

## APPLIED GENETICS

1	Course Title:	APPLIED GENETICS
2	Course Code:	BYL4104
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	8
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:	Prof. Dr. SERAP ÇELİKLER KASIMOĞULLARI
15	Course Lecturers:	Prof. Dr. Serap ÇELİKLER KASIMOĞULLARI
16	Contact information of the Course Coordinator:	<p>Uludağ Üniversitesi Fen-Edebiyat Fakültesi Biyoloji Bölümü Görükle Kampüsü, Nilüfer/BURSA 16059 e-posta: scelikler@uludag.edu.tr Telefon: 0 224 294 17 96</p> <p>Uludag University Faculty of Arts and Science Department of Biology Gorukle Campus, Nilufer/BURSA 16059 e-mail: scelikler@uludag.edu.tr Phone: 0 224 294 17 96</p>
17	Website:	
18	Objective of the Course:	The aim of the course is to make the students gain the basic applications in genetics. What is the impact of applying our understanding of DNA to new genetic technologies?
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	Explains nucleic acid structure and function as well as the pace of improvements in this subject through time.
	2	Explains how genetic material can be manipulated and conceives how theoretical developments are put into practice.
	3	Discusses the effectiveness/quality, diagnostic and therapeutic improvements in agriculture, livestock breeding, medicine and pharmaceutical sciences with the contribution of genetics into these fields.
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21	Course Content:		
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Week	Theoretical	Practice	
1	Mendel and Genetics		
2	History of studies on nucleic acids and DNA		
3	Classical studies of plant and animal domestication and their disadvantages		
4	The period of classical genetics and historical progress		
5	Classical genetic application fields, organisms and sectors		
6	The period of modern genetic applications and historical developments		
7	The application of modern genetic techniques in agriculture, livestock breeding and health		
8	Repeating courses and midterm exam		
9	The application of modern genetic techniques in biotechnology		
10	The use technology in genetic applications and methods		
11	Genetically modified organisms (GMO), health and ethics		
12	Human genome project, in vitro fertilization and ethics		
13	Cancer, stem cell and cancer stem cell studies		
14	Genetic applications and ecological problems		
22	Textbooks, References and/or Other Materials:	1. The Applied Genetics of Plants, Animals, Humans and Fungi, B.C. Lamb, 2001, World Scientific Compony edition, ISBN: 1860941796 2. Applied Genetics: Recent Trends and Techniques C. Emmanuel, Fr. S. Ignacimuthu,sj and S. Vincent, MJP Pub, 2006, 454 p, ISBN : 81-8094-023-3	
23	Assesment		
TERM LEARNING ACTIVITIES		NUMBE R	WEIGHT
Midterm Exam		1	20.00
Quiz		0	0.00
Home work-project		1	20.00
Final Exam		1	60.00
Total		3	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			
24	ECTS / WORK LOAD TABLE		

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	2	10.00	20.00
Homeworks	1	20.00	20.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	20.00	20.00
Others	0	0.00	0.00
Final Exams	1	30.00	30.00
Total Work Load			138.00
Total work load/ 30 hr			3.93
ECTS Credit of the Course			4.00

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	0	3	0	0	2	0	3	0	0	0	0	0	0	0	0
ÖK2	5	0	5	4	0	4	5	3	0	5	5	3	0	0	0	0
ÖK3	4	0	4	5	0	5	3	2	0	0	5	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							