



**I. COURSE DESCRIPTION:**

This course is intended to provide students 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. Subsequent courses in the program will build upon the concepts introduced in this course.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

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

- 1 Understand the language of 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, pressures and head
- 6 Describe the main processes and equipment used in water treatment and water distribution
- 7 Understand the principles of and the importance of water disinfection
- 8 Describe the parameters of water quality and sampling required for compliance and process control
- 9 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:**

2011 Introduction to Drinking Water, September 2011 Revision  
(Revised version of the Ministry of the Environment's Self Study Entry Level Manual)

**V. EVALUATION PROCESS/GRADING SYSTEM:**

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

Test #1	25%
Test #2	25%
Test #3	25%
Term project	15%
Class participation	10%
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Total	100%

The following semester grades will be assigned to students:

<b>Grade</b>	<b>Definition</b>	<i>Grade Point Equivalent</i>
A+	90 – 100%	
A	80 – 89%	4.00
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	<50%	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

**VI. SPECIAL NOTES:**Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session. *It is the departmental policy that once the classroom door has enclosed, the learning process has begun. Late arrives will not be granted admission to the room.*