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:	Uludağ Üniversitesi Fen-Edebiyat Fakültesi Biyoloji Bölümü Görükle Kampüsü, Nilüfer/BURSA 16059 e-posta: scelikler@uludag.edu.tr Telefon: 0 224 294 17 96 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
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:	It contributes to better understanding of the principles of applied modern genetic methods, method development and problem solving.
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:	

Course Content:

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	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14 Genetic applications and ecological problems	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 Exam	1	30.00	30.00
Total Work Load			118.00
Total workload/30 hr			3.93
ECTS Credit of the Course			4.00

(overlapping text)
22	Textbooks, References and/or Other Materials:	1. The Applied Genetics of Plants, Animals, Humans and Fungi, B.C. Lamb, 2001 World Scientific Company
23	Assesment
TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	1	20.00
Home work project	1	20.00

2. Applied Genetics: Recent Trends and Techniques C. Emmanuel, Fr. S. Ignacimuthu,sj and S. Vincent, MJP

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	Open ended questions, multiple choice questions, project assignment	

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	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						