AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Laboratory Animals and Experimental Techniques								
Course Code	VFZ530		Couse Level	Second Cycle (Master's Degree)					
ECTS Credit	6	Workload	150 *(Hours)*	Theory	1	Practice	2	Laboratory	0
Objectives of the Course	To learn practical knowledge about biology of laboratory animals and their using in experimental study								
Course Content	Biologies of rat, mouse, gerbil, hamster, guinea pig, rabbit and other laboratory animals. Handling, anesthesia and analgesia, eutenasia, injection techniques and blood collection								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Demonstration, Discussion, Individual Study								
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	38
Final Examination	1	60
Quiz	4	1
Term Assignment	1	1

Recommended or Required Reading	
1	Barrows E.M. (2001). Animal behavior desk reference ; a dictionary of animal behavior, ecology, and evolution. 2nd Ed. CRC Press LLC
2	Kappeler P. (2010). Animal Behaviour: Evolution and Mechanisms. Springer Heidelberg Dordrecht London New York
3	Phillips C. (2002). Cattle Behaviour and Welfare Blackwell Science Ltd
4	George H. Waring G.H. (2001). Horse Behavior 2nd Ed. Southern Illinois University Norwich, New York

Week	Weekly Detailed Course Contents	
1	Theoretical	Using laboratory animals in biomedical studies
	Practice	Recognition of the experimental animals, the definition of the living conditions of physiological limits
2	Theoretical	Animal welfare
	Practice	Beavior in laboratory animals. Handling of laboratory animals
3	Theoretical	Ethic of laboratory animals and animal laws
	Practice	Handling and restraining of laboratory animals
4	Theoretical	Behaviour in laboratory animals
	Practice	Anesthetics laboratory animals
5	Theoretical	Housing and nutrition in laboratory animals
	Practice	Anesthetics laboratory animals
6	Theoretical	Experimental design and laboratory animals
	Practice	Stages of anesthesia in experimental animals
7	Theoretical	Handling and restraining of laboratory animals
	Practice	Blood collecting techniques -I
8	Theoretical	Midterm

8	Practice	Midterm
9	Theoretical	Rules of drug and chemical administration
	Practice	Blood collecting techniques -II
10	Theoretical	Experimental simple interventions
	Practice	Injection and different techniques of drug administration in laboratory animals-I
11	Theoretical	Anesthesia
	Practice	Injection and different techniques of drug administration in laboratory animals -II
12	Theoretical	Analgesia
	Practice	Eutenasia in laboratory animals -I
13	Theoretical	Simple chirurgical techniques in laboratory animals
	Practice	Eutenasia in laboratory animals -II
14	Theoretical	Eutenasia
	Practice	Necropsy
15	Theoretical	Presentations
	Practice	To send biological sample to laboratory

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	1	28
Lecture - Practice	14	1	2	42
Assignment	4	4	1	20
Term Project	1	20	2	22
Quiz	4	2	1	12
Midterm Examination	1	8	1	9
Final Examination	1	16	1	17
			Total Workload (Hours)	150
			[Total Workload (Hours) / 25*] = **ECTS**	6

**25 hour workload is accepted as 1 ECTS*

Learning Outcomes

1	To learn data collecting techniques by different approaches in laboratory animals and to be informed about experimental design
2	To learn knowledge about behaviors and biology of laboratory animals
3	To gain ability handling of laboratory animals and making simple interventions
4	To gain ability collection of biological specimens such as the body fluid, tissue sample in laboratory animals
5	To gain ability regarding making simple chirurgical techniques in laboratory animals
6	To be informed about anesthesia, analgesia and eutenasia in laboratory animals

Programme Outcomes *(Physiology (Veterinary Medicine) Master)*

1	Understands and defines the interdisciplinary interaction with the associated fields
2	Uses theoretical and practical information learned in the education
3	Creates solution proposals by using background education
4	Combines and interprets the information from different disciplines, and creates solution proposals and scientific information to contribute the solution process, when needed
5	Involves in professional organizations and institutions related with the educational background

6	Takes responsibility for individual and group work, and do the assignments in line with the skills
7	Communicates with the professionals out of the field when it is necessary, and contributes to the solution as a team member
8	Understands the production and publishing methods of scientific information
9	Determines the source and the type of information that is needed related with the field and chooses the activities that s/he wants to participate, by using his/her critical thinking abilities that is developed in the education
10	Excels technological devices both for professional and social purposes
11	Compiles any kind of data related with the field (field observations, produced scientific information etc.) and analyzes and interprets the results according to the aims of the research
12	Determines the environmental health rules and applies them for prevention
13	Applies the knowledge gained in professional level with the awareness of the needs of the region and the country, and develops a defense capability
14	Conceptualizes the phenomena and the events related with the field, studies scientific methods and techniques, interprets results; analyzes and hypothesizes methods in accordance with the results and designs solution or treatment alternatives addressing the problems
15	Follows up the updates of information in the field by using all kinds of sources (scientific information, legislations etc.), and uses when needed

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
P1	2	2	2	2	2	2
P2	4	4	4	4	4	4
P3	4	4	4	4	4	4
P4	2	2	2	2	2	2
P5	3	3	3	3	3	3
P6	1	1	1	1	1	1
P7	1	1	1	1	1	1
P8	3	3	3	3	3	3
P9	2	2	2	2	2	2
P10	3	3	3	3	3	3
P11	4	4	4	4	4	4
P12	4	4	4	4	4	4
P13	5	5	5	5	5	5
P14	4	4	4	4	4	4
P15	4	4	4	4	4	4