

Order number: 16

Attachment No. 3		Subject program of the second cycle of studies			
1.	Title of the teaching subject	Fermentology			
2.	Code	FE2M35			
3.	Study program	Food Engineering-Innovation, Sustainability and Technologies			
4.	Organizer of the study program (unit, i.e. institute, department, department)	TMF			
5.	Degree (first, second, third cycle)	second			
6.	Academic year / semester	Year	1	semester	2
7.	Course load expressed in ECTS credits				
8.	Teacher (in the case of multiple teachers designated responsible teacher*)	Dr. Irina Mladenoska, professor*, Dr. Donka Doneva Shapcheska, professor.			
9.	Language of instruction	English			
10.	Necessary prerequisites for listening and passing the subject				
11.	Objectives of the subject program (competencies) and learning outcomes:				
12.	Detailed course content by chapter and unit with learning outcomes for each chapter	Fermented food (fermented meat products, fermented fruit and vegetable products, fermented beverages, fermented products obtained from cereals, etc.), acidifiers obtained by fermentation and their application in food preservation, yeast production, new technologies in the production of fermented food (genetic engineering, immobilization, etc.), use of high pressure canning, pulsed electric field, and gamma irradiation in fermented food technology products, using thermal and non-thermal processes for preserving unfermented food.			
13.	Interrelationship of subjects				
14.	Detailed description of teaching and working methods for the subject				
15.	Total available fund on time				
16.	Forms of teaching activities	16.1.	Lectures - theoretical teaching. hours		
		16.2.	Exercises (laboratory, classroom), seminars, teamwork: lessons		
		16.3.	Practice: classes		
17.	Other forms of activities	17.1.	Project assignments: lessons		
		17.2.	Independent assignments: lessons		
		17.3.	Home study - assignments		
18.	Conditions of signature				
19.	Method of assessment				
	19.1.	Tests: points			
	19.2.	Seminar work/project, written and oral presentation: points			
	19.3.	Final exam: 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					
22.	Literature					
	22.1.	Required reading				
		Ord. number	Author	Title	Publisher	Year
		1.	Sandeep Kumar Panda, Prathapkumar Halady Shetty	Innovations in technologies for fermented food and beverage industries	Springer	2018
		2.				
		3.				
		22.2.	Additional literature			
	Ord. number		Author	Title	Publisher	Year
	1.					
	2.					
	3.					