# SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY
# SAULT STE. MARIE, ONTARIO

## SAULT COLLEGE

## COURSE OUTLINE

**COURSE TITLE:** Applied Photo Interpretation

**CODE NO. :** NRT217  **SEMESTER:** 4

**PROGRAM:** Forest Conservation Technician

**AUTHOR:** Gerard Lavoie

**DATE:** January, 2015  **PREVIOUS OUTLINE DATED:** Jan., 2014

**APPROVED:**  Colin Kirkwood  Jan., 2015

  **Dean**  **Date**

**TOTAL CREDITS:** 3

**PREREQUISITE(S):** N/A

**HOURS/WEEK:** 3

**I.      COURSE DESCRIPTION:**

The objective of this course is to provide the student with skills relating to aerial photo interpretation. This will consist of tree species identification, landforms identification and ecosite land classification. The delineation and identification of forested and non-forested polygons, as it relates to Ecological Land Classification applicable to current enhanced Forest Resource Inventory (eFRI) specifications, will be emphasized.  The student will further enhance his/her knowledge and skills in identifying tree species, keying out forested stands, identifying site types through glacial landform recognition and the application of aerial photos for data collection.

**II.     LEARNING OUTCOMES AND ELEMENTS OF PERFORMANCE:**

 Upon successful completion of this course, the student will demonstrate the ability to:

**1.    Understand the process of aerial photo interpretation.**

Potential Elements of the Performance:

- Complete a stereo vision test and depth perception test.
- Show how photo interpretation is important to the management of forest resources.
- Perform hardcopy aerial photo setup and preparation
- Familiarize students with eFRI photo interpretation specifications.

**2.    Delineate and Identify Forested and Non Forested polygons.**

Potential Elements of the Performance:

- Identify, delineate and record attributes for wetland and non forested polygons.
- Identify and delineate forested polygons, differentiated by eFRI specifications (height, age, soil depth, soil type, vertical/horizontal structure, disturbance, site prep, site class…).
- Identify various non forested wetland features.
- Identify and differentiate between non-forested anthropogenic features.

**3.   Recognize and identify Boreal and Great Lakes St. Lawrence Forest tree species on aerial photos/digital imagery.**

Potential Elements of the Performance:

- Conifer Identification: **Sb, Pj, Cw, Pw, Pr, Sw, La, Bf, and He**.
- Boreal hardwoods identification: **Pt, Pb, Bw, and Ab**
- GLSL hardwoods identification: **Mh, Mr, Or, By, Aw, Bd, and Ew**.
- Identify species, crown vigor, and crown spacing & shrub cover using large scale aerial photographs.

4. **Identify multiple landform types on aerial photos and digital imagery.**

Potential Elements of the Performance:

- Identify basic landforms and relate their properties and attributes to Ecosite Land Classification.
- Utilize supplemental information supplied by the Northern Ontario Engineering Geological Terrain Survey (NOEGTS).
- Identify a variety of ecosites on an aerial photograph using the OMNR Ecosite Land Classification photo interpretation decision node keys.

5. **Determine tree heights and crown closure on an aerial photograph.**

Potential Elements of the Performance:

- Determine canopy closure, vertical and horizontal structure using digital imagery.
- Determine and estimate tree heights based on field calibration plot information comparison.

6. **Identify delineation boundaries of forested stands using OMNR eFRI and ELC specifications.**

Potential Elements of the Performance:

- Differentiate conifer, hardwood and mixed wood stand types.
- Recognize single and multi tiered stands.
- Identify plantations and natural regeneration
- Identify wetland species (conifer and deciduous).
- Identify upland species (conifer and deciduous).

III.     **TOPICS:**

1. Identify forested and non-forested polygons.
2. Identification of conifers and hardwoods in the Boreal forest region and the Great Lakes St. Lawrence forest region.
3. Determination of ecosites from an aerial photograph. OMNR FRI specifications and the Ecological Land Classification System.
4. Recognize and identify common physical landscape features on aerial photos (geomorphology).
5. Delineate forested and non forested ecosites and identify the FRI working group.

## IV.    REQUIRED RESOURCES/TEXTS/MATERIALS:

1.    Passive polarized 3D glasses (provided).
2.    Active 3D shutter glasses (provided).
3.    Pocket stereoscope
4.    Staedtler grease pencils 108-9 black, 108-2 red, 108- 3 blue
5.    Photo interpretation of ecosites in North western Ontario (available at campus shop)

## V.    EVALUATION PROCESS/GRADING SYSTEM:

There are 10 assignments & labs making up 50% of the final grade; 2 written tests, worth 25% each, make up 50% of the final grade.  Regular attendance is absolutely necessary in order to succeed in this course as there is an abundant amount of learning material to cover.

One of the following semester grades will be assigned to each student:

| Grade | Definition | Grade Point Equivalent |
|-------|-----------|------------------------|
| A+ | 90 – 100% | 4.00 |
| A | 80 – 89% | 4.00 |
| B | 70 – 79% | 3.00 |
| C | 60 – 69% | 2.00 |
| D | 50 – 59% | 1.00 |
| F | <50% | 0.00 (Fail) |

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| CR (Credit) | Credit for diploma requirements has been awarded. |
| S: | Satisfactory achievement in field /clinical placement or non-graded subject area. |
| U: | Unsatisfactory achievement in field/clinical placement or non-graded subject area. |
| X: | A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course. |
| NR: | Grade not reported to Registrar's office. |
| W: | Student has withdrawn from the course without academic penalty. |

**VI.    SPECIAL NOTES:**

Course Outline Amendments:
The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Retention of Course Outlines:
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Prior Learning Assessment:
Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant.  Students will be required to provide an unofficial transcript and course outline related to the course in question.  Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.

Substitute course information is available in the Registrar's office.

Disability Services:
If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office.  Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Plagiarism:
Students should refer to the definition of "academic dishonesty" in *Student Code of Conduct*.  A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment of a lower grade with explanation, (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade "C", (iv) make an automatic assignment of a failing grade, (v) recommend to the Chair dismissal from the course with the assignment of a failing grade. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Student Portal:
The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer.  Single log-in access allows you to see your personal and financial information, timetable, grades, and records of achievement, unofficial transcript, and outstanding obligations.  Announcements, news, the academic calendar of events, class cancellations, your learning management system (LMS), and much more are also accessible through the student portal.  Go to https://my.saultcollege.ca.

Electronic Devices in the Classroom:
Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction.  With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose.  Recorded classroom instruction will be destroyed at the end of the course.  To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester.  Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

Attendance:
Sault College is committed to student success.  There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.  *<Optional:  It is the departmental policy that once the classroom door has been enclosed, the learning process has begun.  Late arrivers may not be granted admission to the room.>*

Tuition Default:
Students who have defaulted on the payment of tuition (tuition has not been paid in full, payments were not deferred or payment plan not honoured) as of the first week of *<choose November, March, or June>* will be removed from placement and clinical activities. This may result in loss of mandatory hours or incomplete course work.  Sault College will not be responsible for incomplete hours or outcomes that are not achieved or any other academic requirement not met as of the result of tuition default. Students are encouraged to communicate with Financial Services with regard to the status of their tuition prior to this deadline to ensure that their financial status does not interfere with academic progress.

**VII.  COURSE OUTLINE ADDENDUM:**

The provisions contained in the addendum are located on the portal form part of this course outline.