Study programme: Oenology - 4 YEAR STUDY PROGRAMME DIPLOMA: Graduated agricultural engineer – Oenologist, Baccalaureat (NQF VI A)

(General programme for the first three years is identical for all study programmes)

CODE	VII SEMESTER – FOURTH YEAR			
	Compulsory course	Credits	Classes	Total
2ZF122112	Introduction in oenology	8	3+2+2	216
2ZF115312	Ampelography	8	3+2+2	216
2ZF121712	Production of wine	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	VIII SEMESTER-FOURTH YEAR			
	Compulsory course	Credits	Classes	Total
2ZF121812	Wine microbiology	6	2+2+1	156
2ZF121912	Sensory and analitical evaluation of wine	6	2+2+1	156
	University elective course	4	2+1+1	120
	Faculty elective course	6	2+2+1	156
	Graduation thesis	8	0+0+8	192
	Total:	30	8+7+12	780

CODE	Faculty elective courses VII semester			
2ZF121512	Process techniques in wine industry	4	2+1+1	120
2ZF121212	Storage and packing	4	2+1+1	120
2ZF122012	Practical work in winary	4	2+1+1	120
2ZF107112	Grape and wine marketing	4	2+1+1	120
	Faculty elective courses VIII semester	•		
2MF103712	Quality control	4	2+1+1	120
2ZF106012	Farm Management	4	2+1+1	120

Code	University elective courses VII se	emester a	and VIII semeste	r
UGD102212	Fundamentals of Tourism	6	2+2+1	156
UGD102312	Earth Sciences	6	2+2+1	156
UGD102412	Physics	6	2+2+1	156
UGD102512	Biology	6	2+2+1	156
UGD102612	Health care	6	2+2+1	156
UGD102012	History of Art	6	2+2+1	156
UGD102112	National history	6	2+2+1	156

Арр	endix No.3 Syllabus	for the	first, second a	nd tł	nird cycle of s	study	/
1.	Course title	INTRO	DUCTION IN (DEN	OLOGY		
2.	Course code	2ZF12	2112				
3.	Study programme	Oenol	ogy				
4.	Organizers of the study	Univer	sity "Goce Delč	ev"-	Štip, Faculty	of	
	programme (faculty,	Agricu	lture				
	institute, group)	-					
5.	Level of study (first, second, third cycle)	First c	ycle				
6.	Academic year / semester	Fourth	year/eight	7.	Number of		8
-	,	semes	, ,		ECTS credits	3	-
8.	Professor		rof. Violeta Ivar	lova-			
9.	Preconditions for course	/					
0.	enrollment	,					
10.	Goals of the course program	ne:					
	Acquiring knowledge about the		omposition inc	ludin	a acids, sugai	s, al	cohols
	nitrogen compounds, metals, p						
	process of production, treatmen						
	getting to know the criteria for g					., ∽g	
11.	Content of the course progra						
	 components; 8. Sulfur dioxide; and cleaning agents; 11. Wir phenomenon; 12. Geographica Wine as food and medicine. B) Content of exercises: 1. In visit of vineyard; 2. Chemical a Introduction of wine technologie for determination of wine qualit extract, metals and nitrogen cor of phenolic compounds, color, aroma compounds; 8 Visit of wi production; 9. Visit of winery an 10. Visit of winery and an introduct tasting. 	ne aging I origin and me s, visit o y; 5. Int mpound hue; 7. nery an d follow	g in tanks and of wines (wines on to the basic chanical compo f a winery; 4. In roduction to me s; 6. Introduction Introduction to d following appi ng wine stabiliz	d wo with proc ositio trodu ethod n to u met copria	oden barrels, a geographical eesses of riper n of grapes a ction to the ba ls for determin methods for deter hods for deter ate wine treatm and tracking	a ri india ning (nd w sic m atior eterm rmina rents proce	ipening cation). grapes, vine; 3. hethods n of dry hination ation of during edures;
12.	Methods of study:						
	Lectures and laboratory exercis	es, con	sultations; indiv	idual	and team pro	jects:	• ,
	e-learning.		-		• •		
13.	Total amount of available time	e	216				
14.	Distribution of the available ti	ime	3+2+2				
15.	Forms of teaching activities	15.1.	Lectures - the training	oreti	cal		2
		15.2.	Practice (labor auditory), work outreach and t	shop	os,		1

16.	Other	forms of	activities	16.1	I. T	eam projects			1
				16.2	2. Ir	ndividual projects			1
				16.3	3. Ir	ndividual study			-
17.	Forms	s of asses	sment						
	17.1.	Exams (r	nid-term exams	s, exai	m, e	lectronic testing)			70
	17.2	Project a	ctivities (oral ar	nd writ	tten	presentation)			10
	17.3.	Other for	ms of studying	activit	ties				20
10						to EQ pointo	E (five)		
18.	grade		essment (poin	ts / - -	fi fi fi	to 50 points rom 51 to 60 points rom 61 to 70 points rom 71 to 80 points rom 81 to 90 points	5 (five) 6 (six) 7 (seven) 8 (eight) 9 (nine)		(F) (E) (D) (C) (B)
						m 91 to 100 points	10 (ten)		(A)
19.	and ta	aking the	etting a signat final exam		fron atte	6 of term activities n 2 mid-term exam ending to lectures an	s, project a	activ	
20.	Langı condı		hich classes a	re	Mad	cedonian			
21.		od of mon truction	itoring the qua	ality	Self	f-evaluation			
22.	Litera	ture							
		Compuls	ory literature						
		Ordinal number	Author			Title	Publish	er	Year
	22.1.	1.	Violeta Ivanov Petropulos	/a-	0	troduction in enology (no eviewed script)	UGD - Štip		2012
		2.	Violeta Ivanov Petropulos	/a-	lr O	/orkshop of troduction in enology (no eviewed script)	UGD - Štip		2012
		Additiona	al literature						
		Ordinal number	Author			Title	Publisł	ner	Year
		1.	Ribereau-Gay Glories Y, Mar A, Duborurdl	ujean	V	andbook of Enology ol. 2	7. John Wiley & Sons	k	2006
	22.2.	2.	Jackson R		P A	/ine Science, ricniples & pplications, 3th Ed.	Elsevie	r	2008
		3.	Violeta Ivanov Petropulos	/a-	lr O	uthorized lectures o troduction in enology, in ppt ormat	f UGD - Štip		2012

