



MARMARA UNIVERSITY - Faculty of Engineering

SYLLABUS

Environmental Engineering

2023-2024 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	Monday 15:00-16:50 Tuesday 10:30-12:20
Prerequisite		Prerequisite to						
Course Lecturer	Prof. Barış ÇALLI					Office Hours Schedule	Tuesday 13:00-14:50	
E-mail	baris.calli@marmara.edu.tr					Office / Room	M4-252	
Phone	216 777 3595					Office / Room	M4-252	
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	12.02 & 13.02	Lecture 1: Evolution of Solid Waste Management						Textbook 1-Chapter 1
Week 2	19.02 & 20.02	Lecture 2: Sources, Types and Composition of Municipal Solid Wastes						Textbook 1-Chapter 3
Week 3	26.02 & 27.02	Lecture 3: Physical, Chemical and Biological Properties of Municipal Solid Waste						Textbook 1-Chapter 4
Week 4	04.03 & 05.03	Lecture 4&5: Waste Handling, Separation, Storage and Processing at Source/Collection of Solid Waste						Textbook 1-Chapter 7&8
Week 5	11.03 & 12.03	Lecture 4&5: Waste Handling, Separation, Storage and Processing at Source/Collection of Solid Waste						Textbook 1-Chapter 7&8
Week 6	18.03 & 19.03	Lecture 6: Transfer and Transport of Solid Waste						Textbook 1-Chapter 10
Week 7	25.03 & 26.03	Lecture 7: Separation and Processing of Solid Waste on Site						Textbook 1-Chapter 9&12
Week 8	15.04 & 16.04	Lecture 8: Thermal Conversion Technologies-1						Textbook 1-Chapter 13
Week 9	22.04 & 29.04	Lecture 8: Thermal Conversion Technologies-2						Textbook 1-Chapter 13
Week 10	30.04 & 06.05	Lecture 9: Biological Conversion Technologies-1:Composting						Textbook 1-Chapter 9&14
Week 11	07.05 & 13.05	Lecture 9: Biological Conversion Technologies-2:Anaerobic Digestion						Textbook 1-Chapter 9&14
Week 12	14.05 & 20.05	Lecture 10: Disposal of Solid Wastes and Residual Matter-1						Textbook 1-Chapter 11
Week 13	21.05 & 27.05	Lecture 10: Disposal of Solid Wastes and Residual Matter-2						Textbook 1-Chapter 11
Week 14	28.05.2024	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			30		50,0
		Homework(s)						
		Laboratory						
		Other (attendance)						
*** Lifelong Learning Programme (LLP) ***						Language of Instruction: English		