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## I. COURSE DESCRIPTION:

### Trees and Shrubs I (NRT0101)

The CICE student, with assistance from a Learning Specialist, will acquire a basic knowledge in regard to the systematic study of structural characteristics of trees and shrubs, the identification of Canadian species by leaf features, their relationships to one another and recognition of their dynamic role in forest ecology. Coniferous species will be studied in considerable detail including twig, bark and growth characteristics.

## 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 the basic ability to:

1. Identify species of broad-leaved trees and shrubs native to Ontario (and a few introduced) in summer condition.

### Potential Elements of the Performance:

- for a particular tree or shrub:
  - assess features including leaves, bark, flowering and fruiting structures, growth form and ecological associations
  - determine which features are best applied to the identification task at hand
  - apply knowledge of and experience with key features to correctly identify the tree or shrub
  - use correct terminology to describe key features
  - correctly spell common names (trees and shrubs) and scientific names (trees)

2. Identify northeastern (native and introduced), and some northwestern (native) North American, coniferous trees and shrubs.

### Potential Elements of the Performance:

- for a particular tree or shrub:
  - assess features including foliage, bark, cones, growth form and ecological associations
  - determine which features are best applied to the identification task at hand

- apply knowledge of and experience with key features to correctly identify the tree
  - use correct terminology to describe key features
  - correctly spell common and scientific names
3. Identify the leaves of native broad-leaved trees encountered in southern Ontario's Deciduous (i.e., Carolinian) forest.

Potential Elements of the Performance:

- assess key leaf features to correctly identify to species
  - correctly spell common names
4. Associate broad-leaved and coniferous trees with silvical characteristics such as longevity, shade tolerance, site requirements (e.g., soil moisture) and range in Canada.

Potential Elements of the Performance:

- identify the range of selected species across Canada
  - identify which species may be present in an area given particular site conditions and disturbance history
5. Identify, collect, press and mount leaves of common Ontario broad-leaved tree and shrub species.

Potential Elements of the Performance:

- using available resources, identify trees and shrubs in the field
  - collect representative leaves from each species identified
  - using a press of the students own design, dry leaves in a manner that prevents discolouration and preserves the integrity of the leaf
  - neatly mount and label pressed leaves
6. Identify coniferous and broad-leaved branch/leaf samples to family, genus or species using dichotomous keys provided.

Potential Elements of the Performance:

- associate terminology with their definitions
  - evaluate options set forth in a dichotomous word key
  - follow a dichotomous word key in an orderly, systematic manner
7. Identify, using scientific names, foliage and/or fruiting structure/cone of Ontario predominate tree species (broad-leaved and coniferous) to 90% accuracy. A maximum of three (3) attempts to achieve is permitted.

Potential Elements of the Performance:

- for a particular foliage/ fruiting structure/cone sample:
  - apply knowledge of and experience with key features to correctly identify the foliage and/or fruiting structure/cone
  - correctly spell scientific and common names

### III.

#### TOPICS:

Note: These topics will not necessarily be explored as isolated learning units, or in the order presented below:

1. Identification of native (and a few introduced) Ontario broad-leaved trees and shrubs in summer condition.
2. Identification of cones and foliage of northeastern (native and introduced), and some northwestern (native) North American, coniferous trees and shrubs.
3. Identification of native broad-leaved trees encountered in southern Ontario's Deciduous (i.e., Carolinian) forest in summer condition.
4. Collection, pressing, mounting and labelling of herbarium specimens.
5. Aesthetic, cultural and historical values of Ontario trees and shrubs.
6. Silvical characteristics of native Ontario broad-leaved and coniferous trees.
7. Use of dichotomous keys.

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

- Barnes, B. V. and Wagner, W. H. Jr. (2004). Michigan Trees, Revised and Updated, University of Michigan Press
- Chambers et al. (1996). Forest Plants of Central Ontario, Lone Pine Publishing
- 10x power loupe
- Hardhat, CSA approved safety boots, reflective vest

#### V. OPTIONAL RESOURCES/TEXTS/MATERIALS:

- Kershaw, L. J. (2001). Trees of Ontario, Including Tall Shrubs, Lone Pine Publishing
- Newmaster, S. G. (2013). Woodlot Biodiversity, 2nd Edition. Newmaster Publishing Ltd.

#### VI. COURSE CREDIT

- To obtain a credit for this course requires the achievement of:

(1) an overall course average of 50% (see VII. EVALUATION PROCESS/GRADING SYSTEM below); and

## VII.

### EVALUATION PROCESS/GRADING SYSTEM:

Identification tests/quizzes	55 %
Collections	15 %
Lecture tests/quizzes	15 %
Assignments	15 %

The following semester grades will be assigned to students:

Grade Definition	Grade Point Equivalent
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.

If a faculty member determines that a student is at risk of not being successful in their academic pursuits and has exhausted all strategies available to faculty, student contact information may be confidentially provided to Student Services in an effort to offer even more assistance with options for success. Any student wishing to restrict the sharing of such information should make their wishes known to the coordinator or faculty member.

## VIII. 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.

#### VIV. COURSE OUTLINE ADDENDUM:

Further modifications may be required as needed as the semester progresses based on individual student(s) abilities and must be discussed with and agreed upon by the instructor.

#### **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.