



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Nutrition of Laboratory Animals							
Course Code		VHB644		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	6	Workload	147 (Hours)	Theory	1	Practice	0	Laboratory	0
Objectives of the Course		Introducing anatomical and physiological characteristics of digestive system in laboratory animals. Introducing housing conditions and feeds of laboratory animals. Teaching nutritional requirements and breeding methods. Reaching ability of applying gained knowledge in laboratory animal feeding. Communication with producers. Correcting mistakes done in laboratory animal production. Able to make literature search in this subject. Having knowledge sufficient for establishing own laboratory animal farm.							
Course Content		Anatomical and physiological characteristics of digestive system in laboratory animal. Nutritional requirements. Feeds used in laboratory animal nutrition. Ration formulations.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	30
Final Examination	1	60
Assignment	4	10

Recommended or Required Reading

1	Kellerns, R.O., Church, D.C. (2002) Livestock Feeds and Feeding, Prentice Hall, New Jersey.
2	McDonald, P., Edwards, R.A., Greenhalgh, J.F.D., Morgan, C.A. (2002) Animal Nutrition, Longman Scientific & Technical, England.
3	Pond, W.G., Church, D.C., Pond, K.R., Schoknecht, P.A. (2004) Basic Animal Nutrition and Feeding, John Wiley & Sons, New York.
4	Sauvant, D., Perez, J.M., Tran, G. (2004) Tables of Composition and Nutritional Value of Feed Materials, INRA Editions, Wageningen Academic Publishers.
5	Tisch, D. (2005) Animal Feeds, Feeding and Nutrition and Ration Evaluation, Thomson Learning.

Week	Weekly Detailed Course Contents	
1	Theoretical	Mouse feeding. Physiological properties of mouse. Introducing feedstuffs used in mouse nutrition.
2	Theoretical	Nutritional requirements of mice (protein, amino acids, vitamin and mineral).
3	Theoretical	Energy requirement, diseases occurred in nutrient deficiency. Rations used in preventing deficiency signs.
4	Theoretical	Rat feeding. Physiological properties of rats. Introducing feedstuffs used in rat nutrition.
5	Theoretical	Nutritional requirements of rat (protein, amino acids, vitamin and mineral).
6	Theoretical	Energy requirement, diseases occurred in nutrient deficiency. Rations used in preventing deficiency signs.
7	Intermediate Exam	Midterm exam
8	Theoretical	Hamster feeding. Physiological properties of hamsters. Introducing feedstuffs used in rat nutrition.
9	Theoretical	Nutritional requirements of hamsters (protein, amino acids, vitamin and mineral).
10	Theoretical	Energy requirement, diseases occurred in nutrient deficiency. Rations used in preventing deficiency signs.
11	Theoretical	Feeding of gerbils. Physiological characteristics of gerbils.
12	Theoretical	Energy requirement of gerbils.
13	Theoretical	Rations formulated to satisfy nutritional requirements of gerbils.
14	Theoretical	Chinchilla nutrition. Physiological characteristics of chinchilla. Nutritional requirements of chinchilla (protein, amino acids, vitamin and mineral).
15	Theoretical	Mouse, rat, chinchilla and gerbil diets for experimental use.



16	Final Exam	Final exam
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Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	1	14
Assignment	5	0	5	25
Reading	14	0	6	84
Midterm Examination	1	8	2	10
Final Examination	1	12	2	14
Total Workload (Hours)				147
[Total Workload (Hours) / 25*] = ECTS				6

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Having knowledge about anatomical and physiological characteristics of digestive system in laboratory animals such as mice, guinea pig and rat.
2	Knows housing conditions and feeds of laboratory animal. Teaching nutritional requirements and breeding methods.
3	Ration formulation for laboratory animal with different breed.
4	May give information about practical and proper feeding systems in laboratory animal nutrition.
5	Nutritional requirements of rat (protein, amino acids, vitamin and mineral).

Programme Outcomes (Animal Nutrition and Nutritional Diseases (Veterinary Medicine) Doctorate)

1	Knows information about importance of forage and concentrates in basic animal nutrition for protecting animal health in scientific and technological animal production.
2	Have ability to formulate economical and full-satisfactory rations with considering product quality and health. May inform animal producers about practical/appropriate feeding methods.
3	Can adapt to recent scientific and technological developments in animal nutrition easier and produce proper strategies against to problems on this field.
4	Knows the properties of feeds used in proper and economical rations formulated due to needs of animal species.
5	Can give information to animal producers about properties of common feedstuffs used in Turkey
6	Knows organoleptic, physical diagnostic and chemical analysis methods used in determining feed quality.
7	Have information about processing and the effects of processing on animal yield.
8	Can identify the term "feed hygiene" and have information about the usage availability of contaminated feedstuffs.
9	Can apply the informations related to feed additives in a proper way.
10	Understands the results and factors decreasing production.
11	Knows the nutrition related diseases and their solution recommendations which may be applied in feeding or formulating feeds for preventing nutritonal diseases.
12	Knows about the availability level of feedstuffs after consumed and can perform digestibility trials.
13	Knows the definition of stress, stress sources and effects on health and production level of animals.
14	Have sufficient information on classification, activation and fermentation of rumen microorganisms plus carbohydrate, lipid and protein digestibility.
15	Knows the factors effecting feed intake and negative factors in feedstuffs and prevention of them.
16	Comments on feeding behaviours and related yield parameters.
17	Have information on basic terms related to feed legislation, feeds used in animal nutrition and their legal regulations.
18	Have information about biotechnological research conducted on feeds and animal nutrition.
19	Knows the effects of nutrition on food quality, fertility, immunity and parasite enfestations.

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

	L1	L2
P1	3	5
P2	4	5
P3	3	4
P4	2	4
P5	1	4
P6	1	3
P7	3	4



P8	1	2
P9		3
P10		3
P11		3