No.3	-	programm	ne from first, seco	nu a	na thira cy	cie studies
1.	Course title		AMPELOGRAPHY	,		
2.	Course code		2ZF115312			
3.	Study programme		Oenology			
4.	Organizers of the stud programme (faculty, institute, group)	ly	University "GoceDe agriculture	elcev	"- Stip, Facu	lty of
5.	Degree (first cycle)		First cycle			
6.	Academic year / seme	ster	Fourth year/ seventh semester	7.	Number of ECTS credits	8
8.	Professor		Prof. Violeta Dimov	′ska,	Ph.D	
9.	Preconditions for cou	rse	No			
	enrollment					
10.	Goals of the course pr Acquiring knowledge at vine varieties.			ologi	ical characte	ristics of grape
	Characteristics of enviro and varieties of genus V grape vine varieties. 8. grape varieties. 11. Regionalization of grape B) Exercises: 1. Eleme A.O of certain parts o composition and structu mechanical properties o	itis L. Dese Wine grap Newly int e varieties ents for am f grape vi irre of grap f grape be	cription elements of be varieties. 9. Tab roduced varieties. and characteristics pelographic descrip ines. 3. Methods f e cluster and berrie	varie le gra Ins of vi of vi of vi of vi	eties. 7. Euro ape varieties tantly fertile neyards regi of varieties. 2 etermining the Methods for	pean cultivated . 10. Seedless hybrids. 12. ons. 2. Elements for he mechanical examining the
10	zoning of grape vine val	rieties.				
12.	Methods of study: Lectures, Laboratory consultations	exercises	s, e-learning, ir	ndivic	lual and t	eam projects,
13.	Total amount of availa	ble time	216			
14.	Distribution of the ava	ilable	3 +2 +2			
15.	Forms of teaching	15.1.	Lectures - theore	tical t	training	3
	activities	15.2.	Exercises(laborate auditorial), worksh outreachandteam	orial, nops,		2
16.	Other forms of activities	16.1.	Team projects			
		16.2.	Individual projects			1
		16.3.	Individual study			/
17.	Forms of assessment	•			•	
	17.1. Exams (mid-tern	n exams, e	exam, electronic			70

	17.2.	Project a	activities (oral and	written presentation)		10
	17.3.	Other for	rms of studying act	tivities		20
18.	Criter	ia for ass	essment	to 50 points	5(five) (F)	
	(point	s / 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	10(ten) (A)	
				points		
19.		ition for g		60% of term activitie		
	•		taking the final	2 mid-term exams, p		nd attending
00	exam			to lectures and disc	ussions	
20.		uage in work work work work work work work work	hich classes	Macedonian		
21.			itoring the	Self-evaluation		
		y of instr				
22.	Litera	ture				
		Compuls	ory literature			
		Ordinal number	Author	Title	Publisher	Year
	22.1.	1.	Zvonimir Bozinovic	Ampelography	Agrinet DOO Skopje	2010
		2.	Avramov I.,Zunic D.	Ampelography	Faculty of agriculture Belgrade	2001
		3.	Виолета Димовска	Grape varieties	Internal script	2011
		Additiona	al literature			
	22.2.	Ordinal number	Author	Title	Publisher	Year
	<i></i> .	1.	Avramov Lazar	Wine and table grape varieties	Faculty of agriculture Belgrade	1996
		2.	Cindric P., Korac Nada, Kovac V.	Grape varieties	Prometej-Novi Sad	2000

App No.	pendix 3	Syllabus f	or the first, second and	d thi	rd cycle of study	,
1.	Course tit	le	PRODUCTION OF W	INE		
2.	Course co	de	2ZF121712			
3.	Study pro	gramme	Oenology			
4.		s of the study ne (faculty, group)	University "Goce Delč Agriculture	ev"-	Štip, Faculty of	
5.	Level of st second, th	tudy (first, hird cycle)	First cycle			
6.	Academic	year / semester	Fourth year/eight semester	7.	Number of ECTS credits	6
8.	Professor		Prof. Georgi Michev, F	PhD		

9.	Preconditions for course	/					
10.	enrollment Goals of the course program	mme [.]					
10.	Acquiring knowledge about the		uctic	on of wine from differe	ent ara	ape varieti	es.
11.	Content of the course prog A) Content of lectures: 1.	ramme Introdu	: Ictio	n to wine-making. M	echan	ical and c	chemical
	composition of grape, must						
	Treatments of the must before yeasts, fermentation kinetics						
	wine production; 5. Technolog						
	production; 7. Detailed proce	esses fo	or p	roduction of red and	white	e wines: p	ressing,
	yeasts, fermentation, extract						
	rmovinification and other type sweet and semi-sweet wines,						
	processing in wineries.	nquou			a cola		ig grape
			,				
	B) Content of exercises: Processing of red and white						
	enzymes and other treatme						
	composition of wine; 5. Influe						
	wine; 6. Application of oenolog 7. Influence of the length and						
	9. Conditions for wine stor			0.0			
	evaluation of wines from diffe						
12.	Methods of study:	roiooo	000	aultationa individual	and	toom pro	ianta: a
	Lectures and laboratory exe learning.	101585,	COL		anu		jecis, e-
13.	Total amount of available ti	me		152			
14.	Distribution of the available	time		2+2+1			
15.	Forms of teaching activities	s 15. ⁻		Lectures - theoretica training	I		2
		15.2		Practice (laboratory,			1
				auditory), workshops			
10		- 10		outreach and teamwo	ЛК		
16.	Other forms of activities	16.1		Team projects			0.5
		16.2		Individual projects			0.5
		16.3	3.	Individual study			-
17.	Forms of assessment						
	17.1. Exams (mid-term exar	ns, exa	ım, e	electronic testing)			70
	17.2 Project activities (oral	and wr	itten	presentation)			10
	17.3. Other forms of studyin	g activi	ties				20
18.	Criteria for assessment (po	ints /		50 points	· · ·	ve)	(F)
	grade)			from 51 to 60 points	6 (si	/	(E)
				from 61 to 70 points		even)	(D)
			-	from 71 to 80 points	8 (eig	ght)	(C)

		from 91 to 100 points 10 (ten) (A)
19.	Condition for getting a signature	60% of term activities or minimum 42 points
	and taking the final exam	from 2 mid-term exams, project activities and
		attending to lectures and discussions
20.	Language in which classes are conducted	Macedonian
21.	Method of monitoring the quality of instruction	Self-evaluation

