replaced by FOR 338-6 Enforcement / Wildlife Mgmt.

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: GAME AND FISH MANAGEMENT

Code No.: FOR 314-6

Program: FISH AND WILDLIFE TECHNOLOGY

Semester: VI

Date: DECEMBER, 1983

Author: H. COOPER

New: _____ Revision: X

APPROVED: _____ _____

Chairperson Date

FISH & WILDLIFE TECHNOLOGY
FOR 314-6
GAME AND FISH MANAGEMENT

CALENDAR DESCRIPTION

GAME AND FISH MANAGEMENT — COURSE NAME

FOR 314-6 — COURSE NUMBER

PHILOSOPHY/GOALS:

This advanced level course combines theoretical and practical aspects of Game and Fish management. Topics include: Biology of important game/fish supply; legislation and enforcement procedure; the role of harvesting game supply; habitat improvement for upland game mammals and birds, furbearers, waterfowl, and fish; population manipulation; management of protected areas; predator and nuisance species control; and the role of effective public relations in resource management.

Prerequisites - FOR 302-3

METHOD OF ASSESSMENT (GRADING METHOD):

Students will be assessed on the basis of the following:

Term tests (3) - 45%

Practical Tests every second week in labs - 40% total

- Enforcement problems - Parasites and diseases
- Habitat Improvement - Firearm anatomy and handling
- Mammal and Bird anatomy
- Mammals, skulls and fur I.D.
- Waterfowl whole specimens, wings and in flight
- Bird, amphibia, and reptilia I.D.

Reports - 3 Technical style reports - 15%
- position paper
- species biology and management

100%

Grading: For practical tests - A = 85%+ consistently
B = 75-89%
C = 65-74%

For all else - A = 80%+ consistently
B = 70-79%
C = 60-69%

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Topic #	Hours	Topic Description	References (see list)
I	4	Introduction to and scope of Course - goals and objectives of Game and Fish management - principles of management - tools and techniques - factors influencing future management	(1) Ch. 1-5 (2) p. 89 (8)
II	4	The Role of Harvesting Fish and Game - objectives of hunting, trapping, fishing - methods of regulating harvests - sustained yield concept - opposition to and alternatives to harvesting	(2) p. 7, 55, 61
III	15	Legislation and Enforcement - need for enforcement - authority for legislation - types of offences and regulations - rights of private citizens - rules of evidence - power and technique to search, arrest, take statements - procedure for enforcing Provincial and Federal offences - record-taking and public relations of officers - courtroom procedure	(4) (2) p. 22, 67
IV	6	Biology and Requirements of Game and Fish Species - warm-water vs cold-water fisheries - biological requirements and limiting factors affecting important game and fish supply	(2) p. 238 (7) (9) (10) (11) (12)

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Topic #	Hours	Topic Description	References (see list)
V		Habitat Improvement - methods of enhancing the habitat of:	
		a) Upland game species - planting - release and rejuvenation of food plants - artificial feeding - types of cover and their improvement	(2) (8) (3) (1) p. 329
		b) Wetland Improvements for furbearers, waterfowl, non-game supply - water level control - potholes and their formation - wetland farming - other types of enhancement	(14)
		c) Stream Improvements - channel treatment for food and spawning - streamside improvement - water quality control - fertilization, reclamation and herbicidal treatment	(3)
		d) Lake Improvements	
VI		Population Manipulation - fish stocking and the hatchery systems-methods and roles - removal of undesirable fish and game supply - case studies - successes and failures - artificial propogation of game supply - introduction of exotic game supply - potential and problems	(2) p. 251, 255, 260, 172
VII		Establishing Protected Areas - Role and short-comings of - refuges and reserves - preserves - sanctuaries - management areas and wilderness areas	(2) p. 161, 197, 191

Topic #	Hours	Topic Description	References (see list)
VIII		Predator and Nuisance Species Control - principles of predator-prey relationships - types and extent of predator damage - methods of control	(2) p.167
IX		Public Relations as a Management Tool - role of public relations - extension roles - contentious issues related to P-R	(2) p. 67, 75

TEXTBOOK(S):

(1) Schemnitz, S.S., 1980 Wildlife Management Techniques Manual, The Wildlife Society, Washington, D.C., 686 p.

(2) Teague, R.D., and E. Decker, 1979, Wildlife Conservation, Principles and Practices, The Wildlife Society, Washington, D.C., 280 p.

(3) U.S. Forest Service, 1969, Wildlife Habitat Improvement Handbook, U.S.D.A., Washington, 200 p.

(4) Assorted Acts and Regulations

SUGGESTED READINGS:

(5) The Journal of Wildlife Management, 1966-1983, LRC

(6) Transactions of N.A. Wildlife and Resources Conf., 1971-1983, LRC

(7) O.M.N.R. Publications on Wildlife Spp.

