

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



**SAULT
COLLEGE**

COURSE OUTLINE

COURSE TITLE: OEL862 Wastewater Treatment Level I & II

AUTHOR: *Subhash Verma; P.Eng.*

DATE: Sept. 2013 **PREVIOUS OUTLINE DATED:** New

APPROVED: Ted Newbery **Aug 2013**
Chair **DATE**

TOTAL CREDITS: 4

COURSE HOURS: 60

Copyright ©2013 Sault College of Applied Arts & Technology

Reproduction of this document by any means, in whole or in part, without prior written permission of Sault College of Applied Arts & Technology is prohibited.

*For additional information, please contact, Continuing Education
(705) 759-2554, Ext. 2612*

I. COURSE DESCRIPTION:

To present basic knowledge and practices, theories, and application relevant to wastewater flows and characteristics, basic treatment processes, and plant operations. Related concepts in chemistry, math, hydraulics, equipment, safety legislation are reinforced. .

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. List the physical and chemical characteristics of sewage water
 - List physical and chemical characteristics of municipal wastewater
 - Calculate BOD and SS removals
2. Define and discuss preliminary treatment of wastewater
 - Name of the devices used in preliminary treatment
 - Discuss factors affecting settling of grit and removal devices
3. Define and discuss primary treatment of wastewater
 - Define primary treatment
 - Understand primary operations of clarification
 - Knowledge about factors affecting primary treatment
 - Work out loading and removal efficiency
4. Basic knowledge about biological treatment processes
 - Define secondary treatment of wastewater
 - Describe principle of biological treatment
5. Describe various types of stabilization ponds
 - Understanding of the working principle of facultative ponds
 - Describe the working principle of household septic units

III. TOPICS:

1. Wastewater Flow and Characteristics
2. Preliminary Treatment
3. Primary Treatment and sludge production
4. Introduction to secondary treatment
5. Stabilization Ponds

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Water and Wastewater Technology by Mark J. Hammer and Hammer Junior, Prentice Hall, 7th edition. ISBN: 0135114047

Course Manual–Online

OIT Course Manual-Online

V. EVALUATION PROCESS/GRADING SYSTEM:

Final mark in the course will be based on:

Term Test I	20%
Term Test II	20%
Term Test III	20%
Final Test	40%

Note:

- Term test I is based on the topics of basic sciences, equipment, math, safety and legislation as applicable to wastewater treatment.
- These topics are shortly reviewed in the course as students are required to have **previous knowledge** from the work place and prior certification and training courses
- The final test will be written online in a proctored environment, preferably at your registering college or a college near your home.
- Your registering college will convert the percentage grade to the letter grad
- To be eligible to write tests, you must be posting your findings and comments related to activities suggested at the end of each lesson using discussion link **Participation**.

VI. SPECIAL NOTES:

If you are a student with a disability please identify your needs to the tutor and/or the Centre for Students with Disabilities at your registering college.

Students, it is your responsibility to retain course outlines for possible future use to support applications for transfer of credit to other educational institutions.

Course outline amendments: The Professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.