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
KİM718	Surface Chemistry	1-2	E	2+0+0		5	Turkish

COURSE INFORMATION

Course Catalog Description (Content)	Definition of surface chemistry, Disperse systems, Phase rule and phase diagrams, Binding forces between molecules, Thermodynamic quantities of surfaces, Surface tension of solutions, Solid-liquid interfaces, Adsorption concept, Adsorption isotherms, Adsorption equations, Colloidal systems, Transport properties of colloidal particles
The Aim of the Course	To define the concept of surface chemistry and colloidal systems, to give information about adsorption isotherms and solid-liquid interfaces.
Course Level	Bachelor degree
Course Language	Turkish
Teaching method	(X) Formal ( ) Online ( ) Mixed/Hybrid
Teaching Staff of the Course	Prof. Dr. Ramazan COŞKUN, Prof. Dr. Ali DELIBAŞ, Asst. Prof. Dr. Hatice ARI
Prerequisite Course(s) of the Course	-
Learning Outcomes from the Course	**1-** Interpret and classify disperse systems. **2-** Comprehend the binding forces between molecules. **3-** Defines surface chemistry and colloids. **4-** Comprehend adsorption isotherms and thermodynamics. **5-** Can comprehend the surface and inter-surface events.

COURSE CONTENT

Week	Theory	Practice/Laboratory
1	Defining surface chemistry	
2	Dispersive systems	
3	Phase rule and phase diagrams	
4	Binding forces between molecules	
5	Thermodynamic quantities of surfaces	
6	Surface tension of solutions	
7	Surface tension of solutions	
8	solid-liquid interfaces	
9	Adsorption concept	
10	Adsorption isotherms	
11	Adsorption equations	
12	colloidal systems	
13	Transport properties of colloidal particles	
14	General repetition	
15	Final Exam	

Course Learning Resources

1. Atkins, P., De Paula J., Physical Chemistry, Eight edition, Oxford, 2006.

2. Sarıkaya, Y., Fizikokimya, Genişletilmiş 3. Baskı, Gazi Kitabevi, 2000.
3. Gönül, N., Çok Fazlı Sistemler I: Yüzey Kimyası ve Kolloidler, Ankara Üniversitesi Eczacılık Fakültesi Yayınları No: 81, 2000.

ASSESSMENT CRITERIA

Work Activities During the Semester	Number	Contribution
Homework	1	30
Practice		
Forum/ Discussion Application		
Short Exam (Quiz)	2	70
Ratio Of Semester Studies To Semester Success (%)		%40
Ratio of Final to Success (%)	**1**	%60
Total		%100

COURSE WORKLOAD TABLE

Activity	Total Weeks	Duration (Weekly Hours)	Total Workload
Theory	14	2	28
Practice			
Forum/ Discussion Application			
Reading	14	2	28
Internet Scanning, Library Study	14	2	28
Material Design, Application			
Report Preparation			
Presentation Preparation	2	4	8
Presentation	2	3	6
Final Exam	1	1	1
Preparation for the Final Exam	4	7	28
Other(s) (Specify: … …. ……..)			
Total Workload			127
Total Workload / 25 (s)			127/25
ECTS Credits of the Course			≅5

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, and practical chemistry and shares them with the society.				**X**	
2	Performs experiments, collects data, interprets, evaluates results, defines problems parallel to current technological developments, produces solutions against problems encountered in the laboratory.				**X**	
3	Calculates and processes chemical information and data.					**X**
4	Applies her/his knowledge and understanding of chemistry to the solution of unconventional qualitative and quantitative problems.					**X**
5	Defines and comprehends chemical concepts and theories in Inorganic Chemistry, Organic Chemistry, Physical Chemistry, Analytical Chemistry, Biochemistry.				**X**	
6	Can conduct research in the light of scientific data on any subject in the field of chemistry.				**X**	
7	Writes, presents, discusses scientific material, and presents it orally to a knowledgeable audience.					**X**

8	Brings a chemical approach to the solution of environmental problems, makes environmental analyzes and reports.					**X**
9	Knows a foreign language at a level to read and understand the basic terms and processes of the chemist profession.			**X**		
10	Can use computer software and information and communication technologies at the level required by the field.			**X**		
11	Adapts and transfers the knowledge gained in the field to secondary education.			**X**		
12	Apart from the field of chemistry, she/he gains knowledge in different branches of science that she feels close to.				**X**	
13	Carries out a study independently, makes group work and gains the awareness of taking responsibility.				**X**	
14	They can develop a positive attitude towards lifelong learning and constantly renew their professional knowledge and skills.			**X**		
15	Have sufficient awareness of the universality of social rights, social justice, quality culture and protection of cultural values, environmental protection, occupational health and safety.				**X**	