

GENETIC ENGINEERING

1	Course Title:	GENETIC ENGINEERING
2	Course Code:	MBG3006
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	3
6	Semester:	6
7	ECTS Credits Allocated:	5.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Dr. Öğr. Üyesi FİGEN ERSOY
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	e-posta: figen@uludag.edu.tr 0 224 29 41776 Fen-Edebiyat Fakültesi, Moleküler Biyoloji ve Genetik Bölümü, Görükle Kampüsü, 16059 Bursa
17	Website:	
18	Objective of the Course:	The aim of the course is to provide basic and contemporary knowledge in the field of genetic engineering to undergraduate level students. The goals of the course are to teach the basic principles of gene cloning and gene expression, and its modern applications in various industrial fields.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	Analyse and solve problems using an integrated multidisciplinary approach.
	2	Integrate and evaluate critically information from various sources.
	3	Plan, conduct and write a programme of original research.
	4	Use modern information and communications technologies.
	5	Critically evaluate scientific publications.
	6	Communicate effectively through oral presentations
	7	Devise proteomics methodologies for problems
	8	Transfer techniques and solutions from one discipline to another.
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21	Course Content:			
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Week	Theoretical	Practice		
1	Why Gene Cloning and DNA Analysis are Important			
2	Vectors for Gene Cloning: Plasmids and Bacteriophages			
3	plasmid and bacteriophage isolation			
4	Manipulation of Purified DNA			
5	Introduction of DNA into Living Cells			
6	Cloning Vectors for E. coli			
7	Cloning Vectors for Eukaryotes			
8	How to Obtain a Clone of a Specific Gene			
9	Studying Gene Expression and Function			
10	Studying Genomes			
11	Production of Protein from Cloned Genes			
12	Gene Cloning and DNA Analysis in Medicine			
Activities		Number	Duration (hour)	Total Work Load (hour)
Theoretical		14	2.00	28.00
Practicals/Labs		0	0.00	0.00
Self study and preparation		14	1.00	14.00
Homeworks		0	0.00	0.00
Projects/Materials:		0	0.00	0.00
Field Studies		0	0.00	0.00
TERM LEARNING ACTIVITIES		40.00		40.00
Others		0	0.00	0.00
Final Exams		40.00		40.00
Total Work Load				122.00
Total work load/ 30 hr				4.07
Final Exam		60.00		
ECTS Credit of the Course				5.00
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				
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	0	4	4	0	4	4	4	0	4	5	5	4	0	0	0	0
ÖK2	0	5	4	0	4	3	5	0	4	5	5	5	0	0	0	0
ÖK3	0	3	5	0	4	3	5	0	4	4	4	5	0	0	0	0
ÖK4	0	5	3	0	0	4	4	0	4	4	4	4	0	0	0	0
ÖK5	0	4	5	0	4	0	0	0	5	5	4	4	0	0	0	0
ÖK6	0	4	3	0	4	0	3	0	5	3	3	4	0	0	0	0
ÖK7	0	4	4	0	3	4	0	0	0	5	5	4	0	0	0	0
ÖK8	0	3	4	0	4	0	5	0	3	4	4	4	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			