Biotechnical Faculty / LIVESTOCK PRODUCTION / MEAT PROCESSING TECHNOLOGY

Course:	MEAT PROCESSING TECHNOLOGY			
Course ID	**Course status**	**Semester**	**ECTS credits**	**Lessons** (Lessons+Exercises+Laboratory)
5849	Mandatory	1	7	4+0+2
Programs	LIVESTOCK PRODUCTION			
Prerequisites	None			
Aims	a) to expand and improve of knowledge about pre-mortem factors that contribute to the quality of meat; b) to acquire new knowledge about technological operations in slaughterhouses; post-mortem changes, quality and hygiene of meat, principles of preservation of meat, technological procedures and equipment in preparation of meat products.			
Learning outcomes	After successfully mastering the course students will be able to: Explain characteristics of growth of species and breeds of animals for slaughtering, as a raw materials for the slaughter industry. Actively participate in teams for the design of facilities for the slaughter of certain types of livestock and poultry. To explain the main factors (pre and post mortem), which affect the quality of carcasses and meat of fattened animals. Explain the procedure for the selection of raw materials for processing and the characteristics of each stage of the technology of meat processing. Explain the technological processes in the production of various types of meat products. To interpret legislation, prerequisite programs and hygiene standards to be applied in meat industry.			
Lecturer / Teaching assistant	Prof. dr Milan Marković , Mr Milena Đokić			
Methodology	Lectures, practical exercises, including the field work, consultations, colloquiums, homework and term papers.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Introduction – importance of meat in human nutrition, history and characteristics of meat production, chemical composition and nutritive value of meat, structure and features of muscles tissue			
I week exercises	Method for analyzing meat and meat products			
II week lectures	Premises for meat production – slaughterhouses			
II week exercises	Determination of moisture and ash content			
III week lectures	Building, design and functions of the rooms for animal slaughtering and carcass treatment			
III week exercises	Determination of protein and fat content in meat			
IV week lectures	Post mortem biochemical processes, meat traits			
IV week exercises	Working operations slaughter of animals			
V week lectures	Cutting and categorization of meat - meat in carcasses and half-carcasses			
V week exercises	Field work - visit slaughterhouse			
VI week lectures	Collection and processing of by-products of slaughter, cooling of meat, the cutting of carcasses for retail			
VI week exercises	Colloquium I			
VII week lectures	Preservation of meat by cooling and freezing			
VII week exercises	Animal welfare in slaughterhouses			
VIII week lectures	Preservation of meat with high temperatures			
VIII week exercises	Determination of meat color			
IX week lectures	Salting, curing, smoking and fermentation of meat			
IX week exercises	Determination of the water holding capacity of meat and meat swelling capacity			
X week lectures	Ingredients, additives and spices in the meat industry, packaging and labeling of meat products			
X week exercises	Determination of salt content in meat products			
XI week lectures	Groups of meat products (sausages)			
XI week exercises	Analysis of brine - ingredients for curing			

XII week lectures	Groups of meat products (smoked products, dried meat products, bacon and canned meat)
XII week exercises	Determination of degree of acidity in meat products
XIII week lectures	Legislation in the meat industry
XIII week exercises	Field work - visit the meat industry
XIV week lectures	Prerequisite Programs and HACCP
XIV week exercises	Colloquium II
XV week lectures	Final exam
XV week exercises	
Student workload	Weekly 4 + 2 (6) 7 credits x 40/30 = 9 hours Structure: 4 hours of lectures 2 hours of exercises 3 hours of individual work of students (preparation exercises, seminar work) including consultation In semester 60 + 30 (90) Teaching and the final exam: 9h x 16 = 144 hours; Necessary preparation (before semester): 2 x 9 = 18 hours; Total hours for the course: 7 x 30 = 210 hours. Additional hours for preparing correction of the exam period, including the exam taking 0 to 42 hours. Structure: 144 hours (lectures) + 18 hours (preparation) + 42 hours (additional work)

Per week	**Per semester**
7 credits x 40/30=9 hours and 20 minuts 4 sat(a) theoretical classes 2 sat(a) practical classes 0 excercises **3 hour(s) i 20 minuts** of independent work, including consultations	Classes and final exam: **9 hour(s) i 20 minuts x 16 =149 hour(s) i 20 minuts** Necessary preparation before the beginning of the semester (administration, registration, certification): **9 hour(s) i 20 minuts x 2 =18 hour(s) i 40 minuts** Total workload for the subject: **7 x 30=210 hour(s)** Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) **42 hour(s) i 0 minuts** Workload structure: **149 hour(s) i 20 minuts (cources), 18 hour(s) i 40 minuts (preparation), 42 hour(s) i 0 minuts (additional work)**
Student obligations	Students are required to attend classes and exercises and to work both colloquia
Consultations	: Tuesday: 12-14 h
Literature	1. Rede, R., Petrović, Ljiljana.: Tehnologija mesa i nauka o mesu. Tehnološki fakultet Novi Sad, 1997.; 2. Vuković, I.: Osnove tehnologije mesa, Veterinarski fakultet Beograd, 1998.; 3. Warriss, P.D.: Meat Science – An Introductory text; School of Vet
Examination methods	- Regular lectures attendance (max. 3 pts), exercises (max. 2 pts), in total up to 5 pts - Homework (max 10 pts) A(91-100) B(81-90) C(71-80) D(61-70) E(51-60) - I Colloquium: (max 20 pts) - II Colloquium II: (max 20 pts) - Final exam: (max 45
Special remarks	
Comment	

Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points