## DEPARTMENT OF FOOD TECHNOLOGY AND PROCESSING OF ANIMAL PRODUCTS

Study programme: Processing and control of animal products DIPLOMA: MASTER OF AGRICULTURAL SCIENCES

CODE	I SEMESTER – FIRST YEAR							
	Compulsory course	Credits	Classes	Total				
2ZF230112	Methods in scientific research work	8	3+2+2	216				
2ZF210112	Biochemistry of meat	8	3+2+2	216				
2ZF230212	Biostatistics	6	2+2+1	156				
	Faculty elective course	4	2+1+1	120				
	Faculty elective course	4	2+1+1	120				
Total:		30	12+8+7	828				

CODE	E II SEMESTER – FIRST YEAR							
	Compulsory course	Credits	Classes	Total				
2ZF210212	Fermented meat products	8	3+2+2	216				
2ZF210312	Meat production	8	3+2+2	216				
2ZF210412	Machines in the industry for animal products	6	2+2+1	156				
	Faculty elective course	4	2+1+1	120				
	Faculty elective course	4	2+1+1	120				
	Total:	30	12+8+7	828				

CODE	III SEMESTER – SECOND YEAR							
	Compulsory course	Credits	Classes	Total				
2ZF210512	Production of finished dishes of meat	8	3+2+2	216				
2ZF210612	Food safety	8	3+2+2	216				
2ZF201612	Diseases and pests of field crops	8	2+2+1	156				
	University elective course	6	2+2+1	156				
	Total:	30	11+8+7	804				

CODE	IV SEMESTER – SECOND YEAR						
	Compulsory course	Credits	Classes	Total			
	Master thesis	30	0+0+26	818			
	Total:	30	0+0+26	818			

CODE	Faculty elective course I semester			
2ZF210712	Control of animal products	4	2+1+1	120
2ZF210812	Production and knowledge of milk	4	2+1+1	120
2ZF210912	Organic production of animal products	4	2+1+1	120
2ZF205112	Boiled and semi permanent products of meat	4	2+1+1	120
	Faculty elective course II semester			
2ZF211012	Meat canning	4	2+1+1	120
2ZF211112	Milk and fermented dairy products	4	2+1+1	120

2ZF211212 Fundamentals of management	4	2+1+1	120
2ZF211312 Growing of species, aromatic and medical herbs	4	2+1+1	120

Арр	endix No.3 Syllabus fo	r the fi	rst, second and	third	cycle of stuc	ly					
1.	Course title		METHODS IN S	CIEN	TIFIC RESEA	RCH WORK					
2.	Course code		2ZF230112								
3.	Study programme		Processing and control of animal products								
4.	Organizer of the study		Department of fo	ood te	chnology and	processing					
	programme (faculty, institu	ute,	of animal produc	cts, Fa	aculty of Agricu	ulture,					
	group)		University "Goce	e Delc	ev"- Stip						
5.	Level (first, second, third		Second cycle								
	cycle)										
6.	Academic year / semester		First year / I	7.	Number of	8					
			semester		ECTS credits						
8.	Professor		Prof. Ilija Karov	/ PhD							
9.	Preconditions for course		No								
	enrollment										
10.	Goals of the course progr					•					
	science, the scientific resear	rch met	hods and charac	cterist	ics that should	possess the					
	scientific worker.										
11.	Content of the course prog	•									
	Content of lectures: 1. Im	•				•					
	scientific work, 3. Methodology of research 4. Literature and working hypo										
	Planning of experiment 6.		•	•		•.					
	experimental technique of fie	•			• •						
	the experimental technique		••	•	-						
	in containers 10. Processin	•			•	•					
	master's, specialist and scien	ntific pa	apers and citing	the lite	erature 12. Pre	eparation of a					
	scientific paper for printing.	المغمم والرب	ation 0. Catting	با ممالد		Otivalisia av the a					
	Content of exercises: 1.		•		••						
	literature 4. Performing of e	•			•	•					
	Experiment in containers 8		•	•							
	obtained results 10. Literature citation, 11. Writing a scientific paper 12. Presenting a										
12.	scientific paper. Methods of study: lecture	oc tha	oratical and pr	actica		oncultations					
12.	independent paper work, hor		•								
	tests, consultations.	ne leal	ining, preparatory	1003							
13.	Total amount of available t	ime	216 hours								
14.	Distribution of the available		3+2+2								
	time	C	51212								
15.	Forms of teaching	15.1.	Lectures - theo	oretica	al training	3					
	activities	15.2.	Exercises (labo		÷	2					
			workshops, out	•							
			teamwork		-						
16.	Other forms of activities	16.1.	Team projects			1					
				-1-							
		10.Z.	Individual broie	CIS		1					
		16.2. 16.3.	Individual proje			1					

	4 - 4				~~			
	17.1.	```		m, electronic testing)	30			
	17.2.	Project a	activities (oral and wi	ritten presentation)	50			
	17.3.	Other for	rms of studying activ	rities	20			
18.	Criter	ia for ass	essment (points /	to 50 points	5 (five)	(F)		
	grade	)		from 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.		ition for g		60% of term activities,	•	and		
	signa exam	ture and t	taking the final	attending to lectures ar	nd discussions			
20.	Langı condı	-	hich classes are	Macedonian				
21.			nitoring the	Self-evaluation				
2		y of instr	-					
22.	Litera							
	Compulsory literature							
			Author	Title	Publisher	Year		
		No.	Addition			i cai		
		1.	Проф. д-р. Илија	Методи на научно	УГД-Штип	2010		
			Каров, Асс.	истражувачката				
	22.1.		Билјана	работа (скрипта)				
	22.1.		Ковачевиќ					
		2.	Ketryn L. Allen	Study skills. A student	Goce Delcev	2010		
				survival guide.	University,			
				(translation of the	Stip			
				Macedonian				
				language)				
		Addition	nal literature					
		Ordinal	Author	Title	Publisher	Year		
	00.0	No.						
	22.2.	1.	Dr. Slavko Borojev		Radnicki	1974		
				eksperimentalnog	Univerzitet			
				naucnog rada	"Radivoj			
					Cirpanov"			

Арр	Appendix No.3 Syllabus for the first, second and third cycle of study					
1.	Course title		Biochemistry of meat			
2.	Course code		2ZF221012			
3.	Study programme		Processing and controlling of animal products			
4.	Organizer of	the study	Department of food technology and processing			
	programme (	faculty, institute,	of animal products, Faculty of Agriculture,			
	group)		University "Goce Delcev"- Stip			
5.	Level (first, s	econd, third cycle)	Second cycle			

6.	Academic year / semester		First year/ second semester	7.	Number of EC credits	TS	8
8.	Professor		Prof. Rubin Gula Koleva-Gudeva,			ljana	
9.	Preconditions for course enrollment		No				
10.	Goals of the course progra biochemistry	amme: \$	Students are intro	oduc	ed to the basics	s of m	neat
11.	Content of the course prop Lectures: 1. Introduction to 2. Chemical structure of the in the meat; 5. Carbohydrate meat; 8. Post-mortal chang slaughtering of the animals; 12. Toxins in the meat. <b>Practices:</b> 1. Introduction; Determination of water Determination of lipids in me 7. Determination of enzy Electrophoresis: 10. Deter Determination of ATP in me	biochem meat; 3 es in the es in the 10. Nuc 2. Metl in mea eat; 6. Cl me acti erminatio	histry; Basic organ Mineral matters meat; 6. Amino e meat; 9. Chem cleic acids; 11. Me hods for determ at; 4. Carbohyd hromatographic c vities; 8. Kineti on of seconda	and acida ical ethal inati drate leter cs cs	a water in the m s and proteins p processes in th bolitic pathways on of functiona es-chemical pr mination of prot of enzymatic m metabolites in	eat; <sup>2</sup> presente s in the al groupert eins i reacti	4. Lipids nt in the eat after ne meat; oups; 3. ties; 5. in meat; ons; 9.
12.	Methods of study: Lectures, Laboratory exe consultations.	ercises,	e-learning, in	divic	lual and tea	m p	orojects,
13.	Total amount of available		216 hours				
14.	Distribution of the availab	le time	3+2+2+				
15.	0		Lectures - theo	pretical training		r	
.0.	_	15.1.		non	artraining	3	classes weeklv
.0.	activities	15.2.	Exercises (labo workshops, out teamwork	orato	ry, auditory),		classes weekly classes weekly
16.	_		Exercises (labo workshops, out	orato	ry, auditory),		weekly classes weekly 1 class
	activities	15.2.	Exercises (labo workshops, out teamwork	rato reac	ry, auditory),		weekly classes weekly
	activities	15.2.	Exercises (labo workshops, out teamwork Team projects	reac	ry, auditory),		weekly classes weekly 1 class weekly 1 class
	activities	15.2. 16.1. 16.2.	Exercises (labo workshops, out teamwork Team projects Individual proje	reac	ry, auditory),		weekly classes weekly 1 class weekly 1 class
16.	activities         Other forms of activities         Forms of assessment         17.1.       Exams (midterm example)	15.2. 16.1. 16.2. 16.3. ms, exa	Exercises (labo workshops, out teamwork Team projects Individual proje Individual study	orato reac cts /	ry, auditory), h and		weekly classes weekly 1 class weekly 1 class weekly 30
16.	activities         Other forms of activities         Forms of assessment         17.1.       Exams (midterm example)         17.2.       Project activities (or and the second sec	15.2. 16.1. 16.2. 16.3. ms, exa	Exercises (labo workshops, out teamwork Team projects Individual proje Individual study m, electronic tes	orato reac cts /	ry, auditory), h and		weekly classes weekly 1 class weekly 1 class weekly 30 50
16.	activities         Other forms of activities         Forms of assessment         17.1.       Exams (midterm exa         17.2.       Project activities (ora         17.3.       Other forms of study	15.2. 16.1. 16.2. 16.3. ms, exa al and wi ing activ	Exercises (labo workshops, out teamwork Team projects Individual proje Individual study m, electronic tes ritten presentation	orato reac cts /	ry, auditory), h and	2	weekly classes weekly 1 class weekly 1 class weekly 30
16.	activities         Other forms of activities         Forms of assessment         17.1.       Exams (midterm example)         17.2.       Project activities (orange)         17.3.       Other forms of study         Criteria for assessment (provide)	15.2. 16.1. 16.2. 16.3. ms, exa al and wi ing activ	Exercises (labo workshops, out teamwork Team projects Individual proje Individual study m, electronic tes ritten presentation rities up to 50 points	cts ring)	ry, auditory), h and 5( five) (F)	2	weekly classes weekly 1 class weekly 1 class weekly 30 50
16.	activities         Other forms of activities         Forms of assessment         17.1.       Exams (midterm exa         17.2.       Project activities (ora         17.3.       Other forms of study	15.2. 16.1. 16.2. 16.3. ms, exa al and wi ing activ	Exercises (labo workshops, out teamwork Team projects Individual proje Individual study m, electronic tes ritten presentation	reac reac cts ( ting) n)	ry, auditory), h and 5( five) (F) 6( six) (E)	2	weekly classes weekly 1 class weekly 1 class weekly 30 50

					from 81 to	90 points	9(nine)	(B)			
					from 91 to	(A)					
19.	Cor	ndition for	r getting a si	gnature		n activities, p	. ,				
			e final exam		attending to lectures and discussions						
20.		guage in ducted	which class	es are	Macedonia	n					
21.	Met	hod of m	onitoring the	•	Self-evalua	tion, anonyn	n polls				
	qua	lity of ins	truction				-				
2	Liter	ature									
2.		Compulsory literature									
		Ordinal No.	Author	-	Title	Publis	her	Year			
	22. 1.	22. 1 Gulaboski, man Liljana stude Koleva- Delc Gudeva Stip, free WWW		students Delcev I Stip, ava free form <u>www.rub</u>	ript for the s of Goce Jniversity- ailable in	Rubin Gula Liljana Kole Gudeva		Biochemistry, manuscript for the students of Goce Delcev University- Stip, available in free form at <u>www.rubingul</u> <u>aboski.syntha</u> <u>site.com</u>			
		2.	Devlin, T.	clinical	k of histry with ons, 4th ed	Wiley & So pub.New Y		1997			
		-									
			al literature			I					
		Ordinal No.	Author	-	Title	Publis	her	Year			
	22.	1.	Rubin Gulaboski	in ppt fo available format o <u>www.rut</u>	e in free	UGD		2010			
	2.	2.	Rubin Gulaboski, Liljana Koleva- Gudeva	students Delcev I Stip, ava free form <u>www.rub</u>	ript for the s of Goce Jniversity- ailable in	UGD		2010			
		3.	J. Mc Mury	Organic	Chemistry	Willey		2010			