22.	Litera	ture				
		Compuls	ory literature			
		Ordinal number	Author	Title	Publisher	Year
	22.1.	1.	Borimir Vojnoski	Production of wine, Internal skript	UGD-Stip	2011
		2.				
		Additiona	al literature			
		Additiona				
		Ordinal	Author	Title	Publisher	Year
		number				
	22.2.		Author Grainger K, Tattersall H	Title Handbook of Enology. Vol. 2	Publisher John Wiley & Sons	Year 2006
	22.2.	number	Grainger K,	Handbook of	John Wiley	

Арр	endix No.3	Syllabus for	the first, second	and	third cycle of study	/			
1.	Course title		WINE MICROBI	OLO	GY				
2.	Course code	ł	2ZF121812						
3.	Study progra	nmme	Oenology						
4.	Organizers o programme (f the study faculty, institute,	University "Goce Delcev"- Stip, Faculty of Agriculture						
	group)	· · · · ·							
5.	Degree (first, thirdcycle)	, second,	First cycle						
6.	Academic ye	ear / semester	Fourth year, VII semester	7.	Number of ECTS credits	6			
8.	Professor		Prof. Ilija Karov,	Ph.D)				
9.	Precondition enrollment	s for course	No						
10.	Goals of the	course programme:							
	Introduction w	ith microorganisms or	n wine						
11.	Content of th	e course programme	e:						
	 A) Content of lectures: 1. Yeasts (species yeasts); 2. Ecology and distribution of yeasts; 3. Factors affecting the growth and biochemical activity of yeasts; 4. Alcohol fermentation; 5. Aerobic yeasts; 6. Pure culture wine yeasts; 7. Milk acid bacteria; 8. Useful and harmful bacteria Milk acid process of wine production; 9. Acido bacteria; 10. Mildewinwine; 11. 								

Means and methods for the destruction and removal of harmful microorganisms from the wine; 12. Microbiology of cork;

B) Content of exercises: 1.Techniki and laboratory measures for safe operation; 2. Cultivation of yeasts (foodstuffs, mats); 3. Isolation of yeasts; 4. Selection of yeasts; 5. Inoculation of yeasts in grape juice; 6. Cultivation of wine bacteria (foodstuffs, mats); 7. Isolation of bacteria wine; 8. Selection of wine bacteria; 9. Microbiological examination of wine; 10. Methods for microbiological examination of wine (set for membrane filtration); 11. Methods for removing harmful bacteria from wine; 12. Preparations for disinfection.

12. **Methods of study**: lectures, theoretical and practical exercises, consultations; making independent seminar work; learning home; exam preparatory classes and mid-term tests: consultation

