# COURSE OUTLINE: NRT131 - FALL FIELD CAMP

Prepared: School of Natural Environment
Approved: Karen Hudson, Dean, Community Services and Interdisciplinary Studies

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| **Course Code: Title** | NRT131: FALL FIELD CAMP - FIRST YEAR |
| **Program Number: Name** | 5212: ADVENTURE RECREATION<br>5214: FISH/WILD CONSERVATN<br>5220: NAT ENVIRONMENT TN<br>5230: FORESTRY TECHNICIAN |
| **Department:** | NATURAL RESOURCES PRG |
| **Academic Year:** | 2024-2025 |
| **Course Description:** | Fall Field Camp introduces a variety of field skills essential to Technicians in the Natural Environment. Students will work together learning the fundamentals of safety, and teamwork essential to succeed in the Natural Environment. Students will participate in 10 different sessions: navigation, forest measurements, wildfire equipment, stream assessment, dendrology, entomology, canoeing, traditional ecological knowledge, field technology, and safety. |
| **Total Credits:** | 2 |
| **Hours/Week:** | 2 |
| **Total Hours:** | 30 |
| **Prerequisites:** | There are no pre-requisites for this course. |
| **Corequisites:** | There are no co-requisites for this course. |
| **Substitutes:** | NET101 |
| **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.** | **5212 - ADVENTURE RECREATION**<br>VLO 2 Identify, discuss, organize and assess common Flora & Fauna species found throughout ON, including biological and physiological characteristics.<br>VLO 4 Identify and evaluate the requirements for leading and participating in expeditions or field exercises using a variety of Adventure Recreation activities.<br>VLO 6 Demonstrate a sound understanding of the significance of the Adventure Recreation and Parks Industry including relevant legislation, trends and issues.<br>VLO 7 Describe the scientific method and how it shapes our understanding of the ecology of the natural world.<br>VLO 8 Demonstrate an understanding of sustainable development and apply the foundations in the natural environment.<br>VLO 9 Safely operate and maintain equipment used in Adventure Recreation and Park operations.<br>VLO 10 Evaluate and apply current technologies and mathematical concepts used to collect, manage and analyze data.<br><br>**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 5 Start and manage their careers in the Fish and Wildlife Conservation field.

VLO 6 Understand the importance of managing fish and wildlife resources in Ontario and related federal, provincial and municipal legislation.

VLO 8 Demonstrate an understanding of sustainable development and apply these principles to the natural environment.

VLO 9 Safely operate and maintain equipment used in Fish and Wildlife Conservation.

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 6 Practice principles and ethics associated with natural resource conservation and management issues.

VLO 7 Work safely in adherence to occupational health and safety standards.

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.

**5230 - FORESTRY TECHNICIAN**

VLO 1 Conduct forest inventory surveys and field measurements to determine forest resources and values in forests and woodlots.

VLO 3 Perform technical functions in silvicultural operations and assist in the monitoring and evaluation of the effectiveness of silvicultural practices.

VLO 7 Select, operate, troubleshoot and maintain tools and equipment in a variety of environmental conditions and in accordance with safety and operating standards.

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

VLO 10 Develop strategies for ongoing professional development to enhance work performance in the forestry sector.

**Essential Employability Skills (EES) addressed in this course:**

EES 3 Execute mathematical operations accurately.

EES 5 Use a variety of thinking skills to anticipate and solve problems.

EES 7 Analyze, evaluate, and apply relevant information from a variety of sources.

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| | EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others.<br>EES 10 Manage the use of time and other resources to complete projects.<br>EES 11 Take responsibility for ones own actions, decisions, and consequences. |
| **Course Evaluation:** | Passing Grade: 80%, A<br><br>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 that 1/3 of the course hours in a semester shall result in an `F` Grade for the course. |