Арр	endix No.3 Syllabus for th	e first,	second and third cy	/cle	of study			
1.	Course title		BIOSTATISTICS					
2.	Course code		2ZF230212					
3.	Study programme:		Processing and controlling of animal					
			products					
4.	Organizer of the study		Department of food te	echn	ology and	proce	essing	
	programme (faculty, institu	ite,	of animal products, Faculty of Agriculture,					
	group)		University "Goce Delcev"- Stip					
5.	Level (first, second, third c	ycle)	Second cycle					
6.	Academic year / semester		Second year/ 7.	Nur	nber of EC	CTS	6	
			first semester	cree	dits			
8.	Instructor		Prof. Tatjana Atanas	sova	Pacemsk	a, Ph	D	
9.	Preconditions for course enrollment							
10.	Goals of the course progra	amme:	Getting more detaile	d kn	owledge fo	or the	use of	
	statistical methods in agricult	ural pra	actice					
11.	Content of the course prog	ramme	):					
	Content of lectures:							
	1. Introduction to statistics (							
	techniques 3. Types of statis		•	-			-	
		distribution 6. Discrete equal distribution. 7. Elements of statistical conclusion. 8.						
	T test and F test 9. Analys		. ,		•			
	factorial experiment 11. Line	•		ו 12.	Experime	ntal L	Design -	
	practical application of metho	ods in a	gricultural research.					
	Content of exercises:							
	1. Mathematics and statistic							
	Types of statistical method		-	-	-			
	variability and distribution 6 conclusion. 8. T test and F		•					
	experiment, two factorial e		2		,			
	Experimental Design - practic	•						
12.	Methods of study:			agin	Juiturai 103	carci		
12.	Lectures, theoretical and pra	ctica av	arcises consultations	e inc	lividual wo	rk• hc	me	
	learning; preparatory classes							
13.	Total amount of available t		156 hours		Shouldation	,		
14.	Distribution of the available	-	2+2+1					
15.	Forms of teaching	15.1.	Lectures - theoretic	al tra	ainina	2		
	activities	15.2.	Exercises (laborator		Ų	2		
			workshops, outreach			-		
			teamwork		-			
16.	Other forms of activities	16.1.	Team projects			1		
		16.2.	Individual projects			-		
		16.2						
1		16.3.	Individual study			-		
17.	Forms of assessment							
17.	Forms of assessment 17.1. Exams (midterm exar	ns, exa	m, electronic testing)		30			
17.			<b>U</b> ,		30 50			
17.	17.1. Exams (midterm exar	and wr	itten presentation)					

18.	Criter	ia for ass	sessment (points /	to 50 points	5 (five)	(F)	
	grade	)		from 51 to 60 points	from 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 point	s 10 (ten)	(A)	
19.	Cond	ition for g	getting a signature	60% of term activitie	s		
			final exam				
20.	Langu condu		hich classes are	Macedonian			
21.	Metho	od of mor	nitoring the	Self-evaluation			
	qualit	y of instr	uction				
22.	Litera	ture					
·		Compu	sory literature				
		Ordinal No.	Author	Title	Publisher	Year	
	22.1.	1.	Graham Currell,	Essential		2009	
			Antony Dowman	mathematics			
				and statistics for			
				science			
	2. Nelmut van Emden		Statistics for		2008		
			terrified				
				biologists			
		3.	Calvin Dytham	Choosing and		2003	
				Using			
				Statistics			

Арр	endix No.3	Syllabus	for the first, second a	nd tl	hird cycle of stud	у		
1.	Course title		CONTROL OF ANIMAL PRODUCTS					
2.	Course code		2ZF221512					
3.	Study program	nme	Processing and contro	ol of	animal products			
4.	Organizer of t	he study	University "Goce Delč	ev" -	- Štup, Faculty of			
	programme (fa	aculty, institute,	Agriculture, Departme	nt of	food technology a	nd		
	group)		processing of animal p	orod	ucts			
5.	Level (first, se	cond, third	Second cycle					
	cycle)							
6.	Academic yea	ar / semester	First year/ first	7.	Number of	4		
			semester		ECTS credits			
8.	Professor		Assistant Professor Violeta Ivanova-Petropulos,					
			PhD					
			Prof. Trajce Presilski,	PhD				
9.	Preconditions	for course	/					
	enrollment							
10.	Goals of the	course program	me: Acquiring knowled	lge a	and skills for the c	hemical		
	and microbiol	ogical methods for	r control of various com	pour	nds and microorgar	nisms in		
	foods of anima	al origin.						
11.	Content of th	e course progra	mme:					

12.	<ul> <li>A) Content of lectures: 1. Intro 3. Definition of quality control meat products for analysis; 5 Determination of water in for determination of minerals; methods for determination Methods for determination determination of proteins; ingredients in the food-HPLC products; 12. Sensory analy</li> <li>B) Content of exercises: 1 Determination of total moister using drying methods; 3. Por Determination of total com Determination of proteins in chromatography for deterned bacteriological examination examination of animal production 10. Conditions for sensory attest - a practical example.</li> <li>Methods of study: Lectures atteam projects; e-learning.</li> </ul>	ol, star 5. San od, wa 7. Pr of ca 10. In C, GC sis of L. Intr ure co blarime tent co minat of a ucts; s analys	ndards, measurements; npling milk and and milk ater properties, chemical roperties of carbohydra arbohydrates in foods; lipids; 9. Proteins, pro- nstrumental methods of and AAS; 11. Microbiolo animal products. roduction to laboratory ontent and content of mir etric determination of cal of lipids in food using d with Kjeldahl method; ion of polyphenols in nimal products; 8. Qua 9. Sensory analysis - typ sis; 11. Methods of sens	4. San produ l and tes (s 8. Pro roperti f anal ogical meral s rbohyd extrac 6. Ap food antitati bes of sory a	npling of meat and cts for analysis; 6. physical methods, sugars), Chemical operties of lipids, es, Methods for lysis of the main analysis of animal lysis of food; 2. substances in food drates in foods; 4. ction methods; 5. oplication of liquid d; 7. Qualitative ve bacteriological sensory analysis; nalysis; 12. Penel	
13.	Total amount of available time	е	120			
14.	Distribution of the available ti	ime	2+1+1			
15.	Forms of teaching activities	15.1		l	2	
		15.2	auditory), workshops	training Exercises (laboratory, auditory), workshops, outreach and teamwork		
16.	Other forms of activities	16.1	. Team projects		-	
		16.2	. Individual projects		0.5	
		16.3	. Individual study		0.5	
17.	Forms of assessment	<u>.</u>	1			
	17.1. Exams (midterm exams,	exan	n, electronic testing)		70	
	17.2 Project activities (oral ar	nd writ	ten presentation)		10	
	17.3. Other forms of studying	activit	ies		20	
18.	Criteria for assessment (poin	ts /	to 50 points	5 ( fi	ve) (F)	
	grade)		from 51 to 60 points	6 ( s	ix) (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.	Condition for getting a signature and taking the final exam	60% of term activities, p attending to lectures an	•	
20.	Language in which classes are conducted	Macedonian		
21.	Method of monitoring the quality of instruction	Self-evaluation		

22.	Literat	ture				
		Compul	sory literature			
		Ordinal No.	Author	Title	Publisher	Year
	22.1.	1. Semih Otles		Handbook of Food Analysis Instruments	CRC Press	2008
		2.	Violeta Ivanova- Petropulos	Authorized lectures of Control of animal products, for the students at Faculty of Agriculture	UGD - Stip	2012
		Additiona	al literature			
		Ordinal No.	Author	Title	Publisher	Year
	22.2.	1.	Borislav Gingleski	Meat and meat products	Ss. Cyril and Methodius University, Skopje	1985
		2.	M. Karic, S. Milanovic, D. Vukela	Standard methods for analysis of milk and milk products	Faculty of Technology, Novi Sad	2005

Apj No.	oendix 3	Syllabus	for the first, second and third cycle of study
1.	Course title		Production and composition of milk
2.	Course cod	e	2ZF221612
3.	Study prog	ramme	Module: Processing of Animal Products

