

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

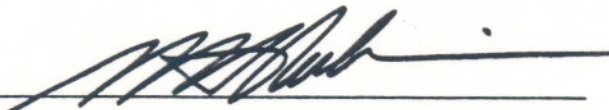
COURSE OUTLINE

Course Title: WATERSHED MANAGEMENT
Code No.: FOR 318-4
Program: WATER RESOURCES TECHNOLOGY
Semester: FIVE
Date: JANUARY, 1990
Author: B. CURRELL

New: _____ Revision: X

APPROVED:

Dean



Date

Jan 26/90

WATERSHED MANAGEMENT
FOR 318-4

WATERSHED MANAGEMENT

FOR 318-4

Course Name

Course Number

PHILOSOPHY/GOALS:

A practical course designed for field personnel to provide information on water management and methods to assist in minimizing erosion and sedimentation on land undergoing development.

METHOD OF ASSESSMENT (GRADING METHOD)

Unit Tests (3)	45%
Assignments (5)	45%

A total of three unit tests based on lecture material will be written at the completion of units 2, 4 and 6 and, will account for 45% of the course work.

A series of six assignments will be handed in, valued at 45%. All assignments must be handed in to pass the course though marks for only the best 5 will be calculated in the final grade. Quizzes and in-class assignments will be worth 10%.

Reports are due two weeks after assigned; a total of 10% will be deducted for every day late. Reports submitted after 1 week after the due date will receive 0.

Marks are cumulative and 60% is considered a pass. If a final grade of less than 60% but greater than 55% is received, a test based on the entire course material may be written during the rewrite period providing student effort and attendance have been satisfactory.

A+ = 90% A = 80-89% B = 70-79% C = 60-69%

TEXTBOOK(S) SUGGESTED:

Watershed Management Lab Manual; 1990 edition.

**WATERSHED MANAGEMENT
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UNIT #1 Important Physical Properties of Water Affecting Management

- density relationships
- thermal and oxygen stratification
- zonation of lakes and productivity
- wind action, waves and seiches

Assignment 1 - Lake Productivity

- temperate streams
- river meanders, particle movement
- measuring streamflow

Assignment 2 - Cottage Country

UNIT #2 Control of Runoff in Watersheds

- basic run-off equation
- control of run-off by proper management practices
- role of natural and artificial impoundments

Assignment 3 - Role of Beavers in Watersheds

- farm ponds

UNIT TEST #1

UNIT #3 The Aquatic Community and its Habitat

- environmental requirements of fish
- invertebrates and their biological requirements
- biological indicator species

Assignment 4 - Biological Indicators

UNIT #4 Shore Processes and Shore Protection

- shore features and processes
- shore protection; devices and guidelines
- legalities of shoreline development

**Field trip - Shoreline Protection
Assignment 5**

UNIT TEST 2

**WATERSHED MANAGEMENT
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UNIT # 5 Stream Improvement Measures

- problem situations in streams
- erosion control
- stream improvement

UNIT # 6 Forestry Practices and Watershed Management

- effects of harvesting on aquatic environments
- proper logging practices to minimize effects
- forestry chemicals and their effects on aquatic life
- construction of resource roads to minimize aquatic effects

Assignment 6 - Resource Road Construction Guidelines

UNIT TEST 3

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REPORT WRITING

General

- type on standard sized typing paper
- leave margins at least 1" at each side for instructor's comments
- double space
- be brief and concise
- underline all scientific names
- do not use I, me, you, we, our, etc.
- be sure all tables and figures are correctly numbered and labelled
- refer to tables and figures by number

Example:

Table 10. Population numbers of caribou on Pribilof Isl.

Year	Estimated Number
1956	6
1957	10
1958	14
1959	19
1960	27
1961	* no data
1962	37

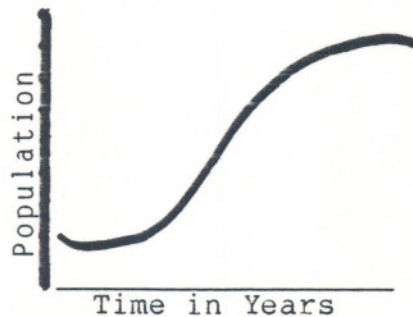


Fig. #1 - Theoretical Population Growth Curve

**WATERSHED MANAGEMENT
FOR 318-4**

References

- presented on a separate page at end of report,

1) For paper presented in a Journal:

Mason, C.F. and R. J. Bryant. 1974. The structure and diversity of the animal communities, J. Zool., 172, 289-309.

1	1
issue no.	page reference

2) For book references:

Hynes, H. B. N., 1970. The Ecology of Running Waters, Liverpool University Press, Liverpool.