Name of the Course	Code	Semester	Theoretical (hour per week)	Practical (hour per week)	Laboratory (hour per week)	ECTS
Cell Culture	MTP 520	1.Semester/Spring	3	0	0	5
Perquisites	None					
Language	Turkish					
Type	Elective					
Learning and Teaching Techniques	Interactively, Slide Presentation, If necessary,accessing data sources via internet					
Lecturer(s)						
Course objectives	This course includes necessary information about basic techniques of cell culture, laboratory environment, commonly used equipment, possible problems and analyses which can be done using cultured cells.					
Learning Outcomes	1.Recognition of cell culture laboratory equipment 2.Comprehension of aseptic technique and being ready for possible problems 3.Knowing of primary culture and passaging 4.Knowing of culturing various cell types and their needs 5.Knowing of various analyze types applicable to the cultured cells					
References	1. Culture of animal cells: a manual of basic technique. Freshney, R. Ian. 2000. 2. Culture of cells for tissue engineering. Vunjak-Novakovic, Gordana, Freshney, R. Ian. 2006 3. Animal cell culture: a practical approach. Masters, John R. W. 2005.					

Weekly Course Topics

WEEKS	Course Subjects
1. Week	Living cells *in vitro*
2. Week	Culture media and supplements
3. Week	Cell culture laboratory environment
4. Week	Aseptic technic
5. Week	Contamination control
6. Week	Specialized culture media for different cell types
7. Week	Specialized culture media for different cell types
8. Week	**Midterm exam**
9. Week	Passaging and proliferation of cells
10. Week	Culture of stem cells, germ cells and embryonic cells
11. Week	Analyze methods of cultured cells – I
12. Week	Analyze methods of cultured cells – I
13. Week	Advanced cell culture methods
14. Week	Advanced cell culture methods
15.	**Final Exam**

Student Workload Table

Activities	**Number**	**Duration**	**Total work load**
Course Duration (X14)	14	3	42
Laboratory			
Practice			
Field Study			
Study Time Of Outside Of Class (Pre-Study, Practice, Etc.)	14	4	56
Presentations (Video shoot/Poster preparation/Oral presentation, Etc.)			
Seminars			
Project			
Case study			
Role playing, Dramatization			
Writing articles, Critique			
Time To Prepare For Midterm Exam	2	10	20
Final Exam Preparation Time	1	7	7
Total Work Load (hour) / 25(s)	**125/25=5**		
ECTS	**5**		

Evaluation System

Semester Work	The number of	Contribution
Midterm Exam	1	40%
Half Year End Exam	1	60%
Laboratory		
Application		
Field Work		
Class-Specific Internship (If Any)		
Assignments		
Presentations and Seminars		
Projects		
Other		
Do your homework		
Application		
Laboratory		
The sum of the grades		100

COURSE LEARNING OUTCOMES AND A RELATIONSHIP WITH PROGRAM QUALIFICATIONS

No.	PROGRAM QUALIFICATIONS	LO1	LO2	LO3	LO4	LO5
1	Degree level qualification at the level of expertise in the field of molecular medicine based on up-to-date information, enhances and deepens.	4	5	4	5	5
2	Requires a level of knowledge of the field of molecular medicine technologies, technical equipment and machinery and tools that are specific to the field information	5	5	4	5	5
3	Molecular Medicine is having in the field of information integrate with information from different disciplines to create new information, comments, analysis and synthesis by using different research methods and propose solutions.	3	3	2	3	5
4	The report of his research the author.	2	2	3	2	3
5	Empirical research plans.	3	3	3	4	5
6	Molecular Medicine in matters requiring expertise in the field of fiction, propose solutions, and solves the problems, assesses the results obtained when necessary.	3	4	3	3	5
7	Molecular Medicine and public health-related priority issues Area scientific clinical and/or descriptive research/presentations/publication.	2	3	2	2	2
8	The information related to the field of molecular medicine evaluates and directs the learning a critical approach.	1	3	1	3	1
9	Professional development related to the field of molecular medicine and performs studies the principles of life-long learning.	3	3	3	3	3
10	Current developments in the field of Molecular Medicine information, and their work in the same field or with groups other than the written, oral and Visual systematically as he discusses and shares.	2	1	1	1	1
11	The vocational and professional environment, social relationships, and those relationships are a critical perspective, norms and makes the need to improve them.	1	2	1	1	2
12	Collection of data related to the field of molecular medicine, towards restriction, interpretation, announcing social, scientific and ethic values in oversees and teaches these values.	2	3	2	2	3
13	The basic unit of society, current developments in the field of Molecular Medicine is to cover the national children and family values, and evaluates in line with the realities of the country.	1	2	1	1	1
14	Ethical principles and the importance of the individual and of the community for the Ethics Committee, ethics.	1	2	2	2	2
15	Molecular Medicine in the field with strategy, policy and implementation plans and results obtained within the framework of the quality processes.	2	3	2	2	3
Contribution to the level of proficiency: 1. Lowest, 2. Low / Medium, 3. Average, 4. High, 5. Excellent						