YOZGAT BOZOK UNIVERSITY FACULTY OF ARTS AND SCIENCES

DEPARTMENT OF CHEMISTRY CURRICULUM

Course Code	Course Name	Semester	Course Type (Z/S)	T+U+L (Hrs/Week)	Loan	ECTS	Language of Instruction
KIM481	Biochemistry II	Spring	Z	4+0+0	4	6	Turkish

COURSE INFORMATION

Course Catalogue Description (Content)	Comprehend the types and importance of amino acids. Learn the place of proteins in our lives. Learn about lipids. Describe enzymes and enzyme reactions. Gain knowledge about protein and lipid metabolism.
Course Objectives	Biological molecules, carbohydrates, lipids, proteins, enzymes, minerals and classification, physical chemical Properties with To be able to comprehend basic biochemistry information including functions
Course Level	License
Language of Instruction	Turkish
Teaching Method	(X) Formal ( ) Remote ( ) Hybrid/Hybrid
Course Instructors	Prof. Dr. Mustafa SAÇMACI Prof. Dr. Ş.Hakan ÜNGÖREN Prof. Dr. İrfan KOCA Assist. Prof. İbrahim Evren KIBRIZ
Prerequisite Course(s)	-
Learning Outcomes	-Comprehend the types and importance of amino acids -Learns the place of proteins in our lives -Learns about lipids. -Describe enzymes and enzyme reactions. -Gain knowledge about protein and lipid metabolism.

COURSE CONTENT

Week	Theory	Application/Laboratory
1	Physical properties of amino acids, bipolar natures, chemical reactions, essential amino acids and Significance	
2	Types and Structures of Amino Acids	
3	Peptide head formation, structure of protein molecule,	
4	Proteins physical Properties purification, denaturation, simple and compound proteins, classification of proteins according to their functions in the body	
5	Digestion and Absorption of Proteins	
6	Amino Acid Metabolism	
7	Protein Metabolism	

8	Lipids Definition and Properties Classification saturated, unsaturated and essential fatty acids, their chemical and physical properties and importance	
9	Glycerol-bearing lipids, neutral fats, physical and chemical properties, reactions, simple and compound glycerides	
10	Phosphoglycerides, sphingolipids, alcohol and candles, terpenes. Carotinoids, bile acids.	
	Definition of proteins, definition of amino acids, formulas, classification	
11	Digestion and Absorption of Lipids	
12	Lipid Metabolism	
13	Enzyme, catalyst, apoenzyme, prosthetic group, structures and properties of enzymes, mechanism of enzyme reactions, mode of action, nomenclature of enzymes	
14	Classification of enzymes, factors affecting enzyme activity, types of inhibition, allosteric enzymes, coenzymes	
15	Final Exam	

Learning Resources

1. Champe PC, Harvey RA, Ferrier DR (2010). Biochemistry (Lippincott's Illustrated Reviews Series). Lippincott Williams & Wilkins.
2. Sözbilir NB, Baysu N. (2008). Biochemistry. Öncü Printing House, Ankara
3.

EVALUATION CRITERIA

In-Term Study Activities	Number	Contribution
Midterm Exam	1	%50
Application		
Forum/Discussion App		
Quiz	1	%50
Semester Success Rate of Semester Studies (%)		%40
Final Success Rate (%)	1	%60
Sum		%100

COURSE WORKLOAD TABLE

Activity	Total Number of Weeks	Duration (Hours Per Week)	Total Workload
Theory	14	4	56
Application			
Forum/Discussion App			
Reading	4	8	32
Internet Browsing, Library Work	14	2	28
Material Design, Application			
Report Preparation			
Preparing a Presentation			
Presentation			

Final Exam	1	2	2
Final Exam Preparation	4	8	32
Other (Specify: ...……)			
Total Workload			
Total Workload / 25 (h)			15/25
ECTS Credit of the Course			150/25≅6
Note: The workload table of the course will be determined by the instructor on a course-specific basis.			

PROGRAM LEARNING OUTCOMES CONTRIBUTION LEVELS						
No	**Program Learning Outcomes**	**1**	**2**	**3**	**4**	**5**
1	Have extensive knowledge about the basic chemical properties of matter and use this knowledge in daily life, in the field of industrial and practical chemistry and share them with the society.					**X**
2	Conducts experiments, collects data, interprets them, evaluates the results, identifies problems in parallel with current technological developments, in the laboratory It produces solutions to the problems it encounters.	**X**				
3	Performs calculations and processes chemical information and data.			**X**		
4	Apply knowledge and understanding of chemistry to the solution of qualitative and quantitative problems of an unusual nature.				**X**	
5	Define and comprehend chemical concepts and theories in Inorganic Chemistry, Organic Chemistry, Physical Chemistry, Analytical Chemistry, Biochemistry.					**X**
6	Can conduct research in the field of chemistry in the light of scientific data on any subject.				**X**	
7	Writes, presents, discusses, and orally presents scientific material to an informed audience.			**X**		
8	Can bring a chemical approach to the solution of environmental problems, make environmental analyzes and report.		**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, he acquires knowledge in different branches of science that he feels close to.		**X**			
13	Conducts a study independently, does group work and gains awareness of taking responsibility.					**X**
14	Develop a positive attitude towards lifelong learning and continuously 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**			