Attachment no. 3	Course program of the first, second and third cycle of studies				
1.	Subject	**TRENDS IN FOOD TECHNOLOGY OF ANIMAL ORIGIN**			
2.	Code	**ITHN - 12**			
3.	Study Program	**Innovative technologies on food and nutrition**			
4.	Study Program organized	Faculty of Technology and Technical Science- Veles			
5.	Degree (first, second, third cycle)	Phd			
6.	Academic year/ semester	1 / II	7.	Number of EKTC credits	5
8.	Professor	Prof. d-r Ljupce Kocoski Doc. d-r Tatjana Kalevska			
9.	Precondition for taking the subject	II (second) cycle of studies			
10.	**Objectives/Competence:** Broadening knowledge about emerging trends in production technologies of food of animal origin				
11.	**Program Content:** Meaning and nutritional properties of milk and meat in human nutrition. Defining the quality of milk and meat. Factors that determine the quality of milk and meat. Developing techniques for improving the quality of milk and meat. Production of dairy and meat products. Contemporary trends for the production of functional dairy and meat products. Technological aspects of application of functional additives and starter cultures in the production of dairy and meat products. Whey utilization. Nutritional, therapeutic and functional properties of whey. The role of whey in the production of functional dairy products. Whey based beverages. Application of membrane procedures for the concentration of milk and whey. Trends in cheese production technologies. Deficiencies (shortcomings) of cheese. The application of sensory analysis in the development of new products.				
12.	**Methods of learning: audiovisual** Theory teaching: interactive (lectures with discussion and student engagement or individual classes depending on the size of the group) Practical teaching: exercises and other forms of work Seminar work: learning by using professional literature and internet, preparation of seminar work; presentation and discussion about seminar work				
13.	Time fund	150 hours			
14.	Time distribution	50+30+30+10+30=150			
15.	Teaching activities	15.1.	Lectures- theoretical instruction	50 hours	
		15.2.	Exercises (laboratory, auditorium), seminars, teamwork	30 hours	
16.	Other forms of activities	16.1.	Project exercises	30 hours	
		16.2.	Independent exercises	10 hours	
		16.3.	Home studying	30 hours	
17.	Way of estimation the results				
	17.1.	Tests/oral exam	80 points		
	17.2.	Seminars/ Project (presentation: written and oral)	10 points		
	17.3.	Activity/Participation in discussions	10 points		

18.	Evaluation Criteria (points/ grades)	to 50 points	5 (five) (F)
		од 51 to 60 points	6 (six) (E)
		from 61 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)
19.	Precondition for going to final exam	Developed project and conducted research	
20.	Language of teaching	Macedonian	
21.	Method of monitoring the quality of teaching	Evaluation questionnaires	

22.	Literature					
	22.1.	Compulsory literature				
		Number	Author	Title	Publisher	Year of publishing
		1.	Valustra P.,Vuters J.T.M.,Gerts T.J	Nauka i tehnologija na mleko	Ars Lamina Skopje	2012
		2.	Keri J., Ledvur D.,	Prerabotka na meso (podobruvanje na kvalitetot)	Ars Lamina Skopje	2011
		3.	Smit G.	Dairy processing: Improving quality.,	Woodhead Publishing Limited & CRC Press LCC, New York	2003
		4	Lawrie, R.A.	Meat Science	Woodhead Publishing Limited, Cambridge	2002
		5.	L.M.L. Nollet and F. Toldra	Advanced technologies for meat processing	Boca Raton, FL: CRC Press, Taylor & Francis Group.	2006
		6.	Ljubica Tratnik	Mleko, tehnologija, biohemija i mikrobiologija	Hrvatska mljekarska udruga	1998
		7.				
	22.2.	Additional literature				
		Number	Author	Title	Publisher	Year of publishing
		1.	P.L.H Mc Sveeney	Cheese problems solved	Woodhead Publishing Limited Cambridge	2007
		2.	Nielsen W.K.	Membrane filtration and related molecular separation technologies	APV Systems, Denmark.	2000
		3.	Muguerza E., Gimeno, O., Ansorena D., Astiasaran, I.	New Formulations for Healthier Dry Fermented Sausage: a review	Trends in Food Sci. and Technol.	2004

		4.	Dominique V, Christelle P, Dzung Hoang Nguyen, Delores, Chambers & Hervé Abdi	Integrating sensory evaluation into product development	Proceedings of SPISE Vietnam, July 24-26,	2012
		5.	Robinson K.R.	Dairy Microbiology Handbook	John Wiley and Sons Inc., New York.	2002
		6.	Benkouider C.	Functional foods	British Journal of Nutritio	2004