(8) Giles, R.H., Jr., 1978, Wildlife Management, Freeman & Co., San Francisco, 416 p.

(9) Kortright, F.H., 1967, Ducks, Geese and Swans of N.A., Stackpole, Pennsylvania, 476 p.

(10) Rue, L.L. III, 1980, Fur-Bearing Animals of N.A., Crown publ., N.Y., 343 p.

(11) Ibid, 1978, The DEER of N.A., Crown publ., N.Y., 463 p.

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(12) Schmidt, J.L., and D.L. Gilbert, 1978, Big Game of North America, W.M.I. Stackpole, Pennsylvania, 494 p.

(13) Readings in Wildlife Conservation, 1974, The Wildlife Society, 722 p.

(14) Linde, A.F., 1969, Techniques for Wetland Management, Dept. of Natural Resources, Madison, Wisconsin, 156 p.

OBJECTIVES:

Unit I - Introduction

At the completion of this unit the student will be able to:

1) State and Explain - 8 principles of game and fish management
- 7 major management tools
- 8 factors that future resource planners must consider

Unit II - Role of Harvesting

At the completion of this unit the student will be able to:

1) State the objectives and rationale for harvesting resources.

2) Describe how harvest numbers may be regulated for sustained yield management.

3) State the arguments that the many persons opposed to hunting, trapping or fishing use.

Unit III - Legislation and Enforcement

At the completion of this unit, the student will be able to:

1) Differentiate between - Federal and Provincial offences
- Summary conviction, indictable, and dual procedural offences, giving examples of any of these

2) Solve case studies with respect to enforcement procedure, demonstrating mastery of:
   a) the use and contents of major Acts (including the Game and Fish, Fisheries Act, Migratory Bird Conv. Act, etc.)
   b) the officers powers and authority
   c) record-taking
   d) collecting usable evidence, seizures, statements
   e) completion of proper enforcement forms and courtroom behaviour

Unit IV - Biology and Related Management of Game and Fish

At the completion of this unit, the student will be able to:

1) Compare characteristics and requirements of warm-water vs cold-water fish spp. in a chart.

2) Describe biology, habitat, limiting and compensating factors, life history and value of any major game or fish spp. covered.

Unit V - Habitat Improvement

At the completion of this unit, the student will be able to:

1) Describe the methods and rules for planting of game/fish food or cover plant species.

2) State objectives of water level control, and design a control device for a given water course to achieve these objectives.

3) Describe four types of improvements to protective cover and five methods of improving nesting cover.

4) Given a section of unimproved stream, the student will illustrate how this may be enhanced in the following respects:

   a) five methods of treating the channel
   b) two methods of treating stream-sides and stream-flow
   c) three methods of maintaining water quality
   d) three methods of controlling undesirable fish species

5) Demonstrate on a sketch six methods of improving the habitat of any wetland area for furbearers or waterfowl.

6) Differentiate between rejuvenation and release operations, giving benefits, drawbacks and examples of each.

7) State five advantages and five disadvantages of the artificial feeding of any game species.

8) Describe the objectives, dangers and most practical methods of performing the following:

   a) lake fertilization
   b) vegetation control in lakes
   c) lake reclamation
   d) coarse fish removal

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Unit VI - Population Manipulation

At the completion of this unit, the student will be able to:

1) Describe the use of population manipulation as a management tool.

2) Outline the purposes, methods and criticisms of the hatchery system.

3) Describe the reasons and methods for translocating game spp.

4) Describe the 7 major potential problems and benefits of exotic game spp.

Unit VII - Establishing Protected Areas.

At the completion of this unit, the student will be able to:

1) Describe the role and short-comings of the protected areas listed in the course outline.

Unit VIII - Predator and Nuisance Species Control

At the completion of this unit, the student will be able to:

1) State 8 principles of predator-prey relationships, and apply these principles to the ecological role of predators in the ecosystem.

2) State the major methods of humane predator and nuisance species control, and state the advantages and disadvantages of each.

Unit IX - Public Relations and Resource Management

At completion of this unit, the student will be able to:

1) Outline the features of an effective public relations program.

2) Submit an acceptable position paper on a topic dealing with a contentious issue related to resource management, ensuring that the principles of a good public relation program are met, in a technical style.

LABORATORY COMPETENCY:

In addition to the above objectives, the student must be able to achieve a minimum grade of 65% in the following laboratory related material:

1) Mammal and bird anatomy

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2) Mammalian and bird identification and classification

3) Waterfowl identification from whole specimens or wings

4) Reptile and amphibian identification

5) Parasite and disease diagnosis

6) Mammal skull and fur identification

7) Firearm anatomy and handling