Course Name	Code	Semester	Theory (Hrs/week)	Application (Hrs/week)	Laboratory (Hrs/week)	ECTS
Cell Culture for Biochemical Studies	BIK515	Fall	1	1	0	3
Prerequisites	No					
Course language	Turkish					
Course Type	Optional					
Learning and teaching techniques of the course	Lecture, interactive, brainstorming					
Course instructor(s)	Prof. Dr. E. İlker SAYGILI					
Course objectives	To create theoretical and practical knowledge for the creation, maintenance, reproduction and analytical use of cell cultures of unique tissue types on a biochemical basis.					
Learning outcomes of the course	1. Details the purposes for which cell culture can be used 2. Classify the importance, methods and sources of sterilization and contamination in cell culture 3. Explain the relationship between cell culture and safety 4. Details of culture medium types and optimization 5. Details cell array creation and cloning 6. Know and apply good laboratory practices					
Resources	1. Animal Cell Culture. John M. Davis. John Wiley & Sons Ltd					

Weekly Course Topics:

WEEKS	TOPICS TO BE DISCUSSED
1. Week	Cell culture laboratory
2. Week	Sterilization
3. Week	Microscopy of living cells
4. Week	Basic techniques in cell culture and medium
5. Week	Replication of cell lines and security
6. Week	Types of culture mediums and optimization
7. Week	Cryopreservation and cell array banking
8. Week	**Midterm Exam**
9. Week	Primary cell culture
10. Week	Create a cell array
11. Week	Cloning
12. Week	Quality Control
13. Week	Contamination
14. Week	Replication systems for industry
15. Week	**Final Exam**

Student Workload Table

Events	Number	Time	Total Workload
Lesson	13	2	26
Laboratory			
Application	1	5	5
Fieldwork			
Out-of-Class Study Time (Freelancing/Group Work/Pre-Study)	12	3	36
Presentation (Shooting videos/Preparing posters/Making Oral Presentations/Focus Group Interviews/Conducting Surveys/Observation and Report Writing)	1	1	2
Seminar Preparation	1	1	2
Project			
Case Study			
Role Playing, Dramatizing			
Writing an article-Criticizing			
Mid-term exams	1	2	2
Final exams	1	2	2
Total workload (hours) / 25(s)	75 seconds /25 seconds =3		
Ders ACT	**3**		

Evaluation System

Semester Studies	**Number**	**Contribution**
Midterm Exam		
Quiz		
Laboratory		
Application		
Fieldwork		
Course-Specific Internship (If Available)		
Assignments	1	%20
Presentation and Seminar	1	%30
Projects		
Other		
Total of Semester Studies	1	50
Final Work		
Finale	1	%50
Homework		
Application		
Laboratory		
Total of Final Studies	2	100
The Contribution of Semester Studies to the Success Grade		%50
The Contribution of the Final Exam to the Success Grade		%50
Sum of Success Grade		**100**

THE RELATIONSHIP BETWEEN COURSE LEARNING OUTCOMES AND PROGRAM COMPETENCIES

No	**PROGRAM QUALIFICATIONS**	**Learning Outcomes**			
		ÖÇ1	**ÖÇ2**	**ÖÇ3**	**ÖÇ4**
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
2	Has 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	3
3	Integrates the knowledge in the field of Medical Biochemistry with information from different disciplines, interprets it to create new information, analyzes and synthesizes using different research methods and proposes solutions.	4	4	4	4
4	He writes the report of his research.	3	3	3	3
5	Plans and conducts experimental research.	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	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
8	Critically evaluates the information related to the field of Medical Biochemistry and directs his/her learning.	5	5	5	5
9	Applies the principles of professional development and lifelong learning related to the field of Medical Biochemistry in the studies it performs.	5	5	5	5
10	Discuss and share his/her knowledge, current developments and his/her own studies in the field of Medical Biochemistry in a systematic way in written, oral and visual forms with groups in or outside the same field.	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

12	Observes social, scientific and ethical values in the stages of collecting, recording, interpreting and announcing data related to the field of Medical Biochemistry and teaches these values.	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
14	Knows the importance of ethical principles and ethical committees for the individual and society, and behaves ethically.	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
Qualification level: 1: Low, 2: Low/Medium, 3: Medium, 4: High, 5: Excellent					