AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title		Introduction to Population Genetics					
Course Code		VZO504		Couse Level	Second Cycle (Master's Degree)		
ECTS Credit	5	Workload	120 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		The aim of course is to teach to the students the concept of population, distribution of genes in population, protection and exchange of gene and genotype frequencies, phenotypic and genotypic variance for any feature of individual					
Course Content		Population concept, source of variation, Hardy-Weinberg Law and constriction of population, phenotypic parameters, phenotypic variance, heritability and repeatability of characteristics					
Work Placement		N/A					
Planned Learning Activities and Teaching Methods			Explanation (Presentation), Individual Study				
Name of Lecturer(s)		Prof. Ahmet NAZLIGÜL					

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Bourdon, M. R. (2000) Understanding Animal Breeding. Second ed. Prentice Hall, upper Saddle River, New Jersey
2	Kumlu, S., (2003): Hayvan Islahı.Türkiye Damızlık Sığır Yetiştiricileri M., Ankara
3	Nicholas, F.W. (2003): Introduction Veterinary Genetics. Blackwell Publishing, Oxforg, UK. 1.
4	Willis, B. M. (1991) Dalton's Introduction to Practical Animal Breeding. Third ed. Oxford Blackwell Scientific Publications. London

Week	Weekly Detailed Course Contents	
1	Theoretical	Population concept
2	Theoretical	Hardy-Weinberg Law and constriction of population
3	Theoretical	Phenotype, genotype and environment concepts
4	Theoretical	Description of variation and source of variation
5	Theoretical	Phenotypic and genotypic variation
6	Theoretical	Phenotypic and genotypic variance components
7	Theoretical	Interaction of genotype and environment
8	Intermediate Exam	Midterm exam
9	Theoretical	Heritability and its calculation
10	Theoretical	The characteristics of heritability
11	Theoretical	The importance of heritability in animal breeding
12	Theoretical	Repeatability and ability of the actual yield
13	Theoretical	Calculation of repeatability
14	Theoretical	The importance of repeatability in animal breeding
15	Theoretical	General repetition
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Assignment	3	0	10	30
Reading	1	0	40	40
Midterm Examination	1	10	1	11

Final Examination	1	10	1	11
		Total Workload (Hours)		120
		[Total Workload (Hours) / 25*] = **ECTS**		5

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	to know basic concepts used for animal breeding
2	to do calculating of gene frequencies in population.
3	to know and apply the methods used for improvement of genetic structure in livestock
4	to do calculating the parameters used for the studies of animal breeding
5	have adequate knowledge for the studies of animal breeding

Programme Outcomes *(Animal Science (Veterinary Medicine) Master)*

1	Knows basic principles of animal rearing and breeding.
2	Knows physiological and morphological traits of farm animals. He/she can achieve a successful herd management by means of transferring his/her knowledge to the rural area.
3	Knows management of the animals and can take required measurements in the farm. He/She controls the productivity in the farm and keeps all farm records.
4	Knows selection and culling methods.
5	He/She can involve in all stages of production in the farm. Knows how to establish and manage of farm enterprises. He/She can help to the entrepreneurs who will enter the farm business.
6	He/She can detect and eliminate hereditary defects and problems by using his/her basic genetic knowledge.
7	Knows production traits due to his/her knowledge about hereditary principles. He/She can achieve heifer selection and determine breeding strategies for maximum production.
8	He/She can involve as an expert in scientific researches, breeding programs and judicial issues with his/her knowledge about race determination, parenthood tests, blood groups etc.
9	Knows how to reach resources and knows selection criterions of scientific researches. He/She can systematically present data. Knows statistical concepts and how to can get data, and present those as figures and tables and how to comment them. Knows different statistical methods. He/She can design a topic as a scientific paper.
10	Knows animal behaviours. Knows legal directives about animal welfare and can design some facilities such as housing, feeding, transferring and slaughtering processes according to these directives.

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5
P1	2				
P4	2		4	3	
P5	2		3	3	4
P6			2	2	1
P7	3	3	3	3	2
P9		3			