

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



**COURSE OUTLINE**

**Course Title: WILDLIFE SURVEYS**


**Code No.: FOR247-4 Semester: 4**

**Program: FISH & WILDLIFE TECHNICIAN**

**Author: HAROLD COOPER**

**Date: JUNE 1998 Previous Outline Date: APR 97**

**Approved:**

  
**Dean, Natural Resources  
Programs**

June 4, 1998  
**Date**

**Total Credits: 4**

**Prerequisite(s):**

**Length of Course: 4 HRS/WEEK X 16 WEEKS**

**Total Credit Hours: 64**

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*For additional information, please contact Brian Punch, Dean, Natural Resources Programs, (705) 759-2554, Ext. 688.*

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COURSE 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:****A. Learning Outcomes:**

1. Perform a literature search based on a selected wildlife species
2. Solve problems related to wildlife management scenarios using approved scientific problem-solving techniques.
3. Conduct a complete necropsy and food habit study on a deceased wildlife species.
4. Design and perform habitat analysis techniques to evaluate food presence and availability: Food utilization; Cover availability and utilization
5. Design and perform field investigations and subsequent analysis of population estimation techniques.
6. Analyze population structure in wildlife populations based on sex and age determination techniques.
7. Have the ability to identify and assess wildlife damage , and design a control program for nuisance species where required.
8. Design and perform techniques to capture, handle and mark any wild animals, humanely and safely.

**B. Potential elements of the performance for each outcome:**

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

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- Prepare a bibliography and an indexed abstract file on topics related to wildlife surveys for that species.

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

2. **Solve problems related to wildlife management scenarios using an approved scientific problem-solving technique.**

- 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 10% of the course's grade)

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

- 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 15% of the course's grade)

4. **Design and perform habitat analysis techniques**

- Determine the habitat requirements and limiting factors on important wildlife species by research.

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- 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 15% of the course's grade)

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

- 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.**

- Explain the importance of sex and age ratios

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- 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 15% 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.**

- 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 10% of the course's grade)

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

- 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 draw-backs 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)

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**III. TOPICS TO BE COVERED :**

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. Collection and preservation of biological specimens
9. Evaluation of wildlife damage
10. Recent tools in wildlife research.

**IV. REQUIRED RESOURCES/TEXT/ MATERIALS :**

1. Wildlife surveys (FOR 247) lab manual
2. Dissecting kit and larger knife
3. Laboratory coat
4. Snowshoes, hard hat, compass for field trips
5. TEXT : BOOKHOUT, R.A. Techniques for Research for Wildlife and Habitats

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

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

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|--------------------|--|---------------------|
| 1. Assignments     | <ul style="list-style-type: none"> <li>- * Problem solving</li> <li>* Literature search</li> <li>* Necropsy report</li> <li>* Write-up on habitat survey</li> </ul>  | Total value-<br>20% |
| 2. Practical tests | <ul style="list-style-type: none"> <li>* Deer and moose jaw aging test</li> <li>* waterfowl wing sexing and aging test</li> <li>* Deer tooth and bear tooth sections</li> <li>* Cause of death test</li> <li>* Final lab test</li> </ul> | Total value-<br>35% |
| 3. Theory tests    | <ul style="list-style-type: none"> <li>* Test 1 based on Topics 1-5</li> <li>* Test 2 based on Topics 6-10</li> </ul>  | Total value<br>45%  |

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## METHOD OF ASSESSMENT (GRADING)

	<u>Theory Material</u>	<u>Lab tests</u>
A+ -Consistently outstanding	90% +	95%+
A - Outstanding achievement	80- 89%	85- 94%
B - Consistently above average	70- 79%	75 -84%
C - Satisfactory achievement	60- 69%	65 -74%
R - Repeat course material	< 60%	< 65%

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.

## VI. SPECIAL NOTES:

Special Needs

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

Plagiarism

Students should refer to the definition of "academic dishonesty" in the "Statement of Students 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, as may be decided by the professor.

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.

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Students who have completed an equivalent post-secondary course should bring relevant documents to the Coordinator, Natural Resources Programs.

Retention of Course Outlines

It is the responsibility of the student to retain all course outlines for possible future use in gaining advanced standing at other post-secondary institutions.

Substitute course information is available at the Registrar's Office.

## VII. PRIOR LEARNING ASSESSMENT:

Please contact the Prior Learning Assessment Office (H0240) for further information.