	UNIVERSITY OF EAST SARAJEVO Faculty of Technology Zvornik ***Study programme:*** *Chemical Engineering and Technology* Cycle I / Year IV	

Course title	Meat Production and Processing Technology
Department	Department for Food Technology – Faculty of Technology Zvornik

Course code	**Course status**	**Semester**	**ECTS**
04-1-107-7	Obligatory	VII	7

Teacher	PhD Vladimir Tomović, full professor
Teaching assistant	PhD Dragan Vujadinović, Asoociate professor

Number of hours/ teaching workload (per week)			**Individual student workload (in hours per semester)**			**Student workload coefficient S_o**
Lectures	**Auditory exercises**	**Laboratory exercises**	**Lectures**	**Auditory exercises**	**Laboratory exercises**	**S_o**
3	0	3	45	0	45	1,33
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: 1. understand the basic theoretical knowledge and practical skills of meat science, 2. demonstrate and utilize knowledge of the chemical composition and physico-chemical properties of meat of different species, 3. demonstrate and utilize knowledge of equipment and various technological procedures of meat processing, 4. demonstrate and utilize the latest knowledge of meat science.
Prerequisites	No prerequisites
Teaching methods	Lectures, laboratory exercises, calculation exercises, practical exercises in fabric, seminar paper, consultations, mid-term tests (colloquia), oral exam.
Syllabus outline per week	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. *Post-mortem* 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 technological quality parameters of all groups of meat, eggs and fish products. 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. Mid-term tests are taken after the 8th week and the 15th week. Semester verification is required after the 15th week.

Obligatory reading			
Author	**Title, publisher**	**Year**	**Pages**
Vuković, I.K.	Osnove tehnologije mesa, Veterinarska komora Srbije, Beograd.	2006	1-192
Teodorović, V., Bunčić, O., Karabasil, N., Dimitrijević, M., Vasilev, D.	Higijena i tehnologija mesa, Praktikum. Naučna KMD. Beograd.	2012	5-95
Additional reading			
Author	**Title, publisher**	**Year**	**Pages**
Lawrie, A.R.	Lawrie's Meat Science	1998	1-442
Brown, M.	Muscle Foods: Meat, Poultry and Seafood Technology, Chapman and Hall, London, New York, Woodhead publishing limited.	2002	1-375

	Type of student evaluation	**Grade points**	**Percentage**
Obligations, assessment methods and grading system	Pre-exam obligations		
	Attendance	6	6%
	Seminar paper	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	2023.		