



AYDIN ADNAN MENDERES UNIVERSITY
GRADUATE SCHOOL OF HEALTH SCIENCES
VETERINARY PHYSIOLOGY
PHYSIOLOGY (VETERINARY)
PHYSIOLOGY (VETERINARY) MASTER
COURSE INFORMATION FORM

Course Title	Scientific Research Methods								
Course Code	VFZ538	Course Level		Second Cycle (Master's Degree)					
ECTS Credit	2	Workload	50 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	To design experiment and material based on animal welfare and animal rights in biological research								
Course Content	Biomedical research: basic, practical and clinical research, the models that are used in biomedical research: animal models and alternative methods; design in biomedical research, sample size, power analyzing and testing methods of the power, experimental research, animal welfare and animal rights								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Case Study, Problem Solving								
Name of Lecturer(s)	Assoc. Prof. Cengiz ÜNSAL								

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	38
Final Examination	1	60
Quiz	2	1
Term Assignment	1	1

Recommended or Required Reading

1	Hau J., Van Hoosier, Jr. G.L. (2003). Handbook of Laboratory Animal Science 2nd Ed. Volume II Animal Models. CRC Press
2	Monamy V. (2009). Animal Experimentation. A Guide to the Issues, Second Edition. Cambridge University Press
3	Brown H., Prescott R. (2006). Applied Mixed Models in Medicine 2nd Ed. JohnWiley & Sons Ltd
4	Marczyk G., David DeMatteo D., Festinger D. (2005). Essentials of Research Design and Methodology. JohnWiley & Sons Ltd

Week	Weekly Detailed Course Contents	
1	Theoretical	Definition of scientific research
2	Theoretical	To access to information, resources of science and scientific information
3	Theoretical	The aim of research
4	Theoretical	Experimental Design
5	Theoretical	Sample size in scientific study
6	Theoretical	Hypothesis
7	Theoretical	Problem Description and Solving
8	Theoretical	Midterm
9	Theoretical	Independent and dependent variables
10	Theoretical	Data collection
11	Theoretical	The decision of statistical analysis
12	Theoretical	Animal models in experimental studies
13	Theoretical	In vivo, in situ, in vitro and ex vivo studies
14	Theoretical	Alternative methods
15	Theoretical	Presentations

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Assignment	2	1	1	4
Term Project	1	4	1	5
Quiz	2	1	1	4



Midterm Examination	1	3	1	4
Final Examination	1	4	1	5
Total Workload (Hours)				50
[Total Workload (Hours) / 25*] = ECTS				2

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To gain ability access to information and to prepare research format in biological research
2	Before the study, the prediction of problems which can be encountered
3	To able to categorize the data obtained from research
4	To able to evaluate the data obtained from research
5	To have knowledge about alternative methods in biological researches

Programme Outcomes (Physiology (Veterinary) 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
P1	2	2	2	2	2
P2	4	4	4	4	4
P3	4	4	4	4	4
P4	2	2	2	2	2
P5	3	3	3	3	3
P6	1	1	1	1	1
P7	1	1	1	1	1
P8	3	3	3	3	3
P9	2	2	2	2	2
P10	3	3	3	3	3
P11	4	4	4	4	4
P12	4	4	4	4	4
P13	5	5	5	5	5
P14	4	4	4	4	4
P15	4	4	4	4	4