	Organizer of the study		Faculty of Agricu	ulture	e.	Dep	bartme	ent for		
	programme (faculty, institute,		Processing of A			•				
	group)		5							
5.	Level (first, second, third cycl	e)	Second cycle							
6.	Academic year / semester	,	First / I	7.		Num cred		f ECT	S	4
8.	Professor		Prof. Stevce Pre	silsk	ki,	Ph[	)			
9.	Preconditions for course		Knowledge from biology, anatomy, physiology,							
	enrollment		biochemistry and							•••
10.	Goals of the course program									
	The course programme aims to introduce students with biosynthesis of milk, factors that determine the quality and ways of milking machines and equipment manipulation milk									
11.	Content of the course program Content of the lectures: 1. Economic significance of the milk dairy constants, physical technological properties 3. P ways of milking, milking vest constants of milk, their proof, and methods for determining and transportation of sample strains of bacteria and residu ways of continuing the same conventional and unconvention	he dairy al cher reparat ssels, k and tra the ac es to ar les in n (physic onal sol	nical, nutritional, tion of workers a oows cooling an iditional active ad idity of milk, taki n independent la nilk. 6. Concept al, chemical and urces, such as ve	imr and a id tra cidity ng tl abora of ba biol egeta	mi ar ar y, he ac lo( ab	unol nima nspo rapio e me ory = cteric gical le ai	ogical ls - m ort of ⊣ d field edian t 5. Sor cidal p ). 7 Ty nd mill	and t ilk gla milk. 4 titratic test, pi matic ohase o ypes o k with h	the nd 4. 1 on r res cell of r f m	rapeutic milking, Physical nethods ervation ls, initial milk and ilk: from
	and physical and chemical of milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical of acidity and laboratory determ and their preparation; field	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination	. Types of falsifi 11 Methods for of the chilled con for manipulation <b>d laboratory):</b> ts of milk (wate of acidity of milk	deter ditio of m r, dr ; acc	on rm on. nill ry qu	of ninin 12 k mat aint	milk a g of fro . anita tter); p ance v	and the eshnes ation practic with pu	eir s a cor al ıre	ssing of ways of nd ways ntainers, proof of cultures
10	milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical c acidity and laboratory determ and their preparation; field Occupational Medicine	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination	. Types of falsifi 11 Methods for of the chilled con for manipulation <b>d laboratory):</b> ts of milk (wate of acidity of milk	deter ditio of m r, dr ; acc	on rm on. nill ry qu	of ninin 12 k mat aint	milk a g of fro . anita tter); p ance v	and the eshnes ation practic with pu	eir s a cor al ıre	ssing of ways of nd ways ntainers, proof of cultures
12.	milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical c acidity and laboratory determ and their preparation; field Occupational Medicine Methods of study:	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination work	. Types of falsifi 11 Methods for of the chilled con for manipulation of laboratory): ts of milk (wate of acidity of milk in an independ	catio deter ditio of m r, dr ; acc lent	on rm on. nill ry qu	of ninin 12 k mat aint abor	milk a g of fro . anita tter); p ance v atory	and the eshnes ation practic with pu and I	eir s a cor al ire ns	ssing of ways of nd ways ntainers, proof of cultures titute of
12.	milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical c acidity and laboratory determ and their preparation; field Occupational Medicine Methods of study: Lectures, Theoretical exercise	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination work es, Lab	. Types of falsifi 11 Methods for of the chilled con for manipulation of laboratory): ts of milk (wate of acidity of milk in an independ oratory exercises	catio deter ditio of m r, dr ; acc lent s, E-	on rm on. nill ry qu	of ninin 12 k mat aint abor	milk a g of fro . anita tter); p ance v atory	and the eshnes ation practic with pu and I	eir s a cor al ire ns	ssing of ways of nd ways ntainers, proof of cultures titute of
	milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical c acidity and laboratory determ and their preparation; field Occupational Medicine Methods of study: Lectures, Theoretical exercise projects, consultations for the	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination work es, Lab	. Types of falsifi 11 Methods for of the chilled con for manipulation of <b>laboratory):</b> ts of milk (wate of acidity of milk in an independ oratory exercises xam, Final exam	catio deter ditio of m r, dr ; acc lent s, E-	on rm on. nill ry qu	of ninin 12 k mat aint abor	milk a g of fro . anita tter); p ance v atory	and the eshnes ation practic with pu and I	eir s a cor al ire	ssing of ways of nd ways ntainers, proof of cultures titute of
13.	milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical c acidity and laboratory determ and their preparation; field Occupational Medicine Methods of study: Lectures, Theoretical exercise projects, consultations for the Total amount of available time	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination work es, Lab e final e	. Types of falsifi 11 Methods for of the chilled con for manipulation of <b>laboratory):</b> ts of milk (wate of acidity of milk in an independ oratory exercises xam, Final exam 120 hours	catio deter ditio of m r, dr ; acc lent s, E-	on rm on. nill ry qu	of ninin 12 k mat aint abor	milk a g of fro . anita tter); p ance v atory	and the eshnes ation practic with pu and I	eir s a cor al ire	ssing of ways of nd ways ntainers, proof of cultures titute of
13. 14.	milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical c acidity and laboratory determ and their preparation; field Occupational Medicine Methods of study: Lectures, Theoretical exercise projects, consultations for the Total amount of available time	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination work es, Lab e final e e me	. Types of falsifi 11 Methods for of the chilled con for manipulation <b>d laboratory):</b> ts of milk (wate of acidity of milk in an independ oratory exercises xam, Final exam 120 hours 2+1+1	catio deter ditio of m r, dr ; acc lent s, E-	on rm nill ry qu la	of ininin 12 k mat ainta abor arni	milk a g of fro . anita tter); p ance v atory ng, inc	and the eshnes ation practic with pu and I	eir s a cor al ire	ssing of ways of nd ways ntainers, proof of cultures titute of nd team
13.	milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical c acidity and laboratory determ and their preparation; field Occupational Medicine Methods of study: Lectures, Theoretical exercise projects, consultations for the Total amount of available time	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination work es, Lab e final e e me 15.1.	Types of falsifi 11 Methods for of the chilled con for manipulation <b>d laboratory):</b> ts of milk (wate of acidity of milk in an independ oratory exercises xam, Final exam 120 hours 2+1+1 Lectures - the	catio deter ditio of m r, dr ; acc lent s, E- n.	on rm nill ry la -le	i of iinin 12 k mat ainta abor arni arni	milk a g of fro . anit: ance v atory ng, inc	and the eshne: ation practic with pu and l dividua	eir s a cor al ire	ssing of ways of nd ways ntainers, proof of cultures titute of nd team
13. 14.	milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical c acidity and laboratory determ and their preparation; field Occupational Medicine Methods of study: Lectures, Theoretical exercise projects, consultations for the Total amount of available time	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination work es, Lab e final e e me	. Types of falsifi 11 Methods for of the chilled con for manipulation <b>Id laboratory):</b> ts of milk (wate of acidity of milk in an independ oratory exercises xam, Final exam 120 hours 2+1+1 Lectures - theo Exercises (labo	catio deter ditio of m r, dr ; acc lent s, E- n. 	on rm nill ry qu la -le	i of hinin 12 k mat ainta abor arni al tra	milk a g of fro . anita tter); p ance v atory ng, ino <u>ining</u> ditory	and the eshne: ation practic with pu and l dividua	eir s a cor al ire	ssing of ways of nd ways ntainers, proof of cultures titute of nd team
13. 14.	milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical c acidity and laboratory determ and their preparation; field Occupational Medicine Methods of study: Lectures, Theoretical exercise projects, consultations for the Total amount of available time	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination work es, Lab e final e e me 15.1.	. Types of falsifi 11 Methods for of the chilled con for manipulation <b>d laboratory):</b> ts of milk (wate of acidity of milk in an independ oratory exercises xam, Final exam 120 hours 2+1+1 Lectures - theo Exercises (labo	catio deter ditio of m r, dr ; acc lent s, E- n. 	on rm nill ry qu la -le	i of hinin 12 k mat ainta abor arni al tra	milk a g of fro . anita tter); p ance v atory ng, ino <u>ining</u> ditory	and the eshne: ation practic with pu and l dividua	eir s a cor al ire	ssing of ways of nd ways ntainers, proof of cultures titute of nd team
13. 14. 15.	milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical c acidity and laboratory determ and their preparation; field Occupational Medicine Methods of study: Lectures, Theoretical exercise projects, consultations for the Total amount of available tim Distribution of the available tim	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination work es, Lab e final e e me 15.1. 15.2.	. Types of falsifi 11 Methods for of the chilled con for manipulation <b>d laboratory):</b> ts of milk (wate of acidity of milk in an independ oratory exercises xam, Final exam 120 hours 2+1+1 Lectures - theo Exercises (labo workshops, out teamwork	catio deter ditio of m r, dr ; acc lent s, E- n. 	on rm nill ry qu la -le	i of hinin 12 k mat ainta abor arni al tra	milk a g of fro . anita tter); p ance v atory ng, ino <u>ining</u> ditory	and the eshne: ation practic with pu and l dividua	eir s a cor al ire	ssing of ways of nd ways ntainers, proof of cultures titute of nd team 2 1
13. 14.	milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical c acidity and laboratory determ and their preparation; field Occupational Medicine Methods of study: Lectures, Theoretical exercise projects, consultations for the Total amount of available time	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination work es, Lab e me 15.1. 15.2. 16.1.	. Types of falsifi 11 Methods for of the chilled con for manipulation <b>d laboratory):</b> ts of milk (wate of acidity of milk in an independ oratory exercises xam, Final exam 120 hours 2+1+1 Lectures - theo Exercises (labo workshops, out teamwork Team projects	catio deter ditio of m r, dr ; acc lent s, E- n. Dretio prato treac	on rm nill ry qu la -le	i of hinin 12 k mat ainta abor arni al tra	milk a g of fro . anita tter); p ance v atory ng, ino <u>ining</u> ditory	and the eshne: ation practic with pu and l dividua	eir s a cor al ire	ssing of ways of nd ways ntainers, proof of cultures titute of nd team 2 1 0.5
13. 14. 15.	milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical c acidity and laboratory determ and their preparation; field Occupational Medicine Methods of study: Lectures, Theoretical exercise projects, consultations for the Total amount of available tim Distribution of the available tim	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination work es, Lab e me 15.1. 15.2. 16.1. 16.2.	. Types of falsifi 11 Methods for of the chilled con for manipulation <b>d laboratory):</b> ts of milk (wate of acidity of milk in an independ oratory exercises xam, Final exam 120 hours 2+1+1 Lectures - theo Exercises (labo workshops, out teamwork Team projects Individual proje	catio deter ditio of m r, dr ; acc lent s, E- n. Dretio prato treac	on rm nill ry qu la -le	i of hinin 12 k mat ainta abor arni al tra	milk a g of fro . anita tter); p ance v atory ng, ino <u>ining</u> ditory	and the eshne: ation practic with pu and l dividua	eir s a cor al ire	ssing of ways of nd ways ntainers, proof of cultures titute of nd team 2 1
13. 14. 15. 16.	milk, procedures and operat proving. 10. Standardization of of proving the storage of m machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical of acidity and laboratory determ and their preparation; field Occupational Medicine Methods of study: Lectures, Theoretical exercise projects, consultations for the Total amount of available tim Distribution of the available tim Distribution of the available tim Other forms of activities	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination work es, Lab e me 15.1. 15.2. 16.1.	. Types of falsifi 11 Methods for of the chilled con for manipulation <b>d laboratory):</b> ts of milk (wate of acidity of milk in an independ oratory exercises xam, Final exam 120 hours 2+1+1 Lectures - theo Exercises (labo workshops, out teamwork Team projects	catio deter ditio of m r, dr ; acc lent s, E- n. Dretio prato treac	on rm nill ry qu la -le	i of hinin 12 k mat ainta abor arni al tra	milk a g of fro . anita tter); p ance v atory ng, ino <u>ining</u> ditory	and the eshne: ation practic with pu and l dividua	eir s a cor al ire	ssing of ways of nd ways ntainers, proof of cultures titute of nd team 2 1 0.5
13. 14. 15.	milk, procedures and operat proving. 10. Standardization of of proving the storage of r machinery, equipment and fa <b>Content of exercises (pract</b> Determination of chemical c acidity and laboratory determ and their preparation; field Occupational Medicine Methods of study: Lectures, Theoretical exercise projects, consultations for the Total amount of available tim Distribution of the available tim	ions. 9 of milk. nilk in cilities <b>ical an</b> onstan ination work es, Lab e me 15.1. 15.2. 16.1. 16.2. 16.3.	. Types of falsifi 11 Methods for of the chilled con for manipulation <b>id laboratory):</b> ts of milk (wate of acidity of milk in an independ oratory exercises xam, Final exam 120 hours 2+1+1 Lectures - theo Exercises (labo workshops, out teamwork Team projects Individual proje Individual study	catic deter ditio of m r, dr ; acc lent s, E- n. Dretic prato treac	on rmon. nill ry qu la -le ca ory ch	i of hinin 12 k mat ainta abor arni al tra	milk a g of fro . anita tter); p ance v atory ng, ino <u>ining</u> ditory	and the eshne: ation practic with pu and l dividua	eir s a cor al ire	ssing of ways of nd ways ntainers, proof of cultures titute of nd team 2 1 0.5

