MEAT HYGIENE AND TECHNOLOGY

1	Course Title:	MEAT HYGIENE AND TECHNOLOGY
2	Course Code:	VET5401
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	5
6	Semester:	9
7	ECTS Credits Allocated:	3.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	1.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. ŞAHSENE ANAR
15	Course Lecturers:	Yok
16	Contact information of the Course Coordinator:	e-posta: aeyigor@uludag.edu.tr Telefon: 02242941334 Adres: Uludağ Üniversitesi Veteriner Fakültesi Besin Hijyeni ve Teknolojisi Anabilim Dalı 16059 Görükle Kampusu Bursa
17	Website:	http://veteriner.uludag.edu.tr
18	Objective of the Course:	To teach contamination sources of meat, spoilage in meat, prevention of contamination in meat, preservation of meat by cold storage and by freezing, equipment used in meat processing, additives used in meat processing, and processing of good quality, standard and safe meat products.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	Learns contamination sources and microflora of meat
	2	Learns primary and secondary contamination, and learns to minimize these contaminations.
	3	Learns and gains ability to interpret high and low temperature applications in meats.
	4	Able to determine functions of equipment and additives in meat processing
	5	Learns meat products processing technologies.
	6	Learns preservation and packaging methods of meat and meat products.
	7	Able to interpret meat product analysis results based on legal reglations.
	8	Able to perform hygiene applications in meat processing plants.
	9	
	10	

21	Course Content:	
	Course Content:	
Week	Theoretical	Practice

1	Definition of meat and meat products, their classification, status in our country and in the world, main principles of meat product processing, classification of meat products	Introduction of raw material storage, processing, cutting, fermented meat, heat processed meat products, smoking, cold storage section
2	Contamination sources of meat, factors effecting microbial load in meat, microflora of fresh cold-stored or frozen meats, spoilage in meat, prevention of spoilage in meat	Introduction of storage for cleaning and disinfection materials, and packaging materials in meat processing
3	Main principles of cold temperature applications on meat technology, cooling and cold storage of carcasses, specifications of cold rooms, methods of freezing and frozen storage, thawing of frozen meat	Introduction of equipment used in meat products processing
4	Main materials and additives, and their functions used in meat products	Introduction of additives used in meat products processing
5	Specifications of starter cultures used in meat products processing, microorganisms used as starter culture and their functions in meat products	Cutting and deboning of carcass, grading and classification for retail
6	Curing methods in meat products technology (dry, wet and rapid curing)	Batter preparation for heat treated soudjuk, filling and heat application
7	Aim of smoking in meat technology, ingredients in smoke and their functions, obtaining smoke and methods of smoking	Application of smoking for meat products
8	Selection of raw material for fermented soudjuk production, formulations of soudjuk batter and their preparations, fermentation, microbial changes observed during ripening	Fermented soudjuk production and application of natural fermentation
9	factors in emulsion preparation, smoking and heat application, defects observed in salami	
10	Pastrami production technology, classification of pastrami, defects in pastrami	Pastrami production technology
11	influencing heat resistance of	
12	classification of canning technologies, canned	
13	Classification of donair, preparation of real meat and ground meat for donair, production	Microbiological analyses of meat products, and result interpretation based on legal requirements
	batter, smoked tongue, braised meat, jelly tube technology	
	meats, main factors on selection of packaging material, vacuum packaging, and MAP	
14	Personnel hygiene and disinfection in meat processing plants	Control of hygiene and disinfection in meat processing plants

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	14	1.00	14.00
Self-study and preparation	14	3.00	42.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm Exams	1	1.00	1.00
Others	1	1.00	1.00
Final Exams	1	1.00	1.00
Total Work Load			87.00
Total work load/ 30 hr			2.90
ECTS Credit of the Course			3.00

22	Textbooks, References and/or Other Materials:	1.ANAR,Ş. Et ve Et Ürünleri Teknolojisi, Dora Yayınevi, Bursa, 2010. 2..HUI,Y.H.,NIP,W.K.,ROGERS,R.W.,OWEN, A.Y.Meat Science and Applications, Marcel Dekker Inc, Newyork, 2001. 3.GÖKALP, H.Y., KAYA,M., ZORBA,Ö. Et Ürünleri İşleme Mühendisliği, A.Ü.Yayın No: 786, A.Ü.Ziraat Fak. Ofset Tesisi, Erzurum, 1999. 4.ÖZTAN, A. Et Bilimi ve Teknolojisi, TMMOB Yayın No:1, Ankara, 2003.
23	Assesment	

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	1	30.00
Quiz	1	10.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	3	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		

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	3	1	3	4	1	1	5	5	3	1	3	3	0	0	0	0
ÖK2	3	1	3	4	1	1	5	5	3	1	3	3	0	0	0	0
ÖK3	3	2	3	4	1	1	5	5	4	2	5	3	0	0	0	0
ÖK4	2	3	3	4	2	1	5	5	3	3	3	2	0	0	0	0
ÖK5	3	3	2	4	2	1	5	5	3	2	4	3	0	0	0	0
ÖK6	3	3	2	4	2	1	5	5	3	2	3	2	0	0	0	0
ÖK7	3	3	5	3	2	1	5	5	4	3	3	3	0	0	0	0
ÖK8	3	3	4	4	2	1	5	5	5	5	4	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