



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Water Treatment Systems and Evaluation of Wastes							
Course Code		MSİ211		Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	2	Workload	50 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		In the course of water and wastewater treatment; The aim of this course is to teach the sources and types of drinking and wastewater, basic characteristics and treatment techniques according to design and project basis, and to teach where and how to use this information							
Course Content		Examining the design and project principles of the main lines such as analysis of drinking water and wastewater treatment methods, accumulation, ventilation, precipitation, filtration and disinfection by sample solutions and transferring them to the students. The aim of this course is to teach the types of wastewater, basic characteristics and various treatment techniques according to the design and project basis, where to use this information in engineering, how to use it and to make design-project homework.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading

1	Water Liquidation Prof.Dr. Veysel EROĞLU, ITU PUBLICATIONS, 1995
2	Water and Wastewater Engineering, Volume I, Volume II (Yılmaz Muslu, 2005).
3	Waste Water Treatment, Ahmet Samsunlu, Birsen Press, May 2006.
4	Wastewater Treatment in Environmental Pollution Control, Prof. Dr. Soli J. Arceivala Atılım Offset
5	Project Design of Waste water Treatment Plants, Ahmet Samsunlu, Birsen Publishing, October 2010.
6	Fundamentals of Wastewater Treatment, İzzet Öztürk
7	Design principles of wastewater treatment systems, Volume 1-2, Dokuz Eylül University Publications, Hikmet Toprak, 2011.

Week	Weekly Detailed Course Contents	
1	Theoretical	Properties of drinking water, methods of disposal, drinking water standards, method selection
2	Theoretical	Spool chambers and design, ventilation principles and sample questions
3	Theoretical	Rapid mixing and flocculation, sample solutions
4	Theoretical	Dimensioning of sedimentation, project principles and sample applications in precipitation
5	Theoretical	Filtration, purpose, mechanism, filter types and projecting
6	Theoretical	Disinfection, odor and taste control, iron and manganese removal
7	Theoretical	Adsorption, hardness removal, sample studies
8	Intermediate Exam	Midterm
9	Theoretical	Waste water treatment techniques, quantity and properties of wastewater, introduction to wastewater treatment plant design
10	Theoretical	Balancing of flow and concentration and projecting
11	Theoretical	Mechanical treatment and design
12	Theoretical	Activated sludge systems and project design
13	Theoretical	Sludge treatment, removal and projecting



14	Theoretical	Biofilm systems and project design
15	Theoretical	Simple treatment methods and waste water removal and projecting in places without sewerage
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Individual Work	14	0	1	14
Midterm Examination	1	2	1	3
Final Examination	1	4	1	5
Total Workload (Hours)				50
[Total Workload (Hours) / 25*] = ECTS				2

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Knows the characteristics of drinking and potable water, classifies water resources, knows the characteristics.
2	To be able to apply the information about drinking water in drinking water treatment
3	Has basic knowledge, horizon and skill about the use of structures related to drinking water treatment
4	Knows the design and project implementation of drinking water treatment plants
5	To be able to identify and solve the problems of drinking water sources, treatment stages, treatment technologies
6	Evaluates all legal grounds related to drinking water and waste water by researching standards.
7	Has information about the characteristics and quantities of waste water
8	Has the ability to apply the information about waste water

Programme Outcomes (Fruit and Vegetables Processing Technology)

1	To be able to understand social, cultural and social responsibilities and to have the ability to follow national and international contemporary
2	In line with the principles and reforms of Atatürk; Adopting the national, moral, spiritual and cultural values ??of the Turkish Nation, open to universal and contemporary developments, the Turkish language is a rich, rooted and productive language; love and awareness of language; to have the ability to use the foreign language sufficiently and with the habit of reading and professionally.
3	To know the basic hardware units and operating systems of computer, internet to be able to prepare documents, spreadsheets and presentations on the computer by using office programs
4	Gains the theoretical and practical knowledge at the basic level in mathematics, science and professional fields
5	Recognize and analyze the problems with the knowledge of fruit and vegetable technology in the field, interpret the data and propose solutions.
6	According to the prepared work plan and program in laboratories, it can carry out the necessary works to obtain the desired quality product.
7	To have professional and ethical responsibility in business life.
8	It is open to development and change, follows scientific social and cultural innovations and constantly improves itself.

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5	L6	L7	L8
P1	2	2	3	2	2	2	2	2
P2	2	2	2	2	2	2	2	2
P3	2	2	2	5	2	2	2	2
P4	3	2	3	4	3	3	3	3
P5	4	4	5	4	4	3	5	4
P6	2	5	5	4	4	3	4	5
P7	3	3	3	3	3	3	4	3
P8	3	3	4	3	3	3	4	3

