

COURSE DESCRIPTION:**I.**

The student will examine tree health, abiotic and biotic forest pathogens, forest insects, forest fires, and the impacts of recreation as they relate to the protection of ecological health objectives and safety in parks, recreational areas and protected areas. Numerous readings on Park Protection issues will be examined and discussed. Individual tree health will be assessed. Life cycles of major native and introduced forest insects and diseases are examined. Integrated pest management, control and ecological impacts as they relate to park ecosystem health objectives will be studied. Fire ecology, fire suppression, fire protection, fire use (prescribed burning) and fire weather index are introduced. Other park protection issues include; assessing the impacts of recreational activities on parks, invasive plant / animal species, restoration concepts, the concept of ecological carrying capacity will be discussed.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the CICE student, with the assistance of a Learning Specialist will demonstrate a basic ability to:

1. Describe identification features and life cycles of six orders of forest insects including Lepidoptera, Coleoptera, Hymenoptera, Diptera, Hemiptera, and Homoptera found in park areas.

Potential Elements of the Performance:

- Recognize and label diagrams of various insect body parts and body regions.
 - Describe how forest insects are classified according to taxonomy, feeding location and host species.
 - Draw diagrams of the life cycles for the six orders.
- These outcomes will constitute approximately 10% of the course.

2. Describe the ecological role and management of, forest insects in park areas.

Potential Elements of the Performance:

- Recognize and identify signs and symptoms of insect damage.
- Explain natural control methods including virus, bacteria, and introduced pests.
- Explain environmental impacts on insect populations including temperature, humidity, wind, precipitation, and fire.
- Describe elements of integrated pest management
- Discuss the limitations and environmental implications of each type of control method.

These outcomes will constitute approximately 10% of the course.

3. Describe and identify biotic and abiotic stressors of forest trees in park areas.

Potential Elements of the Performance:

- Classify forest tree diseases by taxonomic, biotic, abiotic, decline, host, part of tree, parasitic / saprobic, and necrotic / atrophic / hypertrophic methods.
- Recognize and identify signs and symptoms of forest disease.
- Identify and describe abiotic stress factors that affect tree health.
- Identify and describe biotic stress factors as agents of tree disease including fungi, bacteria, viruses and parasitic plants.
- Collect and identify hard body fungus types for interpretive purposes.
- Describe life cycles of mycorrhizae, fungi, rusts and decline diseases.

These outcomes will constitute approximately 10% of the course

4. Describe the ecological role and management of, biotic and abiotic stressors of forest trees in park areas.

Potential Elements of the Performance:

- Recognize and identify signs and symptoms of forest tree diseases.- Explain environmental influences on forest tree diseases temperature, cultural damage, construction damage, humidity, wind, precipitation, and fire.
- Complete a hazard tree assessment in a park development zone setting.
- Describe park management strategies to protect tree health.

These outcomes will constitute approximately 20% of the course

5. Describe the ecological role and management of, forest fires in park areas.

Potential Elements of the Performance:

- Describe the Canadian Forest Fire Weather Index.
- Explain the role of forest fire in fire dependant ecosystems.
- Operate forest fire suppression equipment (pumps, hand tools, etc.).
- Describe fire use (prescribed burn) objectives and planning procedures.
- Discuss the environmental implications of forest fire suppression vs. fire management in park areas.

These outcomes will constitute approximately 20% of the course

6. Describe commemorative protection measures and other park protection issues.

Potential Elements of the Performance:

- Name various park system plans, which guide park managers efforts with respect to natural disturbances (The “Grey” Book, National Parks Act, State of the Park reports, etc.)
 - Recognize 5 invasive plant species and describe impacts in park management .
 - Define the concept of ecological integrity.
 - Discuss the rationale for, and principles of, restoration activities.
- These outcomes will constitute approximately 30% of the course

III. TOPICS:

1. Forest Entomology
2. Forest Pathology.
3. Forest Fire Management
4. Park Protection Issues
5. Commemorative Protection.

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Readings in Park Protection. Sault College of Applied Arts and Technology

Barron, G. L., 1999. Mushrooms of Ontario and Eastern Canada. Lone Pine Publishing, Vancouver.

V. EVALUATION PROCESS/GRADING SYSTEM:

Insect ID Test	10%
Entomology Test	10%
Pathology Test	10%
Hard Body Fungus Collection	10%
Forest Fire Weather Ex.	10%
Forest Fire Test	10%
Park Protection Issues Assignment/ Presentation	20%
Commemorative Group Assignment	10%
Final Exam	10%
	Total100%

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

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

Special Needs:

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Special Needs 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.

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.

CICE Modifications:**Preparation and Participation**

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.)
3. Study notes will be geared to test content and style which will match with modified learning outcomes.
4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

A. Tests may be modified in the following ways:

1. Tests, which require essay answers, may be modified to short answers.
2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.
3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues.
4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

B. Tests will be written in CICE office with assistance from a Learning Specialist.***The Learning Specialist may:***

1. Read the test question to the student.
2. Paraphrase the test question without revealing any key words or definitions.
3. Transcribe the student's verbal answer.
4. Test length may be reduced and time allowed to complete test may be increased.

C. Assignments may be modified in the following ways:

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.
2. Some assignments may be eliminated depending on the number of assignments required in the particular course.

The Learning Specialist may:

1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment

D. Evaluation:

Is reflective of modified learning outcomes.