## COURSE OUTLINE: NET252 - FOREST PRACT & ENV

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

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| **Course Code: Title** | NET252: FOREST PRACTICES AND THE ENVIRONMENT |
| **Program Number: Name** | 5220: NAT ENVIRONMENT TN |
| **Department:** | NATURAL RESOURCES PRG |
| **Semesters/Terms:** | 18F |
| **Course Description:** | Students are provided with an overview of the characteristics of the forests of Ontario and forest management processes including planning, access, harvest, maintenance and renewal. The focus of the course will be on environmental considerations of forest practices to mitigate damage to ecosystem function. |
| **Total Credits:** | 3 |
| **Hours/Week:** | 3 |
| **Total Hours:** | 45 |
| **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:**<br><br>**Please refer to program web page for a complete listing of program outcomes where applicable.** | **5220 - NAT ENVIRONMENT TN**<br>VLO 2   Utilize natural resources equipment and technology to accurately identify ecosystem components for purposes of conserving and managing natural resources.<br>VLO 3   Apply the basic concepts of science to natural resource conservation and management.<br>VLO 4   Conduct natural environment assessments according to standard field survey methods, including the use of appropriate equipment and materials.<br>VLO 7   Work safely in adherence to occupational health and safety standards.<br>VLO 8   Complete all work in compliance with applicable municipal, provincial and federal standards and guidelines.<br>VLO 11   Communicate technical information accurately and effectively in oral, written and visual forms.<br>VLO 12   Travel accurately in a timely manner in the outdoors using appropriate navigation aids and motorized transport equipment. |
| **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.<br>EES 2   Respond to written, spoken, or visual messages in a manner that ensures effective communication.<br>EES 4   Apply a systematic approach to solve problems.<br>EES 6   Locate, select, organize, and document information using appropriate technology and information systems.<br>EES 9   Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.<br>EES 10   Manage the use of time and other resources to complete projects. |

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| | EES 11   Take responsibility for ones own actions, decisions, and consequences. |
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| **Course Evaluation:** | Passing Grade: 50%, D |
| **Other Course Evaluation & Assessment Requirements:** | Attendance during field trips is MANDATORY to obtain any marks associated with the trip.<br><br>Ten percent (%) 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. |
| **Books and Required Resources:** | Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales by OMNR, 2010<br>Publisher: Ontario Ministry of Natural Resources |

**Course Outcomes and Learning Objectives:**

| Course Outcome 1 | Learning Objectives for Course Outcome 1 |
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| Have an overall understanding of the management planning process on Crown land. | 1.1 Overall characteristics of Ontario forests and the changes in forest structure and composition since forestry practices began.<br>1.2 Develop a basic understanding of the laws that govern forestry on Crown land in Ontario and the associated guidelines.<br>1.3 Understand the stages of developing a crown forest management plan.<br>1.4 Describe the forest values and their associated Crown land user groups.<br>1.5 Recognize the importance of the L.C.C. (local citizens committee) members and public consultation in the planning process.<br>1.6 Annual operating plans and their components.<br>1.7 Compliance monitoring audit programs implemented on Crown land (FOIPS).<br>1.8 Forest certification types and guiding principles. |
| **Course Outcome 2** | **Learning Objectives for Course Outcome 2** |
| Explain the potential effects of forest practices on wildlife and make suggestions of how management activities can be modified to provide adequate wildlife habitat. | 2.1 Understand the concepts of coarse and fine filter and their associated management considerations.<br>2.2 Compare and describe the differences between the effects that logging and natural disturbances have on wildlife habitat.<br>2.3 Describe habitat requirements of major Ontario generalist and specialist wildlife species.<br>2.4 Become familiar with the habitat needs of selected species and the forest management guidelines associated.<br>2.5 Investigate local issues with the endangered wood turtle and threatened woodland caribou and their associated management.<br>2.6 Describe an old growth forest and explain the values provided by maintaining these ecosystems.<br>2.7 Understand the importance of the emulation of forest fire. |
| **Course Outcome 3** | **Learning Objectives for Course Outcome 3** |
| Develop the knowledge required for planning forest access roads and water | 3.1 Become familiar with the provincial and federal laws that surround access roads and water crossings and their mandatory standards. |

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| crossings using best management practices. | 3.2 Describe the guidelines and best management practices in road planning-layout along with the appropriate stages of road building.<br>3.3 Describe the guidelines and best management practices for water crossings, their appropriate location and construction.<br>3.4 Recognize the principles of sediment and erosion control.<br>3.5 Learn the mitigation techniques available to prevent sediment and erosion control on forest roads and at water crossings.<br>3.6 Comprehend a water crossing application required for Crown land and a Forest Operations Inspection Program (FOIPS).<br>3.7 Measures used to protect fish and fish habitat when removing beaver dams, culvert maintenance, ice bridges and snow fills, maintenance of riparian vegetation and temporary stream crossing and their associated timing windows. |
| **Course Outcome 4** | **Learning Objectives for Course Outcome 4** |
| Explain the potential implications of forest harvesting on the physical environment. | 4.1 Types of forest harvesting and logging methods.<br>4.2 Define site damage, site productivity, ecosystem resilience, sensitive sites and best management practices.<br>4.3 List and explain the five potential site damages of forestry practices on the physical environment.<br>4.4 Describe key site characteristics that determine harvesting site impact potential.<br>4.5 Plan and conduct a forest harvest audit inventory using standard equipment and methodology.<br>4.6 Develop a professional report that summarizes the impacts a logging operation has had on the forest.<br>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.<br>5.2 Acquire the foundations of silvicultural systems and their appropriate applications for harvesting.<br>5.3 Be able to understand all of the components required in the development of a silvicutural prescription.<br>5.4 Recognize the importance of tree marking guidelines and how they promote a healthy forest.<br>Forest raptors habitat management guidelines-identification and action plan. |
| **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.<br>6.2 Be able to comprehend maintenance operations conducted on Crown land including crop tree release, brushing, pre-commercial thinning and aerial spraying and their associated best management practices.<br>6.3 Develop an understanding of the different methods of site preparation and their associated best management practices.<br>6.4 Understand the concepts seed zone, container and |

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| | 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. |
| | 6.7 Develop an operational tree planting prescription typical to northern Ontario (assignment). |
| | 6.8 Understand why we use prescribed burns and natural regeneration and their application. |

| Course Outcome 7 | Learning Objectives for Course Outcome 7 |
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| Describe the resources available to private forest management in Ontario and the deficiencies that prevent good forestry practices. | 7.1 Understand the components of the Managed Forest Tax Incentive Program (MFTIP) plan available to private landowners in Ontario.<br>7.2 Formulate a general understanding of tree bylaws and their role in private land forestry in Ontario Conservation Authorities and their importance.<br>7.3 Legislation for private land including: Endangered Species Act, Forestry Act, etc. |

**Evaluation Process and Grading System:**

| Evaluation Type | Evaluation Weight | Course Outcome Assessed |
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| Assignments | 70% | all |
| Tests | 30% | all |

**Date:**

June 19, 2018

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