SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: Protecting Park Values

CODE NO. : NRT 211 **SEMESTER:** 3

PROGRAM: Adventure Recreation and Parks Technician

AUTHOR: John Clement (modified by E. Muto)

DATE: AUG 2015 **PREVIOUS OUTLINE DATED: May 2014**

APPROVED:

"Colin Kirkwood"

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Dean **DATE**

TOTAL CREDITS: 3

PREREQUISITE(S): None

HOURS/WEEK: 3

I. PHILOSOPHY/GOALS:

The student will learn about individual tree health, forest health, abiotic and biotic forest pathogens, forest insects, forest fires, and the impacts of recreation as they relate to the protection of park values. 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. Commemorative park protection issues round out the course.

II. STUDENT LEARNING OUTCOMES

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

1) Assess the health of forest trees in park areas.

Potential Elements of the performance.

- Complete a health assessment of a tree in a park area including live crown to height ratio, per cent crownal necrosis, crown density, bark vigour, and visible pathogens.
- Recognize and identify signs and symptoms of forest tree diseases. - Describe and identify biotic and abiotic stressors of forest trees in park areas.
- Explain environmental influences on forest tree health including temperature, cultural damage, construction damage, humidity, wind, precipitation, and fire .
- Describe park management strategies to protect tree health.
- Research forest pathogens by species.

This outcome will constitute approximately 20% of the course

2) Describe the ecological role and management of, 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 20% of the course.

3) 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.

4) 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 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.

Elements of the Performance:
-Research a park area and explain the ways the park is protecting commemorative values.
-Explain the role of interpretation in commemorative value protection.
This outcome is work approx. 10% of the course.

III. **POTENTIAL TOPICS TO BE COVERED:**

Assessing tree health.
Hard Bodied Fungus ID and Interpretive Value.
Researching forest pathogens by tree species.
Forest Entomology.
Forest Pathology.
Recreational Impact Assessment.
Forest Fire Management.
Commemorative Values Protection.

IV. **REQUIRED STUDENT RESOURCES**

Lincoff, G.H. 1982. **Simon and Schuster's Guide to Mushrooms**. Touchstone Publishing.

V. **EVALUATION METHODS: (INCLUDES ASSIGNMENTS, ATTENDANCE REQUIREMENTS, ETC.)**

The final grade will be based on the following:

1)	Assess Forest Tree Health Assignment	10%
2)	Hard Bodied Fungus Collection	10%
3)	Hard Bodied Fungus ID Quiz	10%
4)	Insect ID Assignment	5%
5)	Insect ID Quiz	10%
6)	Forest Pathogen Research Assignment & Presentation	20%
7)	Fire Weather Index Assignment	10%
8)	Commemorative Protection Assignment	5%
9)	Final Exam	20%

Note: Due dates for assignments will be provided. Late assignments will not be accepted.

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

Grade	Definition	Grade Point Equivalent
A+	90 – 100%	4.00
A	80 – 89%	4.00
B	70 – 79%	3.00
C	60 – 69%	2.00
D	50-59%	1.00
F (Fail)	49% or less	0
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field placement or non-graded subject areas.	
U	Unsatisfactory achievement in field placement or non-graded subject areas.	
X	A temporary grade – limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see Policies & Procedures Manual – Deferred Grades and Make-up).	
NR	Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has been impossible for the faculty member to report grades.	

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

VI. COURSE OUTLINE ADDENDUM:

Please review the course outline addendum on portal.