



COURSE OUTLINE: OEL867 - WASTERWATER 3 AND 4

Prepared: Subhash Verma, P. Eng.

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

Course Code: Title	OEL867: WASTEWATER TREATMNT CERT LEV III AND IV
Program Number: Name	
Department:	DISTANCE EDUCATION
Semesters/Terms:	20S, 20F, 21W
Course Description:	The purpose of this course is to present advanced knowledge and practices, theories, and applications relevant to wastewater flows and characteristics, treatment processes, and plant operations. Topics covered in Wastewater Treatment Certification Level I & II are covered in more detail and depth. This will prepare students to write the higher level certification examinations.
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
	Wastewater Flow and Characteristics	-Understand the effects of characteristics on treatment processes -Calculate BOD and SS removals and plant loadings
	Course Outcome 2	Learning Objectives for Course Outcome 2
	Preliminary Treatment	-Understand the significance of preliminary treatment
	Course Outcome 3	Learning Objectives for Course Outcome 3
	Primary Treatment and sludge production	-Discuss factors affecting settling of grit and removal devices -Discuss advantages of pre-aeration -Describe the principles of clarification in primary treatment -Explain factors affecting primary treatment and control
	Course Outcome 4	Learning Objectives for Course Outcome 4
	Activated sludge process	-Estimate sludge production and solids removal
	Course Outcome 5	Learning Objectives for Course Outcome 5
	Stabilization Ponds	-Describe various types of biological treatment
	Course Outcome 6	Learning Objectives for Course Outcome 6



SAULT COLLEGE | 443 NORTHERN AVENUE | SAULT STE. MARIE, ON P6B 4J3, CANADA | 705-759-2554

	Tricking Filters	=Describe components of activated sludge process, trickling filters
	Course Outcome 7	Learning Objectives for Course Outcome 7
	Rotating Biological Contactors	-Explain control of activated sludge processes
	Course Outcome 8	Learning Objectives for Course Outcome 8
	Disinfection	-Describe various methods of disinfection -Determine the application of breakpoint chlorination to control chlorination
	Course Outcome 9	Learning Objectives for Course Outcome 9
	Bi-Solids	-Estimate amount of sludge production and thickening processes
	Course Outcome 10	Learning Objectives for Course Outcome 10
	Plant operation and control	-Describe the methods of sludge stabilization, dewatering and disposal
Evaluation Process and Grading System:	Evaluation Type	Evaluation Weight
	TESTS (3)	100%
Date:	March 9, 2020	
Addendum:	Please refer to the course outline addendum on the Learning Management System for further information.	