COURSE OUTLINE: NRT133 - TREES AND SHRUBS II

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Course Code: Title	NRT133: TREES AND SHRUBS II
Program Number: Name	5212: ADVENTURE RECREATION 5214: FISH/WILD CONSERVATN 5220: NAT ENVIRONMENT TN 5230: FORESTRY TECHNICIAN
Department:	NATURAL RESOURCES PRG
Academic Year:	2024-2025
Course Description:	Students will learn how to identify plants located in and around the upper Great Lakes region including native deciduous trees and shrubs, native herbaceous and dwarf woody plants, and woody and herbaceous plants considered invasive. Focus will be on gaining skills enabling the identification of trees and shrubs in leaf-off condition using twig, bark, silhouette, reproductive structures and other unique identifying features, and identification of herbaceous and dwarf woody plants using foliage and floral characteristics. The silvics of tree species will be studied to complement their identification. Predominately delivered outdoors in the field in all weather conditions.
Total Credits:	3
Hours/Week:	3
Total Hours:	42
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Substitutes:	NRT107
Vocational Learning Outcomes (VLO's) addressed in this course: **Please refer to program web page for a complete listing of program outcomes where applicable.**	**5212 - ADVENTURE RECREATION** VLO 1 Demonstrate clear, concise and industry appropriate written, spoken and visual communication skills. VLO 2 Identify, discuss, organize and assess common Flora & Fauna species found throughout ON, including biological and physiological characteristics. VLO 7 Describe the scientific method and how it shapes our understanding of the ecology of the natural world. VLO 11 Analyze, evaluate and apply subjective and objective safety considerations for Adventure Recreation and Parks activities. **5214 - FISH/WILD CONSERVATN** VLO 1 Demonstrate clear, concise and industry appropriate written, spoken and visual communication skills VLO 2 Identify, discuss, organize and assess common flora and fauna species found throughout Ontario, including biological characteristics

	VLO 3 Demonstrate the ability to follow standardized protocols to collect field data on fish and wildlife populations in a variety of weather and site conditions.
	VLO 11 Analyze, evaluate and apply subjective and objective safety considerations.

5220 - NAT ENVIRONMENT TN

VLO 1 Collect data from representative biological and environmental samples using routine test procedures.

VLO 2 Utilize natural resources equipment and technology to accurately identify ecosystem components for purposes of conserving and managing natural resources.

VLO 3 Apply the basic concepts of science to natural resource conservation and management.

VLO 4 Conduct natural environment assessments according to standard field survey methods, including the use of appropriate equipment and materials.

VLO 11 Communicate technical information accurately and effectively in oral, written and visual forms.

5230 - FORESTRY TECHNICIAN

VLO 2 Assess soil characteristics, vegetation and wildlife habitats to identify their interactions within forest ecosystems.

VLO 8 Work independently and in a collaborative environment while applying effective teamwork, leadership and interpersonal skills.

VLO 9 Communicate technical information to a variety of stakeholders in oral, written, visual and electronic forms.

Essential Employability Skills (EES) addressed in this course:	EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.
	EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication.
	EES 4 Apply a systematic approach to solve problems.
	EES 5 Use a variety of thinking skills to anticipate and solve problems.
	EES 6 Locate, select, organize, and document information using appropriate technology and information systems.
	EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.
	EES 10 Manage the use of time and other resources to complete projects.
	EES 11 Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 50%, D A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.
Other Course Evaluation & Assessment Requirements:	Missed Identification Test/Lab Assignment: Identification Tests will normally occur weekly during lab portion of the course.

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No makeups will be allowed for field (outdoor) identification tests except under extenuating circumstances.

Missed Lecture Test/Quiz:

Lecture tests/quizzes will be announced at least one week in advance.

For a student to be eligible to complete a missed lecture test/quiz, the instructor must be contacted in person or via email to discuss makeup options prior to a missed class or within 48 hours after the date of the missed lecture test/quiz. Students not contacting the instructor within this time period will get a zero grade on a given assessment for that particular day, except under extenuating circumstances (e.g., doctor`s note).

Academic success is directly linked to attendance. Missing more than 1/3 of the course hours in a semester shall result in a F Grade for this Course

Books and Required Resources:	Michigan Trees, Revised and Updated by Barnes, B. V. and Wagner, W. H. Jr. (2004) Publisher: University of Michigan Press Michigan Vines and Shrubs by Barnes, B. V. et al. (2016) Publisher: University of Michigan Press Newcomb`s Wildflower Guide by Newcomb, L. (1989) Publisher: Little, Brown and Company, Toronto

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Identify broad-leaf species trees and shrubs in leaf-off condition.	1.1 Identify the morphological features of a woody twig using appropriate terminology. 1.2 Identify and describe flowering or fruiting structures using appropriate terminology and relate to taxonomic group. 1.3 Use features such as twigs, bark, flowering and fruiting structures, growth form and ecological associations to correctly identify a particular tree or shrub by their common name. 1.4 Associate common names with scientific names for all deciduous trees and shrubs studied. 1.5 Identify Ontario`s predominate deciduous tree species (11) by their scientific name.

Course Outcome 2	Learning Objectives for Course Outcome 2
2. Associate key identification features with the common names of commercially important Western Canadian coniferous trees.	2.1 Recognize commercially important Western Canadian coniferous trees. 2.2 Associate key features with common names.

Course Outcome 3	Learning Objectives for Course Outcome 3
3. Identify woody and herbaceous plants using dichotomous word keys (winter leaf-off trees and	3.1 Associate technical terms with their definitions. 3.2 Evaluate options set forth in a dichotomous word key.

	shrubs, flowering herbaceous and dwarf woody plants).	3.3 Follow a dichotomous word key in an orderly, systematic manner.
	Course Outcome 4	**Learning Objectives for Course Outcome 4**
	4. Identify herbaceous and dwarf woody plants and woody and herbaceous plants considered invasive.	4.1 Use features including leaf characteristics and flower structure, size, and colour to correctly 4.2 Identify a particular plant. 4.3 Recognize the ecological and societal impacts of invasive plants.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments	20%
Identification tests/lab assignments	60%
Lecture tests/quizzes	20%

Date: July 30, 2024

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.