COURSE OUTLINE: NET252 - FOREST PRACT & ENV

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Approved: Sherri Smith, Chair, Natural Environment, Business, Design and Culinary

Course Code: Title	NET252: FOREST PRACTICES AND THE ENVIRONMENT
Program Number: Name	5214: FISH/WILD CONSERVATN 5220: NAT ENVIRONMENT TN
Department:	NATURAL RESOURCES PRG
Academic Year:	2023-2024
Course Description:	Students are provided with an overview of forest management processes in Ontario including planning, access, harvest, maintenance and renewal. The focus of the course will be on the environmental considerations of forest practices to mitigate damage to ecosystem function.
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.
Vocational Learning Outcomes (VLO's) addressed in this course: **Please refer to program web page for a complete listing of program outcomes where applicable.**	**5214 - FISH/WILD CONSERVATN** VLO 1 Demonstrate clear, concise and industry appropriate written, spoken and visual communication skills VLO 6 Understand the importance of managing fish and wildlife resources in Ontario and related federal, provincial and municipal legislation. VLO 7 Recognize the contributions and applications of various science disciplines in the understanding of natural environments. VLO 8 Demonstrate an understanding of sustainable development and apply these principles to the natural environment. VLO 10 Evaluate and apply current technologies and mathematical concepts used to collect, manage and analyze data. VLO 11 Analyze, evaluate and apply subjective and objective safety considerations. **5220 - NAT ENVIRONMENT TN** 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 7 Work safely in adherence to occupational health and safety standards. VLO 8 Complete all work in compliance with applicable municipal, provincial and federal

	standards and guidelines. VLO 11 Communicate technical information accurately and effectively in oral, written and visual forms. VLO 12 Travel accurately in a timely manner in the outdoors using appropriate navigation aids and motorized transport equipment. VLO 13 Apply awareness of global environmental issues to conservation and management of natural resources.
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 3 Execute mathematical operations accurately. 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:	Academic success is directly linked to attendance. Missing more than 1/3 of course hours in a semester shall result in an automatic F Grade. Attendance during field trips is MANDATORY to obtain any associated marks from the activities. Ten percent (10%) will be deducted from the total value of the assignment for every day late. Assignments are due at the beginning of the class and even if handed in later in the day it counts as one day late.

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
Gain an understanding of forest management planning steps and processes in Ontario.	1.1 Describe Ontario forests and historic changes in forest structure and composition. 1.2 Develop a basic understanding of the laws that govern forestry operations in Ontario and the associated guidelines. 1.3 Understand the stages and user groups involved in developing a forest management plan. 1.4 Describe various forest values and how associated user groups can influence management planning decisions. 1.5 Recognize the importance of local citizens committees and public consultation in the management planning process.

	1.6 Gain exposure to published annual operating plans and their components. 1.7 Learn how compliance monitoring audit programs are implemented. 1.8 study associated forest certification types and guiding principles.
Course Outcome 2	**Learning Objectives for Course Outcome 2**
Explain the effects of forest harvesting and renewal practices on wildlife populations and learn how management activities can be modified to provide adequate wildlife habitat support.	2.1 Understand the concepts of coarse versus fine filter and their associated management considerations. 2.2 Compare and describe the landscape effects of harvesting versus natural disturbances and their effect on wildlife habitat. 2.3 Describe the habitat requirements of major Ontario generalist and specialist wildlife species. 2.4 Become familiar with the habitat needs of selected species and the forest management guidelines associated. 2.5 Investigate local issues with the endangered wood turtle and threatened woodland caribou and their associated management. 2.6 Describe an `old growth` forest and explain the values provided by maintaining these ecosystems. 2.7 Understand the importance of emulating forest fire when harvesting using clearcut methods.
Course Outcome 3	**Learning Objectives for Course Outcome 3**
Develop the knowledge required for planning, maintaining and decommissioning forest access roads and water crossings.	3.1 Become familiar with the provincial and federal laws that surround access roads and water crossings and their mandatory standards. 3.2 Describe the guidelines and best management practices in road planning-layout along with the appropriate stages of road building. 3.3 Describe the guidelines and best management practices for water crossings, their appropriate location and construction. 3.4 Recognize the principles of sediment and erosion control. 3.5 Learn the mitigation techniques available to prevent sediment and erosion control on forest roads and at water crossings. 3.6 Gain an understanding of measures used to protect habitat when removing beaver dams, culvert maintenance, ice bridges and snow fills,
Course Outcome 4	**Learning Objectives for Course Outcome 4**
Explain potential implications of forest harvesting methods and equipment on the physical environment.	4.1 Study and differentiate between types of forest harvesting and logging methods. 4.2 Define site damage, site productivity, ecosystem resilience, sensitive sites and best management practices. 4.3 List and explain the five potential site damages of forestry practices on the physical environment. 4.4 Describe key site characteristics that determine harvesting site impact potential. 4.5 Complete a forest harvest compliance audit using standard equipment and methodology.

		4.6 Develop a professional report that summarizes what impacts a local harvesting operation has had on the forest. 4.7 Develop an understanding of harvesting considerations including both management implications and careful logging practices.
	Course Outcome 5	**Learning Objectives for Course Outcome 5**
	Develop a general knowledge of the foundations of silviculture, and the importance of tree marking.	5.1 Understand the general silvics of tree species found in Ontario. 5.2 Acquire the foundations of silvicultural systems and their appropriate applications for harvesting. 5.3 Understand what components are required in the development of a silvicultural prescription. 5.4 Recognize the importance of tree marking guidelines and how they promote a healthy forest. 5.5 Learn about forest raptor habitat management guidelines.
	Course Outcome 6	**Learning Objectives for Course Outcome 6**
	Describe the various methods of forest renewal and forest maintenance.	6.1 Differentiate between the Forest Renewal Trust Fund and Forestry Futures Trust Fund. 6.2 Describe different forest maintenance operations including: crop tree release, brushing, pre-commercial thinning and aerial spraying. 6.3 Develop an understanding of different site preparation equipment and methods. 6.4 Understand the concepts of seed zone, container and bareroot stock. 6.5 Become familiar with proper care and handling of planting stock. 6.6 List and identify operational tree plant strategies including microsite selection, spacing, densities, planting technique and planting faults. 6.8 Understand the use of prescribed burning and their application in natural regeneration.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments	20%
Field Trips	30%
Final Exam	20%
Presentation	10%
Quizzes	20%

Date: July 13, 2023

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