BASIC MOLECULER BIOLOGIC TECHNIQUES

1	Course Title:	BASIC MOLECULER 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:	Doç. Dr. ELİF ERTÜRK BAKIR	
15	Course Lecturers:	-	
16	Contact information of the Course Coordinator:	Doç.Dr. Elif ERTÜRK Bursa Uludağ Üniversitesi, Sağlık Hizmetleri MYO, Görükle Kampüsü, Nilüfer/BURSA	
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 2. Dale, von Schantz, From Genes to Genomes: Concepts and Applicaitons of DNA Technology, 2nd Edition, John

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Midterm Exam	1	40.00	
Self study and preperation	0	0.00	0.00
Homeworks	15	2.00	30.00
Home work-project	0	0.00	
Projects	16	2.00	32.00
Field Studies	0	0.00	0.00
Total	2	100.00	
Midterm exams	1	15.00	15.00
Others	0	0.00	0.00
Final Exams	1	15.00	15.00
Contribution of Final Exam to Success Grade		60.00	
Total Work Load			120.00
Total		100.00	
Total work load/ 30 hr			4.00
ECTS Credit of the Course			4.00

TERM LEARNING ACTIVITIES	**NUMBE**	**WEIGHT**
Midterm Exam	1	40.00
Home work-project	0	0.00
Total	2	100.00
Final Exams	1	60.00
Total		100.00

24	**ECTS / WORK LOAD TABLE**

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					
Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**