	17.2.	Project a	activities (oral and wr	itten presentation)		50		
	17.3.	Other for	rms of studying activ	ities		20		
18.	Crite	ria for ass	sessment (points /	to 50 points	5 (five) (F)			
			rade)	from 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.	Condi	tion for ge	tting a signature	60% of term activities,	project activities a	and		
	and ta	king the fi	inal exam	attending to lectures ar	nd discussions			
20.	Langu	age in wh	ich classes are	Macedonian				
	condu							
21.			toring the quality of	Self-evaluation				
	instruc							
22.	Literat	ure						
		Compuls	ory literature					
		Ordinal	Author	Title	Publisher	Year		
	No.							
		1.	Stevce Presilski	Milk and fermented	Faculty of	2005		
	22.1.			dairy products	Biotechnical			
					Sciences			
		2.	Marijana Caric et	Standardne metode	Novi Sad	2000		
			al.	analize mleka l				
				mlecnih proizvoda				
		3	Tratik Ljubica	Mlijeko – tehnologija,	Zagreb	1998		
				biokemija I				
		A 1 11/1		mikrobiologija				
			al literature		-			
		Ordinal	Author	Title	Publisher	Year		
	22.2.	No.						
		1.	Petricic Ante	Konzumno I	Zagreb	1984		
				fermentirano				
		•		mleko		4000		
		2	Petricic Ante, Tratil	-	Zagreb	1996		
			Ljubica	vrste proizvoda l				
				tehnoloske				
				procese				

Ар	pendix No.3	Subject studies.	programme from the first, second and third cycle of
1.	Title of courses	;	Organic Production of Animal Products.
2.	Code		2ZF221712
3.	Study program	me	Module: Processing of Animal Products – four year studies
4.	Organizer of th programme (ur		Faculty of Agriculture, Department for Processing of Animal Products

	institute, department,						
5.	division) Degree (first, second and third cycle)	Second	cycle	9			
6.	Academic year / semester	First / second	7.	Numt	per of ECTS credits	4	
8.	Professor			D	oc. Darko ANDRONIK	OV, PhD	
9.	Preconditions for cou	rse enrollmen	t				
10.	Students gain understanding, knowledge and skills for application of techniques for the production of organic animal products. Gain skills for specific conversion, certification and organic production of animal products based on the law and current regulations in the country concerning the production of animal products. . Content of the study programme:						
	<ul> <li>A) Content of lectures:</li> <li>1. Introduction in organic production of animal products,</li> <li>2. Terms of organic production of animal product,</li> <li>3. Organic production of feed,</li> <li>4. Farms raising animals for commercial production of organic animal products,</li> <li>5. Growing of economic life in producing organic products,</li> <li>6. Care of animals for commercial organic production,</li> <li>7. Organic meat, milk, eggs, fish, etc.,</li> <li>8. Composition and properties of organic animal products,</li> <li>9. Conditions for processing of organic animal products,</li> <li>10. Organic additives in the processing of animal products,</li> <li>11. Animal products of organic origin,</li> <li>12. Control of organic products of animal origin.</li> </ul> B) Content of exercises: <ul> <li>1. Introduction in organic production of animal products,</li> <li>2. Terms of organic production of animal product,</li> <li>3. Organic production of animal product,</li> <li>4. Farms raising animals for commercial product,</li> <li>6. Care of animal products of organic production of animal products,</li> </ul>						
	<ol> <li>Growing of economic life in producing organic products,</li> <li>Care of animals for commercial organic production,</li> <li>Organic meat, milk, eggs, fish, etc.,</li> <li>Composition and properties of organic animal products,</li> <li>Catch the processing of organic animal products,</li> <li>Organic additives in the processing of animal products,</li> <li>Animal products of organic origin,</li> <li>Control of organic products of animal origin.</li> </ol>						
12.	making independent mid-term tests: consu	oaper work, h Itations.	ome	e learnii	actical exercises, consung, preparatory classes		
13.	Total amount of availa			120			
14.	Distribution of availab	1		2+1+1			
15.	Forms of 15.1		ام ما		2 hours per week		
	teaching activities 15.2	theoretical Exercises (laboratory seminars,	, pu	blic),	1 hour per week		

16.		forms of	16.1.	Proje	ct work		0,5 hour per we	eek			
	activiti	es	16.2.	Indivi	dual work		/				
			16.3.	Home	e learning		0,5 hour per week				
17.	Forms of	of assessi	ment								
	17.1.	Project							30 points		
	17.2.	Project	work (p	resent	ation: writ	ten an	d oral)	50 points			
	17.3.	Activity	and pa	d participation					20 points		
						•					
18.	Criteria	Criteria for assessment (points/ grade), to 50 points							e) F		
							om 51 to 60 bints	6 (six	) E		
							om 61 to 70	7 (se)	ven) D		
							pints	. (00	, _		
							om 71 to 80	8 (eig	ht) C		
							pints		<u> </u>		
							om 81 to 90	9 (nin	e) B		
							oints om 91 to 100	10 (ten) A			
							pints	10 (10	,, ,		
19.		tion for ge the final e		signat	ure and	60%	success of all ac	tivities be	fore exam		
20.		age in wh		sses a	re	Macedonian					
21.		d of moni	toring t	he qua	ality of	Only	assessment				
22.		erature									
			oulsory	l							
			ature								
		Ordinal	Au	thor			Title		Publisher		
	22.1.	number							Year		
		1.		džič M,	0	rgansk	a proizvodnja hra	ane	IK		
				lavica ejzič N.					>>Liljan<< Sarajevo		
			1.10	JZIC IN.					2003		
		2.	ИΦ	OAM	Осно	овни с	гандарди за орг	анско	Генерално		
					про	оизвод	ство и прерабо	тка.	собрание		
									на		
									ИФОАМ, Базел,		
									Швајцарија		
									2006		

Attachment No.3 Subject progra studies.			amme from the first, second and third cycle of
1.	1. Course title		Boiled and semi permanent products of meat.
2.	Code		2ZF221812
3.	3. Study programme		Module: Processing of Animal Products – four year studies

4.		anizer of the study ramme (unit or institute,		y of Agricu I Products	lture	e, Department for P	rocessing	) of
_	depa	artment, division)						
5.	Leve	el (first, second and third	Secon	d cycle				
6.		demic year / semester	First /	second	7.	Number of ECTS	credits	4
8.		Professor		Doc. Dar PhD	ko A	NDRONIKOV,		_
9.		Preconditions for course enrollment		/				
10.		Goals of the course prog the production of boiled an						
11.	the production of boiled and semi permanent products of meat.         11.       The content of the course programme:         A) Content of lectures:         1. Introduction.         2. Materials for production of boiled meat and semi permanent sausage.         3. Processing and use of pork skins in production of boiled meat sausage.         4. Manufacturing of meat batter of warm and cool meat.         5. The ability of meat to bind water and other factors.         6. Additives and supplements in the production of boiled and smoked sausage.         7. Smoke and smoking the boiled meat and semi permanent sausage.         8. Errors in production of boiled sausages.         9. Technological procedures for the semi permanent sausages.         10. Types of boiled meat sausages.         11. Types of smoked sausages.         12. Errors in the semi permanent sausages.							
12.	<ul> <li>B) Content of exercises: <ol> <li>Introduction.</li> <li>Materials for production of boiled meat and semi permanent sausage.</li> <li>Processing and use of pork skins in production of boiled meat sausage.</li> <li>Manufacturing of meat batter of warm and cool meat.</li> <li>The ability of meat to bind water and other factors.</li> <li>Additives and supplements in the production of boiled and smoked sausage.</li> <li>Smoke and smoking the boiled meat and semi permanent sausage.</li> <li>Errors in production of boiled sausages.</li> <li>Technological procedures for the semi permanent sausages.</li> <li>Types of smoked sausages.</li> </ol> </li> <li>Errors in the semi permanent sausages.</li> <li>Methods of study: lectures, theoretical and practical exercises,</li> </ul>							
		consultations, making independent paper work, home learning, preparatory classes for exams and mid-term tests: consultations. Total time available.						
13.	То	tal amount of available 156	З часов	И	15	6 hours		

14.		ibution of able time		2+2+1			2+2+	1			
15.			hing activit	ties	15.1.		tures - ures	theo	retica	al	2 hours per week
					15.2.	Exercises (laboratory, public), seminars, teamwork			y,	1 hour per week	
16.	Othe	r forms o	f activities		16.1.	Project work				0,5 hour per week	
					16.2. Individual work				/		
					16.3.	Hon	ne leai	ning			0,5 hour per week
17.	-	s of asses									
	17.1.	Proje	ect work							3	0 points
	17.2.	-	ect work (pre		written	and	oral)				0 points
	17.3. Activity and participation						2	0 points			
18.	Crite	Criteria for assessment (points/ grade),				to 5	0 poin	ts		5 (	five) F
						to 50 points from 51 to 60 points			6 (six) E		
							n 61 to its	70		7 (:	seven) D
						fron poin	n 71 to its	80		8 (	eight) C
						from 81 to 90 points		9 (	9 (nine) B		
						from poin	n 91 to its	100		10	(ten) A
19.	Con	dition for g	getting a sig	inature and	d taking	the fi	nal ex	am		% success of all ivities before exam	
20.	Lang	guage in v	which classe	es are conc	ducted				Mac	edonia	an
21.	Meth	nod of mo	nitoring the	quality of t	eaching	ļ			Only	/ asse	ssment
22.	Lite	erature									
		•	Isory literate								<u>.</u>
		Ordinal number	Aut	hor		Title		Р	ublisl	her	Year
		1.	Проф. Д-р Стојаново		Обраб месо- за инт	скри ерна	пта	Све Кли	ти мент		
	22.1.	22.1.		употре		еба Охритс Битола Факулт биотех науки		ола улте техні	т за		
		2.							ола		
		3.									
	00.0		loon (literet	Iro							
	22.2.	Compu	Isory literate								

Ordinal number	Author	Title	Publisher	Year
1.	Петар Радетич	Барене кобасице	Белград 2000	
2.	Светомир Рахелич, Јарослав Јоксимович,Франц Бучар	Технологија прераде меса	Технолошки факултет Нови Сад 1980	
3.				

Арр	endix No. 3 Subject progr	ramme first, secor	nd and third cycle studies					
1.	Title of courses	FERMENTED ME	ATPRODUCTS					
2.	code	2ZF221112						
3.	Study programme	Module process	ing and animal products					
4.	Organizer of the study	Faculty of Agrice	ulture, department of					
	programme( unit or institute	technology and p	processing of animal products					
	,department division)							
5.	Level (first, second, third cycle)	Second cycle						
6.	Academic year / semester	First	7. Number of 8					
		year/second	ECTS credits					
		semester						
8.	Professor	Prof. Aco Kuzelo	v, PhD					
9.	Preconditions for course	/						
10	enrollment	Outles to be served for all on with the serve that is a set						
10.	fermented meat products	Students become familiar with the production of						
	Termented meat products							
	<ul> <li>5. Charge of fermented sausages 6. External parameters of ripening and drying of fermented sausages 7. Ripening of raw sausages 8. Starter and protective cultures ninth Technological processes in proizvotstvoto of delicatessen products fermented 10. Errors in proizvotstvto of fermented meat products 11. Fermented sausage typical of some countries in Europe and in our 12. Fermented meat products typical of the Balkans.</li> <li><b>5) Content of exercises</b>: 1. Introduction 2. Internal parameters of maturing 3. Manufacturing of fermented sausages nadevot the fourth Supplements and additives 5. Charge of fermented sausages 6. External parameters of ripening and drying of fermented sausages 7. Ripening of raw sausages 8. Starter and protective cultures</li> </ul>							
12.	<ul> <li>ninth Technological processes in proizvotstvoto of delicatessen products fermented 10. Errors in proizvotstvto of fermented meat products 11. Fermented sausage typical of some countries in Europe and in our 12. Fermented meat products typical of the Balkans</li> <li>Methods of study: lectures, theoretical and practical exercises, consultations, making independent paper work, home learning, preparatory classes for exams and mid-term</li> </ul>							
	tests: consultations.							
4.0	Total amount of available time	216 hours						
13.	Total amount of available time Distribution of the available time	216 hours 3+2+2						

