SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE: RESOURCE SAMPLING

CODE NO. : NRT 223   **SEMESTER:** III

PROGRAM: FISH & WILDLIFE TECHNICIAN

AUTHOR: VALERIE WALKER

DATE: JUNE 2004   **PREVIOUS OUTLINE DATED:** JUNE 2003

APPROVED:

_____   _____

                            DEAN   **DATE**

TOTAL CREDITS: 3

PREREQUISITE(S): NONE

HOURS/WEEK: 16 WEEKS

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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 and Excel. Technical
reports will be produced for each resource survey conducted.

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

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

2. **Accurately collect resource field data**

    Potential Elements of the Performance:

    - 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

    *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
- 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 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.

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III.   **TOPICS:**

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

IV.   **REQUIRED RESOURCES/TEXTS/MATERIALS:**   None

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

Reports (3)   **40%**
Field Forms and Field Accuracy   **10%**
Quizzes/Assignments   **70%**
Unit Tests   **30%**
                                             100%

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 50%.

The following semester grades will be assigned to students in postsecondary courses:

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
R (Repeat)	59% or below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field placement or non-graded subject areas.	
U	Unsatisfactory achievement in field placement or non-graded subject areas.	
X	A temporary grade. This is used in limited situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see *Policies & Procedures Manual – Deferred Grades and Make-up*).	
NR	Grade not reported to Registrar's office.	

This is used to facilitate transcript
preparation when, for extenuating
circumstances, it has not been possible
for the faculty member to report grades.

VI.   SPECIAL NOTES:

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

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.

Plagiarism:
Students should refer to the definition of "academic dishonesty" in *Student
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/program,
as may be decided by the professor/dean. 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.

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.

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

VII.   PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should
consult the professor. Credit for prior learning will be given upon
successful completion of a challenge exam or portfolio.

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VIII. DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing)
should obtain a direct credit transfer form from the Dean's secretary.
Students will be required to provide a transcript and course outline related
to the course in question.