



**I. COURSE DESCRIPTION:**

This course is designed to provide the student with the skills and knowledge required to design representative surveys as well as to collect and analyze field data for a variety of resource applications. Statistical analysis, manipulation and presentation of data in professional table and graphic format will be performed using Excel. GPS units, GPS Utilities software and Google Earth Pro will be used to locate sample plots. PDA's will be employed to collect field data and download to a PC for analysis.

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

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

**1. Design a representative resource survey**Potential Elements of the Performance:

- discuss resource sampling concepts
- determine the survey objective
- itemize the requirements for a representative resource survey
- establish the sampling intensity
- outline the sampling method
- determine plot size, plot type (variable and fixed area), number of plots, plot location

*This learning outcome will constitute approximately 10% of the course.*

**2. Accurately collect resource field data**Potential Elements of the Performance:

- use maps, GPS units, aerial photographs and/or Google Earth Pro imagery to accurately locate plots in the field
- itemize equipment requirements
- use equipment check lists
- accurately follow instructions for field data collection (Downed woody debris, Natural Disturbance Pattern Emulation Guideline survey, Permanent Forest Inventory)
- use the appropriate field equipment in a safe, accurate and precise manner
- accurately tally field data using a PDA and download to a PC
- keep neat, accurate and complete field notes and tally sheets

*This learning outcome will constitute approximately 20% of the course.*

**3. Discuss and perform basic statistical analysis on field data**

Potential Elements of the Performance:

- differentiate between descriptive statistics and inferential statistics
- use such terms as frequency, sample, population, class limits
- review measures of central tendency such as mean, median and mode
- review measures of dispersion such as range, standard deviation, and coefficient of variation
- calculate the standard error of the mean
- determine confidence intervals for the population mean
- perform a one and two sample hypothesis testing (t-test)
- estimate the required sample size for a predetermined precision level
- explain linear regression with natural resources examples
- define such words as independent variable, dependent variable, linear and non-linear relationship, slope and y-intercept of a straight line
- calculate the regression equation between two variables
- use correlation analysis and determine the strength of the relationship

*This learning outcome will constitute approximately 30% of the course.*

**4. Format, present and interpret field data in technical reports**

Potential Elements of the Performance:

- use properly the Natural Resources Standard Technical Report Format
- construct and analyze various graphical representations of data including line and scatter plots, histograms, bar graphs, frequency polygons and circle graphs using appropriate software
- construct tables with appropriate labels and titles
- import tables and graphs into a technical report
- compile data and generate summary statistics
- interpret and discuss the results of the surveys

*This learning outcome will constitute approximately 40% of the course.*

**III. TOPICS:**

1. Resource Sampling Concepts
2. Basic Descriptive Statistics
3. Resource Sampling Design
4. Resource Surveys

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

Available **ON LINE**

**V. EVALUATION PROCESS/GRADING SYSTEM:**

**Quizzes/Assignments 80%**

**Unit Tests 20%**

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**100%**

All assignments **must** be completed for course credit. Grades for late assignments will be reduced 10% per day late.

The following semester grades will be assigned to students:

<b>Grade</b>	<b><u>Definition</u></b>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
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	

X	subject area. 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 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 (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 impairment, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

### Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in a course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

### 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, and may make recommendations to the Academic Chair for disposition of the matter. A professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment 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 require 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, records of achievement, unofficial transcript, and outstanding obligations, in addition to announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more. 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.