



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Methods For Working With Experimental Animals							
Course Code		MBTK639		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	8	Workload	200 (<i>Hours</i>)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		The aim of this course is to give information about the anatomy, histology, physiology, care and nutrition of experimental animals and the selection of suitable experimental animal to be used for experimental purposes in molecular biotechnology and necessary applications							
Course Content		General information about experimental animals and the applications to be done with animals							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Discussion, Individual Study					
Name of Lecturer(s)		Ins. Asude Gülçe ORYAŞIN, Prof. İlknur DABANOĞLU							

Assessment Methods and Criteria

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

Recommended or Required Reading

1	Çalışlar T (1987) Laboratuvar Hayvanları Anatomisi, İstanbul Üniversitesi Yayınları, İstanbul.
2	Hillyer EV, Quesenberry KE (1997) Ferrets, rabbits and rodents: clinical medicine and surgery, W.B. Saunders Company, Philadelphia

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction of experimental animals and ethical rules
2	Theoretical	Anatomy of experimental animals
3	Practice	Anatomy of experimental animals
4	Theoretical	Histology of experimental animals
5	Practice	Histology of experimental animals
6	Theoretical	Physiology of experimental animals
7	Practice	Physiology of experimental animals
8	Intermediate Exam	Midterm exam
9	Theoretical	Care and feeding of experimental animals
10	Practice	Care and feeding of experimental animals
11	Theoretical	Selection of experimental animals in molecular biotechnology studies
12	Theoretical	Experimental application techniques to be used in studies
13	Practice	Experimental application techniques to be used in studies
14	Practice	Methods of collecting samples from animals (blood, tissue, stool, urine ...) in studies
15	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	13	0	2	26
Lecture - Practice	13	0	2	26
Assignment	4	0	15	60
Term Project	3	0	6	18
Laboratory	5	0	4	20
Individual Work	13	0	2	26
Quiz	6	0	3	18
Midterm Examination	1	0	3	3



Final Examination	1	0	3	3
Total Workload (Hours)				200
[Total Workload (Hours) / 25*] = ECTS				8
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	Anatomy of experimental animals
2	Histology of experimental animals
3	Physiology of experimental animals
4	Care and feeding of experimental animals
5	Selection of experimental animals in molecular biotechnology studies
6	Experimental application techniques for the subjects to be used in the studies
7	Collection methods of sample animals (blood, tissue, stool, urine ...)

Programme Outcomes (Molecular Biotechnology(English) Interdisciplinary Doctorate)

1	Ability to identify, analyze and understand problems related to molecular biotechnology and finding valid conclusions with basic knowledge in biotechnology
2	Ability to appropriately use laboratories and their associated equipment as part of research and observation activities through various branches of sciences
3	Ability to understand and interpret biological processes at cell, tissue, organ, system and organism levels
4	Ability to decide and apply appropriate tools and techniques in biotechnological manipulation
5	Ability to comprehend fundamentals of genetics and molecular biology and carry out basic methods in relevant applications
6	Ability to apply the fundamentals of protein and DNA chemistry, and immunology to techniques in biotechnology
7	. Ability to understand and practice basics of applied biotechnology, with acquired knowledge on problem solving approaches
8	Ability to understand and interpret basics of molecular applications within medical, agriculture, veterinary and forensic sciences
9	Ability to perceive biological existence at the global and regional scales, together with comprehension of associated problems
10	Acquiring appropriate knowledge in the field of basic sciences to support perception, analysis and interpretation of biological facts, and ability to use and practice relevant methods for this goal
11	Ability to develop proficiency in laboratory management, including maintenance of an orderly work environment, inventory and ordering, and set up or maintenance of equipment
12	Ability to learn essential methods in microbiology and basic skills in a microbiology labortaory
13	Ability to demonstrate proficiency with standard techniques in liquid measurement, recombinant DNA technology, protein purification and identification, and cell culture

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	5	5	5	5	5	5	5
P2	5	5	5	5	5	5	5
P3	3	3	3	3	3	3	3
P4	5	5	4	4	4	4	4
P5	5	5	4	4	4	4	4
P6	3	3	3	3	3	3	3
P7	4	4	5	5	5	5	5
P8	4	4	5	5	5	5	5
P9	4	4	5	5	5	5	5
P10	4	4	5	5	5	5	5
P11	3	3	3	3	3	3	3
P12	3	3	3	3	3	3	3
P13	5	5	5	5	5	5	5

