



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Animal Breeding							
Course Code		TBY306		Couese Level		First Cycle (Bachelor's Degree)			
ECTS Credit	3	Workload	75 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		Aims are teaching the concepts and methods used in animal breeding to understand and apply animal breeding strategies.							
Course Content		Aims and importance of animal breeding; Traits considered in animal breeding; Phenotypic variation and its components; Heritability, repeatability and their importance in animal breeding; Concept of selection and its genetic results; Response to selection; Factors affecting the rate of genetic change; Breeding value; Selection for one trait; Selection methods for one trait; Relationships among traits; Indirect selection; Selection for more than one trait; Mating systems; Inbreeding and crossbreeding; Selection and mating strategies among populations, crossbreeding, heterosis and inbreeding; Relationships between selection and mating methods; Modern breeding strategies.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Project Based Study, Individual Study					
Name of Lecturer(s)		Lec. Zühal GÜNDÜZ							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Final Examination	1	110

Recommended or Required Reading

1	Bourdon, R. M. 1997 Understanding Animal Breeding. Prentice-Hall, Inc., London
2	Falconer, D.S. 1989. Introduction to Quantitative Genetics. Longman Scientific & Technical, England
3	Cameron, N.D. 1997. Selection Indices and prediction of genetic merit in animal breeding. Cab International, UK.
4	Mrode, R.A. 1996. Linear models for the prediction of animal breeding values. Cab International, UK.

Week	Weekly Detailed Course Contents	
1	Theoretical	Aim of animal breeding, traits considered in animal breeding
	Preparation Work	Reading: Source books
2	Theoretical	Phenotypic variation and its components
	Preparation Work	Reading: Source books
3	Theoretical	Heritability, repeatability and their importance in animal breeding
	Preparation Work	Reading: Source books
4	Theoretical	Concept of selection and its genetic results
	Preparation Work	Reading: Source books
5	Theoretical	Factors affecting the rate of genetic change
	Preparation Work	Reading: Source books
6	Theoretical	Breeding value; Selection for one trait within population; Selection based on animal's own performance (individual selection); Selection based on pedigree information
	Preparation Work	Reading: Source books
7	Theoretical	Marker Assisted Selection
8	Theoretical	Selection based on family information
	Preparation Work	Reading: Source books
9	Theoretical	Selection based on progeny testing
	Preparation Work	Reading: Source books
10	Preparation Work	Reading: Source books
11	Theoretical	Multiple-trait selection
	Preparation Work	Reading: Source books
12	Theoretical	Mating systems; Mating strategies based on animal performance: random and assortative mating
	Preparation Work	Reading: Source books



13	Theoretical	Mating strategies based on pedigree relations: inbreeding and outbreeding
	Preparation Work	Reading: Source books
14	Theoretical	Hybrid vigor; crossbreeding systems; Combining selection and mating strategies
	Preparation Work	Reading: Source books
15	Theoretical	New techniques; Biotechnology and animal breeding
	Preparation Work	Reading: Source books
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	2	56
Reading	14	1	0	14
Final Examination	1	4	1	5
Total Workload (Hours)				75
[Total Workload (Hours) / 25*] = ECTS				3

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Understands the concept of animal breeding for solving problem of animal production
2	Determines and analyzes economic traits considered in animal breeding
3	Computes phenotypic variation and predicts its components
4	Estimates the genetic parameters and and interprets their importance in animal breeding
5	Selects and uses the correct method for breeding
6	Outlines and constructs a breeding program (selection and mating program) under real conditions
7	Criticizes animal breeding programs in regional, national or international levels

Programme Outcomes (Agricultural Biotechnology)

1	To be able to develop skills in identifying, modeling and solving problems in agricultural biotechnology
2	To be able to synthesize life and engineering sciences for the effective resource planning of agricultural biotechnology applications
3	To be able to interpret about living organisms structure, metabolic and physiological processes in order to propose biotechnological solutions to the agricultural problems
4	To be able to analyze genomic, metabolomic and proteomic information via bioinformatic tools.
5	To have the ability to analyze collected data and interpret the results.
6	To have the ability of individual working ability and to make independent decisions, to work in inter-disciplinary and interdisciplinary teamwork, to communicate by expressing their ideas orally and in writing, clearly and concisely
7	To have the awareness of professional liabilities and ethics
8	To be able to follow current national and international problems

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

	L1	L2	L3	L4	L5	L6	L7
P1	4	5	4	5	4	4	5
P2	5	5	4	4	4	5	4
P3	5	4	4	4	5	4	4
P4	4	4	5	5	4	4	4
P5	5	4	5	5	5	4	5
P6	4	4	4	5	5	5	5
P7	4	4	4	4	5	5	4
P8	4	4	4	4	5	4	4

