



COURSE OUTLINE: OEL861 - WATER TREATMNT1 AND2

Prepared: Subhash Verma, P. Eng.

Approved: Lori Crosson, Director, E-Learning and Continuing Education

Course Code: Title	OEL861: WATER TREATMENT CERT LEVEL I AND II	
Program Number: Name		
Department:	DISTANCE EDUCATION	
Semesters/Terms:	20S, 20F, 21W	
Course Description:	In this course, students review the material related to basic sciences, math and hydraulics and support systems as done in earlier courses. After review, students are presented with knowledge and practices, theories and applications relevant to sources of water supply, treatment processes, quality parameters and plant operations.	
Total Credits:	4	
Hours/Week:	4	
Total Hours:	60	
Prerequisites:	There are no pre-requisites for this course.	
Corequisites:	There are no co-requisites for this course.	
Course Evaluation:	Passing Grade: 50%, D	
Books and Required Resources:	Water and Wastewater Technology by Mark J. Hammer and Hammer Junior Publisher: Prentice Hall, Edition: 7th edition ISBN: 0135114047	
Course Outcomes and Learning Objectives:	Course Outcome 1	Learning Objectives for Course Outcome 1
	Describe the water quality parameter and identify various types of water treatment processes.	-Understand the importance of safe drinking water -Name main water treatment process
	Course Outcome 2	Learning Objectives for Course Outcome 2
	Understand the principle of coagulation and flocculation and factors affecting these processes	-Name commonly used coagulants and coagulant aids -Compare slow mixing and rapid or flash mixing
	Course Outcome 3	Learning Objectives for Course Outcome 3
	Describe the sedimentation units and solid contact units	-Describe four zones of sedimentation -Show the main application of solid contact units -Calculate detention time, overflow rate and mean flow velocity
	Course Outcome 4	Learning Objectives for Course Outcome 4
	Understand the importance of filtration and basic components	-Compare slow and rapid sand filtration -List main components of a gravity filter system -Introduction to filter operation and trouble shooting



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	Course Outcome 5	Learning Objectives for Course Outcome 5
	Describe various methods of disinfecting water.	-Name chlorine compounds commonly used for water supplies -Understand the break point chlorination curve and do dosage calculations -Perform chlorine dosage calculations
Evaluation Process and Grading System:	Evaluation Type	Evaluation Weight
	TESTS (4)	100%
Date:	March 9, 2020	
Addendum:	Please refer to the course outline addendum on the Learning Management System for further information.	

