

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



Sault College

COURSE OUTLINE

COURSE TITLE: **Wildlife Surveys**

CODE NO. : **NRT 255** **SEMESTER:** **4**

PROGRAM: **Fish and Wildlife Technician**

AUTHOR: **T. Winter**

DATE: **January 2008** **PREVIOUS OUTLINE** **January 2007**
DATED:

APPROVED:

_____ **DEAN** _____ **DATE**

TOTAL CREDITS: **4**

PREREQUISITE(S): **Nil**

HOURS/WEEK: **16 weeks** **TOTAL CREDIT HOURS:** **64**

Copyright ©2008 Sault College of Applied Arts & Technology
Reproduction of this document by any means, in whole or in part, without prior written permission of Sault College of Applied Arts & Technology is prohibited.
For additional information, please contact Brian Punch, Chair of the School of Natural Environment, Technology and Skilled Trades at (705) 759-2554, Ext. 2681.

I. COURSE DESCRIPTION:

This course is aimed at the understanding and performance of various techniques essential for wildlife management. Topics include: Field note taking, data recording and retrieval; literature searches; food habit analysis; habitat evaluation techniques; population estimation; criteria for sexing and aging game birds and mammals; methods of capture, handling and marking wild animals; evaluation of wildlife damage.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Perform a scientific literature search based on a selected wildlife species

Potential Elements of the Performance:

- Select a common wildlife species from Ontario
- Identify and retrieve all significant recent written material on that species using the Internet, scientific publications, related journals or books.
- Prepare a bibliography and an indexed abstract file on topics related to wildlife surveys for that species

(This outcome will constitute 5% of the course's grade)

2. Solve problems related to wildlife management scenarios using approved scientific problem-solving techniques

Potential Elements of the Performance:

- Select a wildlife management problem from a prescribed list of candidate problems.
- Develop several hypotheses to test related to your scenario.
- Attempt to follow through to the solution of that problem, using a flow chart of suggested activities.

(This outcome will constitute 5% of the course's grade)

3. Perform field identification of wildlife tracks and signs, scatology analysis, and cause of death evaluation. Have the ability to identify and assess wildlife damage and explore control programs for nuisance species.

Potential Elements of the Performance:

- Complete a photo collection of 30 tracks and signs indicating species and key features.
- Examine and differentiate the scat of several wildlife species native to Ontario.
- Investigate scenarios to determine the cause of death of wildlife species or livestock.
- Perform track and signs and cavity surveys to develop a species inventory.
- Determine whether wildlife is responsible for specific livestock or wildlife predation by collecting and analyzing direct and indirect evidence of predation
- Identify wildlife predators and nuisance species by vocalizations, tracks, signs and method of kill.

(This outcome will constitute 20% of the course's grade)

4. Design and perform habitat analysis techniques to evaluate food presence and availability: Food utilization; Cover availability and utilization

Potential Elements of the Performance:

- Investigate field techniques that might be used to measure the habitat parameters that are required.
- Select a survey or surveys or design a survey that will allow collection of the required data.
- Perform a variety of survey types to assess food and cover, and write up a report that assesses total habitat carrying capacity, present utilization and management suggestions for the future.
- Perform the necessary sampling procedures to lay out and analyze data from sample plots that will be statistically meaningful.

(This outcome will constitute 20% of the course's grade)

5. Design and perform field investigations and subsequent analysis of population estimation techniques.

Potential Elements of the Performance:

- Explain the major types of population census, and their strengths and weaknesses
- Describe some inventory methods under the following headings:
 - Total counts
 - Sample census
 - Mark- recapture methods
 - Indices of populations
- Demonstrate the ability to perform the field surveys and the calculations for techniques such as :
 - King strip census
 - Peterson Index
 - Aerial surveys for Moose
 - Pellet group counts for deer

(This outcome will constitute 20% of the course's grade)

6. Perform techniques used for wildlife sex and age determination. Analyze population structure in wildlife populations based on these techniques.

Potential Elements of the Performance:

- Explain the importance of sex and age ratios with respect to wildlife management.
- Explain how to determine the sex and age of upland game bird species using biological features (wings, tails).
- Explain techniques used for age and sex determination in many Ontario mammal species.
- Demonstrate the ability to correctly determine age and sex for many wildlife species.
 - Age moose using jaw-aging techniques
 - Tooth grinding and cross-sectioning

(This outcome will constitute 20% of the course's grade)

7. Explain techniques to capture, handle and mark any wild animals, humanely and safely.

Potential Elements of the Performance:

- Demonstrate the ability to set up traps as required to capture nuisance birds or mammals
- Describe proper methods for handling any wildlife species to ensure safety of the handler and the wildlife species
- Explain the relative merits and drawbacks of marking by tagging, colouration or mutilation.
- Demonstrate the ability to utilize chemical immobilization equipment properly.

(This outcome will constitute 10% of the course's grade)

III. TOPICS:

1. **Introduction , problem solving and literature searches**
2. **Necropsy procedures and physiological indicators**
3. **Food habit analysis**
4. **Habitat evaluation techniques**
5. **Population analysis and estimation**
6. **Criteria of sex and age**
7. **Methods of capture, handling and marking wild animals**
8. **Evaluation of wildlife damage**
9. **Recent tools in wildlife research.**

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

1. Wildlife surveys (NRT 255) lab manual
2. Dissecting kit
3. Laboratory coat
4. Safety vest, snowshoes, hard hat, compass for field trips
5. Required TEXT : **Bookhout, R.A.** 1996 . *Techniques for Research for Wildlife and Habitats*. The Wildlife Society.
6. Recommended Field Guide: **Rezendes, P.** 1999 . *Tracking and the Art of Seeing*. Firefly Books.
7. Other readings as assigned from the LRC or internet

V . EVALUATION PROCESS/GRADING SYSTEM:

Students will be evaluated on the basis of achievement of learning outcomes. These will be determined by:

1. Assignments -**Total value 30%****2. Practical tests -****Total value 25%****3. Theory -**

- * Theory quizzes (all equal value) - **5%**
- * Mid-term Report **20%**
- * Final exam **20%**

All assignments must be submitted to pass the course. Late assignments will be penalized -10% per school day late. Late assignments will not be accepted once they have been returned in class. Students who miss tests will not have an opportunity to rewrite without valid excuse.

Attendance is mandatory at all labs and field trips. In the event of an excused absence, students will be required to make up an alternate lab on their own time. Failure to attend two labs and/or field trips will result in an immediate "F" grade.

**WILDLIFE SURVEY
TECHNIQUES****NRT255**

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

Grade	<u>Definition</u>	<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.	
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 professor and/or the Special Needs office. Visit Room E1101 or call Extension 2703 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.

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*. 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.

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.