WETLAND SYSTEMS IN WASTEWATER TREATMENT

1	Course Title:	WETLAND SYSTEMS IN WASTEWATER TREATMENT
2	Course Code:	CEV5255
3	Type of Course:	Optional
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	-
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. AYŞE ELMACI
15	Course Lecturers:	-
16	Contact information of the Course Coordinator:	Uludağ Üniversitesi Mühendislik-Mimarlık Fakültesi Çevre Mühendisliği Bölümü Tel: 0224 2942107 e-mail: aelmaci@uludag.edu.tr
17	Website:	
18	Objective of the Course:	This course is intended to inform students about the use of wastewater treatment and the importance of wetlands. Aims to raise the awareness of students about the applicability of our country's conditions and the structure of these systems.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	Understanding the importance of wetlands in the ecosystem.
	2	Learning by examining mechanism of treatment wetlands.
	3	Identification of the plants used in the constructed wetlands.
	4	Evaluation of case studies of constructed wetlands.
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21	Course Content:	

Course Content:

Week	Theoretical	Practice
1	Definition and importance of wetlands	
2	Ecological and economic values of wetlands	

3	Types of wetlands -Natural wetlands -Artificial/constructed wetlands	
4	The use of artificial wetlands for wastewater treatment	
5	Advantages and disadvantages of artificial wetlands	
6	Treatment Process -Nitrogen -Phosphorus	
7	-Organic matter -Pathogen	
8	-Suspended solids -Heavy metal etc.	
9	Plant selection -Plants used in free surface flow systems -Plants used in subsurface flow systems	
10	Repeating courses and midterm exam	
11	Design criteria	
12	Examples of design calculations about artificial wetlands	
13	Examination and evaluation of the applied constructed wetlands in the world and Turkey	
14	Examination and evaluation of the applied constructed wetlands in the world and Turkey	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	3.00	42.00
Homeworks	1	26.00	26.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	30.00	30.00
Others	0	0.00	0.00
Final Exams	1	40.00	40.00
Total Work Load			180.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			6.00

Contribution of Term (Year) Learning Activities to Success Grade	50.00
Contribution of Final Exam to Success Grade	50.00
Total	100.00
Measurement and Evaluation Techniques Used in the Course	

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	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0

and O&M Requirements. IWA Publishing. 2006.
4. E.R. Russo. Wetlands: Ecology, Conservation and Restoration. Nova Science Publisher. 2008.

ÖK2	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	5	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**