RECOMBINANT DNA TECHNOLOGY AND GENETIC ENGINEERING

1	Course Title:	RECOMBINANT DNA TECHNOLOGY AND GENETIC ENGINEERING	
2	Course Code:	MBG5436	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	2	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	3.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	-	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. AYDIN TÜRKEÇ	
15	Course Lecturers:	Prof.Dr. Aydın Türkeç	
16	Contact information of the Course Coordinator:	Prof.Dr. Aydın Türkeç BUÜ Fen Edebiyat Fakültesi Moleküler Biyoloji ve Genetik Bölümü Kat:1 no:110 Tel: 02242942861 E:posta: aturkec@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	Aim of this Course is to familiarize students with the most frequently used methods in Recombinant DNA Technology and Genetic Engineering from both a theoretical and experimental point of view	
19	Contribution of the Course to Professional Development:	At the end of this course students gain the competence to prepare projects and to strive to meet the country's requirements by using recombinant DNA methods.	
20	Learning Outcomes:		
		1	At the end of this course students learn basic methods of gene cloning and manipulation for protein expression.
		2	At the end of this course students learn how recombinant DNA technology is used in genetic engineering to modify prokaryotic and eukaryotic cells
		3	Students gain information about practical and biotechnological applications of recombinant DNA technology.
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21	Course Content:		

	Course Content:	
Week	Theoretical	Practice
1	Recombinant DNA Technology and Genetic Engineering and Their Applications	
2	DNA Restiction Enzymes	
3	Cloning and Expression Vectors	
4	Gel Elecrophoresis of DNA and Proteins and Hybridization Techniques	
5	Gene Transfer Techniques	
6	DNA Sequence Analysis	
7	Polymerase Chain Reaction	
8	Construction and Use of Genomic and cDNA Libraries	
9	Manipulating DNA in Microorganisms other than E. coli	
10	Production of Recombinant Proteins	
11	Production of Vaccines and Hormones in Microorganisms	
12	Use of Transgenic Plants	
13	Transgenic Animals and their Applications	
14	Impacts of Recombinant DNA and Genetic Engineering on the Biological Sciences, Medicine and Industry	
22	Textbooks, References and/or Other Materials:	
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		The system of relative evaluation is applied

24	**ECTS / WORK LOAD TABLE**

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	3	14.00	42.00
Homeworks	4	7.00	28.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	25.00	25.00
Others	1	18.00	18.00
Final Exams	1	25.00	25.00
Total Work Load			180.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			6.00

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	5	5	5	5	5	4	4	4	4	4	0	0	0	0	0	0
ÖK2	3	4	4	4	5	4	4	5	4	5	0	0	0	0	0	0
ÖK3	4	4	5	4	4	4	5	3	4	5	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

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