

LIVESTOCK GENETICS

1	Course Title:	LIVESTOCK GENETICS
2	Course Code:	VGN5006
3	Type of Course:	Optional
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	5.00
8	Theoretical (hour/week):	3.00
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:	Dr. Öğr. Üyesi Deniz DİNÇEL
15	Course Lecturers:	Dr. Öğr. Üyesi Deniz Dinçel
16	Contact information of the Course Coordinator:	Doç. Dr. Sena Ardıçlı Bursa Uludağ Üniversitesi Veteriner Fakültesi Genetik Anabilim Dalı Tel: 05414875448 E-mail: sardicli@uludag.edu.tr
17	Website:	
18	Objective of the Course:	The course provides students the information about the mechanisms of inheritance related to quantitative/qualitative characters by recognizing these traits in farm animals. Moreover, trying to maintain an up-to-date perspective in using the methods developed in this field in animal breeding.
19	Contribution of the Course to Professional Development:	Learning the genetic background of economically important yield traits in farm animals; based on these traits, understanding of genomic selection methods and current molecular assisted breeding techniques
20	Learning Outcomes:	
	1	Gains knowledge of basic genetic terms and the role of genetics in livestock breeding.
	2	Gains knowledge of Mendelian rules and non-Mendelian inheritance elements.
	3	Knows the important yield characteristics (qualitative/quantitative) in animals.
	4	Have knowledge about the genetics of the ruminant (single/double hoof).
	5	Have knowledge about the genetics of the small ruminants.
	6	Have knowledge about the genetics of the avian species.
	7	They recognize the important gene resources of the animals breeding in local area or worldwide.
	8	Have a general opinion about the harmful inheritance elements seen in livestock.
	9	Have an opinion about the use of genomic selection in the field while having information about population genetics at the beginning level.
	10	

21	Course Content:			
	Course Content:			
Week	Theoretical	Practice		
1	Basic terms in genetics, the historical development of genetics from a technological and sociological perspective, and an introduction to livestock genetics			
2	Hereditary principles of Mendels			
3	Deviations from Mendelian rules			
4	Gene maps with additive, multiple and linked genes			
5	Quantitative characters with quantitative character loci (QTL) in livestock			
6	Introduction to small ruminant genetics			
7	Introduction to the inheritance of important yield traits in cattle			
8	Genetic basis of phenotypic traits such as coat color / racing performance in horse breeding			
9	Introduction to avian genetics			
10	Identification and conservation of genetic resources in farm animals			
11	The pedigree analysis of livestock			
12	The lethal genes in livestock			
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	genomic selection (GWAS) in livestock breeding	14	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study	Textbooks, References and/or other Materials: 1. Farm animal genetics: an introduction to the science of animal breeding (Author: F. A. E. Crew)	14	6.00	84.00
Homeworks		1	5.00	5.00
Projects	1. Farm animal genetics: an introduction to the science of animal breeding (Author: F. A. E. Crew)	0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams	1	1	1.00	1.00
Others		2	8.00	16.00
TERM LEARNING ACTIVITIES		NUMBE	WEIGHT	
Final Exam		1	2.00	2.00
Total Work Load				150.00
Total work load/ 30 hr		0	0.00	5.00
Quiz				
ECTS Credit of the Course				5.00
Home work project				
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		Classical (written) and/or multiple choice exams		
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	4	0	4	4	0	4	0	0	0	0	0	0	0	0	0	0
ÖK5	5	0	5	5	0	5	0	0	0	0	0	0	0	0	0	0
ÖK6	5	0	5	5	0	5	0	0	0	0	0	0	0	0	0	0
ÖK7	2	3	5	1	1	0	3	0	0	0	0	0	0	0	0	0
ÖK8	2	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0
ÖK9	0	0	5	0	4	0	2	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			