AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Concentrated Feeds						
Course Code	VHB624		Couse Level	Third Cycle (Doctorate Degree)			
ECTS Credit	9	Workload	226 *(Hours)*	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	Concentrates and their classification. Importance of forages in ruminants. Concentrates and its economic importance in Turkey and World. Concentrates and its varieties. Production of concentrates. Concentrates production technology. Providing support for improving forage production in Turkey followed by recent developments in world						
Course Content	Importance of concentrates in nutrition. Importance of concentrates in nutrition of different livestock. Criteria for concentrates quality. Classification of concentrates. Their negative or positive effects on production.						
Work Placement	N/A						
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study, Problem Solving			
Name of Lecturer(s)							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	28
Final Examination	1	60
Assignment	8	12

Recommended or Required Reading

1	Ergün, A., Tuncer, Ş.D., Çolpan, İ., Yalçın, S., Yıldız, G., Küçükersan, M.K., Küçükersan, S., Şehu, A. (2008). Yemler, Yem Hijyeni ve Teknolojisi, Pozitif Matbaacılık, Ankara.
2	Ergül, M. (1988). Yemler Bilgisi ve Teknolojisi, Ege Üniversitesi Basımevi, İzmir.
3	Kılıç, A. (1988). Yemler ve Hayvan Besleme, Bilgehan Basımevi, İzmir.
4	Coşkun, B., Şeker, E., İnal, F. (2000) Yemler ve Teknolojisi, Selçuk Üniversitesi Veteriner Fakültesi Yayın Ünitesi, Konya.
5	Ensminger, M.E., Olentine, C.G. (1980) Feeds and Nutrition, The Ensminger Publishing Company, California.
6	McDonald, P., Edwards, R.A., Greenhalgh, J.F.D. (1990) Feeds and Feeding, Prentice Hall, New Jersey.

Week	Weekly Detailed Course Contents	
1	Theoretical	General characteristics of grains and their usage in animal nutrition. Classification of grains.
	Practice	Concentrate production amounts in Turkey. Giving informations about exported and imported feed materials.
2	Theoretical	Graminosa grains (general characteristics, effects on animal production, barley, corn).
	Practice	Introducing grains. Giving basic informations about the nutrient levels of grains.
3	Theoretical	Graminosa grains (general characteristics, effects on animal production, oat, wheat, rye).
	Practice	Introducing grains. Giving basic informations about the nutrient levels of grains.
4	Theoretical	Leguminosa grains (general characteristics, effects on animal production, soy, vetch,
	Practice	Organoleptic, chemical, physical and microbiological treatments in determination of concentrate quality.
5	Theoretical	Leguminosa grains (general characteristics, effects on animal production, vetch, grass pea, lupe)
	Practice	Feed sampling. Preparation of feed samples to lab analysis. Importance of nutrient analysis.
6	Theoretical	By products (classification, general characteristics, importance to animal production)
	Practice	Trip to a feed factory (feed production systems.
7	Theoretical	Milling by products.
	Practice	Introducing feedstuffs.
8	Practice	Answering exam questions.
	Intermediate Exam	Midterm exam
9	Theoretical	Starch and sugar industry by products.
	Practice	Introducing by-product feeds. And determination of their quality
10	Theoretical	Alcohol and wine industry by products.

10	Practice	Animal by products. Mineral feeds. Urea and fats.
11	Theoretical	Fat industry by products.
	Practice	Discussion on advantages and disadvantages of processing of feeds on their nutrient levels
12	Theoretical	Fats (their importance, classification, factors effecting their utilization)
	Practice	Explaining feed processing methods and its importance.
13	Theoretical	Animal by products (their importance, classification, factors effecting their utilization, legal regulations)
	Practice	Advantages and disadvantages of change in moisture level of concentrates
14	Theoretical	Meat and meat by products, poultry by products, milk industry by products.
	Practice	Discussion of advantages to supplementation of water, molasees, urea and fat to concentrates.
15	Theoretical	Alternative feeds and mineral feeds.
	Practice	Gaining information of concentrate pelleting. General subject repetition.
16	Practice	Evaluation of exam results.
	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	15	0	2	30
Assignment	8	9	1	80
Reading	14	0	4	56
Midterm Examination	1	12	2	14
Final Examination	1	16	2	18
			Total Workload (Hours)	226
		[Total Workload (Hours) / 25*] = **ECTS**		9

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Importance of concentrate in economic animal husbandry
2	Varieties of concentrates and their production
3	Gaining information about grains, by products, etc.
4	Organoleptic, chemical, physical and microbiological treatments in determination of concentrate quality.
5	Introducing feedstuffs

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 nutiritonal 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 prevenation 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
P1	5		
P3	5		
P4	5	5	5
P5	5	5	5
P7	5		