AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Digestion Trials								
Course Code	VHB605		Couse Level		Third Cycle (Doctorate Degree)				
ECTS Credit	5	Workload	126 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	Teaching definition of digestion, absorbtion and digestibility terms. Teaching the importance and principles of digestion trials. Explaining different methods included in digestion trials.								
Course Content	Determination of digestibility levels of feeds and nutrients								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Individual Study, Problem Solving								
Name of Lecturer(s)	Prof. Ahmet Gökhan ÖNOL								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	28
Final Examination	1	60
Assignment	4	12

Recommended or Required Reading	
1	Fahey, G. C. (1994) Forage Quality, Evaluation and Utilization, American Society of Agronomy, Madison, USA.
2	Sauvant, D., Van Milgen, J., Faverdin, P., Friggens, N. (2011) Modelling Nutrient Digestion and Utilisation in Farm Animals, Wageningen Academic Publishers, Netherlands.

Week	Weekly Detailed Course Contents	
1	Theoretical	Digestion, absorbtion and digestibility terms. Factors affecting digestibility of feeds.
	Practice	Demonstrating equipments used in classical digestion trials.
2	Theoretical	Classification of digestion trials. Importance of digestion trials.
	Practice	Performing digestion trial according to classical method (adaptation period)
3	Theoretical	Critical points considered in performing digestion trials. Equipments used in digestion trials.
	Practice	Performing digestion trial according to classical method (adaptation period)
4	Theoretical	Invivo digestion trials (classical method and indicator method)
	Practice	Performing digestion trial according to classical method (sampling period)
5	Theoretical	Invivo digestion trials (difference method, various type of biological trials)
	Practice	Performing digestion trial according to indicator method
6	Theoretical	Invitro digestion trials- rumen digestibility (Tilley and Terry, enzyme methods)
	Practice	Performing digestion trial according to difference method
7	Theoretical	Invitro digestion trials- rumen digestibility (Gas production and electrophoresis methods)
	Practice	Performing digestion trial according to difference method
8	Practice	Determination of nutrient digestibility and nitrogen retention by invivo digestion trials
	Intermediate Exam	Midterm exam
9	Theoretical	Invitro digestion trials- rumen digestibility (Gas production and electrophoresis methods)
	Practice	Literature search on a specific area of subject.
10	Theoretical	Invitro digestion trials- intestinal digestibility (lysine bioavailability test, intestinal content and enzyme methods)
	Practice	Determination of digestibility by Tilley and Terry method.
11	Theoretical	In situ methods- rumen digestibility (Dacron bag method)
	Practice	Determination of digestibility by Dacron bag method
12	Theoretical	In situ methods-Intestinal digestibility (Portative bag method)
	Practice	Determination of digestibility by portative bag method.
13	Theoretical	Insitu/Invitro method with three steps
	Practice	Literature search on a specific area of subject.
14	Theoretical	Near infrared spectroscopy

14	Practice	Determination of digestibility by near infrared spectroscopy
15	Theoretical	Prediction method and formulas used in this method
	Practice	Repetition subjects and evaluations
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	15	0	0	0
Assignment	4	4	1	20
Reading	12	0	4	48
Midterm Examination	1	12	1	13
Final Examination	1	16	1	17
			Total Workload (Hours)	126
			[Total Workload (Hours) / 25*] = **ECTS**	5

**25 hour workload is accepted as 1 ECTS*

Learning Outcomes

1	Knowing the meanings of digestion, digestibility and absrobtion terms
2	Understanding the importance of digestion trials in animal nutrition
3	Having information about the various methods of digestion trials.
4	Teaching the determination of feed digestibility levels
5	Connection with producer and teaching them Helping to producer for some management mistakes Capability for searching literature

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 preventation 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
P3	5	5	5
P12	5	5	5