**Course Outcomes and Learning Objectives:**

| **Course Outcome 1** | **Learning Objectives for Course Outcome 1** |
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| 1. Use map, compass and satellite imagery to navigate in the forest. | 1.1 Identify the parts of a compass.<br>1.2 Understand and set magnetic declination on a compass.<br>1.3 Be able to use flagging tape in order to travel in a straight line.<br>1.4 Understand scales of photographs and maps.<br>1.5 Identify major topographical and cover type features on maps and imagery.<br>1.6 Be able to measure distances and directions on maps and imagery.<br>1.7 Use various techniques to measure distances in the field. |
| **Course Outcome 2** | **Learning Objectives for Course Outcome 2** |
| 2. Gain an appreciation for Traditional Ecological Knowledge | 2.1 Learn of traditional teachings in the forest.<br>2.2 Broaden worldview to include Indigenous perspectives. |
| **Course Outcome 3** | **Learning Objectives for Course Outcome 3** |
| 3. Use technology and relevant software to gather and analyze data in the natural environment. | 3.1 Utilize tablets for field data collection.<br>3.2 Explore industry leading software Avenza and ESRI. |
| **Course Outcome 4** | **Learning Objectives for Course Outcome 4** |
| 4. Identify native trees and shrubs from foliage or cone characteristics. | 4.1 Collect cones and foliage from coniferous trees.<br>4.2 Name the native species using approved botanical names. |
| **Course Outcome 5** | **Learning Objectives for Course Outcome 5** |
| 5. Safely use firefighting equipment including fire pumps, back pack pumps and fire hose. | 5.1 Demonstrate safe use and operation of water pumps and hose used in forest fire fighting operations.<br>5.2 Correctly roll fire hose.<br>5.3 Become proficient in the use of a soft backpack pump. |
| **Course Outcome 6** | **Learning Objectives for Course Outcome 6** |
| 6. Examine and categorize terrestrial insects. | 6.1 Demonstrate effective use of a variety of methods for the collection of terrestrial insects.<br>6.2 Accurately document & categorize insect specimens. |

| Course Outcome 7 | Learning Objectives for Course Outcome 7 |
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| 7. Conduct a stream assessment. | 7.1 Accurately assess chemical and physical parameters of a stream including dissolved oxygen, pH, alkalinity, carbon dioxide, total dissolved solids and turbidity.<br>7.2 Use proper techniques to collect and examine aquatic invertebrates using dip nets and surber samplers.<br>7.3 Calculate a diversity index for the site using aquatic invertebrates.<br>7.4 Complete field forms neatly and accurately. |
| **Course Outcome 8** | **Learning Objectives for Course Outcome 8** |
| 8. Conduct a forest inventory survey. | 8.1 Complete a dot tally and record legible field notes. Measure and record tree diameters using calipers and diameter tapes.<br>8.2 Measure tree heights using clinometers.<br>8.3 Measure the age of trees with an increment corer and count growth rings. |
| **Course Outcome 9** | **Learning Objectives for Course Outcome 9** |
| 9. Operate a canoe using appropriate canoe strokes to navigate a water course to a specified destination. | 9.1 In cooperation with canoeing partner, execute a draw, sweep, pry or bow stroke where appropriate and travel to destination.<br>9.2 Apply map scale to estimate distances travelled. |
| **Course Outcome 10** | **Learning Objectives for Course Outcome 10** |
| 10. Gain an appreciation for safety, risk assessment, communication and teamwork for successful field operations. | 10.1 Perform a risk hazard assessment (Tailgate Meeting) to assess hazards associated with activities.<br>10.2 Maintain a positive outlook and be respectful towards others.<br>10.3 Demonstrate the importance of safety, attitude and teamwork when working in the Natural Environment.<br>10.4 Safely utilize and store equipment necessary for the day`s field activities.<br>10.5 Demonstrate a respectful attitude towards the environment.<br>10.6 Learn best practice and safety strategies to deal with bears and ticks.<br>10.7 Discuss safe use of camp fuels and develop an awareness of Carbon Monoxide Poisoning. |

**Evaluation Process and Grading System:**

| Evaluation Type | Evaluation Weight |
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| Canoe Skills | 10% |
| Dendrology | 10% |
| Entomology | 10% |
| Field Safety | 10% |
| Field Technologies | 10% |
| Navigation | 10% |
| Stream Survey | 10% |
| Traditional Ecological Knowledge | 10% |

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| Tree Measurement | 10% |
| Wild Fire Techniques | 10% |

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| **Date:** | July 30, 2024 |
| **Addendum:** | Please refer to the course outline addendum on the Learning Management System for further information. |