SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE:	WILDLIFE SURVEY TECHNIQUES		
CODE NO. :	NRT 255	**SEMESTER:**	W12
PROGRAM:	FISH & WILDLIFE TECHNICIAN		
AUTHOR:	T.WINTER		
DATE:	JAN 2012	**PREVIOUS OUTLINE DATED:**	DEC 2011
APPROVED:	"B. PUNCH"		

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CHAIR **DATE**

TOTAL CREDITS:	4
PREREQUISITE(S):	NIL
HOURS/WEEK:	4

For additional information, please contact
Brian Punch, Chair Environment/Design/Business
School of Environment and Technology
(705) 759-2554, Ext. 2681

I. COURSE DESCRIPTION:

This course is aimed at the understanding and performance of various techniques essential for wildlife management survey techniques. 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.

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 and solve problems related to wildlife management using approved scientific problem-solving techniques.

   Potential Elements of the Performance:
   - Select an Ontario wildlife species, identify and retrieve recent written material on that species using scientific publications.
   - Prepare and present findings of research on Ontario wildlife species.
   - Prepare a bibliography and an indexed abstract file on topics related to wildlife surveys for that species
   - Select a wildlife management problem and develop several hypotheses to test, related to your scenario.
   - Develop solutions to a problem, using a flow chart of suggested activities.

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

2. Perform field identification of wildlife based on tracks and signs, perform scatology analysis, and cause of death evaluation.

   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.

   This outcome will constitute 25% of the course's grade

3. Perform habitat analysis techniques to evaluate food presence and availability.

   Potential Elements of the Performance:
   - Investigate field techniques used to measure the habitat parameters that are required for select species (Habitat Suitability Indices).
   - Perform a wildlife survey to assess food and cover, and write up a report that assesses total habitat carrying capacity, present utilization.
   - Perform the necessary sampling procedures to layout and analyze data from sample plots that will be statistically meaningful.

   This outcome will constitute 25% of the course's grade

4. Describe field inventory survey techniques and subsequent analysis of habitat and population estimation techniques.

   Potential Elements of the Performance:
   - Explain the major types of population census, and their strengths and weaknesses
   - Describe inventory methods such as:
     Total counts
     Sample census
     Mark- recapture methods
     Indices of populations
     Moose Aerial Inventory

   - Demonstrate knowledge of or 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

5. 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.
   - Demonstrate 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 15% of the course's grade

6. Explain techniques used to capture, handle and mark 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 5% of the course's grade

III. TOPICS:

1. **Introduction , problem solving and literature searches**
2. **Wildlife Tracking and signs**
3. **Habitat evaluation techniques**
4. **Population analysis and techniques**
5. **Criteria of sexing and aging**
6. **Methods of capture, handling and marking wild animals**

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

1. Required text: **Bookhout, R.A**. 1996. *Techniques for Research for Wildlife and Habitats.* The Wildlife Society.
2. Required Manual: **Winter/Cooper**. 2012. *Wildlife Survey Techniques Manual.* AK Graphics, Sault Ste Marie, ON.
3. Field Guide: **Rezendes, P**. 2003*. Tracking and the Art of Seeing*. Firefly Books.
4. Laboratory coat
5. Safety vest, snowshoes, hard hat, compass for field trips
6. Other readings as assigned.

V. EVALUATION PROCESS/GRADING SYSTEM:

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

Literature Search/Problem Solving Assignment – 10%
Tracks & Signs Test – 10%
Tracks & Signs Collection – 15%
Deer Survey Assign – 20%
Wildlife Survey Field Forms -5%
Sexing & Aging Lab Test -15%
Lecture Final Exam– 20%
Quizzes & Participation – 5%

Late assignments will be penalized -10% per 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 (i.e. doctor's note).

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.

Grades assigned as follows:

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
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.

VI. SPECIAL NOTES:

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. *It is the departmental policy that once the classroom door has bee enclosed, the learning process has begun. Late arrivers will not be granted admission to the room.*

VI. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.