CHEMICAL AND MICROBIOLOGICAL ANALYSES OF ANIMAL-DERIVED FOODS AND WATER

1	Course Title:	CHEMICAL AND MICROBIOLOGICAL ANALYSES OF ANIMAL-DERIVED FOODS AND WATER
2	Course Code:	VBH6020
3	Type of Course:	Optional
4	Level of Course:	Third Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	1.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. GÜL ECE SOYUTEMİZ
15	Course Lecturers:	Yok
16	Contact information of the Course Coordinator:	Mail: soyutemiz@uludag.edu.tr Tel: 02242941333 Adres: Bursa Uludağ Ünv. Veteriner Fak. Besin Hijyeni ve Teknolojisi Anabilim Dalı
17	Website:	http://saglikbilimleri.uludag.edu.tr
18	Objective of the Course:	To gain experience on food chemistry, sources of food contamination, food microbiology food infection and intoxication, principles of food preservation, hygiene of water and foods of animal origin, composition and microbiological spoilages of foods of animal origins.
19	Contribution of the Course to Professional Development:	It will provide important knowledge and competence to veterinarians who will work in the analysis of animal foods and water.
20	Learning Outcomes:	

	1	Basic chemical composition of food,
	2	Food microbiology,
	3	Contamination sources and hazardous materials in foods
	4	Factors effecting microbial growth in foods and foodborne diseases
	5	Technological applications for food preservation
	6	Microbiological, chemical and physical characteristics of waters,
	7	Cleaning and disinfecting of waters,
	8	Laboratory technics for food analysis
	9	
	10	

21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Chemical composition and analysis methods of animal foods Determination of protein, ash and lipid	Chemical analyses of foods I
2	Chemical composition and analysis methods Determination of moisture, starch and salt) and the certain physical analysis methods (pH, water activity values) of animal foods	Chemical analyses of foods II
3	Microorganisms causing animal foods spoilage(Bacteria)	Preparation for microbiological analyses I
4	Microorganisms causing animal foods spoilage (Yeast and mould)	Preparation for microbiological analyses II
5	Sampling methods for microbiological analysis in animal foods	Preparation for microbiological analyses III
6	Homogenization, dilution and different plating techniques in animal foods	Sampling methods for microbiological analyses
7	The importance and enumeration methods of total aerobic mesophilic bacteria and yeast-mould counts in animal foods	TAMGC and yeast and mold counts in foods
8	The importance of indicator microorganisms in animal foods	Detection of coliforms in water
9	Different methods for the detection of coliform microorganisms and identification method for E coli and determination of E coli counts	Determination of E. coli in foods
	[illegible] methods used in animal foods	
11	Freshness-staleness criteria in eggs [illegible] methods for microbiological analysis of waters	Water microbiological analysis by MPN method
12	The importance for human health of chemical [illegible] microbiological water control	Chemical analyses of water
	[illegible] aerobic mesophilic bacteria counts, total coliform bacteria and fecal coliforms in waters	
	[illegible] sulphite-reducing anaerobes in waters and the isolation methods	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	2.00	28.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	25.00	25.00
Others	0	0.00	0.00
Final Exams	1	25.00	25.00
Total Work Load			120.00
Total work load/ 30 hr			4.00
ECTS Credit of the Course			4.00

22	Textbooks, References and/or Other Materials:	1.Erol, I., 2007. Food Hygiene and Microbiology. ISBN 978 -975-00131-0-9, Pozitif Printing Ltd. Şti., Ankara. 2.Uğur, M., Nazlı, B., Bostan, K. 1999. Food Hygiene. Teknik Publications, İstanbul. 3.İnal, T. 1992. Food Hygiene-Health Control of Animal Food Products. Final Ofset A.Ş. Second edition, İstanbul. 4.Soyutemiz,G.E., Çetinkaya F. 1999. The Practice Lesson Notes of Food Hygiene and Technology, Faculty of Veterinary Medicine, University of Uludag. Faculty of Veterinary Medicine, University of Uludag, Publication Number: 1, Bursa.
23	Assesment	

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	0	0.00

Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	100.00
Total	1	100.00
Contribution of Term (Year) Learning Activities to Success Grade		0.00
Contribution of Final Exam to Success Grade		100.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		In order to determine the students' level of knowledge and skills in the field of Chemical and Microbiological Analyzes of Animal Foods and Water, the measurement activity is carried out in written form as a final exam.

24 ECTS / WORK LOAD TABLE

25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS

	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	5	4	2	4	5	2	4	4	1	2	5	3	0	0	0	0
ÖK2	4	2	4	5	4	2	2	2	1	2	3	3	0	0	0	0
ÖK3	4	4	5	2	3	4	2	2	2	4	1	4	0	0	0	0
ÖK4	5	3	5	4	2	3	3	3	3	2	3	4	0	0	0	0
ÖK5	5	5	3	5	3	2	5	3	3	3	4	4	0	0	0	0
ÖK6	4	4	5	3	4	4	3	4	2	3	3	3	0	0	0	0
ÖK7	4	5	4	3	2	2	1	2	3	4	4	3	0	0	0	0
ÖK8	4	4	4	3	2	2	1	2	4	5	5	4	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	1 very low	2 low	3 Medium	4 High	5 Very High