COURSE OUTLINE: NET252 - FOREST PRACT & ENV

Prepared: Gerard Lavoie
Approved: Karen Hudson, Dean, Community Services and Interdisciplinary Studies

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:	2024-2025
Course Description:	Students will be able to explain and analyze the forest management processes in Ontario, including planning, access, harvest, maintenance, and renewal, with a focus on environmental considerations 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.

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Understand the importance of forest management planning in Ontario.	1.1 Describe Ontario forests and historic changes in forest structure and composition. 1.2 Develop an understanding of the laws that govern forestry operations in Ontario and the associated guidelines. 1.3 Understand the stages 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 Understand how Independent Forest Audits and forest certification programs measure the success of sustainable forest management.
Course Outcome 2	**Learning Objectives for Course Outcome 2**
2. Explain the effects of forest harvesting and renewal practices on wildlife populations and learn how management activities can be modified to provide for wildlife habitat.	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 Become familiar with the habitat needs of selected species and the associated forest management guidelines. 2.5 Investigate local natural resource management issues. 2.6 Develop an understanding of forest succession and the value in maintaining a variety of ecosystems. 2.7 Understand the importance of emulating forest fire when harvesting using clearcut methods.
Course Outcome 3	**Learning Objectives for Course Outcome 3**
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**
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 Identify and explain potential site damages of forestry practices on the physical environment and ways to prevent those potential site damages. 4.4 Complete a forest harvest compliance audit using standard equipment and methodology. 4.5 Develop an understanding of harvesting considerations to prevent site damage and impacts.
Course Outcome 5	**Learning Objectives for Course Outcome 5**
5. Develop an understanding of the foundations of silviculture, and the importance of tree	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.

	marking.	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.
	Course Outcome 6	**Learning Objectives for Course Outcome 6**
	6. Develop an understanding of forest renewal and the role of vegetation management for successful forest renewal.	6.1 Understand the requirements for forest renewal and the funding mechanisms. 6.2 Describe methods of vegetation management. 6.3 Develop an understanding of different site preparation equipment and methods. 6.4 Understand the concepts of seed transfer area, 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	40%
Field Trips	30%
Tests/quizzes	30%

Date: July 17, 2024

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