

SAULT STE. MARIE, ON  
SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

COURSE OUTLINE

COURSE TITLE: MUNICIPAL ENGINEERING

CODE NO.: CIV306 SEMESTER: V

PROGRAM: CIVIL ENGINEERING TECHNOLOGY

AUTHOR: D. J. ELLIOTT

DATE: SEPT 1994 PREVIOUS OUTLINE DATED: SEPT 1993

*M. Thier Aug 24/94*

APPROVED: *L. Crozath* 94-08-25  
DEAN DATE

**MUNICIPAL ENGINEERING**  
**COURSE NAME**

**CIV306**  
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**TOTAL CREDIT HOURS: 64**

**PREREQUISITE(S): CIV200**

**I. PHILOSOPHY/GOALS:**

The goal of this course is to apply urban services design criteria for land development including planning, street design, municipal services and environmental considerations. All concepts will be integrated into one theme project throughout the semester.

**II. STUDENT PERFORMANCE OBJECTIVES (OUTCOMES):**

Upon successful completion of this course the student will:

- 1) State, define and discuss land use planning principles and servicing requirements
- 2) Identify basic street and road allowance design concepts
- 3) Apply hydrological principles for large and small scale storm water control projects
- 4) Apply municipal services design concepts to land development projects
- 5) Discuss environmental impact of land development and the associated legislation and procedures

**III. TOPICS TO BE COVERED:**

- 1) Land Use Planning
- 2) Street Design
- 3) Hydrology
- 4) Municipal Services
- 5) Environmental Considerations

**IV. LEARNING ACTIVITIES/REQUIRED RESOURCES**

**1. Land Use Planning**

**Learning Activities:** In class instruction on:

- Official Plan and Zoning Regulations
- Land Use and Servicing Requirements
- Subdivision Layout

**Resources:** Notes, handouts and overheads

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2. **Street Design**

**Learning Activities:** In class instruction and exercises on:  
- Transportation Planning  
- Street Classification  
- Road Design Criteria  
- Utility Requirements

**Resources:** Notes, handouts and overheads

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3. **Hydrology**

**Learning Activities:** Review of watershed, precipitation, streamflow and flood design flow concepts

**Resources:** Notes and handouts  
Chapter 3 (Nathanson)

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4. **Municipal Services**

**Learning Activities:** In class instruction, case studies and exercises on:  
- Water Distribution Network Analysis  
- Sanitary and Storm Sewer Design  
- Pumping Station Design  
- Construction and Safety Requirements

**Resources:** MOEE Design Guidelines  
Chapters 2, 7, 8 and 9 (Nathanson)

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5. **Environmental Considerations**

**Learning Activities:** In class instruction and case studies on:  
- Class Environmental Assessment  
- Site Evaluation  
- Mitigation Measures during Construction

**Resources:** MOEE Environmental Assessment documentation  
Notes and overheads

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**V. EVALUATION METHODS: (INCLUDES ASSIGNMENTS, ATTENDANCE REQUIREMENTS, ETC.)**

A final grade will be derived as follows:

Assignments	40%
Term Test	30%
Final Test	30%
Total	100%

The grading system used will be as follows:

A+	90% - 100%
A	80% - 89%
B	70% - 79%
C	55% - 69%
R	Repeat

- 1) Minimum acceptable grade for this course is 55%.
- 2) If at the end of the semester the overall mark is below 55%, then it will be up to the instructor whether or not a rewrite test will be granted. The criteria employed for arriving at that decision is class attendance, class participation and overall grade, which should be at least 45%.
- 3) In the case a rewrite is granted, it will be permitted only once, it will cover the entire course outline and will limit the maximum obtainable grade for the course to 60%.

**VI. REQUIRED STUDENT RESOURCES**

Required Texts      Basic Environmental Technology  
Jerry A. Nathanson, Prentice Hall

Guidelines for the Design of Sanitary Sewage Works, Storm Sewers, Water Distribution Systems, and Water Storage Facilities, Ministry of the Environment and Energy

**VII. ADDITIONAL RESOURCE MATERIALS AVAILABLE IN THE COLLEGE LIBRARY:**

Book Section      Water and Wastewater Technology  
Second Edition  
Mark J. Hammer, Prentice Hall



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**Ontario Provincial Standards for Roads and Municipal Services**  
Municipal Engineers Association and The Ministry of Transportation

**Municipal Works Design Manual**  
Municipal Engineers Association

**VII. 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.