14. Distribution of the available time activities 2+2+1 15. Forms of teaching activities 15.1. Lectures - theoretical training 2 16. Other forms of activities 15.2. Practice (laboratory, auditory), workshops, outreach and teamwork 1 16. Other forms of activities 16.1. Team projects 1 17. Forms of assessment 16.2. Individual study 1 17.1. Exams (mid-term exams, exam, electronic testing) 70 70 17.2. Project activities (oral and written presentation) 100 17.3. Other forms of studying activities 20 18. Criteria for assessment (points / grade) form 51 to 60 points 6(six) (E) from 51 to 60 points 19. Condition for getting a signature and taking the final exam 60% of term activities or minimum 42 points from 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are conducted Macedonian Macedonian 21. Method of monitoring the quality of instruction Self-evaluation Gordisal activities or minimum 42 points from 91 to 100 points 2012 22. Language in which classes are conducted<	13.	Total	Total amount of available time			156 hours			
activities 15.2. Practice (laboratory, auditory), workshops, outreach and teamwork 1 16. Other forms of activities 16.1. Team projects 1 17. Exams (mid-term exams, exam, electronic testing) 70 1 17.1. Exams (mid-term exams, exam, electronic testing) 70 17.2. Project activities (oral and written presentation) 10 17.3. Other forms of studying activities 20 18. Criteria for assessment (points / grade) to 50 points 5 (five) (F) from 51 to 60 points 7 (seven) (D) 1 from 91 to 100 points 9 (nine) (B) 10 19. Condition for getting a signature and taking the final exam 60% of term activities or minimum 42 points from 2 mid-term exams, project activities and attending to loctures and discussions 20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Compulsory literature Vieta and alteration of instruction 22. Literature Quid-term exams, project activities and attending to loctures and discussions Self-evaluation 22.	14.	Distril	bution of	the available	time	2+2+1			
activities 15.2. Practice (laboratory, auditory), workshops, outreach and teamwork 1 16. Other forms of activities 16.1. Team projects 1 17. Exams (mid-term exams, exam, electronic testing) 70 1 17.1. Exams (mid-term exams, exam, electronic testing) 70 17.2. Project activities (oral and written presentation) 10 17.3. Other forms of studying activities 20 18. Criteria for assessment (points / grade) to 50 points 5 (five) (F) from 51 to 60 points 7 (seven) (D) 1 from 91 to 100 points 9 (nine) (B) 10 19. Condition for getting a signature and taking the final exam 60% of term activities or minimum 42 points from 2 mid-term exams, project activities and attending to loctures and discussions 20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Compulsory literature Vieta and alteration of instruction 22. Literature Quid-term exams, project activities and attending to loctures and discussions Self-evaluation 22.								1	
$ \begin{array}{ c c c c c c } \hline \begin{tabular}{ c c c c c c } \hline \begin{tabular}{ c c c c c c c } \hline \begin{tabular}{ c c c c c c c } \hline \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	15.			ing					
teamworkteamworkteamworkteamwork16.1.Team projects16.2.Individual projects17.1Exams (mid-term exams, exam, electronic testing)7017.2.Project activities (oral and written presentation)1017.3.Cher forms of studying activities2018.Criteria for assessment (points / grade)to 50 points from 51 to 60 points5 (five) (F)17.3.Other forms of studying activities2018.Criteria for assessment (points / grade)to 50 points from 51 to 60 points from 61 to 70 points from 71 to 80 points from 81 to 90 points 9 (nine) (B)6 (six) (E) from 81 to 90 points 9 (nine) (B)19.Condition for getting a signature and taking the final examMacedonianConductedOrdinal a king the final examSelf-evaluationOrdinal classes are conductedCompulsory literatureOrdinal Ordinal numberAuthorTitlePublisherYeadOrdinal Ordinal numberAuthorTitlePublisherYeadOrdinal Ordinal		activit	ies		15.2.			1	
$ \begin{array}{ c c c c c c c } \hline \mbox{Other forms of activities} & 16.1. & Team projects & 16.2. & Individual projects & 1 & 1 \\ \hline \mbox{16.2.} & Individual study & 1 & 1 \\ \hline \mbox{16.3.} & Individual study & 1 & 1 \\ \hline \mbox{17.4.} & Exams (mid-term exams, exam, electronic testing) & 70 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & $						• •	1		
Image: Product of the second secon	10				10.1				
Image: Instruction 10 10 10 17.1 Forms of assessment 1 1 17.2 Project activities (oral and written presentation) 10 17.3. Other forms of studying activities 20 18. Criteria for assessment (points / grade) to 50 points 5(five) (F) from 51 to 60 points 6(six) (E) 1 from 61 to 70 points 7(seven) (D) 1 from 81 to 90 points 8(eight) (C) from 91 to 100 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 or minimum 42 points from 2 mid-term exams, project activities and discussions 20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature 1 22.1. 1 Ilija Karov, Fidanka linew Wine microbiology UGD-Stip 22.1. 2 2 2 2 10. 1 1 1 11. 1 Production and analytic of wine AD Verburn, Skopje	16.	Other	forms of	activities	16.1.	leam projects			
17. Forms of assessment 17.1. Exams (mid-term exams, exam, electronic testing) 70 17.2. Project activities (oral and written presentation) 10 17.3. Other forms of studying activities 20 18. Criteria for assessment (points / grade) to 50 points 5(five) (F) from 51 to 60 points 6(six) (E) from 61 to 70 points 7(seven) (D) from 81 to 90 points 9(nine) (B) from 91 to 100 points 9(nine) (B) 19. Condition for getting a signature and taking the final exam 60% of term activities or minimum 42 points from 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are conducted Macedonian Macedonian 21. Method of monitoring the quality of instruction Self-evaluation Year 22. Literature 1. Ilija Karov, Fidanka linewa Wine microbiology UGD-Stip 2012 22.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995					16.2.	Individual projects		1	
17.1. Exams (mid-term exams, exam, electronic testing) 70 17.2. Project activities (oral and written presentation) 10 17.3. Other forms of studying activities 20 18. Criteria for assessment (points / grade) to 50 points 5(five) (F) 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 91 to 100 points 9(nine) (B) from 91 to 100 points 10(ten) (A) 60% of term activities or minimum 42 points from 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are conducted Macedonian Macedonian 21. Method of monitoring the quality of instruction Self-evaluation Year 22. Literature Ordinal Author Title Publisher Year 22.1. 10 lija Karov, Fidanka Wine microbiology UGD-Stip 2012 22.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995					16.3.	Individual study		1	
17.2. Project activities (oral and written presentation) 10 17.3. Other forms of studying activities 20 18. Criteria for assessment (points / grade) to 50 points 5(five) (F) 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 91 to 100 points 10 (ten) (A) 19. Condition for getting a signature and taking the final exam 60% of term activities or minimum 42 points from 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Compulsory literature Ilija Karov, Fidanka 22.1. 1. Ilija Karov, Fidanka Wine microbiology UGD-Stip 2012 22.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic AD Verbum, Skopje 1995	17.	Forms	s of asses	sment	I			1	
17.3. Other forms of studying activities 20 18. Criteria for assessment (points / grade) to 50 points 5(five) (F) 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 91 to 100 points 9(nine) (B) 19. Condition for getting a signature and taking the final exam 60% of term activities or minimum 42 points from 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Ilija Karov, Fidanka lieva Wine microbiology UGD-Stip 2012 22.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, 1995 1995		17.1.	Exams (r	nid-term exan	ns, exan	n, electronic testing)		70	
18. Criteria for assessment (points / grade) to 50 points 5(five) (F) 18. Criteria for assessment (points / grade) to 50 points 5(five) (F) 19. from 61 to 70 points 7 (seven) (D) 19. Condition for getting a signature and taking the final exam 60% of term activities or minimum 42 points from 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Compulsory literature View and the probability of instruction 22.1. 1. Ilija Karov, Fidanka lieva Wine microbiology UGD-Stip 2012 2.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verburn, Skopje 1995		17.2.	Project a	ctivities (oral a	and writ	ten presentation)		10	
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 91 to 100 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 or minimum 42 points from 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Ordinal Author number Title Publisher Year 1. Ilija Karov, Fidanka lileva Wine microbiology UGD-Stip 2012 22.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995		17.3.	Other for	ms of studying	g activiti	ies		20	
Image: Solution for getting a signature and taking the final exam from 61 to 70 points 7(seven) (D) 19. Condition for getting a signature and taking the final exam 60% of term activities or minimum 42 points from 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Compulsory literature 0rdinal number Author Title Publisher Year 1. Ilija Karov, Fidanka Wine microbiology UGD-Stip 2012 22.1. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995	18.	Criter	ia for asse	essment (poi	nts /	to 50 points	5(five) (F)		
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 or minimum 42 points from 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Compulsory literature Ordinal number Author Title 11. Ilija Karov, Fidanka Ilieva Wine microbiology UGD-Stip 2012 22.1 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995		grade)			from 51 to 60 points	6(six) (E)		
from 81 to 90 points 9(nine) (B) 19. Condition for getting a signature and taking the final exam 60% of term activities or minimum 42 points from 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Compulsory literature Ordinal number Author Title Publisher Year 1. Ilija Karov, Fidanka lieva Wine microbiology UGD-Stip 2012 22.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995						from 61 to 70 points	7(seven) (D)	
from 91 to 100 points 10(ten) (A) 19. Condition for getting a signature and taking the final exam 60% of term activities or minimum 42 points from 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Compulsory literature 0rdinal number Author Title Publisher Year 1. Ilija Karov, Fidanka Ilieva Wine microbiology UGD-Stip 2012 22.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995						from 71 to 80 points	8(eight) (C	;)	
19. Condition for getting a signature and taking the final exam 60% of term activities or minimum 42 points from 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Compulsory literature 22.1. Ordinal number Author 1. Ilija Karov, Fidanka Ilieva Wine microbiology UGD-Stip 2012 22.1. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995						from 81 to 90 points	9(nine) (B)		
and taking the final exam 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Compulsory literature 22. Compulsory literature Verant 22.1. Ordinal number Author 1. Ilija Karov, Fidanka lieva Wine microbiology UGD-Stip 2012 1. Ilija Karov, Fidanka lieva Production and analytic of wine AD Verburn, Skopje 1995									
to lectures and discussions 20. Language in which classes are conducted 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Compulsory literature 22. Literature Ordinal Author number Title Publisher Year 1. Ilija Karov, Fidanka Ilieva Wine microbiology UGD-Stip 2012 22.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995	19.				ature				
20. Language in which classes are conducted Macedonian 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Compulsory literature Ordinal Author Title Publisher Year number 1. Ilija Karov, Fidanka Ilieva Wine microbiology UGD-Stip 2012 22.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995		and ta	king the f	final exam					
conducted Self-evaluation 21. Method of monitoring the quality of instruction Self-evaluation 22. Literature Compulsory literature Ordinal Author 0rdinal Number Author 1. Ilija Karov, Fidanka Ilieva Wine microbiology UGD-Stip 2012 22.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995	-			<u></u>					
of instruction Internation of instruction 22. Literature 22. Compulsory literature Ordinal number Author Title Publisher Year 1. Ilija Karov, Fidanka llieva Wine microbiology UGD-Stip 2012 22.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995	20.			nich classes	are	Macedonian			
22. Literature Compulsory literature Ordinal number Author Title Publisher Year 1. Ilija Karov, Fidanka llieva Wine microbiology UGD-Stip 2012 22.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995	21.			itoring the qu	uality	Self-evaluation			
Compulsory literature Ordinal number Author Title Publisher Year 1. Ilija Karov, Fidanka llieva Wine microbiology UGD-Stip 2012 22.1. 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995	22								
Ordinal numberAuthorTitlePublisherYear1.Ilija Karov, Fidanka IlievaWine microbiologyUGD-Stip201222.1.2.Zukllin BV, Fugelsgang KK, Gamp BH,Production and analytic of wineAD Verbum, Skopje1995			-	ory literature					
number number UGD-Stip 2012 1. Ilija Karov, Fidanka Ilieva Wine microbiology UGD-Stip 2012 2. Zukllin BV, Fugelsgang KK, Gamp BH, Production and analytic of wine AD Verbum, Skopje 1995			•	-	r	Titlo	Public	her Vear	
22.1. Ilieva Production and analytic AD Verbum, 1995 2. Zukllin BV, Fugelsgang KK, of wine Skopje Gamp BH, Of wine Skopje				Auno	1	The			
Fugelsgang KK, of wine Skopje Gamp BH,		1. Ilija Karov, F		idanka	Wine microbiology	UGD-Stip	2012		
3.				Fugelsgang	KK,			ım, 1995	
			3.						

