



COURSE OUTLINE: NRT217 - APPLIED PHOTO INTERP

Prepared: Gerard Lavoie

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

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| Course Code: Title | NRT217: APPLIED PHOTO INTERPRETATION |
| Program Number: Name | 5230: FORESTRY TECHNICIAN |
| Department: | NATURAL RESOURCES PRG |
| Semesters/Terms: | 22W |
| Course Description: | Students will further enhance their knowledge and skills in identifying tree species, delineating forest stands, identifying site types through glacial landform recognition and the application of aerial photos for the data collection. Conventional OMNR aerial photography, large-scale aerial photography (LSP) and satellite imagery will be involved. |
| 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: | 5230 - FORESTRY TECHNICIAN |
| Please refer to program web page for a complete listing of program outcomes where applicable. | 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 4 Collect, analyze, interpret, and display spatial data using mapping technology and Geographical Information Systems (GIS) to contribute to forest resource management. |
| | VLO 9 Communicate technical information to a variety of stakeholders in oral, written, visual and electronic forms. |
| | 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 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 7 Analyze, evaluate, and apply relevant information from a variety of sources. 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 |

In response to public health requirements pertaining to the COVID19 pandemic, course delivery and assessment traditionally delivered in-class, may occur remotely either in whole or in part in the 2021-2022 academic year.



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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 the course hours in a semester shall result in a F Grade for this Course.

Course Outcomes and Learning Objectives:

| Course Outcome 1 | Learning Objectives for Course Outcome 1 |
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| Understand the process of aerial photo interpretation. | 1.1 Complete a stereo vision test and depth perception test. 1.2 Show how photo interpretation is important to the management of forest resources. 1.3 Perform hardcopy aerial photo setup and preparation. 1.4 Familiarize students with eFRI photo interpretation specifications. |
| Course Outcome 2 | Learning Objectives for Course Outcome 2 |
| Delineate and identify forested and non-forested polygons. | 2.1 Identify, delineate and record attributes for wetland and non-forested polygons. 2.2 Identify and delineate forested polygons, differentiated by eFRI specifications (height, age, soil depth, soil type, vertical/horizontal structure, disturbance, site prep, site class). 2.3 Identify various non-forested wetland features. 2.4 Identify and differentiate between non-forested anthropogenic features. |
| Course Outcome 3 | Learning Objectives for Course Outcome 3 |
| Recognize and identify Boreal and Great Lakes - St. Lawrence Forest tree species on aerial photos/digital imagery. | 3.1 Conifer Identification: Sb, Pj, Cw, Pw, Pr, Sw, La, Bf, and He. 3.2 Boreal hardwoods identification: Pt, Pb, Bw, and Ab. 3.3 GLSL hardwoods identification: Mh, Mr, Or, By, Aw, Bd, and Ew. 3.4 Identify species, crown vigor, and crown spacing & shrub cover using large scale aerial photographs. |
| Course Outcome 4 | Learning Objectives for Course Outcome 4 |
| Identify multiple landform types on aerial photos and digital imagery. | 4.1 Identify basic landforms and relate their properties and attributes to Ecosite Land Classification. 4.2 Utilize supplemental information supplied by the Northern Ontario Engineering Geological Terrain Survey (NOEGTS). 4.3 Identify a variety of ecosites on an aerial photograph using the OMNR Ecosite Land Classification photo interpretation decision node keys. |
| Course Outcome 5 | Learning Objectives for Course Outcome 5 |
| Determine tree heights and crown closure on an aerial photograph. | 5.1 Determine canopy closure, vertical and horizontal structure using digital imagery. 5.2 Determine and estimate tree heights based on field calibration plot information comparison. |
| Course Outcome 6 | Learning Objectives for Course Outcome 6 |
| Identify delineation boundaries of forested stands using OMNR eFRI | 6.1 Differentiate conifer, hardwood and mixed wood stand types. 6.2 Recognize single and multi tiered stands. |

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| | and ELC specifications. | 6.3 Identify plantations and natural regeneration 6.4 Identify wetland species (conifer and deciduous). 6.5 Identify upland species (conifer and deciduous). |
| Evaluation Process and Grading System: | Evaluation Type | Evaluation Weight |
| | Assignments | 50% |
| | Tests | 50% |
| Date: | September 3, 2021 | |
| Addendum: | Please refer to the course outline addendum on the Learning Management System for further information. | |

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