SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO


Sault College

COURSE OUTLINE

COURSE TITLE: FIELD INVESTIGATIVE TECHNIQUES

CODE NO. : NRT 302 **SEMESTER:** 5

PROGRAM: INTEGRATED RESOURCE MANAGEMENT TECHNOLOGY

AUTHOR: B. Currell, H. Cooper

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

APPROVED:

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DEAN **DATE**

TOTAL CREDITS: 3

PREREQUISITE(S): None

HOURS/WEEK: Full day labs, every second or third week

I. COURSE DESCRIPTION:

This course consists of a series of modules that are designed to give the student exposure to a range of modern field equipment and research techniques used in integrated resource management. Most modules involve data collection for resource management and research. Modules have been chosen that represent all natural resource program areas; forestry, fish and wildlife, parks and outdoor recreation. Modules include: Area of Concern planning, collecting research quality forest measurements, ecological integrity monitering, bio-telemetry training and recreational impact monitering. Data collection techniques, analysis and report writing will be emphasized.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Understand the importance of experimental design and precise field measurements when carrying out field investigations in the context of ecosystem based natural resource management

Potential Elements of the Performance:

- Define expressions related to experimental design and data collection conventions, protocols and methods
- Use accepted methods for the field monitering of natural resources and forest ecosystems

This learning outcome will represent 15% of the course grade

2. Use various natural resource related field investigative techniques

Potential Elements of the Performance:

- Demonstrate the safe use and maintenance of field equipment
- Use various monitering and recording tools including cameras, mensurational equipment and electronic data recorders
- Locate wildlife species by radio-telemetry using triangulation, homing and GPS location
- Produce plaster casts of prints and tires for evidence
- Demonstrate proper techniques for taking DNA field samples
- Evaluate ecological links between streams and forests
- Assess habitat suitability for a generalist Ontario wildlife species

This learning outcome will represent 40% of the course grade.

3. Carry out ecological forest inventories

Potential Elements of the Performance:

- Identify Central Ontario ecosite, vegetation and soil types as used in Ecological Land Classification
- Collect and compile forest measurement data using mensurational equipment and electronic data recorders

This learning outcome will represent 10% of the course grade

4. Recognise and evaluate impacts that cause degradation of recreational areas

Potential Elements of the Performance:

- Demonstrate in a park setting where, when and how degradation to soil, water and biota are most likely to occur
- Use appropriate techniques to moniter recreational impacts
- Discuss ways to minimize and repair damage
- Collect, tabulate and analyse field data

This learning outcome will represent 10% of the course grade

5. Demonstrate correct and precise data collection, display and interpretation

Potential Elements of the Performance:

- Maintain accurate and legible field notes on each exercise
- Record data using accepted protocols
- Use appropriate data entry tools
- Locate field plots using maps, tapes, compasses or GPS
- Enter data into databases (Excel, Access)
- Prepare professional and accurate reports

This learning outcome will represent 20% of the course grade

6. Work effectively in a team

Potential Elements of the Performance:

- Participate in all fieldwork activities. Contribute equally to data collection and report preparation

This learning outcome will represent 5% of the course grade.

III. TOPICS:

1. Introduction to the course
2. Introduction to experimental design
3. Forest/stream linkages
4. Wildlife habitat suitability
5. Ecosystem inventory
6. Biotelemetry
7. Free to Grow regeneration surveys
8. Forensic investigations
9. Recreational impacts

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Hard hat and safety boots for field activities
Plants of Northeast Ontario
Field Guide to forest Ecosystems of Central Ontario

Students will be assigned reference material occasionally from the reserve section of the library. Other materials will be provided as handouts or students will be directed to appropriate Internet resources.

V. EVALUATION PROCESS/GRADING SYSTEM:

Each topic in the course will be evaluated either through a technical report, summarized data or quizzes

- Technical reports (3); based on field exercises 60%
- Participation and proper equipment use 5%
- Summarized field exercise data 20%
- Quizzes 15%

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%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 - 59%	1.00
(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.

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 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.

Attendance, Participation, Proper Equipment Use :

Attendance on each field trip is mandatory. Non-attendance without a verified excuse will result in a “0” grade for all reports or assignments associated with that exercise. Students missing more than one field trip and one explanatory pre-trip lecture will receive an F grade unless there are exceptional circumstances. A field trip schedule will be provided to students in the first class.

Successful completion of fall field camp is mandatory.

A 5% evaluation weighting will be assigned for active participation in class activities and for proper care, use and maintenance of equipment. A deduction of 2% will be made for each documented case of non compliance.

Notetaking

While there are no tests in this course, short open book quizzes will be given before or at the end of each fieldtrip based on assigned reading or field lab procedures. These quizzes will be announced 1 week in advance. Students should take notes summarizing information that is presented in class to use in technical reports or quizzes.

Assignments:

Due dates for all assignments will be provided. All assignments not submitted by 4 pm. on the due date will be penalized 10% per day.

Three technical reports will be assigned, related to 3 of the course's field exercises. A draft of each technical report must be submitted for marking and revision after which a final report must be prepared. All final reports must be submitted and receive a 60% or greater mark to pass the course. Technical reports should be prepared following the standard Sault College; Science and Natural Resources technical report format..

Mapping and data summarization assignments must be word processed and/or follow format specifications outlined by the instructor.

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.

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.