POPULATION GENETICS									
1	Course Title:	POPULATION GENETICS							
2	Course Code:	VET2517							
3	Type of Course:	Optional							
4	Level of Course:	First Cycle							
5	Year of Study:	2							
6	Semester:	3							
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 f	ace						
14	Course Coordinator:	Doç. Dr.	SENA ARDIÇLI						
15	Course Lecturers:	Yok							
16	Contact information of the Course Coordinator:	Doç. Dr. Sena Ardıçlı Mail:sardicli@uludag.edu.tr Tel: 0 224 294 1307 Adres: Bursa Uludağ Üniversitesi / Zootekni ve Hayvan Besleme Bölümü / Genetik Anabilim Dalı, Görükle Kampüsü Nilüfer/BURSA							
17	Website:								
18	Objective of the Course:	To ensure that students of Faculty of Veterinary Medicine have knowledge about the functioning of basic molecular genetic dynamics at the level of populations and the sources of variation formed by different mechanisms. In addition, it is aimed to describe the evaluation of the economically important quantitative characters on a herd basis, eradication of hereditary diseases by using current genetic methods, and the genetic basis of genomic selection.							
19	Contribution of the Course to Professional Development:	To enable students of the Faculty of Veterinary Medicine to learn basic population genetics and to interpret genetic dynamics at the population level.							
20	Learning Outcomes:								
		1	Gains knowledge of population, gene pool, genome, genetic variation, genotype-phenotype association						
		2	Gains knowledge of natural selection, speciation mechanisms, formation and selection of subspecies, genetic drift, bottle neck effect.						
		3	Gains knowledge of mutation, polymorphism, Hardy- Weinberg principles, balanced populations, reasons for deviation from Hardy-Weinberg equilibrium, continuous and discontinuous variation						
		4	Can calculate and interpret genotypic and allelic frequencies, basic population genetics parameters.						
		5	Have knowledge about the evaluation of genetic variation sources on the basis of populations or herd and the potential of using these variation in selection, current genetic techniques in animal breeding and genomic selection.						
		6	Can comment on different inheritance patterns and their effects at the population level.						

		7	Gains knowledge of molecular evolution and phylogenetics.								
		8	Be able to review and evaluate literature and presentations critically								
		9	Obtain an accurate and relevant history of the individual animal or animal group, and its/their environment								
		10									
21	Course Content:										
		Co	urse Content:								
Week	Theoretical		Practice								
1	Introduction to basic concepts in population genetics and introduction to the course	ulation se									
2	Genetic structure of populations and pools	gene									
3	Multiple alleles and polymorphism, ca of allelic frequencies, allele frequenci mutation-selection balance	alculation es in									
4	Hardy-Weinberg principles										
5	Selection in natural populations, mole genetic basis of natural selection	ecular									
6	Mendelian genetics, selection and mutation dynamics in populations										
7 Mutation migration genetic drift bottle neck Activites			Number	Duration (hour)	Total Work Load (hour)						
Th 9 ore	tide mozygosity and heterozygosity, he	eterosis,	14	2.00	28.00						
Practic	als/Labs		0	0.00	0.00						
Self stu			14	3.00	42.00						
Homew	vorks		0	0.00	0.00						
Project	pools		0	0.00	0.00						
Field S	tudies		0	0.00	0.00						
Midterr	n exams leanstean and the statistical interpretation genotype-phenotype relationships an	d	1	2.00	2.00						
Others			2	8.00	16.00						
Find a E	Speciation mechanisms		1	2.00	2.00						
Total V	Vork Load				92.00						
Total w	ork load 30 hr Molecular phylogenetics				3.00						
ECTS	Credit of the Course				3.00						

22	Text	Textbooks, References and/or Other Materials:							1.1 Pa 2.7 Ca 101 973 3.1 An 4.1 Ge 5.1 Ed 6.3 inte 198 7.0 An Bla	 Klug W.S., Cummings M.R., Concepts of Genetics, Palme Publishing, Ankara, 2017. Anthony J.F. Griffiths , Susan R. Wessler, Sean B. Carroll , John Doebley. Introduction to Genetic Analysis, 10th Edition, Palme Publishing, Ankara, 2015 (ISBN: 9786053552857). Brown T.A. Genoms 3, (3rd Edition), Nobel Publishing, Ankara, 2015. Falconer,D.S. & Mackay T., Introduction to Quantitative Genetics, Longman Scientific & Technical, 1996. Freeman S., Herron J.C. Evolutinary analysis, 2nd Edition, Palme publishing, Ankara, 2001. Spiess E.B. Genes in Populations, 2nd Edition, A Wiley- interscience publication, John Wiley & Sons, Inc, Canada, 1989. Crow JF, Kimura, Properties of a finite population. In: An introduction to population genetics theory. The Blackburn Press, Caldwell, New Jersey, 1970. 									
23	Ass	esme	ent																
TERM L	EAR	NING		VITIES	;			NUMBE R	WE	WEIGHT									
Midtern	n Exa	am						1	30.	30.00									
Quiz							1	2	10.	10.00									
Home \	work-	proje	ect				(0	0.0	0.00									
Final E	xam							1	60.	60.00									
Total	Total					<u> </u>	4	10	100.00										
Succes	ontribution of Term (Year) Learning Activities t access Grade						s to	40.	40.00										
Contrib	Contribution of Final Exam to Success Grade							60.	60.00										
Total							10	100.00											
Measu Course	easurement and Evaluation Techniques Used in the source							ed in th	e Cla	Classical (written) exams									
24	EC	TS /	WO	RK L	OAD	TAB	LE												
25				CON	TRIE	BUTIO	N O	OF LE/ C	ARN QUA	ING LIFIC		OME NS	S TO I	PROG	GRAMI	ME			
		PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ1 0	PQ11	PQ12	PQ1 3	PQ14	PQ15	PQ16		
ÖK1		4	3	4	5	4	5	2	2	3	5	4	4	0	0	0	0		
ÖK2		3	3	3	4	4	5	3	2	3	5	4	3	0	0	0	0		
ÖK3		4	2	4	4	3	5	2	2	3	5	4	5	0	0	0	0		
ÖK4		4	3	3	4	4	5	3	2	4	5	4	4	0	0	0	0		
ÖK5		2	3	4	5	5	5	3	2	4	5	5	4	0	0	0	0		
ÖK6		3	3	3	3	5	5	3	2	3	5	4	4	0	0	0	0		
ÖK7		4	3	3	5	4	5	3	2	4	5	4	4	0	0	0	0		
OK8		2	2	1	1	1	5	1	1	1	1	3	3	0	0	0	0		
OK9		2	2	1	1	1	5	1	1	1	2	3	3	0	0	0	0		
	LO: Learning Objectives PQ: Program Qualifications																		

Contrib	1 very low	2 low	3 Medium	4 High	5 Very High
ution					
Level:					