

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



Sault College

COURSE OUTLINE

COURSE TITLE: Forest Practices and the Environment

CODE NO. : NET 252 **SEMESTER:** 4

PROGRAM: Natural Environment Technologist-Conservation and Management

AUTHOR: Brent Attwell

DATE: Jan 2012

APPROVED:

	<u>"B. PUNCH"</u>	<u>Jan 2012</u>
	CHAIR	DATE

TOTAL CREDITS: 3

PREREQUISITE(S): NONE

HOURS/WEEK: 3

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For additional information, please contact Brian Punch, Chair
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I. COURSE DESCRIPTION:

Students are provided with an overview of the characteristics of the forests of Ontario and forest management processes including planning, access, harvest, maintenance and renewal. The focus of the course will be on environmental considerations of forest practices to mitigate damage to ecosystem function.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. **Have an overall understanding of the management planning process on Crown Land.**

Potential Elements of the Performance:

- Overall characteristics of Ontario forests and the changes in forest structure and composition since forestry practices began
- Develop a basic understanding of the laws that govern forestry on crown land in Ontario and the associated guidelines
- Understand the stages of developing a crown forest management plan
- Describe the forest values and their associated crown land user groups
- Recognize the importance of the L.C.C. (local citizens committee) members and public consultation in the planning process
- Annual operating plans and their components
- Compliance monitoring audit programs implemented on crown land (FOIP)
- Forest certification types and guiding principles

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

2. **Explain the potential effects of forest practices 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 habitat
- Become familiar with the habitat needs of selected species and the forest management guidelines associated
- Investigate local issues with the endangered wood turtle and threatened woodland caribou and their associated management
- Describe an old growth forest and explain the values provided by maintaining these ecosystems
- The importance of the emulation of forest fire

This learning outcome will constitute approximately 20% of the course's grade

3. Develop the knowledge required for planning forest access roads and water crossings using best management practices

Potential Elements of the Performance:

- Become familiar with the provincial and federal laws that surround access roads and water crossings and their mandatory standards
- Describe the guidelines and best management practices in road planning-layout along with the appropriate stages of road building
- Describe the guidelines and best management practices for water crossings, their appropriate location and construction.
- Recognize the principles of sediment and erosion control
- Learn the mitigation techniques available to prevent sediment and erosion control on forest roads and at water crossings.

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

4. Explain the potential implications of forest harvesting on the physical environment

Potential Elements of the Performance:

- Types of forest harvesting and logging methods
- Define site damage, site productivity, sensitive sites and best management practices
- List and explain the five potential site damages of forestry

- practices on the physical environment
- Describe key site characteristics that determine harvesting site impact potential
 - Plan and conduct a forest harvest audit inventory using standard equipment and methodology
 - Develop a professional report that summarizes the impacts a logging operation has had on the forest
 - Develop an understanding of harvesting considerations including both management implications and careful logging practices

This learning outcome will constitute approximately 30% of the course's grade

5. Develop a general knowledge of the foundations of silviculture, and the importance of tree marking

Potential Elements of the Performance:

- Understand the general silvics of tree species found in Ontario
- Acquire the foundations of silvicultural systems and their appropriate applications for harvesting
- Be able to understand all of the components required in the development of a silvicultural prescription
- Recognize the importance of tree marking guidelines and how they promote a healthy forest.
- Forest raptors habitat management guidelines-identification and action plan

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

6. Describe the various methods of forest renewal and forest maintenance

Potential Elements of the Performance:

- Differentiate between the Forest Renewal Trust Fund and Forestry Futures Trust Fund
- Be able to comprehend maintenance operations conducted on crown land including crop tree release, brushing, pre-commercial thinning and aerial spraying and their associated best management practices

- Develop an understanding of the different methods of site preparation and their associated best management practices
- Understand the concepts seed zone, container and bareroot stock.
- Become familiar with proper care and handling of planting stock
- List and identify operational tree plant strategies including microsite selection, spacing, densities, planting technique and planting faults
- Develop an operational tree planting prescription typical to northern Ontario (assignment)
- Understand why we use prescribed burns and natural regeneration and their application

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

7. Describe the resources available to private forest management in Ontario and the deficiencies that prevent good forestry practices

Potential Elements of the Performance:

- Understand the components of the Managed Forest Tax Incentive Program (MFTIP) plan available to private landowners in Ontario
- Formulate a general understanding of tree bylaws and their role in private land forestry in Ontario
- Conservation Authorities and their importance
- Legislation for private land including: endangered species act, forestry act, etc.

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

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. Management Planning on Crown Land

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2. Effects of forest practices on wildlife
3. Access roads and watercrossings
4. Forest harvesting and the physical environment
5. Silviculture and tree marking
6. Forest renewal and maintenance
7. Private land management in Ontario

IV. ONLINE REFERENCE RESOURCES/ TEXTS/ MATERIALS:

OMNR. 2010. Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales. Toronto: Queen's Printer for Ontario. 211 pp.

V. EVALUATION PROCESS/GRADING SYSTEM:

MAJOR ASSIGNMENTS AND TESTING

Tests	20%
Assignments	70%
Participation	10%

NOTE:

- Attendance during field trips is **MANDATORY**. Students missing field trips without a valid, documented reason will risk repeating the course.
- ALL** submissions must be made for a passing grade

SUMMARY OF STUDENT EVALUATION

Assignments –	40%
Wildlife AOC Prescription	
Local Citizens Committee	
Tree Planting	
Wildlife Presentation	
Timber Harvesting Audit and Report	20%
Guest Speaker Summaries	15%
Participation	5%
Final Exam	<u>20%</u>
Total	100%

Late Assignments:

Ten percent (%) will be deducted from the total value of the assignment for every day late.

Late Equipment:

Ten percent (%) may be deducted from the total value of the assignment for chronic lateness in returning signed out equipment from the Tech Office

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The following semester grades will be assigned to students:

Grade	<u>Definition</u>	<i>Grade Point Equivalent</i>
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:

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.

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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.

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.

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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.

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.