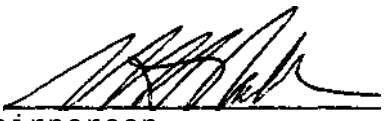
SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title	WASTEWATER TREATMENT
Code No.:	WTR 220-5
Program;	WATER RESOURCES/PULP & PAPER ENGINEERING TECHNOLOGY
Semester:	IV/VI
Date	MAY, 1986
Author:	J. THEIL

New; Revision:

APPROVED: 

Chairperson Date ^

CALENDAR DESCRIPTION

WASTEWATER TREATMENT	WTR 220-5
Course Name	Course Number

PHILOSOPHY/GOALS;

To present basic knowledge and practices, theories, and applications relevant to wastewater flows and characteristics, sewer systems, treatment processes, and plant operations.

METHOD OF ASSESSMENT (GRADING METHOD):

Assignments/Laboratory Work	30%	A	80-100%
Mid-Term Examination	20%	B	70-79%
Final Examination	50%	C	60-69%

A passing grade will be based on a minimum composite grading of 60%. Students obtaining a composite grading of 55-59% may be allowed to complete a supplementary examination.

TEXTBOOK(S);

Water and Wastewater 2. Technology (SI Version) by Mark J. Hammer, John Wiley & Sons.

LABORATORY MANUAL - Laboratory Skills for Plant Operators, Vol. 2 - Ministry of the Environment, 135 St. Clair Ave. W., Toronto, Ontario, M4V 1P5.

REFERENCE;

Standard Methods, by AWWA-WPCF-APHA, 1015 15th Street N.W., Washington, D.C. 20005

SEQUENCE OF TOPICS

TOPICS	NO. OF WEEKS
WASTEWATER FLOWS AND CHARACTERISTICS	
1.1 Domestic Wastewater	2
1.2 Industrial Wastewater	
1.3 Infiltration and Inflow	
1.4 Municipal Wastewater	
1.5 Evaluation of Wastewater	
WASTEWATER PROCESSING	
2.1 Unit Operations	10
2.2 Preliminary Treatment	
2.3 Primary Treatment	
2.4 Secondary Treatment	
- biological filtration	
- activated sludge process	
- stabilization ponds	
2.5 Characteristics and Quantities of Waste Sludges	
2.6 Aerobic and Anaerobic Digestion of Sludges	
2.7 Centrifugation and Pressure Filtration	
OPERATION OF WASTEWATER SYSTEMS	
3.1 Treatability Studies	2
3.2 Performance Evaluation of Treatment Plants	
ADVANCED TOPICS	1

OBJECTIVES;

The student will be able to:

1. Assess and evaluate wastewater flows and characteristics.

2. Perform basic designs of unit treatment processes, including preliminary settling facilities, aerobic biological processes, secondary settling tanks, and sludge handling and treatment facilities.

3. Determine plant operation requirements, including process control, performance evaluation, and maintenance.

4. Perform laboratory tests and analyses relevant to plant performance.