15.	Forms	of teaching activities	15.1	Lectures - Theory		3	
			15.2	Exercises ( laboratory auditory ), seminars teamwork	',	2	
16.	Other	forms of activites	16.1	Proect task s		1	
			16.2	Individual tasks		1	
	1			Home learning			
17.	Form	s of assessment					
	<ul><li>17.1. Proect tasks</li><li>17.2 Working tasks / project (project (project))</li></ul>					30 points	
				entation: written and		50 points	
	17.3	Activity and participation	n			20 points	
			. T		_ /*		
18.		a for assessment (points)	/	50 points		ve) F	
	grade)		_	51 to 60 points	6 (sih	/	
			-	61 to 70 points	7(sev		
			-	71 to 80 points 81 to 90 points	8( eig 9( nin		
			-	91 to 100 бода			
19.	Condit	ion for getting a signature	e	60% 60% success of all			
		king the final exam					
20.		age in which classes are	;	Macedonian			
21.	Methoo teachir	d of monitoring the quality	y of	Self-evaluation			

22.	Literat	ure							
		Compuls	ory literature						
	22.1.	Ordinal Number	Author	Title	publisher	year			
		1.	Prof. Mitre Stojanovski, PhD	Meat-processing script for internal use	UKLO Bitola	2001			
		2.							
		3.							
		Дополнителна литература							
		Ordinal Number	Author	Title	publisher	Year			
	22.2.	1.	Petar Radetic	Raw sausage	Beograd	2000			
		2.	Svetomir Rahelic Jaroslav Joksimovic Franc Buchar	Technology of meat	T Faculty of Technology Novi Sad	1980			

 Appendix No. 3
 Subject programme first, second and third cycle studies

2.			AT PRODUCTI							
	code	2ZF	221212							
3.	Study programme	М	odule processin	g an	d animal produc	ts				
4. (	Organizer of the study	Fa	aculty of Agricult	ure	, department of					
1	programme( unit or institut	te tec	hnology and pro	oces	sing of animal p	roducts				
,	,department division)									
	Level (first, second, third	Sec	Second cycle							
	cycle)									
6. <i>I</i>	Academic year / semester	Fir		7.	Number of	8				
		-	ar/second		ECTS credits					
		ser	nester							
8	Teacher	Pro	ff. Dr. Aco Kuz	elov						
-	Preconditions for course	/								
-	enrollment	ĺ,								
	Objectives of the curriculu	ım( con	npetencies): St	uder	nts are familiar w	/ith				
	operations at the slaughter a	•	• •			-				
		•								
11.	Thw contwent of the curicu	ulum:								
1	A).Contents of lectures . 1	. Introdu	uction, 2nd Facil	ities	for manufacturin	ng of				
r	meat - slaughterhouses									
3	3rd Method and conditions of carriage of livestock fourth Consequences of									
	shipping 5th Unloading and r		•		-	•				
	eighth Downloading skin nint				•					
	organs 12th Cutting of carca	sses, ve	eterinary examin	atior	n, trimovanje, wa	ashing				
	and weighing	La tra alt			(	(				
	<b>5) Contens of exercises:</b> 1.	. Introdu	iction, 2nd Facili	ties	for manufacturin	ig of				
	meat - slaughterhouses 3rd Method and conditions o	foorriog	no of liveotook fa	urth	Concoquences	of				
	shipping 5th Unloading and r	-	•		•					
	eighth Downloading skin nint		-		•	•				
	organs 12th Cutting of carca				•					
	and weighing			anoi	i, anno ranjo, ne	.crimig				
	Methods of study: lectures	, theore	tical and praction	cal e	xercises, consu	Itations,				
	making independent paper w		•							
6	and mid-term tests: consulta	tions.								
13.	Total available fund on tim	е	216 hours							
14. <i>I</i>	Allocation available time		3+2+2							
	Forms of teaching	15.1.	Lectures - The			3				
i	activities	15.2.	Exercises ( lab		•	2				
			auditory), sem	ninar	s					
			teamwork							
16.	Other forms of activites	16.1.	Proect task s			1				
		16.2.	Individual task	s		1				
		40.0								
I		16.3.	Home learning							

17.	Form	s of assessment				
	17.1.	Proect tasks			30 points	
	17.2	Working tasks / project (p oral)	presentation: written and		50 points	
	17.3	Activity and participation			20 points	
18.	Criteria	a for assessment (points /	50 points	5 (five)	F	
	grade)		51 to 60 points	6 (sih)	E	
			61 to 70 points	7(seven)	D	
			71 to 80 points	8( eight )	С	
			81 to 90 points	9( nine )	В	
			91 to 100 бода	10( ten)	А	
19.	Condit	ion for getting a signature	60% 60% success of all activities before			
	and tal	king the final exam	exam			
20.	Langu	age of instruction	Macedonian language			
21.	Method of teac	d of monitoring the quality hing	Only evulation			

22.	Literature									
		Comp	ulsory literature							
		Ord. Num	Author	Title	publisher	year				
	22.1.	1.	Aco Kuzelov	Primary processing of meat-internal script	UGD Stip	2011				
		2.	Borislav Djinleski	Meat and meat product	UKIM Skopje	1985				
		3.	Mitre Stojanovski	Production and knowledge of meat	UKLO Bitola	2010				
		Допол	пнителна литература	ратура						
		Ord. Niu.	Author	Title	publisher	Year				
	22.2.	1.	Petar Radetic	Raw sausage	Beograd	2000				
		2.	Svetomir Rahelic Jaroslav Joksimovic Franc Buchar	Technology of meat	T Faculty of Technology Novi Sad	1980				

Арр	pendix No.3	Syllabus for	r the first, second and third cycle of study				
1.	Course title		Machines in the industry for animal products				
2.	Course code		2ZF205712				
3.	Study program	nme					
4.	Organizer of the programme (fagroup)	he study aculty, institute,	Faculty for agriculture. Department for processing and control of animal products				

5.	Level (first, second, third c	vcle)	Second cycle							
6.	Academic year / semester		Second year /	7. Number of EC	TS	6				
	,, <b>,</b>		second	credits		-				
			semester							
8.	Professor		Ph.D Zoran Dimi	itrovski						
9.	Preconditions for course		No							
	enrollment									
10.	Goals of the course progra	mme: E	Expend of the kn	owledge of the stud	ents fo	or				
	technological operations and the use of the machines and the apparatuses in the									
	food industry.									
11.	Content of the course prog									
	A) Contents of lectures: 1. I equation; 3. Mix of fluid enviro					ernoli				
	clarification and sedimentatio					onts of				
	the automatic control system			<b>, ,</b>		51113 01				
	procedures after milking; 8. M		•	•						
	Machines and equipment for									
	production; 10. Tools and ma			•		ing				
	machines, mixers; 12. Can cl			•	•	3				
	B) Content of exercises: 1.					2. Use				
	of Bernoli equation in the hyd	rodyna	mic systems; 3.	Practical examples	of mixi	ng of				
	fluid environment and transfe	r of hea	at; 4. Practical ex	amples of the proce	esses	of				
	clarification and sedimentatio	n; 5. Pr	ractical examples	s for extraction and	drying;	, 6.				
	Practical examples and use of		•		•	aulics;				
	7. Practical introducing with the		•		•					
	milking and processing mach			•						
	machines for cheese, butter a									
	the meat processing tools and									
	machines for meat cutting, gr	-	-		troduc	ing				
	with pasteurization and sterili	zation r	machines in the r	meat industry.						
12.	Methods of study:									
12.	Lectures, theoretical and practical	ctical a	varcisas consult	ations: individual n	niacte	· home				
	learning			alions, individual pi	Ujecis	, nome				
13.	Total amount of available ti	me	156 hours							
14.	Distribution of the available		2 +2 +1							
15.	Forms of teaching	15.1.	Lectures - theo	pretical training	2 h	nours a				
	activities			-		week				
		15.2.	Exercises(Visit	of	2 h	nours a				
			organizations)s							
			teamwork			week				
16.	Other forms of activities	16.1.	Project tasks		1	week				
			1			week hour a				
		16.2.	Individual proje	cts	1	hour a				
		16.2.	Individual proje	cts	1	hour a week				
		16.2. 16.3.	Individual proje Home learning	cts		hour a week hour a				
				cts		hour a week hour a week				

	17.1.	Project t	ask		3	30 points	
	17.2.	Project a	activities (oral and wr	itten presentation)	5	50 points	
	17.3.	Activity a	and participation		2	20 points	
18.	Criter	ia for ass	sessment (points /	to 50 points	5( five)	(F)	
		g	rade)	from 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		(B)	
				from 91 to 100 points	10(ten)	(A)	
19.		_	jetting a signature	Project activities and at	tending to lectur	es and	
			final exam	exercises			
20.	Langı condı		hich classes are	Macedonian			
21.		od of mor y of instr	nitoring the uction	Self-evaluation, periodic	cal tests, poll		
22.	Literature						
		Compul	sory literature				
		Ordinal No.	Author	Title	Publisher	Year	
	22.1.	1.	Милојковиќ П, Груиќ Т.	Automatic control	Mechanical engineering- Beograd	2001	
		2.	Беличовски	Meat and meat processing	Skopje	2000	
		3.	А. Гроздановски	Tools and machines for milk processing	Bitola	2006	
		Additiona	al literature				
		Ordinal No.	Author	Title	Publisher	Year	
	1.     А.Г Косаткин,       22.2.     ————————————————————————————————————		Basic processes and apparatuses in the chemical technology	Moscow	1973		
		2.					
		3.					

Арр	Appendix No.3 Subject prog of studies.		gramme from the first, second and third cycle
1.	Title of cours	es	Preservation of Meat
2.	Code		2ZF221912
3.	Study programme		Module: Processing of Animal Products – four year study.
4.	Organizer of the study programme (unit or institute, department, division)		Faculty of Agriculture, Department for Processing of Animal Products

5.	Degree (first, second and third cycle)	Second cyc	е				
6.	Academic year / semester	First / second	7.	Number of ECTS credits	4		
8.	Teacher			Doc. dr. Da ANDRONIK			
9.	Before enrollment requirements of the						
	subject						
10.	Objectives of the curriculum (competencies): Students become familiar						
	with ways to preserve meat.	-					
11.	<ul> <li><i>The content of the curricul</i></li> <li><i>A). Contents of lectures:</i></li> <li>1. Introduction.</li> <li>2. Ways of the conservation</li> <li>3. Cooling of meat.</li> <li>4. Changes of meat caused I</li> <li>5. Freezing of meat.</li> <li>6. Changes caused by freezi</li> <li>7. Smoking of meat.</li> <li>8. Preservation of meat with</li> <li>9. Drying of meat.</li> <li>10. Salting and curing of meat.</li> <li>12. Preservation of antibiotic</li> <li><i>B) Content of exercises:</i></li> <li>1. Introduction.</li> <li>2. Ways of the conservation</li> <li>3. Cooling of meat.</li> <li>4. Changes of meat caused I</li> <li>5. Freezing of meat.</li> <li>6. Changes of meat caused I</li> <li>7. Smoking of meat.</li> <li>8. Preservation of antibiotic</li> <li><i>B) Content of exercises:</i></li> <li>1. Introduction.</li> <li>2. Ways of the conservation</li> <li>3. Cooling of meat.</li> <li>4. Changes of meat caused I</li> <li>5. Freezing of meat.</li> <li>6. Changes caused by freezing</li> <li>7. Smoking of meat.</li> <li>8. Preservation of meat with</li> <li>9. Drying of meat.</li> <li>10. Salting and curing of meat</li> <li>11. Changes caused by smomeat.</li> <li>12. Preservation of antibiotic</li> </ul>	of meat. by cooling. ing meat. heat. at. king, drying, l s and antisep of meat. by cooling. ing meat. heat. heat. at. king, drying, l s and antisep	tics. neat tr tics.	reatment, salti	ing and curing of		
12.	Methods of study: lectures, making independent paper w exams and mid-term tests: c	vork, home lea	arning	, preparatory	classes for		
13.	Total time available.				156 hours		
14.	Time available.				2+2+1		

