber plants will be considered as ecosystem indicator plants, wildlife food and habitat and as potential non- timber forest products. The taxonomy, biology and ecology skills and knowledge students pick –up throughout this course will be cumulative and should help students to enter the job market with a marketable skill set.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Identify Forest Plant Species.

Potential Elements of the Performance:

The numbers of plants identified may vary slightly due to seasonal effects such as climate on the availability of plant materials

- Identify all trees shrubs and herbaceous plants from previous Dendrology courses NRT102 and NRT107
- Identify 17-23 fern species
- identify 28-35 mosses
- identify 3-6 club mosses
- identify 3-5 horse tails
- identify 12-17 lichens
- identify 5-8 grasses
- identify 3-6 sedges
- identify 12-15 lichens
- Use these identification skills to determine vegetation type and ecosite classification units.

2. Identify 30-40 Aquatic plants

Potential Elements of the Performance:

- Identify 10-15 submergent plant species
- identify 12-15 emergent plant species

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- identify 5 -10 floating plant species
 - Use these identification skills to determine vegetation and ecosite classification units
3. Identify up to (8) Terrestrial and Wetland Ecosystems.

Potential Elements of the Performance:

- using field guides key out 5-6 forest vegetation types in Central Ontario
 - Using a field guide key out 2 wetland ecosites
4. Demonstrate a familiarity with forest ecosystem classification systems used across Canada.

Potential Elements of the Performance:

- List the basic parameters used in ecosystem classification
 - Demonstrate knowledge of the ecological land classification system in Ontario
 - Demonstrate ability to use vegetation keys in classifying ecosystems to the ecosite level
 - relate characteristics of ecosites to moisture and nutrient status using ecosite ordination diagrams
 - demonstrate ability to link ecosites to management applications
 - identify landforms in the field and identify characteristics of land forms and relate these to biological and geological properties of ecosites
 - using common and latin plant names and soil/ site terminology comprehend the information given in ecosystem classification fact sheets used in Ontario
- 5 Identify and describe selected plant features such as flowers , fruiting structures , leaf and stem morphology and use scientific nomenclature when identifying selected plants

Potential Elements of the Performance

- identify , describe and compare using botanical terminology the flowering and fruiting structures of the grasses, sedges and rushes
- identify ,describe and compare the reproductive structures and processes found in ferns, mosses and liverworts
- describe the relationship between plant and fungi in the lichens

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- using taxonomic features and botanical nomenclature use keys to identify selected plant species
- use the binomial system of plant classification and latinized names to correctly identify plant species and genera of selected plants
- describe characteristics of selected families of plants.
- research botanical and ecological information using the internet

III. TOPICS:

1. In field and in the lab identify plants

- Identify mosses and liverworts
- Identify ferns
- Identify grasses and sedges and rushes
- Identify club mosses
- Identify horsetails
- Identify emergent aquatic plants
- Identify submergent aquatic plants
- Identify floating aquatic plants
- Identify lichens

Describe biological processes such as reproduction in selected plants and plant groups

Use scientific nomenclature, terminology and taxonomy to describe and classify selected plants

This will constitute **50%** of the course grade. Plant identification will be cumulative. Students will be expected to be able to identify all plants covered in the course by the end of the course.

Plant ID tests will take place both inside and out doors including pop quizzes.

2. MOSS COLLECTION The project outlined below will be referred to as the moss collection

Students under the direction of the instructor will prepare a moss collection and submit the collection for grading. The moss collection will be organized and structured according to the instructor's specifications. The collection must be submitted at the time and

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place specified by the instructor. The moss collection may also contain specified liverworts and lichens .

This will constitute **15%** of the course grade.

3. Use Forest and wetland ecosystem classification field manuals to assist in developing ecological descriptions of forested and wetland sites.
 - Use ecosystem classification keys to determine vegetation types
 - Use keys to determine ecosite type
 - Link ecosite type to wildlife and timber management activities
 - Link surficial geology and soils attributes to vegetation and ecosite type
 - Identify wetland ecosite types using wetland classification systems
 - Identify , describe and compare a wide variety of terrestrial ecosystems using biological and geological site parametersThis will constitute **20%** of the course grade.

4. List and describe the basic key components of ecosystems , ecosystem diversity and interpret ecosystem classification systems .
 - Interpret the information on a vegetation type fact sheet from the Central Ontario FEC manual.
 - Interpret the information on an ecosite type fact sheet
 - Interpret the information on an ecological interpretations fact sheet
 - Interpret ecological ordination diagrams
 - List the classification units in ascending order of scale used in the Ontario Ecological Land Classification System.
 - Describe the components of an ecosystem classification system
 - List and describe the basic components of forest ecosystems, ecosystem diversity and identify the effects selected management practices have on ecosystem structure, function and diversityThis will constitute **15%** of the course grade.

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IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

- 1, Field Guide to Forest Ecosystems of Central Ontario
- 2, Wetland Plants of Ontario
- 3, Forest Plants of Central Ontario
- 4, Ecosystem Classification / Plant Diversity Study Guide
- 5, A Guide to the Ferns of Grey and Bruce Counties, Ontario

V. EVALUATION PROCESS/GRADING SYSTEM:

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

There will be 5 plant id tests

The best 4 id tests will count towards the final grade. Students may miss one id test with-out penalty

ID TESTS	50%
MOSS COLLECTION	15
FINAL TEST	20
ASSIGNMENTS (FEC)	<u>15</u>
TOTAL	100%

Please note that in order to receive an A+ grade in this course students will be required to show the ability to write the genus and specific epithet spelled correctly when referring to some of the plants covered in this course ON ID TESTS

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	100-90%	4.00
A	80 - 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 - 59 %	1.00
F(fail)	49% or below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject areas.	
U	Unsatisfactory achievement in field /clinical placement or non-graded subject areas.	
X	A temporary grade limited to situations with extenuating circumstances giving a	

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NR student additional time to complete the requirements for a course.
W Grade not reported to Registrar's office.
Student has withdrawn from the course without academic penalty

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 may 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.

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PLEASE NOTE:

- Five (5) plant identification tests will be given for a total of 50% of the course grade.
- The student's best 4 identification tests will be averaged towards their final grade.
- Students must attend **80%** of the scheduled class time to receive a D grade or better. Attendance will be taken approximately 15 -30 minutes after the start of class. Field trips are not optional. A student who misses **3** or more field trips may be asked to repeat the entire course.
- appropriate clothing and safety equipment when on outdoor scheduled field exercises. This will normally include a hard hat, safety boots and a raincoat in wet weather. A student who comes prepared for an outdoor exercise in shoes will be marked absent and will not attend the class and this includes writing tests given in the outdoors.
- 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.

Classes will start exactly on time according to the class schedule. Students who are late for class and as a result miss a field trip will be expected to complete the work on their own at their own expense.

There are no scheduled rewrite exams or tests in this course.

Students are expected to use college provided transportation to attend field trips .

Overlap in scheduling with other courses is not permitted

Students must attend 80% or more of the scheduled class time to receive a D grade or higher in the course.

Outdoor field trips are scheduled classes.

Students must wear safety equipment while in the field unless the instructor indicates it is not required. Safety equipment includes as a minimum safety boots ,hard hat and high visibility vest . The instructor may insist that additional safety equipment be used depending on conditions.