	Additiona	al literature			
	Ordinal number	Author	Title	Publisher	Year
22.2.	1.	Šutić, D., Radin D.	Microbiology	Vizartis, Beograd	2001
	2.	Dragutin A. Dukic,Vsevolod T.Jemcev	General and industrial microbiology	Novi Sad	2004
	3.				

	endix	Syllabus fo	or the first, second and	d thi	rd cycle of study	1		
No. 3 1.	Course tit	le	SENSORY AND ANA	LYT	ICAL EVALUATI	ON OF		
2.	Course co	ode	2ZF121912					
3.	Study pro		Oenology					
4.		s of the study	University "Goce Delč	ev"-	Štip. Facultv of			
		ne (faculty,	Agriculture		,, -			
	institute, g	group)						
5.	Level of s	tudy (first,	First cycle					
	second, th	nird cycle)						
6.	Academic	year / semester	Fourth year/eight	7.	Number of	6		
			semester		ECTS credits			
8.	Professor		Ass Prof. Violeta Ivanova-Petropulos PhD					
9.		ions for course	/					
10.	enrollmen	it he course program						
		tion, including basic	application of analytica and instrumental metho					
11.	Content o	f the course progra	mme:					
	Content of the course programme: A) Content of lectures: 1. Introduction in sensory evaluation of wine; 2. Visual perceptions; 3. Flavor, determination of flavor; 4. Taste and mouth-feel sensations; 5. Environmental organization and standardization. Sensory evaluators (tasters); 6. Methods for sensory evaluation; 7. Introduction in analytical methods for wine evaluation; 8. Chemical composition of wine; 9. Basic methods for chemical composition and quality of wine; 10. Spectroscopic methods – spectrophotometry and atomic absorption spectrometry; 11. Chromatographic techniques; 12. Mass spectrometry.							
	and evaluation of odors; 4	ation of different taste . Descriptive method	valuation of color and vises: sour, sweet, bitter; 3 ls: descriptive analysis, souples, duo-trio test, tes	. Re aron	cognition and ass natic profile; 5. Me	essmen ethods o		

different varieties, production technologies and years; 7. Determination of total acidity and content of sulfur dioxide in wine; 8.Determination of alcohol and specific gravity; 9. Determination of volatile acids and sugars in wine: 10. Spectrophotometric determination of total polyphenols in wine: 11. Spectrophotometric determination of total anthocyanins, color and hue of wine; 12. Determination of aroma and metals in wine. 12. Methods of study: Lectures and laboratory exercises, consultations, individual and team projects; elearning. 13. Total amount of available time 156 Distribution of the available time 14. 2+2+1Forms of teaching activities 2 15. 15.1. Lectures - theoretical training 15.2. Practice (laboratory, 1 auditory), workshops, outreach and teamwork 16. Other forms of activities 16.1. Team projects 1 16.2. Individual projects 1 16.3. Individual study -17. Forms of assessment 17.1. Exams (mid-term exams, exam, electronic testing) 70 17.2 Project activities (oral and written presentation) 10 17.3. Other forms of studying activities 20 18. Criteria for assessment (points / 5 (five) to 50 points (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. Condition for getting a signature / 60% of term activities or minimum 42 points and taking the final exam from 2 mid-term exams, project activities and attending to lectures and discussions 20. Language in which classes are Macedonian conducted 21. Method of monitoring the quality Self-evaluation of instruction 22. Literature Compulsory literature Ordinal Author Publisher Title Year number 22.1. 2013 Violeta Ivanova-Sensory and analytical UGD -1. Petropulos evaluation of wine Štip (reviewed script)