15.	Forms	s of teach	ing activities	15.1.	Lecture		theoretical	2 h pe we	
				15.2.	Exercises (laboratory, public), seminars, teamwork				nour r
16.	Other	forms of	activities	16.1.	Project			0,5 pe we	
				16.2.	Individu	ual	work	/	
	Forms of assessment			16.3.	Home I	lear	ning	0,5 pe we	
17.								00	
	17.1.	Projec			•••				points
	17.2.	-	t work (present		ritten and	d or	al)		points
	17.3.	Activity	/ and participat	ion				20	points
18.	Criteria	a for asse	ssment (points	/ grade)	)	to	50 points	5 (fi F	ve)
						fro	om 51 to 60	6 (six)	
							oints	E	
							om 61 to 70	7 (seven)	
						•	pints	D	
							om 71 to 80 bints	8 (e C	ight)
		from 81 to 90			ine)				
							pints	B	
						fro	om 91 to 100	10 (	(ten)
						•	pints	А	
		•	tting a signatur	e and ta	iking		% success of a	all act	tivities
19. 20.		al exam	ich classes are	conduc	tod		fore exam acedonian		
20.	•	· ·	oring the qualit					+	
<u> </u>		erature		y or tea	onnig		nly assessmen		
22.			sory literature	Ι					
		Ordinal number	Author		Title		Publisher		Year
	1. Проф. Митре Стојан		Проф. Д-р. Митре Стојановски		•		Универзитет Свети Климе Охритски Битола Факултет за биотехнички науки Битола	нт	
		2.							
		3.							

	Additio	nal literature			
22.2	Ordinal number	Author	Title	Publisher	Year
22.2.	1.				
	2.				

	endix No.3 Syllabu	5 101 1	the first, second and third cycle of study			
1.	Course title		Sanitation in food-processing industry			
2.	Course code		2ZF222012			
3.	Study programme		Processing and controlling of animal product	cts		
4.	Organizer of the study		Department of food technology and processi	sing		
	programme (faculty, institute	e,	of animal products, Faculty of Agriculture,	-		
	group)		University "Goce Delcev"- Stip			
5.	Level (first, second, third cy	cle)	Second cycle			
6.	Academic year / semester		First year/ second semester7.Number of ECTS44credits			
8.	Professor		Prof. Rubin Gulaboski, PhD			
9.	Preconditions for course		No			
	enrollment					
10.	and measures of the sanitation control in food-processing industry					
11.	Content of the course progra			n the		
	Lectures: 1. Introduction to sa food to humans; 3. Measures Storage of the food; 5. Method of the waste waters in food pro- treatment in food processing HACCP; 11. Law regulative in in food-processing industry. <i>Practices</i> : 1. Introduction; 2. M poor food; 4. Microbiological p standards; 6. Measures for c Measures for treatment of the the solid waste; 9. Sanitation in HALAL system; 12. Preventive	anitati for ge ls for co ocessir indust food-p Measu oarame cleanir e solid n the b	ion; 2. Diseases that can be transferred from etting higher level of hygiene in food industric cleaning in food-processing industry; 6. Treating industry; 7 Ecological sanitation; 8. Solid w try; 9. HACCP standards; 10. Implementation processing industry; 12. Management of the w ures of sanitation 3. Diseases that can be got eters relevant to food quality products; 5. HA ing waste waters in food processing industry waste in food-processing industry; 8. Storago og factories 10. Eco-sanitation; 11. Introduction	ry; 4. tment waste on of waste t from ACCP ry; 7. ige of		
11.	Lectures: 1. Introduction to sa food to humans; 3. Measures Storage of the food; 5. Method of the waste waters in food pro- treatment in food processing HACCP; 11. Law regulative in in food-processing industry. <i>Practices</i> : 1. Introduction; 2. M poor food; 4. Microbiological p standards; 6. Measures for co Measures for treatment of the the solid waste; 9. Sanitation in HALAL system; 12. Preventive Methods of study:	anitati for ge ls for co ocessir indust food-p Measu oarame cleanin e solid n the b e overt	ion; 2. Diseases that can be transferred from etting higher level of hygiene in food industric cleaning in food-processing industry; 6. Treating industry; 7 Ecological sanitation; 8. Solid w try; 9. HACCP standards; 10. Implementation processing industry; 12. Management of the w ures of sanitation 3. Diseases that can be got eters relevant to food quality products; 5. HA ing waste waters in food processing industry waste in food-processing industry; 8. Storago oig factories 10. Eco-sanitation; 11. Introduction throwing of diseases;	ry; 4. tment waste on of waste t from ACCP ry; 7. ige of ion to		
	Lectures: 1. Introduction to sa food to humans; 3. Measures Storage of the food; 5. Method of the waste waters in food pro- treatment in food processing HACCP; 11. Law regulative in in food-processing industry. <b>Practices</b> : 1. Introduction; 2. M poor food; 4. Microbiological p standards; 6. Measures for o Measures for treatment of the the solid waste; 9. Sanitation in HALAL system; 12. Preventive <b>Methods of study</b> : Lectures, Laboratory exerce	anitati for ge ls for co ocessir indust food-p Measu oarame cleanir e solid n the b	ion; 2. Diseases that can be transferred from etting higher level of hygiene in food industric cleaning in food-processing industry; 6. Treating industry; 7 Ecological sanitation; 8. Solid w try; 9. HACCP standards; 10. Implementation processing industry; 12. Management of the w ures of sanitation 3. Diseases that can be got eters relevant to food quality products; 5. HA ing waste waters in food processing industry waste in food-processing industry; 8. Storago oig factories 10. Eco-sanitation; 11. Introduction throwing of diseases;	ry; 4. tment waste on of waste t from ACCP ry; 7. ige of		
12.	Lectures: 1. Introduction to sa food to humans; 3. Measures Storage of the food; 5. Method of the waste waters in food pro- treatment in food processing HACCP; 11. Law regulative in in food-processing industry. <i>Practices</i> : 1. Introduction; 2. M poor food; 4. Microbiological p standards; 6. Measures for of Measures for treatment of the the solid waste; 9. Sanitation in HALAL system; 12. Preventive Methods of study: Lectures, Laboratory exerci- consultations.	anitati for ge ls for co cessir indust food-p Measu barame cleanin e solid n the b e overt	ion; 2. Diseases that can be transferred from etting higher level of hygiene in food industric cleaning in food-processing industry; 6. Treating industry; 7 Ecological sanitation; 8. Solid witry; 9. HACCP standards; 10. Implementation processing industry; 12. Management of the witres of sanitation 3. Diseases that can be got eters relevant to food quality products; 5. HActing waste waters in food processing industry waste in food-processing industry; 8. Storago obj factories 10. Eco-sanitation; 11. Introduction throwing of diseases; e-learning, individual and team proj	ry; 4. tment waste on of waste t from ACCP ry; 7. ige of ion to		
12.	Lectures: 1. Introduction to sa food to humans; 3. Measures Storage of the food; 5. Method of the waste waters in food pro- treatment in food processing HACCP; 11. Law regulative in a in food-processing industry. <i>Practices</i> : 1. Introduction; 2. M poor food; 4. Microbiological p standards; 6. Measures for of Measures for treatment of the the solid waste; 9. Sanitation in HALAL system; 12. Preventive Methods of study: Lectures, Laboratory exerc consultations. Total amount of available time	anitati for ge ls for co ocessir indust food-p Measu oarame cleanir e solid n the b e overt cises, <b>ne</b>	ion; 2. Diseases that can be transferred from etting higher level of hygiene in food industric cleaning in food-processing industry; 6. Treating industry; 7 Ecological sanitation; 8. Solid witry; 9. HACCP standards; 10. Implementation processing industry; 12. Management of the will ures of sanitation 3. Diseases that can be got eters relevant to food quality products; 5. HA- ing waste waters in food processing industry waste in food-processing industry; 8. Storago oig factories 10. Eco-sanitation; 11. Introduction throwing of diseases; e-learning, individual and team proj 120 hours	ry; 4. tment waste on of waste t from ACCP ry; 7. ige of ion to		
12.	Lectures: 1. Introduction to sa food to humans; 3. Measures Storage of the food; 5. Method of the waste waters in food pro- treatment in food processing HACCP; 11. Law regulative in in food-processing industry. <i>Practices</i> : 1. Introduction; 2. M poor food; 4. Microbiological p standards; 6. Measures for of Measures for treatment of the the solid waste; 9. Sanitation in HALAL system; 12. Preventive Methods of study: Lectures, Laboratory exerci- consultations.	anitati for ge ls for co ocessir indust food-p Measu oarame cleanir e solid n the b e overt cises, <b>ne</b>	ion; 2. Diseases that can be transferred from etting higher level of hygiene in food industric cleaning in food-processing industry; 6. Treating industry; 7 Ecological sanitation; 8. Solid witry; 9. HACCP standards; 10. Implementation processing industry; 12. Management of the witres of sanitation 3. Diseases that can be got eters relevant to food quality products; 5. HActing waste waters in food processing industry waste in food-processing industry; 8. Storago obj factories 10. Eco-sanitation; 11. Introduction throwing of diseases; e-learning, individual and team proj	ry; 4. tment waste on of waste t from ACCP ry; 7. ige of ion to		
12.	Lectures: 1. Introduction to sa food to humans; 3. Measures Storage of the food; 5. Method of the waste waters in food pro- treatment in food processing HACCP; 11. Law regulative in in food-processing industry. <i>Practices</i> : 1. Introduction; 2. M poor food; 4. Microbiological p standards; 6. Measures for of Measures for treatment of the the solid waste; 9. Sanitation in HALAL system; 12. Preventive Methods of study: Lectures, Laboratory exerc consultations. Total amount of available tim	anitati for ge ls for co ocessir indust food-p Measu oarame cleanir e solid n the b e overt cises, <b>ne</b>	ion; 2. Diseases that can be transferred from etting higher level of hygiene in food industric cleaning in food-processing industry; 6. Treating industry; 7 Ecological sanitation; 8. Solid witry; 9. HACCP standards; 10. Implementation processing industry; 12. Management of the witres of sanitation 3. Diseases that can be got eters relevant to food quality products; 5. HActing waste waters in food processing industry waste in food-processing industry; 8. Storage objig factories 10. Eco-sanitation; 11. Introduction throwing of diseases; e-learning, individual and team proj 120 hours 2+1+1	ry; 4. tment waste on of waste t from ACCP ry; 7. ige of ion to		

