

PHYSICAL TREATMENT APPLICATIONS

1	Course Title:	PHYSICAL TREATMENT APPLICATIONS	
2	Course Code:	CEV3048	
3	Type of Course:	Optional	
4	Level of Course:	First Cycle	
5	Year of Study:	3	
6	Semester:	6	
7	ECTS Credits Allocated:	3.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. MELİKE YALILI KILIÇ	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	e-mail: myalili@uludag.edu.tr Tel: 0-224-294 21 17 Adres: Bursa Uludağ Üniversitesi Mühendislik Fakültesi Çevre Mühendisliği Bölümü 16509, Nilüfer - Bursa	
17	Website:		
18	Objective of the Course:	The objective of the course is to equip the student with the essential theoretical and practical knowledge to understand and design the physical treatment units, which remove the contaminants in water and wastewater.	
19	Contribution of the Course to Professional Development:	Students will have the experience to design physical treatment units in wastewater treatment plants.	
20	Learning Outcomes:		
		1	knows the unit operations and processes in environmental engineering, the differences and their application fields.
		2	knows the legal framework of water and wastewater treatment.
		3	Learns the technical specification of grids and screens, and how to design.
		4	Knows the sedimentation operations and designs grid removal tank, primary and secondary sedimentation tanks or settling basins, knows and designs the sludge settling units.
		5	Learns the concepts of flowrate, tank volume, velocity, hydraulic retention time, hydraulic load and their interrelations, and design settling units by using these interrelations
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21	Course Content:		

	Course Content:				
Week	Theoretical		Practice		
1	The objectives of wastewater treatment units, physical and chemical treatment units				
2	Examples flow charts of wastewater treatment plants				
3	Basic operations and processes in environmental engineering				
4	Removal of pollutants from wastewater				
5	Water and wastewater flowrates (Fundamental components of wastewater flow, wastewater sources and flowrates, flowrate determination, population predictions, flowrate calculation and flowrate measurement)				
6	Grids (Classification, importance, headloss)				
7	Repeating courses and midterm exam				
8	Design of screen channel				
9	Grid Removal (Design problems)				
10	Flowrate equalization, design of equalization tank				
11	Sedimentation tank design, quiz				
Activities			Number	Duration (hour)	Total Work Load (hour)
Theoretical			14	2.00	28.00
Practicals/Labs			0	0.00	0.00
Self study and preparation			2	10.00	20.00
Homeworks			1	19.00	19.00
Projects			3	5.00	15.00
Field Studies			0	0.00	0.00
Midterm exams			4	16.00	64.00
Others			0	0.00	0.00
Final Exams			1	16.00	16.00
Total Work Load					92.00
TERM LEARNING ACTIVITIES			NUMBER	WEIGHT	
Total work load/ 30 hr					3.07
ECTS Credit of the Course					3.00
Quiz			1	10.00	
Home work-project			0	0.00	
Final Exam			1	60.00	
Total			3	100.00	
Contribution of Term (Year) Learning Activities to Success Grade			40.00		
Contribution of Final Exam to Success Grade			60.00		
Total			100.00		
Measurement and Evaluation Techniques Used in the Course			Midterm exam, quiz, final exam		
24	ECTS / WORK LOAD TABLE				

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	0	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			