



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Nutrition and Immunity in Animals							
Course Code		VHB649		Coure Level		Third Cycle (Doctorate Degree)			
ECTS Credit	6	Workload	147 (<i>Hours</i>)	Theory	1	Practice	0	Laboratory	0
Objectives of the Course		Educate of masters who got sufficient knowledge about the effect of nutrition on immunity of livestock animals.							
Course Content		General aspect of effect of nutrition on immunity. Effects of over doses of some nutrient in ration on immunity. Effect of deficiencies of energy, amino acid, fat acid, vitamins and macro and micro elements on health statue of animal.							
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	Chandra, R.K. (1980) Immunology of Nutritional Disorders, The Camelot Press Ltd, Southampton, England.
2	Chandra, R.K. (1985) Nutrition, Immunity and Illness in the Elderly, Pergamon Press Ltd, Oxford, England.

Week	Weekly Detailed Course Contents	
1	Theoretical	Determination of immunity. Type of immunity in livestock animals
2	Theoretical	Effects of nutrient deficiencies for predispose to animals for sickness
3	Theoretical	Mechanisms from health to infection. Immunity which comes from birth.
4	Theoretical	Nutrient requirements of animals under stress
5	Theoretical	Effects of sickness on nutrition, feed intake and production
6	Theoretical	Effectiveness of nutrition level on protection form sickness: effect of energy level
7	Intermediate Exam	Midterm exam
8	Theoretical	Effectiveness of nutrition level on protection form sickness: effect of protein level
9	Theoretical	Effectiveness of nutrition level on protection form sickness: effects of A and D vitamin levels
10	Theoretical	Effectiveness of nutrition level on protection form sickness: importance of antioxidants for immunity
11	Theoretical	Effectiveness of nutrition level on protection form sickness: effect of level of E vitamin
12	Theoretical	Effectiveness of nutrition level on protection form sickness: effect of magnesium, phosphor, micro minerals (etc., copper, zinc, selenium, chrome)
13	Theoretical	Effectiveness of nutrition level on protection form sickness: effect of levels of B and C vitamins
14	Theoretical	Effects of over doses of nutrient for maintenance and productivity requirements on immunity (etc., E vitamin, selenium, chrome)
15	Theoretical	Balancing of rations for effective immunity
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	1	14
Assignment	5	0	5	25
Reading	14	0	6	84
Practice Examination	1	12	2	14



Midterm Examination	1	8	2	10
Total Workload (Hours)				147
[Total Workload (Hours) / 25*] = ECTS				6
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	To have sufficient knowledge about the effect of nutrition on immunity.
2	To have sufficient knowledge about over dose of nutrients affect on immunity.
3	To have sufficient knowledge about effect of deficiencies of energy, amino acid, fat acid, vitamins and macro and micro elements on health statue of animal.
4	Effects of sickness on nutrition, feed intake and production
5	Effectiveness of nutrition level on protection form sickness: effect of energy level

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	L3
P19	5	5	5

