

Course Name	Code	Semester	Theory (hrs/week)	Application (hrs/week)	Laboratory (hrs/week)	ECTS
Molecular Cell Biology Techniques	ANA632	2nd Semester	2	0	2	4
Prerequisites	No					
Course language	Turkish					
Course Type	Imperative					
Learning and teaching techniques of the course	Theoretical Lectures, Discussion and Laboratory Studies					
Course instructor(s)	Prof. Zafer Çetin, MD					
Course objectives	To give basic information about the molecular techniques used today and to perform these techniques practically in the laboratory environment.					
Learning outcomes of the course	1- Knows basic molecular cell biology techniques. 2- Have knowledge about the molecular mechanism of many cell movements. 3- Know the basic knowledge in cell biology and other fields related to molecular biology.					
Resources	1-Alberts B. Molecular Biology of the cell. 6th ed. Garland Science; 2017. 2- Surzycki S. Basic Techniques in Molecular Biology. Springer Berlin Heidelberg; 2000. 3- Temizkan G, Arda N. Basic and Advanced Molecular Biology Methods, Genomic and Proteomic Analysis. Nobel Medical Bookstores; 2017.					

Weekly Course Topics:

WEEKS	TOPICS TO BE DISCUSSED
1. Week	Overview of methods used in molecular biology
2. Week	DNA isolation
3. Week	Total RNA and mRNA isolation
4. Week	Analysis and marking of nucleic acids
5. Week	Nucleic acid hybridization methods
6. Week	Crossbreeding in situ
7. Week	Recombinant DNA technology
8. Week	MIDTERM EXAM
9. Week	Replication of DNA by polymerase chain reaction (PCR)
10. Week	Genomic analyses
11. Week	Isolation of proteins
12. Week	Analysis of proteins
13. Week	Proteomic analyses
14. Week	Bioinformatics
15. Week	FINAL SINAVI

Student Workload Table

Events	Number	Time	Total Workload
Lesson	14	2	28
Laboratory	14	2	28
Application			
Fieldwork			
Out-of-Class Study Time (Freelancing/Group Work/Pre-Study)	14	3	42
Presentation (Shooting videos/Preparing posters/Making Oral Presentations/Focus Group Interviews/Conducting Surveys/Observation and Report Writing)			
Seminar Preparation			
Project			
Case Study			
Role Playing, Dramatizing			
Writing an article-Criticizing			
Mid-term exams	1	1	1
Final exams	1	1	1
Total workload (hours) / 25(s)	100/25		
Ders ACT	4		

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	1	%60
Homework		
Application		
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		
		ÖÇ1	ÖÇ2	ÖÇ3
1	Knows the basic structure, functions and working mechanisms of organs and systems and can explain each system in detail.			
2	Describe the basic microanatomical structures and developmental processes of tissues, organs and systems in the human body.	3	3	5
3	Knows the topographic layouts, surface projections and courses of organs and formations.			
4	It alone can dissect different parts of cadavers, identify organs and other structures.			
5	Radiography can describe normal anatomical structures in MRI and CT images and provide anatomical explanation for pathological conditions.			2
6	Can establish, solve and develop hypotheses about anatomy by using anatomy knowledge at a high level.			
7	Can design, implement, conclude and manage an original research process related to anatomy by using appropriate technologies.			
8	Present and publish the results of academic studies in the field of anatomy in reputable domestic and international academic environments.			
9	Observes and teaches social, scientific and ethical values in the stages of collecting, recording, interpreting and announcing data related to the field of anatomy.			
Qualification level: 1: Low, 2: Low/Medium, 3: Medium, 4: High, 5: Excellent				