

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

COURSE OUTLINE

COURSE TITLE: ENVIRONMENTAL MAPPING & INTERPRETATION

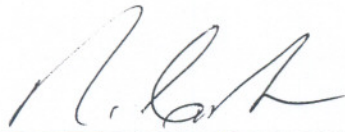
CODE NO.: ENV210-4 SEMESTER: III

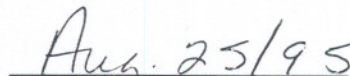
PROGRAM(S): ENVIRONMENTAL ENGINEERING/WATER RESOURCES

AUTHOR: LORY VANDERZWET

DATE: AUG. 1995 PREVIOUS OUTLINE DATED: NEW

APPROVED:


DEAN


DATE

ENVIRONMENTAL MAPPING

ENV210-4

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TOTAL CREDITS HOURS: 48

I. PHILOSOPHY/GOALS:

Environmental Mapping & Interpretation is a third semester course designed to teach Environmental Engineering and Water Resources Technology students to use maps, photographs and remote sensing data to analyze the environment for both natural elements and man-made disturbances.

II. STUDENT PERFORMANCE OBJECTIVES (OUTCOMES):

Upon successful completion of this course the student will:

- 1) Make measurements from both maps and aerial photographs and determine distances, directions and areas.
- 2) Use topographic maps to develop profiles, to delineate slopes and to determine slopes.
- 3) Use aerial photographs to identify land features and man-made structures.
- 4) Interpret remote sensing data (ground geophysics, satellite imagery), to understand subsurface phenomenon.
- 5) Understand the principles and applications of Ground Information Systems.

III. TOPICS TO BE COVERED:

	Approximate Time Frames (Optional)
1) Topographic Maps	20 hours
2) Aerial Photographs	15 hours
3) Remote Sensing	5 hours
4) Computer Mapping	5 hours

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IV. LEARNING ACTIVITIES/REQUIRED RESOURCES

Topic/Unit - A) Maps

Learning Activities:

1. Introduction
2. Use of Engineer's and Metric Scale for distance measurements on maps
3. Use of Engineer's Scale and Metric Scale for area measurements on maps
4. Use of Navigational protractor to find directions on a map.

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Topic/Unit - B) Topographic Maps

Learning Activities:

- 1) Introduction
- 2) Identification of OBM and NTS topographic maps
- 3) Use of OBM & NTS topographic maps for gradient determination and profile mapping
- 4) Use of OBM and NTS topographic maps for watershed delineation

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Topic/Unit - C) Aerial Photographs

Learning Activities:

- 1) Introduction
- 2) Use of aerial photographs for distance measurements
- 3) Use of aerial photographs for direction measurements
- 4) Use of aerial photographs for area measurements
- 5) Use of aerial photographs for identification of natural man-made elements

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Topic/Unit - D) Remote Sensing

Learning Activities:

- 1) Introduction
- 2) Principles of ground geophysics required for remote sensing
- 3) Interpretation of data collected from remote sensing

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Topic/Unit - E) Computer Mapping

Learning Activities:

- 1) Introduction to Ground Information System
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V. EVALUATION METHODS: (INCLUDES ASSIGNMENTS, ATTENDANCE REQUIREMENTS, ETC.)

Evaluation will be based upon written tests as well as assignments. To successfully complete the course, the student must have passing grades on both the tests and assignments. Tests will make up 75% of the grade, assignments 25%. Regular attendance is required.

VI. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the instructor.

VII. REQUIRED STUDENT RESOURCES

- Calculator
- Engineer's Scale
- Metric Scale
- Navigational Protractor

VIII. SPECIAL NOTES

Students with special needs (eg. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.