

MARMARA UNIVERSITY - Faculty of Engineering

Environmental Engineering

SYLLABUS

2009-2010 Fall Semester

Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Campus / Weekly Time & Classroom Schedule
			T	A	L			
ENVE 425	SLUDGE TREATMENT AND DISPOSAL	Elective	3	0	0	3	5	
Prerequisite	Prerequisite to							
Course Lecturer	ORHAN GOKYAY					Office Hours Schedule	WEDNESDAY 10:30-12:30	
E-mail	orhan.gokyay@marmara.edu.tr					Office / Room No	MB-643	
Phone	0216 348 0292 #291					Phone		
Teaching Assistant(s)						Office / Room No		
E-mail								
Course Objectives	To give complete information on characteristics, treatment, disposal and reuse of the water and wastewater sludges.							
Learning outcomes	By the end of the course the student should be able to 1) Know properties of different sludges 2) Know basics of thickening and dewatering 3) Determine the type and needed amount of conditioning agent 4) Select the proper stabilization method among the techniques used 5) Evaluate the sludge amount for land disposal							
Textbooks and/or References	1. Metcalf & Eddy (2003) Wastewater Engineering Treatment and Reuse, 4th Edition, McGraw-Hill Company, New York 2. Vesilind P.A. (1985) Treatment and Disposal of Wastewater Sludge, Ann Arbor Science 3. Droste R.L. (1997) Theory and Practice of Water and Wastewater Treatment							
Teaching methods	Use of white board Overhead projector Powerpoint presentation							
WEEK		TOPICS						Reference No - Section
Week 1		Sludge Characterization						
Week 2		Thickening						
Week 3		Transport						
Week 4		Stabilization						
Week 5		Stabilization						
Week 6		Paper presentations						
Week 7		Conditioning						
Week 8		Dewatering						
Week 9		Dewatering						
Week 10		Thermal reduction						
Week 11		Ultimate disposal						
Week 12		Reuse						
Week 13		Land Disposal						
Week 14		Project Presentations						
Evaluation Tools	Evaluation Tool	Quantity	Date	Weight in Total (%)	Weight in Semester Evaluation (%)			
	Final Exam	1		40	40			
	Final Make-up Exam (if exists)	1		40	40			
	Semester Evaluation			60	100			
	Midterm(s)	1		30	50.0			
	Quiz(zes)	0						
	Project(s)	1		30	50.0			
	Homework(s)	0						
	Laboratory	0						
Other	1							
Evaluation Tool	Quantity	Student Workload Hours		Evaluation Tool	Quantity	Student Workload Hours		
Theoretical Hours	--	42.0		Applied Hours	--	0.0		
Midterm	1	15.0		Final	1	15.0		
Quiz	0			Project	1	20.0		
Laboratory	0			Homework	0			
Atelier	0			Seminar	0			
Field Study	0			Presentation	2	10.0		
Other	1	5.0		Self Study	1	10.0		
TOTAL :					7	117.0		
Recommended ECTS Credit (Total Hours / 25) : 5								