

Course Name	Code	Semester	Theory (hrs/week)	Application (hrs/week)	Laboratory (hrs/week)	ECTS
Structure and Functions of Carbohydrates	BIK501	Fall	1	0	0	3
Prerequisites	No					
Course language	Turkish					
Course Type	Imperative					
Learning and teaching techniques of the course	Lecture, question-answer, brainstorming, discussion					
Course instructor(s)	Assist. Asst. Prof. Meltem GÜNGÖR					
Course objectives	It is the study of the general structure, structural features and functions of carbohydrates in the organism.					
Learning outcomes of the course	1. Classify carbohydrates and count their properties 2. Explain the general structure and structural features of monosaccharides 3. Summarize the configurational and conformational isomers of monosaccharides 4. Define monosaccharide derivatives and explain their functions 5. Summarize the reactions of monosaccharides 6. Explain the structures and functions of disaccharides, oligosaccharides and polysaccharides 7. Classify the structures and functions of glycosaminoglycans and proteoglycans 8. Identify blood group antigens and explain their general structure 9. Explain the structure and functions of glycolipids and glycolipids 10. Explain the roles of lectins in the organism					
Resources	1. Gürdöl F, Ademoğlu E. Biochemistry. Nobel Medical Bookstores, 4. Edition, 2019 2. Nelson DL, Cox MM. Lehninger Principles of Biochemistry, W.H. Freeman; 7th Ed., 2017 4. Rodwell VW, Bender DA, Botham KM, kennelly PJ, Weil PA. Harper's Illustrated Biochemistry, McGraw-Hill Education, 31th Ed. 2018 5. Onat T, Emerk K, Sözmen EY. Human Biochemistry, Palme Publishing, 2. Edition, 2006					

Weekly Course Topics:

WEEKS	TOPICS TO BE DISCUSSED
1. Week	Definition and classification of carbohydrates
2. Week	General structure of monosaccharides
3. Week	Functions of monosaccharides
4. Week	Stereochemistry of monosaccharides
5. Week	Monosaccharide derivatives
6. Week	Reactions of monosaccharides
7. Week	Disaccharides and oligosaccharides
8. Week	Polisakkartitler
9. Week	Glycosaminoglycans
10. Week	Proteoglycans
11. Week	Blood group antigens
12. Week	Glicolipids
13. Week	Glycoproteins
14. Week	Lectins
15. Week	Final Exam

Student Workload Table

Events	Number	Time	Total Workload
Lesson	14	1	14
Laboratory			
Application			
Fieldwork			
Out-of-Class Study Time (Freelancing/Group Work/Pre-Study)	10	5	50
Presentation (Shooting videos/Preparing posters/Making Oral Presentations/Focus Group Interviews/Conducting Surveys/Observation and Report Writing)	1	8	8
Seminar Preparation			
Project			
Case Study			
Role Playing, Dramatizing			
Writing an article-Criticizing			
Mid-term exams	1	3	3
Final exams			
Total workload (hours) / 25(s)		75 seconds /25 seconds =3	
Ders ACT			3

Evaluation System

Semester Studies	Number	Contribution
Midterm Exam	1	%40
Quiz		
Laboratory		
Application		
Fieldwork		
Course-Specific Internship (If Available)		
Assignments		
Presentation and Seminar		
Projects		
Other		
Total of Semester Studies		%40
Final Work		
Finale		
Homework		
Application	1	%60
Laboratory		
Total of Final Studies		%60
The Contribution of Semester Studies to the Success Grade		%40
The Contribution of the Final Exam to the Success Grade		%60
Sum of Success Grade		100

THE RELATIONSHIP BETWEEN COURSE LEARNING OUTCOMES AND PROGRAM COMPETENCIES

No	PROGRAM QUALIFICATIONS	Learning Outcomes									
		ÖÇ 1	ÖÇ 2	ÖÇ 3	ÖÇ 4	ÖÇ 5	ÖÇ 6	ÖÇ 7	ÖÇ 8	ÖÇ 9	ÖÇ 10
1	Have up-to-date knowledge at the level of expertise in the field of medical biochemistry based on undergraduate level competencies, develop and deepen them.	5	5	5	5	5	5	5	5	5	5
2	Have knowledge about information technologies, technical equipment and devices and instruments specific to the field at the level required by the field of medical biochemistry	2	2	3	2	2	3	3	2	2	3
3	Integrates the knowledge in the field of medical biochemistry with the information from different disciplines and interprets it to create new information, analyzes and synthesizes using different research methods and proposes solutions.	4	4	4	4	4	4	4	4	4	4
4	He writes the report of his research.	3	3	3	3	3	3	3	3	3	3
5	Plans and conducts experimental research.	4	4	4	4	4	4	4	4	4	4
6	Constructs issues that require expertise in the field of medical biochemistry, proposes solutions, solves problems, evaluates the results obtained and applies them when necessary.	4	4	5	4	4	5	5	4	4	5
7	Conducts scientific, clinical and/or descriptive research/presentation/publication on priority issues related to the field of medical biochemistry and public health.	5	5	5	5	5	5	5	5	5	5
8	Critically evaluates the information related to the field of medical biochemistry and directs learning.	5	5	5	5	5	5	5	5	5	5
9	Apply the principles of professional development and lifelong learning related to the field of medical biochemistry in the studies they carry out.	5	5	5	5	5	5	5	5	5	5
10	Discuss and share their knowledge, current developments and their own studies in the field of medical biochemistry with groups in the same field or outside the same field in a systematic way in written, oral and visual forms.	5	5	5	5	5	5	5	5	5	5
11	Critically examines the social relations in the professional and professional environment and the norms that guide these relations and does what is necessary to improve them.	5	5	5	5	5	5	5	5	5	5
12	Observes and teaches social, scientific and ethical values in the stages of collecting, recording, interpreting and announcing data related to the field of medical biochemistry.	5	5	5	5	5	5	5	5	5	5
13	Evaluates current developments in the field of medical biochemistry in line with national values and country realities, including the child and family, which are the basic units of society.	5	5	5	5	5	5	5	5	5	5
14	Knows the importance of ethical principles and ethical committees for the individual and society, and behaves ethically.	4	4	4	4	4	4	4	4	4	4
15	Develops strategies, policies and implementation plans on issues related to the field of medical biochemistry and evaluates the results obtained within the framework of quality processes.	5	5	5	5	5	5	5	5	5	5

Qualification level: 1: Low, 2: Low/Medium, 3: Medium, 4: High, 5: Excellent