		2.	Violeta Ivanova- Petropulos		Workshop of Sensory and analytical evaluation of wine (reviewed script)	UGD - Štip	2013		
		Additiona	al literature						
		Ordinal number	Author		Title	Publisher	Year		
		1.	Zoecklein B, Fugelsang KC, Gump BH, Nury F	S	Wine analysis & Production	Ad Verbum, Skopje	1995		
	22.2.	2.	. Jackson R,U		Wine Testing, A professional handbook, 2th Ed	Elsevier	2009		
	3. Violetalvanova- Petropulos			Authorized lectures of Sensory and analytical evaluation of wine in ppt format		2012			
Арр	endix N		Syllabus for t		first, second and third				
1.	Cours				ROCESS TECHNIQUES	IN WINE IN	DUSTRY		
2.	Course code				F121512				
3.	Study programme				enology				
4.	Organizers of the study programme (faculty, institute, group)				niversity "Goce Delcev"- griculture	Stip, Faculty	of		
5.		of study	(first, second,	Fii	rst cycle				
6.			/ semester		5	umber of CTS credits	8		
8.	Profes	ssor		Prof. Risto G Kukutanov, PhD					
9.	Preco enroll		or course	No					
10.	Goals Introdu handle techno	of the co uction in b and sup plogical pro	pport the winema	of p king	processing machines in g machines and prope oduction techniques.				
11.	 technological processes in different production techniques. Content of the course: Study material covers the procedural technique that is applied in production technology for processing grapes. Technical and technological processes for processing wine. 1. Access ramps for unloading red and white grapes 2. Different types of grape crushers. Sulfur burettes. Equipment for transport of grape pulp. 3. Different types of strains, 4. Presses, 5. Different types of filters for must and sediment 6. Fluid pumps, pumps for must, 7.Equipment for storage and fermentation of red and white wines. 7. Machines and equipment for stabilisation 10. Packaging lines, Machine lines for production of concentrated products, 11. Types of distillery 12. Indoor and outdoor transport machinery and transport equipment. 								
12.	Lectur	ods of stu es, Labo Itations.		, ε	e-learning, individual	and team	projects,		
13.			f available time	2	40 hours				

14.	Distri	bution of t	he available	e time	2+1+1			
15.	Form	s of teachi	ing	15.1.	Lectures - theoretical tr	aining		2
	activi		J	15.2.	Practice (laboratory, au	<u> </u>		1
					workshops, outreach ar teamwork	nd		
16.	Other	forms of a	activities	16.1.	Team projects			0.5
				16.2.	Individual projects			0.5
				16.3.	Individual study			
17.		s of asses						
	17.1.	Exams (n	nid-term exai	ms, exa	am, electronic testing)			70
	17.2.	Project a	ctivities (oral	and wr	itten presentation)			10
	17.3.	Other for	ms of studyir	ng activ	ities			20
18.			essment (po	ints /	to 50 points	5 (five	e) (F)	
	grade	2)			from 51 to 60 points	6 (six	/ /	
					from 61 to 70 points	7 (se		
					from 71 to 80 points	8 (eig		
					from 81 to 90 points	9 (nine) (B) 10 (ten) (A)		
40	0			- 1	from 91 to 100 points			
19.			etting a sign	ature	60% of term activities o			
	and ta	aking the f	inai exam		from 2 mid-term exams attending to lectures an			and
20.	Langu condu		nich classes	are	Macedonian			
21.	Metho		toring the		Self-evaluation, Periodic	cal tes	ts, Interim p	olls,
22	Litera							
		Compuls	ory literatu	re				
		Ordinal number	-		Title		Publishe r	Year
	22.1	1.	Risto G. Kukutanov I;. Canev		канизација во земјодело зводство	ското	UGD- Stip	201 0
		2.	Risto G. Kukutanov		ЕРНА СКРИПТА -Проце ика во винарството	сна		
		3.	ranatariov	TOAT				
		Addition	nal literature)				
		Ordinal number	Author		Title		Publishe r	Year
	22.2	1	Devlin, T.		book of biochemistry with al correlations, 4th ed		Wiley & Sons inc. pub.New York	199 7
		2.	Rubin Gulaboski	(avai	orized lectures in ppt forn lable on .rubingulaboski.synthasite			

App	endix No.3 Syllabi	us for t	he first, second	and	third cycle of	study			
1.	Course title		Storage and pa	cking	g				
2.	Course code		2ZF121212						
3.	Study programme		Food Processin	g of A	nimal Products	3			
4.	Organizers of the study programme (faculty, institu group)	ute,	University "Goce Agriculture	e Delo	cev"- Stip, Facu	lty of			
5.	Level of study (first, secor third cycle)	nd,	First cycle						
6.	Academic year / semester		Fourth /seventh semester	7.	Number of EC credits	TS 4			
8.	Professor		Assist. Prof. Zor	an Di	mitrovski, PhD				
9.	Preconditions for course enrollment		No						
10.	Goals of the course programme:Students are introduced with storage and packaging of animal products.Content of the course programme:								
12.	 Introduction 2. Types of animal products 3. Types of packaging 4. Actions packaging 5. Storage container 6. Equipment and means of filling, closing and storage containers 7. Designing packaging 8. Impact of packaging on the quality of the product 9. Impact of the product on the packaging 10. Ways of storing animal products.11. Storage conditions of animal products 12. Premises for the storage of animal products 								
12.	Methods of study: Lectures, Laboratory exe consultations.	ercises,	e-learning, in	ndivid	ual and tea	m projects,			
13.	Total amount of available t	ime	120 hours						
14.	Distribution of the availabl	e time	e 2+1+1						
15.	Forms of teaching	15.1.	Lectures - theo	oretic	al training	2			
	activities	15.2.	Practice (labora workshops, out teamwork			1			
16.	Other forms of activities	16.1.	Team projects			0.5			
		16.2.	Individual proje	ects		0.5			
		16.3.	Individual study						
17.	Forms of assessment								
	17.1. Exams (mid-term exa	ims, ex	am, electronic te	sting)		70			
	17.2. Project activities (ora	l and w	ritten presentatio	n)		10			
	17.3. Other forms of studyi	ng activ	vities			20			

18.	Criteria for assessment (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.	Condition for getting a signature	60% of term activities or minimum 42 points from				
	and taking the final exam		project activities and			
		attending to lectures an	d discussions			
20.	Language in which classes are	Macedonian				
	conducted					
21.	Method of monitoring the	Self-evaluation, Periodi	cal tests, Interim polls,			
	quality of instruction					

