

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY  
SAULT STE MARIE, ON



COURSE OUTLINE

Course Title: RESOURCE SAMPLING

Code No.: NRT 223                      Semester: II

Program: FISH & WILDLIFE TECHNICIAN

Author: VALERIE WALKER

Date: JAN 2001      Previous Outline Date: JUNE 1999

Approved: \_\_\_\_\_

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Dean, Natural Resources

Date

Total Credits: 3                      Prerequisite(s):

Length of Course: 3 hrs/week X 16 weeks

Total Credit Hours: 48

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*For additional information, please contact Joe Fruchter, Dean, School of Natural Resources, (705) 759-2554, Ext. 688*

**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 Minitab software. Technical reports will be produced for each resource survey conducted. There will be an introduction to hand held microcomputers.

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

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

**1. Design a representative resource survey**

- discuss resource sampling concepts
- determine the survey objective
- locate the property and corresponding maps and aerial photographs
- establish the sampling intensity
- outline the sampling method
- determine plot size, number of plots, plot location
- itemize equipment requirements

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

**2. Accurately collect resource field data**

- use maps and aerial photographs to accurately locate plots in the field
- use equipment check lists
- layout the plot in the field
- accurately follow instructions for field data collection
- use the appropriate field equipment in a safe, accurate and precise manner
- keep neat, accurate and complete field notes and tally sheets
- properly use hand held microcomputers

*This learning outcome will constitute approximately 25% of the course.*

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

- differentiate between descriptive statistics and inferential statistics
- use such terms as frequency, sample, population, class limits
- understand and calculate measures of central tendency such as mean, median and mode
- understand and determine 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 t-test
- estimate the required sample size for a predetermined precision level
- explain what is meant by linear regression
- 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 25% of the course.*

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

- construct and analyze various graphical representations of data including line and scatter plots, histograms, bar graphs, frequency polygons and circle graphs using Minitab
- construct tables with appropriate labels and titles
- compile data and generate summary statistics
- import tables and graphs into a word document
- interpret the results of the surveys in order to make management recommendations.

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

**III. TOPICS TO BE COVERED:**

1. Basic Descriptive Statistics & Introduction to Minitab
2. Resource Sampling Concepts
3. Resource Sampling Design
4. Resource Surveys
5. Hand Held Microcomputers

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

1. Resource Sampling Course Manual

**V. EVALUATION PROCESS/GRADING SYSTEM**

<b>Reports (4)</b>	<b>40%</b>
<b>Field Forms and Field Accuracy</b>	<b>25%</b>
<b>Quizzes/Assignments</b>	<b>25%</b>
<b>Final Test</b>	<b><u>10%</u></b>
	<b>100%</b>

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

**Students missing a field trip without a provable documented valid reason will be permitted to submit the respective report but will receive a maximum grade of 60%.**

**Method of Assessment (Grading Method). The following letter grade will be assigned:**

A+	Consistently outstanding	(90% - 100%)
A	Outstanding achievement	(80% - 89%)
B	Consistently above average achievement	(70% - 79%)
C	Satisfactory or acceptable achievement in all areas subject to assessment	(60% - 69%)
R	Repeat -- The student has not achieved he objectives of the course and the course must be repeated.	(Less than 60%)
CR	Credit exemption	
X	A temporary grade, limited to situations with extenuating circumstances, giving a student additional time to complete course requirements.	

**VI. SPECIAL NOTES:**

### Special Needs

If you are a student with special needs (e.g. Physical limitations, visual impairments, hearing impairments, learning disabilities), you are encouraged to discuss required accommodations with the instructor and/or contact the Special Needs Office, Room E1204, Ext. 493, 717 or 491 so that support services can be arranged for you.

### Plagiarism

Students should refer to the definition of “academic dishonesty” in the “Statement of Students Rights and Responsibilities”.

Students who engage in “academic dishonesty” will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course, as may be decided by the professor.

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.

### Advanced Standing

Students who have completed an equivalent post-secondary course should bring relevant documents to the Coordinator, Natural Resources Programs.

### Retention of Course Outlines

It is the responsibility of the student to retain all course outlines for possible future use in gaining advanced standing at other post-secondary institutions.

Substitute course information is available at the Registrar’s Office.

## **VII. PRIOR LEARNING ASSESSMENT:**

Please contact the Prior Learning Assessment Office (E2203) for further information.