

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



**SAULT
COLLEGE**

COURSE OUTLINE

COURSE TITLE: Introduction to Drinking Water

CODE NO. : OEL853

AUTHOR: *Subhash Verma P. Eng.*

DATE: July 2013 **PREVIOUS OUTLINE DATED:** June 2013

APPROVED:

_____ *Ted Newbery* _____
Chair

July 2013
DATE

TOTAL CREDITS: 4

PREREQUISITE(S): None

HOURS/WEEK: 60

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For additional information, please contact,

(705) 759-2554, Ext. 2612

I. COURSE DESCRIPTION:

This course is intended to provide participants with an understanding of key concepts related to the operation of drinking water systems. The importance of water treatment to public health will be covered within the framework of the Ontario drinking water regulations. Basic technical concepts related to drinking water treatment and distribution will be introduced such as unit conversions, graph reading and preparation, water chemistry, hydraulics and electricity. The unit process of water treatment will be discussed followed by an introduction to the skills required for plant operation and monitoring.

Participants working in drinking water systems are required to take a self-study mandatory course and a one week on-site course both offered by Walkerton Centre. Introduction to Drinking Water course covers everything in the self-study mandatory component as well as preparing the participant for successful completion of the second component. *This course is not intended to replace the mandatory Walkerton courses*, but will prepare the participant for successful completion.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

- 1 Define the terms in water and wastewater operations
- 2 Explain and describe water regulations
- 3 Make area and volume calculations in water systems units and devices
- 4 Understand standards of measure and units conversions
- 5 Apply the principles of hydraulics to find flow rates and pressures and head
- 6 Understand the concept of electricity
- 7 Describe the parameters of water quality and sampling required for compliance and process control
- 8 Identify the basic principles of and recognize the importance of disinfection of water
- 9 Explain the processes and equipment employed in water distribution and wastewater collection systems
- 10 Describe the main processes employed in water treatment and water distribution including wells.
- 11 Describe the basic principles of safety as applied to water systems

III. TOPICS:

1. Public Health,
2. Water Regulation

3. Units And Math
4. Basic Principles
5. Water Characteristics and Sources
6. Disinfection
7. Water Treatment Processes
8. Sampling and Analysis
9. Equipment Basics
10. Well operations
11. Distribution systems
12. Safety

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

All online

V. EVALUATION PROCESS/GRADING SYSTEM:

Final mark in the course will be based on the following:

| | |
|---------------|------|
| Term Test I | 20% |
| Term Test II | 20% |
| Term Test III | 20% |
| Final Exam | 40% |
| ----- | |
| Total | 100% |

The final Exam will be written online in a proctored environment, preferably at your registering college or a college near your home.

Note: To be eligible to write a test, you must complete activities indicated in each lesson and post your findings and comments in the 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.

