
		UNIVERSITY OF EAST SARAJEVO Faculty of Technology Zvornik				
		Study programme: Chemical Engineering and Technology				
		Study modul: Food Technology				
		Cycle I	Year IV			
Course title		Processing of Grains and Flour				
Department		Department for Food Technology – Faculty of Technology Zvornik				
Course code		Course status		Semester	ECTS	
04-1-108-7		Compulsory		VII	7	
Teacher		Milan Vukic, PhD, Assistant Professor.				
Teaching assistant		Milan Vukic, PhD, Assistant Professor.				
Number of classes/ teaching workload (per week)			Individual student workload (in hours per semester)			Student workload coefficient S ₀
Lectures	Auditory exercises	Laboratory exercises	Lectures	Auditory exercises	Laboratory exercises	S ₀
3	0	3	60	0	60	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 75 + 75 = 150 hours per semester						
Learning outcomes		After finishing the course, students will be able to: <ol style="list-style-type: none"> independently recognize grains based on morphological characteristics. under supervision, carry out the technological process of grain preparation, storage, and milling, and classify the resulting grain products. understand the biochemical and microbiological processes during storage. understand the quality properties of wheat flour and the role of individual raw materials, improvers, and additives. monitor the technological processes of bakery and pasta product production. identify control and critical control points in production. 				
Prerequisites		None				
Teaching methods		Lectures, auditory and laboratory exercises, mid-term tests (colloquia).				
Syllabus outline per week		<ol style="list-style-type: none"> Introduction. Botanical classification, morphological characteristics, production, and use of cereals. Physical and chemical properties of grains and grain masses. State and processes in the grain and grain mass. Grain reception, quality sorting, blend formation, and grain storage. Grain milling. Wheat as a milling raw material and the technological milling process. Material balance of milling. Formation of finished products, packaging, and flour transport. Components of wheat flour. Factors affecting the quality of wheat flour, flour characteristics based on aim use. Raw materials and flours from other grains in baking and pastry. Practical possibilities for influencing the quality of wheat flour - improvers, additives. Technological processes for bread and pastry production. Technological processes for pastry production. Specifics and technological process of pastry product production. Specifics and technological process of pasta product production. Physical, chemical, and biochemical changes in dough and bakery products. Safety and quality assessment of bakery and pastry products. Mid-term tests are taken after the 8th week and the 15th week. Semester verification is required after the 15 th week.				
Obligatory reading						
Author		Title, publisher		Year	Pages	
Cauvain S.		Bread making, Improving quality, CRC Press/Woodhead Publishing, Cambridge, UK		2003	(1-593)	

Khan, K.	Wheat: Chemistry and Technology	2016	(1-178)	
Hui, H. Y.	Bakery Products-Science and Technology, Blackwell Publishing Ltd, Oxford, UK	2014	(1-656)	
Additional reading				
Author	Title, publisher	Year	Pages	
Kulp, K., & Lorenz, K. (Eds.).	Handbook of dough fermentations (Vol. 127). Crc Press.	2003	(1-328)	
Obligations, assessment methods and grading system	Type of student evaluation		Grade points	Percentage
	Pre-exam obligations			
	Attendance		6	6 %
	Mid-term test I		20	20 %
	Mid-term test II		20	20 %
	Laboratory exercises		24	24 %
	Final examination			
	Final examination (oral)		30	30 %
	Total		100	100 %
Web page	www.tfzv.ues.rs.ba			
Date	2023			