App No.3	endix 3	Syllabus fo	or the first, second and	d thi	rd cycle of study	,				
1.	Course tit	le	PRACTICAL WORK	IN W	/INERY					
2.	Course co	ode	2ZF122012							
3.	Study pro	gramme	Oenology							
4.	Organizer	s of the study	University "Goce Delč	ev"-	Štip, Faculty of					
		ne (faculty,	Agriculture							
5.	second, th	tudy (first, hird cycle)	First cycle							
6.	Academic year / semester		Fourth year/eight	7.		6				
			semester		ECTS credits					
8.	Professor		Prof. Georgi Michev P	'nD						
9.	enrollmen		/							
11.	 Goals of the course programme: Defining of the basic prerequisites for production of quality raw material and quality wine. Quality control system. Content of the course programme: A) Content of lectures: 1. Introduction; 2. Role of wine-making in total agriculture; 3. Founding winery; 4. Site and location; 5. Basic principles and methods for work in a winery; 6. Organization of the production processes; 7. Organization of the internal space; 8. Defining of the basic prerequisites for production of quality raw material and quality wine; 9. Modernization of the wine industry; 10. Defining the physical and chemical processes during the technological process of wine production; 11. Hygiene in the winery and control system; 12. Wine legislation and regulation for production control. 									
	 B) Content of exercises: 1. Analysis of existing project - winery (site, location, infrastructure); 2. Analysis of existing project-winery - internal organization; 3. Quality control systems, ISO 9001; 4. HACCP; 5. ISO standard 14001; 6. ISO standard 22000; 7. Wine presentation; 8. Marketing; 9. Degustation of red wines; 10. Degustation of white wines. 									
12.	Methods of Lectures a learning.	2	cises, consultations, ind	lividu	ual and team pro	jects; e-				

13.	Total	amount of	f available time	e		152			
14.	Distril	oution of t	the available ti	ime		2+2+1			
15.	Forms	s of teach	ing activities	15.1		_ectures - theoretica raining	l	2	
				15.2	a	Practice (laboratory, auditory), workshops, putreach and teamwo		1	
16.	Other	forms of	activities	16.1	. 1	Feam projects		0.5	
				16.2	2. 1	ndividual projects		0.5	
				16.3	3. I	ndividual study		-	
17.	Forms	s of asses	sment						
	17.1.	Exams (n	nid-term exams	s, exai	m, e	electronic testing)		70	
	17.2 Project activities (oral ar			nd writ	tten	presentation)		10	
	17.3.	Other for	ms of studying	activit	ies			20	
18.	8. Criteria for assessment (point grade)					to 50 points	5 (five) (F)		
					f	from 51 to 60 points	6 (six)	(E)	
				_		from 61 to 70 points	7 (seven)	(D)	
					f	from 71 to 80 points	8 (eight)	(C)	
					from 81 to 90 points 9 ((B)	
						om 91 to 100 points	10 (ten)	(A)	
19.			etting a signat	ure		0% of term activities			
	and ta	iking the t	inal exam		from 2 mid-term exams, project activities and attending to lectures and discussions				
20.	Langu	iage in wł	nich classes ar	re i	Macedonian				
20.	condu			Ū	ma				
21.		od of moni truction	itoring the qua	ality	Sel	lf-evaluation			
22.	Litera	ture							
		Compuls	ory literature						
		Ordinal number	Author			Title	Publisher	Year	
	22.1.	1.	Borimir Vojnos	ski	v	Practical work in vinery, Internal script	UGD-Stip	2011	
		2.							
							•	·]	
		Additiona	al literature						
	22.2.	Ordinal number	Author			Title	Publisher	Year	

	1.	Markalit Y	Winary Technology and operation: A Handbook for Small Wineries	2003
	2.			
	3.			

Арр	endix No.3 Syllabus fo	r the first, second a	and third cycle of study				
1.	Course title	Grape and wine m	narketing				
2.	Course code	2ZF107112					
3.	Study programme	Oenology, 4 year s	tudy programme				
4.	Organizers of the study	University "Goce D	elcev"- Stip, Faculty of				
	programme (faculty, institute,	agriculture - Stip					
	group)						
5.	Level of study (first, second,	First cycle					
	third cycle)						
6.	Academic year / semester	IV year/ VII	7. Number of ECTS 4				
		semester credits					
8.	Professor	Ass. Prof. Elenica	Sofijanova, Ph.D				
9.	Preconditions for course	-					
	enrollment						
10.	Goals of the course programme:						
	Introduce students with the market	ing approach and th	he marketing concept wine and				
	grapes with all the marketing activitie	es and product range	е.				
11.	Content of the course programme						
	Content of lectures: 1. Introduction						
	Marketing activities and marketing concepts; 3. Product Selection and agricultural						
	assortment of grapes and wine; 4. Headlines way of selling grapes and wine; 5.						
	Determination of grape and wine price						
	wine; 7. Mechanism and grape and v	•					
	supply of grapes and wine; 9. Marke						
	wine; 10. World market of grapes a	ind wine 11. Repub	lic of Macedonia's foreign trade				
	exchange with grapes and wine; 12.	Grape and wine ma	arket research.				
	Contents of practice:						
	1. Basic principles, concepts and n						
	promotion concepts for new product						
	the most sought after product; 4. M		001				
	wine; 5. Development of methods for						
	of analysis of demand and supply of	• •	•				
	mechanism and organization of grap						
	in the supply of grapes and wine; 9.						
	supply of grapes and wine; 10. Grap	•	U .				
	producers; 11. Graphic display of th		ners, grapes and wine; 12. Case				
	study research on a world market fo	r grapes and wine.					
12.	Methods of study:						
	Lectures, theoretical and practical ex	-					
	work; learning home; exam preparat		-term tests: consultation.				
13.	Total amount of available time	120 hours					
14.	Distribution of the available time	2 +1 +1					

