MARMARA UNIVERSITY - Faculty of Engineering

SYLLABUS

Environmental Engineering

2019-2020 Spring Semester

Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Weekly Time & Classroom Schedule
			T	A	L			
ENVE 330/3030	Solid Waste Engineering	Compulsory	2	2	0	3	5	Wednesday 15:00-16:50 MB555 Thursday 13:00-14:50 MB555
Prerequisite		Prerequisite to						

Course Lecturer	Prof. Barış ÇALLI	Office Hours Schedule	Thursday 15:00-16:50
E-mail	baris.calli@marmara.edu.tr	Office / Room	MB641
Phone	216 777 3595		
Teaching Assistant(s)		Phone	
E-mail		Office / Room No	

Course Objectives	The purpose of this course is to discuss the principles of solid waste management and engineering principles related to the separation, processing, transformation, and final disposal of solid waste.
Learning outcomes	1. Understand the main aspects of integrated solid waste management 2. Hold knowledge about generation, storage, separation, collection, transfer, transformation (physical, chemical and biological) and final disposal of municipal solid waste 3. Analyze and evaluate the integrated solid waste management system applied in a region 4. Understand physical, chemical and biological properties of municipal solid waste 5. Understand aspects and issues related to recycling and incineration of solid waste
Textbooks and/or References	1. Tchobanoglous G, Theisen H and Vigil SA 'Integrated Solid Waste Management, Engineering Principles and Management Issues' McGraw-Hill, 1993. 2. Vesilind PA, Worrell W and Reinhart D, 'Solid Waste Engineering' Brooks/Cole Thomson Learning Inc., 2002. 3. Qian X, Koerner RM and Gray DH, 'Geotechnical Aspects of Landfill Design and Construction' Prentice Hall, 2002.
Teaching methods	White board, Digital projector, Technical site visits

WEEK	Date	TOPICS	Reference No - Section
Week 1	19.02 & 20.02	Evolution of Solid Waste Management	Textbook 1-Chapter 1
Week 2	26.02 & 27.02	Sources, Types and Composition of Municipal Solid Wastes	Textbook 1-Chapter 3
Week 3	04.03 & 05.03	Physical, Chemical and Biological Properties of Municipal Solid Waste	Textbook 1-Chapter 4
Week 4	11.03 & 12.03	Waste Handling, Separation, Storage and Processing at Source/Collection of Solid Waste	Textbook 1-Chapter 7&8
Week 5	18.03 & 19.03	Transfer and Transport of Solid Waste	Textbook 1-Chapter 10
Week 6	25.03 & 26.03	Separation and Processing of Solid Waste on Site	Textbook 1-Chapter 9&12
Week 7	01.04 & 02.04	Thermal Conversion Technologies-1	Textbook 1-Chapter 13
Week 8	15.04 & 16.04	Thermal Conversion Technologies-2	Textbook 1-Chapter 13
Week 9	22.04	Biological Conversion Technologies-Composting	Textbook 1-Chapter 9&14
Week 10	29.04 & 30.04	Biological Conversion Technologies-Anaerobic Digestion	Textbook 1-Chapter 9&14
Week 11	06.05 & 07.05	Disposal of Solid Wastes and Residual Matter-1	Textbook 1-Chapter 11
Week 12	13.05 & 14.05	Disposal of Solid Wastes and Residual Matter-2	Textbook 1-Chapter 11
Week 13	20.05 & 21.05	Disposal of Solid Wastes and Residual Matter-3	Textbook 1-Chapter 11
Week 14	27-28.05 &05-06.06	Presentation of projects	

Evaluation Tools

Evaluation Tool	Quantity	Date	Weight in Total (%)	Weight in Semester Evaluation (%)
Final Exam	1		40	
Final Make-up Exam (if exists)				
Semester Evaluation			60	100
Midterm(s)	1		30	50,0
Quiz(zes)				
Project(s)	1		21	35,0
Homework(s)				
Laboratory				
Other (attendance)	1		9	15,0

*** *Lifelong Learning Programme (LLP)* ***

Language of Instruction: English