



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Vitamins in Animal Nutrition							
Course Code		VHB525		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	4	Workload	104 ( <i>Hours</i> )	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		To understand of importance of vitamins for animal health, production quantity and quality in animal nutrition, Educate masters who know enough knowledge about issue.							
Course Content		Understanding of importance of vitamins for animal health and productivity, giving the basic information (description, speciality and classification) about the vitamins, to give information about the fat and water solubles vitamins and adverse effects when over doses, mention about the proper vitamins for different animal species.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Case Study, Individual Study					
Name of Lecturer(s)		Prof. Ahmet Gökhan ÖNOL, Prof. Bekir Hakan KÖKSAL							

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	28
Final Examination	1	60
Assignment	5	12

### Recommended or Required Reading

1	Ergün, A., Tuncer, Ş.D., Çolpan, İ., Yalçın, S., Yıldız, G., Küçükersan, M.K., Küçükersan, S., Şehu, A. (2004) Yemler, Yem Hijyeni ve Teknolojisi, Pozitif Matbaacılık, Ankara.
2	McDowell L.R. (1989) Vitamins in Animal Nutrition, Academic Pres, Florida, ABD.
3	Ammerman, C.B., Baker, D.H., Lewis, A.J. (1995) Bioavailability of Nutrients for Animals, Academic Press, San Diego, ABD.
4	Kellerns, R.O., Church, D.C. (2002) Livestock Feeds and Feeding, Prentice Hall, New Jersey.
5	Ensminger, M.E., Oldfield J.E., Hienemann W.W. (1990) Feeds and Nutrition, The Ensminger Publishing, California.
6	Cheeke, P.R. (1999) Applied Animal Nutrition: Feeds and Feeding, Prentice Hall International, USA.

Week	Weekly Detailed Course Contents	
1	Theoretical	Description of vitamins, describe of the general characteristic of vitamins and classification
2	Theoretical	Explanation of importance of vitamins for animal nutrition
3	Theoretical	Classification of fat soluble vitamins, describe of the general characteristic and importance for the animal nutrition
4	Theoretical	The general characteristic of Vitamin A, levels of animal requirements, adverse effects about deficiencies and over doses, give literature information about the issue
5	Theoretical	The general characteristic of Vitamin D, levels of animal requirements, adverse effects about deficiencies and over doses, give literature information about the issue
6	Theoretical	The general characteristic of Vitamin E, levels of animal requirements, adverse effects about deficiencies and over doses, give literature information about the issue
7	Theoretical	The general characteristic of Vitamin K, levels of animal requirements, adverse effects about deficiencies and over doses, give literature information about the issue
8	Intermediate Exam	Midterm exam
9	Theoretical	Water soluble vitamins and their characteristics
10	Theoretical	The general characteristic of B1 and B2 Vitamins, levels of animal requirements, adverse effects about deficiencies and over doses, give literature information about the issue
11	Theoretical	The general characteristic of other B Vitamins, levels of animal requirements, adverse effects about deficiencies and over doses, give literature information about the issue
12	Theoretical	The general characteristic of Vitamin C, levels of animal requirements, adverse effects about deficiencies and over doses, give literature information about the issue
13	Theoretical	Vitamins for poultry nutrition, to give basic information about the usage doses for different age and rearing method
14	Theoretical	Vitamins for ruminant nutrition, to give basic information about the usage doses for different age and rearing method



15	Theoretical	Repeating the issues
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**Workload Calculation**

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Assignment	5	0	2	10
Reading	14	0	3	42
Midterm Examination	1	8	2	10
Final Examination	1	12	2	14
Total Workload (Hours)				104
[Total Workload (Hours) / 25*] = ECTS				4
*25 hour workload is accepted as 1 ECTS				

**Learning Outcomes**

1	Description of vitamins, explanation of symptoms for vitamin deficiencies.
2	Explanation of situations about the balancing of vitamins.
3	To give information about how to fix problems which are related with incorrect vitamin usage in field.
4	Importance of Vitamins in Animal Nutrition.
5	Vitamins and animal health.

**Programme Outcomes (Animal Nutrition and Nutritional Diseases (Veterinary Medicine) Master)**

1	to be able to comprehend information about basic animal nutrition and feeds for protecting animal health, scientific and technological animal production.
2	to be able to formulate economical and full-satisfactory rations with considering product quality and health and inform animal producers about practical/appropriate feeding methods.
3	to be able to apply recent scientific and technological developments in animal nutrition easier and produce proper strategies against to problems on this field.
4	to be able to analyse the properties of feeds used in proper and economical rations formulated due to needs of animal species.
5	to be able to inform animal producers about the common feedstuffs used in animal nutrition
6	to be able to interpret physical, diagnostic and chemical analysis methods used in determinin feed quality.
7	to be able to comprehend processing and the effects of processing on animal yield.
8	to be able to identify the term "feed hygiene" and have information about the usage availability of contaminated feedstuffs.
9	to be able to apply the informations related to feed additives in a proper way.
10	to be able to formulate the results and factors decreasing production.
11	to be able to apprehend the nutrition related diseases and their solution recommendations which may be applied in feeding or formulating feeds for preventing nutritonal diseases.

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

	L1	L2	L3
P2		5	5
P3			5
P4	5	5	
P10	5		5
P11	5		5

