SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



COURSE OUTLINE

COURSE TITLE: Introduction to Drinking Water

CODE NO.: WTR 231-3 SEMESTER: I

PROGRAM: Environmental Technician – Water

AUTHOR: Subhash Verma, P. Eng.

DATE: 10 05 12 PREVIOUS OUTLINE DATED: None

APPROVED: "B. Punch"

Chair DATE

TOTAL CREDITS: 3

PREREQUISITE(S): None

HOURS/WEEK: 3

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For additional information, please contact, Brian Punch, Chair School of Natural Environment/Outdoor Studies & Technology Programs

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I. COURSE DESCRIPTION:

This course is intended to provide the students with sound foundation of knowledge and understanding of key concepts as related to the operation of drinking water systems. The basics as related to topics including: conversions, math, chemistry, hydraulics, electricity will be discussed first. It will be followed by topics on support systems mainly pertaining to pumps and motors and processes in water distribution and water treatment.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

- 1 Standards of measure and units conversions
- 2 Explain and describe water regulation
- 3 Make area and volume calculations in water systems units and devices
- 4 Define the terms in water and wastewater operations
- 5 Apply the principles of hydraulics to find flow rates and pressures and head
- Define electrical terms: current, emf, and resistance and describe the relation between them
- 7 Describe the parameters of water quality and sampling for compliance and process control
- 8 Identify the basic principles of and recognize the importance of disinfection of water.
- 9 Describe the basic principles of safety as applied to water systems
- 10 Describe the main processes employed in water treatment and water distribution including wells.
- 11 Explain the processes and equipment employed in water distribution and wastewater collection systems.

III. TOPICS:

- 1. Public Health,
- 2. Water Regulation
- 3. Units And Math Water Quality and Sampling
- 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

Grado Point

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Ministry of Environment, Entry Level Drinking Water Course, Self Study, 2010 edition

V. EVALUATION PROCESS/GRADING SYSTEM:

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

Three Tests 100%

The following semester grades will be assigned to students:

Grade	<u>Definition</u>	Grade Point Equivalent
A+ A	90 – 100% 80 – 89%	4.00
В	70 - 79%	3.00
С	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	
U	placement or non-graded subject area. Unsatisfactory achievement in field/clinical placement or non-graded	
X	subject area. A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the	
NR W	requirements for a course. Grade not reported to Registrar's office. 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