



## I. COURSE DESCRIPTION:

This course is designed to provide the student with the skills to analyze and present 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. In addition students will gain a deeper understanding of file management as well as presentation managers such as PowerPoint. Students are assumed to be competent in the use of word processors.

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

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

1. ***Use PowerPoint to design an effective natural environment related computer-based slide presentation.***

### Potential Elements of the Performance:

- Choose an appropriate natural environment related theme
- Storyboard an effective presentation
- Use text, graphics and charts to create an effective presentation

*This learning outcome will count for approximately 10% of the final mark.*

2. ***Use a Global Positioning System receiver and related software to determine UTM coordinates, to collect both track logs and waypoints and to create appropriate maps.***

### Potential Elements of the Performance:

- Understand the functional elements of a GPS receiver.
- Use a GPS receiver to determine UTM coordinates in the field.
- Use a GPS receiver to collect track logs while delineating ecosystem boundaries
- Use a GPS receiver to collect waypoints in the field

*This learning outcome will count for approximately 15% of the final mark*

3. ***Use Personal Digital Assistants (PDA) to gather field data.***

Potential Elements of the Performance:

- Use a personal digital assistant to gather data in the field

*This learning outcome will count for approximately 10% of the final mark*

4. ***Use a spreadsheet to format and analyze scientific data related to environmental applications.***

Potential Elements of the Performance:

- Analyze field notes to determine formatting and analysis needs.
- Load field data from tally sheets or from hand-held computers onto spreadsheets
- Use formatting features to present data in an effective, professional manner.
- Work with dates and times in an effective manner.
- Effectively design and use data entry forms
- Use sorting, filtering, functions and formulas to effectively analyze scientific data
- Construct and analyze various graphical representations of data including line and scatter plots, histograms, bar graphs, frequency polygons and circle graphs
- Import tables and graphs into a technical report
- Compile data and generate summary statistics

*This learning outcome will count for approximately 35% of the final mark.*

5. **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
- Calculate and interpret measures of central tendency such as mean, median and mode
- Calculate and interpret measures of dispersion such as range, standard deviation, and coefficient of variation
- Calculate and interpret the standard error of the mean

- Determine and interpret 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 terms such 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.*

### III. TOPICS:

1. PowerPoint
2. Global Positioning Systems
3. Use of personal Digital Assistants in field data collection
4. Spreadsheets – Data Analysis and Presentation
5. Summary Statistics

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

1. 2 Gb (or higher) USB Memory Stick

### V. EVALUATION PROCESS/GRADING SYSTEM:

Tests	40%
Assignments	<u>60%</u>
Total	100%

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

Note: Students must pass the Excel Test in order to pass the course. If the Excel Test is not passed on the first attempt, a rewrite may be allowed, late in the semester. Rewrites will only be allowed for students with good attendance.

**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%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00
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.	

**Notes:**

- Attendance is very important. Attendance will be recorded one way or another, in every class.
- Students may be assigned an “F” grade early in the course for unsatisfactory performance.
- Your instructor reserves the right to modify the course, as he/she deems necessary to meet the needs of students.

## 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.

### 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 this 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, 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, 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.

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 *March* 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.