

BASIC MOLECULAR BIOLOGIC TECHNIQUES

1	Course Title:	BASIC MOLECULAR BIOLOGIC TECHNIQUES	
2	Course Code:	TLTZ209	
3	Type of Course:	Compulsory	
4	Level of Course:	Short Cycle	
5	Year of Study:	2	
6	Semester:	3	
7	ECTS Credits Allocated:	4.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Öğr. Gör. Dr. Elif ERTÜRK	
15	Course Lecturers:	-	
16	Contact information of the Course Coordinator:	<p>Öğr.Gör.Dr. Elif ERTÜRK</p> <p>Bursa Uludağ Üniversitesi Sağlık Hizmetleri Meslek Yüksekokulu</p> <p>16059 Görükle/BURSA</p> <p>0224 29 42 496</p>	
17	Website:		
18	Objective of the Course:	Teaching basic principles of molecular biology techniques to students.	
19	Contribution of the Course to Professional Development:	Students will be provided with knowledge, skills and safe working principles about current molecular methods in molecular biology, molecular genetics laboratories.	
20	Learning Outcomes:		
		1	At the end of this lesson, the student; Will be able to explain the usage reasons of basic molecular biological methods.
		2	Will be able to Explain What are the Basic Molecular Biological Methods and Their Stages to be Used.
		3	Will be able to learn experimental design of problems based on molecular biology.
		4	Will be able to follow the developments in molecular biology techniques by following the new information in the literature.
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21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	

1	General instrument introduction and molecular biology laboratory rules	
2	DNA isolation and analysis	
3	RNA isolation and analysis	
4	Spectrophotometric methods	
5	Calculation of isolated DNA / RNA / Protein concentrations	
6	Agarose gel electrophoresis	
7	Polymerase chain reaction (PCR)	
8	Agarose gel electrophoresis after polymerase chain reaction (PCR)	
9	RFLP method	
10	Isolation and purification of proteins	
11	Determination of protein concentration and electrophoretic analysis	
12	Basic principles of enzymatic analysis and methods for determining enzyme activity	
13	Cell culture	
14	Cell culture methods	

22	Textbooks, References and/or Other Materials:	1. Methods Used in Molecular Biology, Prof.Dr. Güler Temizkan, Prof. Dr. Nazlı Arda, Nobel Medical Bookstores, 2008
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Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		Course (Walt Ream, Karp, 2000; G. Field), 1992	20.00	20.00
Practicals/Labs		0	0.00	0.00
Self study and preparation		0	0.00	0.00
Homeworks		15	2.00	30.00
Projects		0	2.00	32.00
Field Studies		0	0.00	0.00
Midterm exams		1	15.00	15.00
Final Exam		0	0.00	0.00
Others		0	0.00	0.00
Final Exams		1	15.00	15.00
Contribution of Term (Year) Learning Activities to		40.00	15.00	15.00
Total Work Load				120.00
Total workload of Final Exam to Success Grade		60.00		4.00
ECTS Credit of the Course				4.00

Measurement and Evaluation Techniques Used in the Course	Ensuring student participation in the course with homework and projects related to the subject contents
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24	ECTS / WORK LOAD TABLE
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25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	1	4	3	3	4	4	3	4	3	1	4	3	0	0	0	0
ÖK2	1	3	4	3	4	3	3	3	4	2	3	3	0	0	0	0
ÖK3	1	3	3	4	3	4	3	2	3	1	3	4	0	0	0	0

ÖK4	1	3	3	3	3	3	4	4	3	1	3	3	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib ution Level:	1 very low		2 low		3 Medium		4 High		5 Very High							