

INTRODUCTION TO MOLECULAR GENETICS AND GENETIC ENGINEERING

1	Course Title:	INTRODUCTION TO MOLECULAR GENETICS AND GENETIC ENGINEERING	
2	Course Code:	ZOO4415-S	
3	Type of Course:	Optional	
4	Level of Course:	First Cycle	
5	Year of Study:	4	
6	Semester:	7	
7	ECTS Credits Allocated:	3.00	
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:	Prof. Dr. CENGİZ ELMACI	
15	Course Lecturers:	-	
16	Contact information of the Course Coordinator:	Prof. Dr. Cengiz ELMACI Bursa Uludağ Üniversitesi, Ziraat Fakültesi Zootečni Bölümü Tel: 0(224)2941554 e-posta:elmaci@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	The aim of the course is to teach the basic principles of molecular genetics and genetic engineering, its importance and effect in agricultural activity, genes that are important in agriculture and their effects. At the same time, various genetic engineering and biotechnological applications that are used for increasing productivity in agricultural production and the future of these applications and their effects on ethical values will be emphasized.	
19	Contribution of the Course to Professional Development:	Learns the basic principles of molecular genetic and genetic engineering, its importance and effect in agricultural activity, genes that are important for agriculture and their effects. Thus, it can follow the developments in this field and increase productivity by applying it in different sectors of agriculture.	
20	Learning Outcomes:		
		1	Gains the ability to complement the genetic knowledge with molecular genetics and genetic engineering knowledge.
		2	Learn the concepts of molecular genetics, biotechnology and genetic engineering
		3	Learns the importance of molecular genetics and genetic engineering in the agricultural field.
		4	Gains knowledge of molecular genetics and genetic engineering studies.
		5	Learns different genetic engineering applications
		6	
		7	
		8	
		9	
		10	

21	Course Content:			
	Course Content:			
Week	Theoretical	Practice		
1	Introduction, Concept of biotechnology and genetic engineering			
2	Basic concept and defination			
3	Structure of gene and their function			
4	Structure of gene and their function			
5	How to clone a gene			
6	Cutting DNA			
7	Joining DNA			
8	Vectors			
9	Vectors			
10	Article reading			
11	Alalysis of Genetic variation			
12	Alalysis of Genetic variation			
13	Biotechnology in Animal Production			
14	Biotechnology in Animal Production			
22	Textbooks, References and/or Other Materials:	Dale, W.J., and von Schantz, M., 2002. From Genes to Genomes: Concepts and Applications of DNA Technology. 1st ed. W. H. Freeman and Co. New York, NY.		
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		14	28.00	28.00
Practicals/Labs		0	0.00	0.00
Self study and preperation		0	0.00	0.00
Homeworks		0	0.00	0.00
Assesment		0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams		1	12.00	12.00
Others		14	2.00	28.00
Final Exams		1	22.00	22.00
Total Work Load				90.00
Total work load/ 30 hr		2	100.00	3.00
ECTS Credit of the Course				3.00
Success Grade				
Contribution of Final Exam to Success Grade		60.00		
Total		100.00		
Measurement and Evaluation Techniques Used in the Course		For assessment and evaluation, article 29 of the Bursa Uludag University Rules and Regulations governing undergraduate studies are used.		
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	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	3	0	0	0	0	0	2	0	0	0	0	0	0	0	0
ÖK3	2	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
ÖK4	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
ÖK5	2	0	0	0	0	0	0	0	0	0	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				