				15.2.	Exercises (laboratory, a workshops, outreach ar teamwork	• • •	1 class wee		
16.	Other	forms of	activities	16.1.	Team projects		0.5 cla wee		
				16.2.	Individual projects		0.5 class weekly		
				16.3.	Individual study				
17.		s of asse							
	17.1.	,			•			30	
	17.2.	Project a	activities (ora	al and wr	itten presentation)			50	
	17.3. Other forms of studying acti		ing activ	ities			20		
18.	3. Criteria for assessment (pe			oints /	up to 50 points	5( five) (	F)		
		g	rade)		from 51 to 60 points	6( six) (E	E)		
					from 61 to 70 points	7(seven)			
					from 71 to 80 points	8( eight)			
					from 81 to 90 points	9(nine) (			
10					from 91 to 100 points	10(ten) (	( )		
19.			getting a sig	Inature	60% of term activities, project activities and attending to lectures and discussions				
20.			final exam hich classe	e aro	Macedonian		10115		
20.	condu			5 010	Macedonian				
21.	Metho		nitoring the ruction		Self-evaluation, anonym polls				
22.	Litera	ture							
		Compu	lsory literati	ure					
		Ordinal No.	Author		Title	Publisher	Year		
	22.1.	1.	Semih Otles	Instrum Otles (e	ook of Food Analysis hents, Taylor & Francis, S ed.) 2008. ww.chipsbooks.com/hbfo		Taylor & Francis	2008	
		2.	G. Etienne		les of cleaning and sanita d and beverage industry,		Marcel Dekker, New York	2006	
		3.							
		Additio	nal literatur	е				•	
		Ordinal No.	Author		Title		Publisher	Year	
	22.2.	1.	Rubin Gulaboski	availab	ized lectures in ppt formable in free format on ubingulaboski.synthasite.		UGD	2010	
		2.							
		3.							
		-							

Appendix No.3 Syllabus for the first, second and third cycle of study

1.						
2.	Course code		2ZF222112			
3.	Study programme		Module: Processing of Animal Products – four vear study			s – four
			year study.			
4.	Organizer of the study		Faculty of Agricu	ulture	e, Department for	
	programme (faculty, institute	,	Processing of Ar	nima	I Products	
	group)					
5.	Level (first, second, third cyc	le)	Second cycle			
6.	Academic year / semester       First / II       7.       Number of ECTS       4         credits       Credits       Credits       Credits       Credits       Credits				5 4	
8.	Professor		Prof. Stevce Pre	silsk	i, PhD	
9.	Preconditions for course enrollment		No			
10.	The course programme air sensory and technological p condensed and dried milk pro	properti			• •	
11.	Content of the course progra Content of the lectures: 1. Definition of milk, various part of the total global, Euro extending the milk in good co of milk to manufacture the sterilized, accordingly, flavor and methods to standardize dairy products 5. Concept of inoculation of milk intended fermentation in milk intended fermentation of milk and tech products. 8 Preparation of m products. 9. Preparation of Preparation of milk and tech membrane processes. 12 processing and milk process Content of exercises (pract Quantitative determination of individual constants (proteins and ways of taking it by inter- various types' liquid, ferment machinery and tools for press the university laboratory to pr sour cream kumis. Field work Methods of study:	types of pean a ndition variou and vi the mill pure cu for the ed for nologie ilk and milk an nologies <b>tical an</b> f total d s, fats, I nationa nted, c ervatior oduce t	and Macedonian (physical, chemic us types of liqu itaminyzed, fluori c intended for the ultures, types and e production of s the manufacture s for the product technologies for d technologies for d technologies for s for the product ition of equipme <b>ad laboratory):</b> ry matter in milk actose, mineral m I standards (IDF, ondensed and c n of samples and traditional yogurt	milk cal a id c date ma sour e of ion the or p on c ent, and ISC dried	a production. 2. M nd biological). 3. F lairy products (pa nufacture of various thods of their action wilk products. 6 various dairy p of condensed and production of production of production roduction of case f concentrated mi vehicles and fa dairy products as rials). Taking the MAOAC). Taking a milk products. E in transport. Practi yogurt, kefir, fruit y	lethods for Preparation asteurized, ation, ways us types of vation and . Types of roducts. 7 dried milk biotic dairy inates. 11. Ik by using icilities for well as its middle test a sample of Equipment, cal work in
	Lectures, Theoretical exercis	es, Lab	oratory exercises	s, E-	learning, individua	I and team
	projects, consultations for the		•		-	
13.	Total amount of available tim		120 hours			
14.	Distribution of the available ti	ime	2+1+1			
15.	Forms of teaching activities	15.1.	Lectures - theo	oreti	cal training	2
-		15.2.	Exercises (labo workshops, out teamwork	rato	ry, auditory),	1

16.	Other	forms of a	activities	16.1.	Tea	am projects		0.5	
10.	Other		activities	16.2.		ividual projects		0.5	
				16.3.		ividual study		0.0	
17.	Forms	s of asses	sment	10.0.	ma	Triddal Study			
	17.1.			ns. exar	m. e	lectronic testing)		30	
	17.2.					presentation)		50	
	17.3.	-				procentation		20	
10			rms of studyir	-				20	
18.	Crite		sessment (po	ints /		50 points	5 (five) (F)		
		g	rade)			n 51 to 60 points	6 (six) (E)		
						n 61 to 70 points	7 (seven) (D)		
						m 71 to 80 points	8 (eight) (C)		
					-	n 81 to 90 points n 91 to 100 points	9 (nine) (B)		
19.	19. Condition for getting a signature					% of term activities,	10 (ten) (A)	and	
19.		aking the f		ule		ending to lectures ar	•	anu	
20.		-	ich classes a	re		cedonian			
20.	condu	•			ma	ccuoman			
21.			toring the gua	ality of	Sel	f-evaluation			
	Method of monitoring the quality of instruction								
22.	Literat	ture							
		Compuls	sory literature						
		Ordinal	Autho		T	Title	Publisher	Year	
		No.	Autro	l (		Tille	Publisher	rear	
		1.	Stevce Pres	ileki	Mi	lk and fermented	Faculty of	2005	
	22.1.		0100001100			iry products	Biotechnical	2000	
					uu		Sciences		
		2.	Marijana Ca	ric et	Sta	andardne metode	Novi Sad	2000	
			al.			alize mleka l			
					ml	ecnih proizvoda			
		3	Tratik Ljubic	a	MI	ijeko – tehnologija,	Zagreb	1998	
					bic	okemija I			
					mi	krobiologija			
		Addition	al literature						
		Ordinal	Auth	or		Title	Publisher	Year	
	22.2.	No.							
		1.	Petricic Ante	e		Konzumno I	Zagreb	1984	
						fermentirano			
						mleko			
		2	Petricic Ante	e, Tratik		Vrste mlijeka,	Zagreb	1996	
			Ljubica			vrste proizvoda l			
						tehnoloske			
						procese			

App	endix No.3	Subject programme from second cycle studies
1.	Course title	Fundamentals of Management
2.	Course code	2ZF205912
3.	Study programm	Department for processing and

			control of animal products				
4.	Organizer of the study		University "Goce Delcev"- Stip. Faculty of				
	programme (faculty, institute, group)	,	Agricultural - Stip	)			
5.	Level (first, second, third cyc	le)	Second cycle				
6.	Academic year / semester		Second, 2012/13	7.	Number of credits	of ECTS	4
8.	Professor		Doc. Elenica Sofi	ijano	ova, PhD		
9.	Preconditions for course enrollment		No				
10.	Goals of the course program management, be able to ex discipline to learn managen successful and efficient opera	plain th nent pr ation of	e thesis that mainciples and to b	nag be a	ement is s	separate s	scientific
11.	<ol> <li>Content of the course programme:         <ul> <li>A) Content of lectures: 1. Introduction and definition of management; 2. Operational research, problem solving and decision making; 3. Information and information systems; 4. Fundamentals of organizational communication; 5. Currently, networks and types in organizational communication; 6. Management by objectives and managerial planning function 7. Management organizational Conflict 9. Staffing 10. Motivating 11. Running 12. Systems and processes controlling.</li> <li>B) Content of exercises: 1. Basic principles and concepts of management in agriculture 2. Reviewing examples of agricultural organizations, 3. Types of management in agriculture, 4. Planning function in agriculture; 5. Organizing function in agriculture, 8.Decision making in agriculture; 9. Production management in agriculture; 10. Financial Management in Agriculture, 11. Marketing Management in</li> </ul> </li> </ol>						ormation letworks ves and ange of fing 10. ment in ypes of function ion and ement in
12.	agriculture, 12. Management Methods of study: Lectures, Laboratory exe consultations.			divid	lual and	team	orojects,
13.	Total amount of available tim	е	120hours				
14.	Distribution of the available ti	me	2 +1 +1				
15.	Forms of teaching activities	15.1.	Lectures - theorem	retic	al training		2
		15.2.	Exercises (labor workshops, outr teamwork			/),	1
16.	Other forms of activities	16.1.	Team projects				1
		16.2.	Individual projec	cts			
		16.3.	Individual study				
47	Forms of assessment					•	
17.			am, electronic testing) 30				
17.	17.1. Exams (midterm exar	ns, exa	m, electronic testi	ing)			30
17.	17.1.Exams (midterm examination of the example)17.2.Project activities (oral			•			30 50
17.	,	and wr	itten presentation	•			

				fra		
	Crite		sessment (points /	from 51 to 60 points	6( six) (E)	
		g	rade)	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.		-	etting a signature	60% of term activities,		nd
		-	inal exam	attending to lectures an	nd discussions	
20.	-	•	nich classes are	Macedonian		
	condu					
21.	Metho instru		toring the quality of	Self-evaluation, Period	ic tests; Survey	
22.	Litera	ture				
		Compute	sory literature			
		Ordinal	Author	Title	Publisher	Year
			Autrior	Tille	Publisher	rear
	22.1.	No.	Bobek Suklev	Menadzment	LIKIM Economia	2004
		1.	DODEK SUKIEV	Menauzment	UKIM, Economic	2004
		2.	Todor Kralev	Osnovi na	Faculty - Skopje UKIM, Skopje	2005
		۷.		menadzment,		2003
		3.	Dzejms D.	Principle of agro	Universitu of	2009
		0.	Bajrlajn , Kenet K.	industrial	Pensilvenija	2000
			Sniberger, Donald	management	i chonvernja	
			D. Ozborn	management		
		Addition	al literature			
		Ordinal	Author	Title	Publisher	Year
		No.	Aution	TILLE	FUDIISHEI	Tear
	22.2.	1.	Todor Galev, Jorde	Management	ISPPI	2009
		1.	Jakimovski	individual		2003
			Calantio Vola	agricultural		
				economies		
		2.	Jonathan Turner	Management of	Publishing	2009
			Martin Taylor	farm	TRI center	
				(sixth edition)		
		3.	D.Kej Donald	Management of	Publishing	2010
			William	farm	TRI center	
			M.Edvards, Patricia			
			A. Duffy	(		
		I	,, j			

Ape	ndix No. 3	No. 3 Subject programme first, second and third cycle studies			
1.	Title of courses		PRODUCTION OF FINISHED DISHES OF		
			MEAT		
2.	code		2ZF221312		
3.	Study programme		Module processing and animal products		

