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

COURSE OUTLINE

Course Title: WILDLIFE SURVEYS

Code No.: NRT2470-4 Semester: 4

Program: FISH & WILDLIFE TECHNICIAN

Author: HAROLD COOPER

Date: JAN 03 Previous Outline Date: JAN 02

Approved: _____ _____
Dean, Natural Resources Programs Date

Total Credits: 4
Prerequisite(s):
Length of Course: 4 HRS/WEEK X 16 WEEKS
Total Credit Hours: 64

WILDLIFE SURVEYS **NRT2470**
Course Name Code No.

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. Conduct a complete necropsy and food habit study on a deceased wildlife species.

   Potential Elements of the Performance:
   - Examine external and internal features of a dead mammal or bird to determine normalcy and potential causes of death.
   - Dissect out the internal organs according to correct procedure.
   - Examine and record the state of all physiological indicators that may be use to predict the health state of the species prior to its demise
   - Write up a necropsy report that completely describes the specimen, its condition, age etc. and necropsy results.
   - Identify the components of the alimentary tract and its associated organs.
   - Perform a comprehensive food habit investigation and write a report based on your results.

   (**This outcome will constitute 10% 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 15% of the course's grade)

6. Analyze population structure in wildlife populations based on sex and age determination techniques.

Potential Elements of the Performance:

- Explain the importance of sex and age ratios

- Correctly sex and age :
  - All common waterfowl from entire specimen or wings only
  - All common fur-bearers
  - All big game and small game mammals
  - All game birds

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

7. Have the ability to identify and assess wildlife damage, and design a control program for nuisance species where required.

Potential Elements of the Performance:

- 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.
- Assess extent of wildlife damage and suggest humane and efficient methods of control

(This outcome will constitute 15% of the course's grade)

8. Design and perform techniques to capture, handle and mark any wild animals, humanely and safely.

   Potential Elements of the Performance:
   - Demonstrate the ability to set up live traps or kill traps as required to capture the following groups of wildlife:
     - Nuisance birds or mammals
     - Fur-bearer control
     - Big game species
     - Small game mammals or birds
   - 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 (NRT247) lab manual
2. Dissecting kit and larger knife
3. Laboratory coat
4. Snowshoes, hard hat, compass for field trips
5. Recommended TEXT : **Bookhout, R.A**. 1996 . *Techniques for Research for Wildlife and Habitats.* The Wildlife Society.
6. **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** -	* Problem solving – 4 % * Literature search- 4 % * Necropsy report – 4 % * Tracks and signs – 8 % * Write-up on habitat survey – 6 %	**Total value 26%**
2. Practical tests	* Moose jaw aging test (5 %) * Waterfowl wing sexing and aging test (5 %) * Deer, moose, beaver and bear tooth sections (6 %) * Cause of death test (6%) * Tracks and signs test (6%)	**Total value 28%**
3. Theory tests	* Test 1 based on Topics 1-4 **(22%)** * Test 2 based on Topics 5-9 **(24%)**	

The pass grade on all practical tests is 80%.

All assignments must be submitted to pass the course. Late assignments will be penalized -10% per school day late. 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 “R” grade.
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%	3.75
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.
NR	Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has been impossible 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.

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 instructor.

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.