

Order number: 5

Attachment No. 3		Subject program of the second cycle of studies			
1.	Title of the teaching subject	Quality management and food safety			
2.	Code	FE1M12			
3.	Study program	Food Engineering-Innovation, Sustainability and Technologies			
4.	Organizer of the study program (unit, i.e. institute, department, department)	Faculty of Technology and Metallurgy Institute of Organic Technology Department of Food Technology and Biotechnology			
5.	Degree (first, second, third cycle)	Second cycle			
6.	Academic year / semester	Year	I	semester	I
7	Course load expressed in ECTS credits	6 ECTS			
8.	Teacher (in the case of multiple teachers designated responsible teacher)	Dr. Elena Velichkova Nikova			
9.	Language of instruction	English			
10.	Necessary prerequisites for listening and passing the subject	Knowledge of good laboratory practice, good hygiene practice, HACCP principles and ISO 22000			
11.	Objectives of the subject program (competencies) and learning outcomes:	Objectives of the program: Acquaintance with the structure and function of organizations - manufacturers of food products, as well as with quality assurance systems. Learning outcomes: The student should acquire knowledge about the ways of establishing quality in production, operational plans and procedures, as well as maintaining quality			
12.	Detailed course content by chapter and unit with learning outcomes for each chapter	Definition of food quality. Factors affecting the properties of food, its production, storage and distribution. Management and decision making. Planning and control. Quality assurance. Structure and functioning of a company. Quality as a function of product development. Quality control in the food production chain. Modern approach and methods for determining quality. Quality management and innovation in food production. Quality assurance systems. Good Laboratory Practice (GLP). Hazard Analysis and Critical Control Points (HACCP). ISO series. Organization of a laboratory for the analysis of food products.			
13	Interrelationship of subjects	This subject is related to other subjects from the area			
14.	Detailed description of teaching and working methods for the subject	Interactive theoretical and practical teaching combined with independent work and individual consultations will be applied in all teaching chapters of the course to a varying extent, depending on the number of students. Individual and possibly group or team collaborative and cooperative methods of active learning will be used from the teaching methods. Developing skills for displaying and presenting research according to the latest relevant scientific research in the field of food chemistry and physics.			
15.	Total available fund on time	180			
16.	Forms of teaching activities	16.1.	Lectures - theoretical teaching. hours		45

		16.2.	Exercises (laboratory, classroom), seminars, teamwork: lessons			15	
		16.3.	Practice: classes			30	
17.	Other forms of activities	17.1.	Project assignments: lessons			20	
		17.2.	Independent assignments: lessons			20	
		17.3.	Home study - assignments			80	
18.	Conditions of signature	Realized 60% of activities under number 16 and 17					
19.	Method of assessment						
	19.1.	Tests: points			10 points		
	19.2.	Seminar work/project, written and oral presentation: points			10 points		
	19.3.	Final exam: points			80 points		
20.	Evaluation criteria (points/grade)		up to 50 points		5 (five) (F)		
			51 x to 60 points		6 (six) (E)		
			61 x to 70 points		7 (seven) (D)		
			from 71 to 80 points		8 (eight) (C)		
			from 81 to 90 points		9 (nine) (B)		
			from 91 to 100 points		10 (ten) (A)		
21.	A method of monitoring the quality of teaching		Based on Article 10 para. 5 of the Guidelines for self-evaluation and assessment of the quality of UKIM in Skopje, anonymous surveys of students are conducted on the quality of the teacher and associate staff and an anonymous survey on the general conditions for studying				
22.	Literature						
	22.1.	Required reading					
		Ord. number	Author	Title	Publisher	Year	
		1.	Da Wen Sun	Processing Effects on Safety and Quality of Foods	CRC PressTaylor & Francis Group6000 Broken Sound Parkway NW, Suite 300Boca Raton, FL 33487-2742	2010	
		2.	Luning PA, Marcelis WJ, Jongen WMF	Food Quality Management	Wageningen Academic Publishers, The Netherlands,	2006	
		3.		International standards related to quality assurance in the food industry	Institute for standardization of R. Macedonia	2010-	
	22.2.	Additional literature					
		Ord. number	Author	Title	Publisher	Year	

		1.	Scientific papers from renowned journals from the last five years in the field of food-structure and properties, for each topic of the program
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