4.	Organizer of the study	F	aculty of Agricul	ture	denarti	ment of			
	programme( unit or institut		technology and processing of animal products						
	,department division)								
5.	Level (first, second, third	Se	Second cycle						
0.	cycle)								
6.	Academic year / semester	Se	cound	7.	Numbe	er of	8		
0.			ar/third		ECTS		Ũ		
		,	nester		20.0	oreane			
		001							
8.	Teacher	Pro	off. Dr. Aco Kuz	elov					
9.	Preconditions for course	/							
	enrollment								
10.	Goals of the course progra	mme: \$	Students are intr	rodu	ced to th	ne techno	logical		
	procedures roizvotstvoto car						- 3		
11.	Content of the course prog	gramme	):						
	A).Content of lectures .	ntroduc	tion, 2. Notion a	and	separati	on of ca	ns and		
	finished dishes. and meaning	g in cont	emporary societ	ty; 3.	Sirovini	- properti	ies and		
	preparation; 4.Dodatoci 5.Te	hnolosł	nki additives and	d pro	cesses	of produc	ction of		
	finished dishes of meat 6. Te	echnolo	gical process of	pro	duction of	of cans o	f meat,		
	7 Thermal processing of fir	nished o	dishes and can	s of	meat; 8	3.Jadenja	adult;		
	9.Polupripremani ate; 10Glav	vni dish	es , 11Polutra	jni ca	ans. 12.	durable of	cans		
	Б) Content of exercises: 1.	Introdu	ction, 2. Notion	and	separati	on of car	ns and		
	finished dishes. and meaning	g in con	temporary socie	ty; 3	.Sirovini	i - proper	ties		
	and preparation; 4.Dodatoci	5.Tehno	oloshki additives	s and	l proces	ses of			
	production of finished dishes	of mea	t 6. Technologic	al p	rocess o	of product	ion of		
	cans of meat, 7 Thermal proc	cessing	of finished dish	es a	nd cans	of meat;			
	8.Jadenja adult; 9.Polupripre	mani at	e; 10Glavni disł	nes .	. , 11Pol	lutrajni ca	ans.		
	12. durable cans								
12.	Methods of study: lectures	, theore	tical and praction	cal e	xercises	s, consult	tations,		
	making independent paper w	vork, ho	me learning, pre	epar	atory cla	asses for	exams		
	and mid-term tests: consulta	tions.							
13.	Total amount of available t		216 hours						
14.	Distribution of the available	e time	3+2+2						
15.	Forms of teaching	15.1.	Lectures - The	ory			3		
	activities	15.2.	Exercises ( lab				2		
			auditory), sem	ninar	s				
			teamwork						
16.	Other forms of activites	16.1.	Proect task s				1		
		16.2.	Individual task	S			1		
		16.3.	Home learning	)					
17.	Forms of assessment								
	17.1. Proect tasks					30	) points		
	17.2 Working tasks / proje	ect (pres	entation: writter	n and	3		) points		
	oral)						r 01110		
	,								

	17.3	Activity and participation		20 points	
18.	Criteria	a for assessment (points /	50 points	5 (five)	F
	grade)		51 to 60 points	6 (sih)	E
			61 to 70 points	7(seven)	D
			71 to 80 points	8( eight )	С
			81 to 90 points	9( nine )	В
			91 to 100 бода	10( ten)	А
19.		ion for getting a signature	60% success of all activ	vities before	exam
	and tal	king the final exam			
20.	Langu	age in which classes are	Macedonian language		
	conduc	cted			
21.	Metho	d of monitoring the quality	Self-evaluation		
	of teac	hing			

Literature												
	Compuls	Compulsory literature										
	Ordinal	Author	Title	publisher	year							
	No.											
22.1	1.	Velimir Oluski	Technology of	Faculty of	2011							
22.1.			production of ready	Technology								
			meals	Novi Sad								
	2.											
	3.											
	Additional literature											
	Ordinal	Author	Title	publisher	Year							
00.0	No											
22.2.	1.											
	2.											
	22.1.	22.1. Computs Ordinal No. 1. 2. 3. Additional No 22.2. 1.	22.1.       Compulsory literature         Ordinal       Author         No.       1.         Velimir Oluski       2.         3.       3.         Additional literature       Ordinal Author         0rdinal       Author         1.       1.         2.       3.         1.       1.         1.       1.         22.2.       1.	Compulsory literature         Ordinal No.       Author       Title         22.1.       1.       Velimir Oluski       Technology of production of ready meals         2.       3.       Image: Compulsory literature         3.       Image: Compulsory literature         Ordinal No       Author       Title         22.2.       Image: Compulsory literature         22.2.       Image: Compulsory literature         22.2.       Image: Compulsory literature	Compulsory literature         Ordinal No.       Author       Title       publisher         1.       Velimir Oluski       Technology of production of ready meals       Faculty of Technology Novi Sad         2.       3.       Image: Stress of the stress of							

Арр	endix No.3	Syllabus for	r the first, second and third cycle of study				
1.	Course title		Instrumental Methods				
2.	Course code		2ZF205812				
3.	Study program	me	Processing and control of animal products				
4.	Organizer of the programme (fac group)	•	Faculty of Agriculture, University "Goce Delcev"- Stip				
5.	Level (first, sec	ond, third cycle)	Second cycle				
6.	Academic year	/ semester	Second year/ third semester	7.	Number of ECTS credits	8	
8.	Professor		Prof. Rubin Gula	bos	ki, PhD		

9.	Preconditions for course enrollment		No					
10.	Goals of the course progra				-			
	methods for analysis, and in the application of various instrumental methods to food							
	samples analysis							
11.	Content of the course proc							
	Lectures: 1. Introduction to instrumental techniques; 2. Precision, accuracy,							
	reproducibility; 3. Quantum theory for the atom structure 4. Atomic absorption							
	spectroscopy; 5. ICP MS; 6. Methods based on light absorption; 7. UV-VIS; 8. Theory of chromatography; 9. Liquid chromatography; 10. Gas chromatography; 11.							
	Electrochemical techniques;	•			јарну, тт.			
	<b>Practices</b> : 1. Introduction;		-	•	h AAS <sup>.</sup> 3.			
	Determination of heavy meta		-					
	in water with UV VIS; 5. D				•			
	Methods for lipids extraction;	; 8. Elec	trophoresis-protein detec	ction; 9. Dete	rmination of			
	lipids in food with HPLC: 10.							
	Voltammetric determinatior		-	12. Electo	grochemical			
	determination of total antioxi	dative p	otential.					
12.	Methods of study:							
	Lectures, Laboratory exe consultations.	rcises,	e-learning, individual	and tean	n projects,			
13.	Total amount of available t	imo	216 hours					
14.	Distribution of the available time		3+2+2					
17.	Distribution of the available	e unie	01212					
15.	Forms of teaching	15.1.	Lectures - theoretical to	raining	3 classes			
	activities				weekly			
		15.2.	Exercises (laboratory, a		2 classes			
			workshops, outreach ar	nd	weekly			
16.	Other forms of activities	16.1.	teamwork		1 class			
10.	Other forms of activities	10.1.	Team projects		weekly			
		16.2.	Individual projects		1 class			
		10.2.			weekly			
		16.3.	Individual study					
4-	-	_						
17.	Forms of assessment		m ala atrania ta ating)		20			
			•		30			
	17.2. Project activities (ora		,		50			
	17.3. Other forms of studyi	ng activ	ities		20			
18.	Criteria for assessment (p	oints /	up to 50 points	5( five) (F)				
	grade)		from 51 to 60 points	6( six) (E)				
			from 61 to 70 points	7(seven) (I	,			
		from 71 to 80 points	8( eight) (C	)				
		from 81 to 90 points	9(nine) (B)					
10	Condition for notting a size	not:	from 91 to 100 points	10(ten) (A)	ioo ond			
19.	Condition for getting a sign	nature	60% of term activities, p					
20.	and taking the final exam Language in which classes	s are	attending to lectures an Macedonian	10 01500551011	3			
20.	conducted	5 016						
	Unducied							

21.		od of moni	-		Self-evaluation, anonym polls		
		ty of instru	iction				
22	Litera	iture					
•		Compuls	ory literatur	e			
		Ordinal No.	Author		Title	Publish er	Year
	00.4	1.	Rubin Gulaboski	availa	imental methods, internal stuff able on	UGD- Stip	201 0
	. 22.1	2.	Semih Otles	Hand Instru Semi	rubingulaboski.synthasite.com book of Food Analysis iments, Taylor & Francis, h Otles (ed.) 2008. /www.chipsbooks.com/hbfdinst.	Taylor & Francis	200 8
		3.					
		Additiona	al literature				1
		Ordinal No.	Author		Title	Publisher	Year
	22.2	1.	Rubin Gulaboski	availa	rized lectures in ppt format, ble in free format on rubingulaboski.synthasite.co	UGD	201 0
		2.					
		3.					

Арр	endix No. 3	Subject prog	ramme first, secon	d ar	nd third cycle st	udies	
1.	Title of course	S	FOOD SAFETY				
2.	code		2ZF221412				
3.	Study program	nme	Module processin	ig ar	nd animal produc	ts	
4.	Organizer of	the study	Faculty of Agricul	ture	, Department of		
	programme( u	nit or institute	technology and pro	oces	sing of animal p	roducts	
	,department di	vision)					
5.	Level (first, se	cond, third	Second cycle				
	cycle)				•		
6.	Academic yea	r / semester	Secound	7.	Number of	8	
			year/third		ECTS credits		
			semester				
-				L			
8.	Professor		Prof. Aco Kuzelov	, Phl	D		
9.	Preconditions	for course	/				
	enrollment						
10.			ne: Students are bei	ing f	amiliarized with t	he	
	safety food star						
11.		course program					
			ntroduction, 2. Hist				
			obreviations; 4.Prec				
			tem 5.Making HAC		, <u> </u>		
	diagram of the technological process and its verification; 7 Identification and						

12.	<ul> <li>control of critical control points, 8 Corrective actions; 9.Critical limits and monitoring system 10. Record keeping and documentation, 11Procedures and work instructions. 12. internal audit</li> <li><b>5)</b> Contens of exercises1. Introduction, History of HACCP sistemot3. Commonly used terms and abbreviations; 4.Preconditioned programmes for implementation of HACCP-system 5.Making HACCP plan 6. Making a block diagram of the technological process and verify it; 7 Identification and control of critical control points, 8 Corrective actions; 9.Critical limits and monitoring system 10. Record keeping and documentation, 11Procedures and work instructions. 12. internal audit</li> <li>Methods of study: lectures, theoretical and practical exercises, consultations, making independent paper work, home learning, preparatory classes for exams and mid-term tests: consultations.</li> </ul>									
13.		amount of available t			216 hours					
14.		oution of the availabl		)	3+2+2					
15.		of teaching	15.1.		Lectures - Theory			3		
	activities 15.				Exercises ( laborator auditory ), seminars teamwork	у,		2		
16.	Other	forms of activites	16.1.	1. Proect tasks		1				
			16.2.	2. Individual tasks				1		
			16.3.		Home learning					
17.	Form	s of assessment								
	17.1.	Project tasks						30 points		
	17.2	Working tasks / proje oral)	ect (pre	ese	ntation: written and			50 points		
	17.3	Activity and participa	ition					20 points		
			•							
18.		a for assessment (poir	nts /		50 points		five)	F		
	grade)				51 to 60 points	6 (si	/	E		
			$\vdash$		61 to 70 points	7(se	,	D		
			$\vdash$		71 to 80 points 81 to 90 points	8( ei 9( ni	<b>U</b> /	C B		
			$\vdash$		91 to 100 бода			A		
19.		ion for getting a signa king the final exam	ture							
20.		age of instruction		Macedonian language						
21.		d of monitoring the qu			f-evaluation					

22.	Literat	erature									
	Compulsory literature										
		Ordinal	Author	Title	publisher	year					
		No.									
	22.1.	1.	Aco	HACCP system in high-risk industtrija	UGD	2011					
			Kuzelov	internal script of lectures - internal	Stip						
				script							
		2.									

		3.									
		Additional literature									
		Ordinal	Author	Title	publisher	Year					
	22.2.	No.									
		1.									
		2.									