
	UNIVERSITY OF EAST SARAJEVO					
	Faculty of Technology					
	<i>Study programme: Chemical Engineering and Technology</i> <i>Modul: Food Technology</i>					
	Cycle I	Academic year IV				
Course title	Meat production and processing technology					
Department	Department for Food Tehnology – Faculty of Technology					
Course code	Course status	Semester	ECTS			
04-1-107-7	obligatory	VII	7			
Teacher	PhD Vladimir Tomović, full professor					
Teaching assistant	PhD Vladimir Tomović, full professor					
Number of classes/ teaching workload (per week)		Individual student workload (in hours per semester)		Student workload coefficient S₀		
Lectures	Auditory exercises	Laboratory exercises	Lectures	Auditory exercises	Laboratory exercises	S₀
3	0	3	60	0	60	1,33
Total teaching load (in hours, per semester)			Total teaching load (in hours, per semester)			
3*15 + 0*15 + 3*15 = 90 hours			3*15*1.33 + 0*15*1.33 + 3*15*1.33 = 120 hours			
Total course workload 90 + 120 = 210 hours per semester						
Learning outcomes	After finishing the course, students will be able to: <ol style="list-style-type: none"> 1. Understanding basic theoretical knowledge and practical skills of meat science, 2. Acquire knowledge of the chemical composition and physico-chemical properties of meat of different species, 3. Gain knowledge of equipment and various technological procedures of meat processing, 4. Get the latest knowledge of meat science. 					
Prerequisites	No prerequisites					
Teaching methods	Lectures, laboratory exercises, calculation exercises, practical exercises in fabric, seminar work, mid-term tests (colloquia), consultations, oral exam.					
Syllabus outline per week	<i>List of teaching units per weeks</i> <ol style="list-style-type: none"> 1. Introduction. Trends in meat production and consumption. Meat and muscles. Animals for slaughter and meat production. 2. Animal slaughter and carcass dressing process. Types and characteristics of slaughter lines for livestock and poultry. Collection and processing of slaughterhouse by-products. 3. Meat content in carcasses and half carcasses – grading. 4. Muscle Composition. Nutritional value of meat. Muscle structure and ultrastructure. 5. <i>Post-mortem</i> chemical and biochemical changes in muscle. Conversion of muscle to meat. Formation, characteristics and prevention of the formation of meat with abnormal quality (PSE, DFD). Meat spoilage by microorganisms. 6. Sensory evaluation of fresh and heat treated meat. Determination of chemical composition physico-chemical characteristics of meat from different species (pH, color, WHC, texture, connective tissue content, glycogen). Definition of meat quality. 7. Meat chilling. Cutting, deboning and packing of meat. 8. Meat preservation by freezing. Optimal freezing speed. Freezing equipment. 9. Salting and curing of meat, salt diffusion, processes and equipment. 10. Heat treatment for raw material and meat products. Lethal effects of heat treatment. Smoking of meat. Production and composition of smoke. Smoking methods and equipment. Drying and fermentation of meat, methods and equipment. 11. Categories of meat products. Properties of basic groups and subgroups of meat products. Meat as raw material and non-meat ingredients (additives, spices, HYDROCOLLOIDS) for meat processing. Casings for meat products. 12. Mincing, emulsifying, mixing and filling, methods and equipment. Production of ground and formed meat, sausages and canned meat products. 13. Production of smoked and dry whole meat products, bacon and animal fats. 14. Quality parameters and functional properties of additives, non-meat protein products and hydrocolloids. Introduction to spices. Determination of sensory, physico-chemical and 					

	<p>technological quality parameters of all groups of meat, eggs and fish products.</p> <p>15. Meat processing facilities design. Quality criteria, meat processing operations and hygiene of meat production and processing (GHP, GMP and CCP). Egg and fish production and processing. Analysis of technological processes in meat, poultry, egg and fish processing technology.</p> <p>Tests are envisaged after the 8th week and the 15th week.</p>			
Obligatory reading				
Author	Title, publisher	Year	Pages	
W. K. Jensen, D. Carrick, M. Dikeman	Encyclopedia of meat sciences, Elsevier Ltd, Oxford, England.	2004.	1-1383	
R. A. Lawrie, D. A. Ledward:	Lawrie's meat science (7th ed.), Woodhead Publishing Ltd. and CRC Press LLC, Cambridge, England.	2006.	1-442	
J. Kerry, J. Kerry, D. Ledward	Meat processing - Improving quality. Woodhead Publishing Limited and CRC Press LLC, Cambridge, England.	2002	1-464	
G. Feiner	Meat products handbook: Practical science and technology. Cambridge: Woodhead Publishing Limited and CRC Press LLC.	2006	1-648	
Additional reading				
Author	Title, publisher	Year	Pages	
R. Tarté	Ingredients in meat products - Properties, functionality and applications, Springer, New York.	2009.	1-419	
Y. H. Hui, W.-K. Nip, Hawaii R. W. Rogers, O. A. Young	Meat Science and Applications, Marcel Dekker, Inc., New York, NY, Basel, Switzerland	2001.	eBook	
M. Brown	HACCP in the meat industry, Woodhead Publishing Limited, Cambridge, England	2000.	eBook	
Obligations, assessment methods and grading system	Type of student evaluation		ECTS	Percentage
	Pre-exam obligations			
	Attendance		6	6 %
	Seminar		14	14 %
	Mid-term test I		25	25 %
	Mid-term test II		25	25 %
	Final examination			
Final examination (oral)		30	30 %	
Total		100	100 %	
Web page	www.tfzv.ues.rs.ba			
Date				