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
KİM354	PHYSIOCHEMISTRY LABORATORY I	FALL	C	0+0+4		4	Turkish

COURSE INFORMATION

Course Catalog Description (Content)	Finding the rate constant of a second order reaction, determination of average molecular weight by viscosity method, determination of solubility enthalpy of benzoic acid, dispersion law, adsorption, determination of partial molar volumes, measurement of surface tension, homogeneous equilibrium, phases rule, electrolysis of water, Faraday's constant and determination of Avogadro number
The Aim of the Course	Teaching the basic subjects and concepts more concretely by making experiments on the subjects of Physicochemistry I and giving them practice in these subjects.
Course Level	Bachelor degree
Course Language	Turkish
Teaching method	(X) Formal ( ) Online ( ) Mixed/Hybrid
Teaching Staff of the Course	Prof. Dr. Dr. Ramazan COŞKUN, Prof. Dr. Ali DELIBAŞ, Asst. Prof. Dr. Hatice ARI
Prerequisite Course(s) of the Course	-
Learning Outcomes from the Course	**1-** They can reinforce the subjects they learned in Physical Chemistry I course. **2-** They can learn the working principle in the physical chemistry laboratory. **3-** Will be able to set up the relevant experimental setups. **4-** Interpret experimental observations. **5-** Learn to prepare reports.

COURSE CONTENT

Week	Theory	Practice/Laboratory
1		Physical Chemistry Lab. Introducing
2		Finding the rate constant of a second-order reaction
3		Determination of average molecular weight by viscosity method
4		Determination of solubility enthalpy of benzoic acid
5		Law of dispersion
6		Adsorption
7		Determination of partial molar volumes
8		Measuring surface tension
9		Homogeneous equilibrium
10		Phases rule
11		Electrolysis of water, Faraday's constant and determination of Avogadro's number
12		Compensation
13		Compensation

14		Compensation
15	Final Exam	

Course Learning Resources

1. Yozgat Bozok Üniversitesi-Fizikokimya Laboratuvarı I Föyü, 2022.
2. Fizikokimya, P.W. ATKINS (Trans.Salih Yıldız, Hamza Yılmaz, Esma Kılıç), Bilim Publishing House, 1st Edition, 2001.
3. Fizikokimya, Yüksel SARIKAYA, Gazi Publishing House, 5. Print, Ankara, 2004.

ASSESSMENT CRITERIA

Work Activities During the Semester	Number	Contribution
Homework	10	40
Practice		
Forum/ Discussion Application		
Short Exam (Quiz)	2	60
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			
Laboratory	14	4	56
Forum/ Discussion Application			
Reading	14	1	14
Internet Scanning, Library Study	14	1	14
Material Design, Application			
Report Preparation	14	1	14
Presentation Preparation			
Presentation			
Final Exam	1	1	1
Preparation for the Final Exam	1	5	5
Other(s) (Specify: … …. ……..)			
Total Workload			104
Total Workload / 25 (s)			104/25
ECTS Credits of the Course			≅4
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**		