



**YOZGAT BOZOK UNIVERSITY FACULTY OF ARTS AND SCIENCES**  
**CHEMISTRY DEPARTMENT COURSE PLAN**

Course Code	Course Title	Semester	Course Type (C/E)	T+A+L (Time/Week)	Credit	ECTS	Course Language
ADLS- 038	Water Chemistry	1-2	E	2+0+0	2	2	Turkish

**COURSE INFORMATION**

<b>Course Catalog Description (Content)</b>	Recognition and properties of water, Drinking water and its sources, underground water, wastewater contents and removal, water reserves in Turkey and in the world, water analysis and quality control, correct use in industry
<b>The Aim of the Course</b>	Evaluation of water, an indispensable substance for life and the basic substance of civilization, in terms of chemistry and explaining its importance.
<b>Course Level</b>	Undergraduate
<b>Course Language</b>	Turkish
<b>Teaching method</b>	(X) Formal ( ) Online (X ) Mixed/Hybrid
<b>Teaching Staff of the Course</b>	Prof. Dr. İsmail AKDENİZ
<b>Prerequisite Course(s) of the Course</b>	-
<b>Learning Outcomes from the Course</b>	<ol style="list-style-type: none"><li>1. Students will have skill for evaluation of water sources in Turkey and the world, the importance of drinking and wastewaters after has gained enough knowledge on water.</li><li>2. Students will learn basic concepts of water quality and quantity.</li><li>3. Students will be able to understand and use analytical methods required for water quality control.</li><li>4. Students will learn and identify basic of chemical reactions in water, and discuss on aquatic behaviors such as acid-base, solubility, precipitation and redox reactions.</li><li>5. Participates in interdisciplinary studies by using the basic knowledge of the field and analytical thinking ability.</li></ol>

**COURSE CONTENT**

Week	Theory	Practice/Laboratory
1	Basic water species and water cycle	
2	The water sources and environmental problems in Turkey and the world.	
3	Molecular structure of water and species	
4	Solubility and determination of solubility constant	
5	Investigation of seawater by chemically	
6	Transport of gaseous molecules in water	
7	Potable water and analyze	
8	Potable water and analyze	
9	Poisoning substances in water and treatment of wastewaters	
10	Hardness of water and removing	
11	Related preparation for exam, giving some problem solves	
12	Related preparation for exam, giving some	

	problem solves	
13	Disinfection of water	
14	Investigation of previous studies on water chemistry	
15	Final Exam	

### Course Learning Resources

1. Water Chemistry, H. Mutluay, A. Demirak, Beta Publishing Distribution.
2. Water Pollution and Control, O. Uslu, A. Türkman, Turkish Prime Ministry General Directorate of Environment Publications Training Series
3. Water Chemistry, V.I.Snoeyink, D. Jenkins. John Wiley
4. Water Technology, H. Yalçın, M. Gürü, Palme Publishing

### ASSESSMENT CRITERIA

Work Activities During the Semester	Number	Contribution
Homework		
Practice		
Forum/ Discussion Application		
Short Exam (Quiz)	3	100
Ratio Of Semester Studies To Semester Success (%)		50
Ratio of Final to Success (%)		50
Total		%100

### COURSE WORKLOAD TABLE

Activity	Total Weeks	Duration (Weekly Hours)	Total Workload
Theory	14	2	28
Practice			
Forum/ Discussion Application			
Reading			
Internet Scanning, Library Study	14	1	14
Material Design, Application			
Report Preparation			
Presentation Preparation			
Presentation			
Final Exam	1	2	2
Preparation for the Final Exam	1	5	5
Other(s) (Preparation for Quizzes and Exams)	3	1	3
Total Workload			52
Total Workload / 25 (s)			52/25
ECTS Credits of the Course			≅2
Note: The workload of the course will be determined by the instructor on a per-course basis.			

### PROGRAM LEARNING OUTPUTS CONTRIBUTION LEVELS

No	Program Learning Outputs	1	2	3	4	5
1	Gains extensive knowledge about the basic chemical properties of matter and uses this knowledge in daily life, industrial scale,				X	

	and practical chemistry and shares them with the society.					
<b>2</b>	Performs experiments, collects data, interprets, evaluates results, defines problems parallel to current technological developments, produces solutions against problems encountered in the laboratory.					<b>X</b>
<b>3</b>	Calculates and processes chemical information and data.					<b>X</b>
<b>4</b>	Applies her/his knowledge and understanding of chemistry to the solution of unconventional qualitative and quantitative problems.			<b>X</b>		
<b>5</b>	Defines and comprehends chemical concepts and theories in Inorganic Chemistry, Organic Chemistry, Physical Chemistry, Analytical Chemistry, Biochemistry.					<b>X</b>
<b>6</b>	Can conduct research in the light of scientific data on any subject in the field of chemistry.			<b>X</b>		
<b>7</b>	Writes, presents, discusses scientific material, and presents it orally to a knowledgeable audience.		<b>X</b>			
<b>8</b>	Brings a chemical approach to the solution of environmental problems, makes environmental analyzes and reports.			<b>X</b>		
<b>9</b>	Knows a foreign language at a level to read and understand the basic terms and processes of the chemist profession.	<b>X</b>				
<b>10</b>	Can use computer software and information and communication technologies at the level required by the field.	<b>X</b>				
<b>11</b>	Adapts and transfers the knowledge gained in the field to secondary education.				<b>X</b>	
<b>12</b>	Apart from the field of chemistry, she/he gains knowledge in different branches of science that she feels close to.			<b>X</b>		
<b>13</b>	Carries out a study independently, makes group work and gains the awareness of taking responsibility.			<b>X</b>		
<b>14</b>	They can develop a positive attitude towards lifelong learning and constantly renew their professional knowledge and skills.				<b>X</b>	
<b>15</b>	Have sufficient awareness of the universality of social rights, social justice, quality culture and protection of cultural values, environmental protection, occupational health and safety.				<b>X</b>	