



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Aquatic Chemistry							
Course Code		KİM619		Couse Level		Third Cycle (Doctorate Degree)			
ECTS Credit	8	Workload	194 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The evaluation of the water chemistry							
Course Content		Water is a stable molecule with hydrogen and oxygen in its composition. Due to the dipole property of water molecules, it is very difficult to be pure in nature due to being a strong solvent. Several elements are present in the content of the water as calcium, magnesium, iron, silica, etc. There are also various dissolved gases such as hydrogen sulfide and oxygen in water.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, Discussion					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	60
Assignment	3	20

Recommended or Required Reading

1	Lecturer notes (Prof.Dr. Mustafa DEMİR)
2	Water Chemistry H.Mutlu, A.Demirak. Beta Press Release Distribution. 1996
3	Water Pollution and Control, O.Uslu A.Türkman the prime minister of Turkey General Directorate of Environmental Education Publications Series 1 1987

Week	Weekly Detailed Course Contents	
1	Theoretical	Water quality
2	Theoretical	Acid-base chemistry of water systems
3	Theoretical	The acidity of the water and carbon dioxide in water
4	Theoretical	Thermodynamic equilibrium in the water
5	Theoretical	Solubility in water
6	Theoretical	Calcium and other metals in the water
7	Theoretical	Phosphor, iron and manganese
8	Intermediate Exam	Midterm Exam
9	Theoretical	Aquatic life
10	Theoretical	Gases in water
11	Theoretical	Formation of chelate and complex, calculation of the concentrations of the species
12	Theoretical	Polyphosphates in the water
13	Theoretical	The formation of complexes with humic substances, complexation and redox processes
14	Theoretical	Student Presentations
15	Theoretical	Student Presentations
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Seminar	4	25	1	104
Midterm Examination	1	20	1	21



Final Examination	1	25	2	27
Total Workload (Hours)				194
[Total Workload (Hours) / 25*] = ECTS				8
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	Evaluation of water reserves in the world and in our country after giving water features are fully.
2	Evaluation of drinking water and waste water
3	To list the physical and chemical properties of water
4	To know the chemical analysis methods applied to drinking water
5	İçme sularına dayalı fiziksel analiz yöntemlerini açıklayabilme

Programme Outcomes (Chemistry Doctorate)

1	Depending on the master degree competences, develops, insights and innovates current and advanced knowledge and/or research in proficiency level.
2	Gains high skill levels in using research methods in the field of his/her study.
3	Comprehends the interaction between disciplines related to his/her field. Reaches to original results using his/her expertise in order to analyze, synthesize and evaluate new and complicated ideas.
4	Enlarges the boundaries of his/her field of knowledge by publishing at least one research paper in national and/or international peer-reviewed journals.
5	Defends his/her original opinions related to his/her field before authority and communicates effectively illustrating his/her competence.
6	May communicate and debate written, orally and visually in European Language Portfolio level C1.
7	Follows the developments in computer software and information and communication technologies developed for his/her research area and uses these in order to solve research problems.
8	Collaborates for scientific research with national and international research teams.
9	Contributes to the course of creation and maintenance of knowledge based society and by introducing the scientific, social and cultural developments to the society he/she is living in.

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

	L1	L2	L3	L4	L5
P1	5	5	5	4	3
P2			5	4	4
P3			4	4	4
P4			4	4	5
P9	5	5			