15.	Forms	s of teach	ina	15.1.	Lectures - theoretical	training	2		
15.	activit		ing		Practice (laboratory, at		<u> </u>		
	activit				workshops, outreach a		1		
					teamwork				
16.	Other	forms of	activities		Team projects		0.5		
				16.2.	Individual projects		0.5		
				16.3.	Individual study		/		
17.	Forms	s of asses	sment						
	17.1.	Exams (r	nid-term exan	ns, exam	i, electronic testing)		70		
	17.2.	Project a	ctivities (oral a	and writte	en presentation)		10		
	17.3.	Other for	ms of studying	a activitie	es		20		
18.			essment (poi		to 50 points	5(five) (F)			
10.	grade		essment (por		from 51 to 60 points	6(six) (E)			
	grade	/			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	Condition for getting a signature			60% of term activities of		ts from		
			final exam		2 mid-term exams, pro				
					to lectures and discuss	sions	_		
20.	Langı condı		hich classes	are	Macedonian				
21.	Metho	od of mon	itoring the qu	uality	Self-evaluation, periodic tests for students,				
	of ins	truction		-	questionnaires				
22.	Litera	ture							
		Compuls	ory literature						
		Ordinal number	Author		Title	Publisher	Year		
	22.1.	1.	Jakovski B.		Marketing	UKIM	2008		
		2.	Tomin,A.,M.	Gjorovic	Markets and	NIR"Cooperative	" 2000		
					marketing of	Belgrade			
					agricultural products				
		Additiona	al literature						
	Ordinal Author 22.2. number			Title	Publisher	Year			
		1.	Philip	Kotle	er, Principles of	Akademski pecat	, 2010		
			GeryAmstro	ng	marketing	Skopje			

Арр	pendix No.3	Syllabus for	the first, second and third cycle of study			
1.	Course title		Quality Management			
2.	Course code		2MF103712			
3.	Study progra	mme:	QUALITY CONTROL			
4.	Organizers o programme (group)	f the study faculty, institute,	University "Goce Delcev"- Stip, Faculty of Agriculture			

5.		of study (first, second	d,	First cycle			First cycle					
6.	third of Acade	cycle) emic year / semester		Fourth year /	7.	Number of ECTS	6 4					
0.	Acau	anne year / Semester		VIII semester	1.	credits	, , ,					
8.	Profe	ssor		Prof. Sasa Mitrev, Ph.D								
9.	Preco	nditions for course		No								
	enroll											
10.	Custo impler	of the course progra mer loyalty. Creating a mentation of the ISO 900	compe 01 famil	etitive market orga								
11.		ent of the course progr										
		oduction to quality mana		it (quality as a stra	ategi	c goal and utility						
		zations for competitiven		rol roquiromonto	rolot	ing to the ISO 000	1.2009					
		ality management syster y Management System)		erai requirements	reiai		1.2006					
		nagement responsibility		of the standard IS	SO 9	001.2008)						
		source management (ite	•			,						
		nversion product (item 7										
	6. Rea	6. Realization of the product (see section 7.4, 7.5 and 7.6 of the standard ISO										
	9001:2											
			rement, analysis and improvement (item 8 of the standard ISO 9001:2008).									
	8. Introduction to ISO 17025, the competence of testing and calibration laboratories.											
	9. Introduction to ISO 27001, Information Security Management Systems. 10. Introduction to ISO 14001, Environmental Management.											
	11. Introduction to ISO 14001, Environmental Management. 11. Introducing standard OHSAS 18001 health and safety management. 12. Introduction to ISO 22000 Food Safety Management System.											
12.		ods of study:										
	lessor	is, exams.										
13.		amount of available tir		120 hours								
14.	Distri	bution of the available	time	2+1+1								
15.		s of teaching	15.1.				2					
	activit	ties	15.2.	Practice (laborat			1					
				workshops, outr	each	and						
10	Othor	forme of estivities	10.1	teamwork								
16.	Other	forms of activities	16.1.	Team projects								
			16.2.	Individual project	cts		1					
			16.3.	Individual study								
17.	Form	s of assessment		1								
	17.1.	Exams (mid-term exan	ns, exai	m, electronic testi	ng)		70					
	17.2.	Project activities (oral	and writ	tten presentation)			10					
	17.3.	Other forms of studying	g activit	ies			20					
18.	Criter	ia for assessment (poi	ints /	to 50 points		5(five) (F)						
	grade			from 51 to 60 pc	oints	6(six) (E)						
				from 61 to 70 points 7(seven) (D))					
				from 71 to 80 pc		8(eight) (C)						
				from 81 to 90 pc		9(nine) (B)						
				from 91 to 100 p	point	s 10(ten) (A)						

40	0	41 a m 6	atting a sime street			1-			
19.			etting a signature	/ 60% of term activities or					
	and ta	iking the f	final exam	from 2 mid-term exams, p		nd			
				attending to lectures and discussions					
20.	Langı condı		nich classes are	Macedonian					
21.		od of mon truction	itoring the quality	Self-evaluation					
22.	Litera	ture							
		Compuls	ory literature						
		Ordinal number	Author	Title	Publisher	Year			
22		1.	Institute of accreditation of Republic of Macedonia	Quality management systems - Requirements (ISO EN ISO 9001:2008)	IARM				
	22.1.	2.	Hrvoje Skoko	Quality management	Sinergija, Zagreb, Croatia	2000			
		3.	David Hoyle	Quality Systems Handbook (4 th edition)	Butterworth- Heinemann, A member of the Reed Elsevier plc group	2001			
		Additiona	al literature						
		Ordinal number	Author	Title	Publisher	Year			
	22.2.	1.	Institute of accreditation of Republic of Macedonia	ISO 17025, ISO 27001, ISO 14001, ISO 22000, ISO 18001	IARM	2010			
		2.							
		3.							

App	pendix No.3	Syllabus fo	r the first, second a	and th	hird cycle of study			
1.	Course title	· · ·	Farm Management					
2.	Course code		2ZF102512					
3.	Study program	nme	Agromanagement,	4 yea	r study programme			
4.	_							
5.	Level of study third cycle)	(first, second,	First cycle					
6.	Academic yea	r / semester	IV year/ VIII semester	7.	Number of ECTS credits	4		
8.	Professor		assi. Prof. Elenica	Sofija	nova, Ph.D			
9.	Preconditions enrollment	for course	/					

10.	introductory observations on functions of planning, job ana well as measuring the perform skills.	the imp Ilysis, re mance	portance of farm manage ecruitment, selection, train of management by develo	ment through ning and dev	introductory observations on the importance of farm management through managerial functions of planning, job analysis, recruitment, selection, training and development, as well as measuring the performance of management by developing basic management skills.							
11.	Content of the course progr A) Contents of lectures : 1. F the performance of managem Whole farm planning, cashf Dealing with risk and uncertai management and use of cr management and planning o capacity, 11. Rules and reg development, SWOT-analysis	Farm ma lent; 3. low buy nty, invo edits; 8 f the ag ulations	anagement in the twenty-f Economic principles-choid dget 5. Farm business c estment analysis; 7. Obtai 3. Control and use of la gricultural labor force; 10	ce of product organization ining resourc and; 9. Hum . Improving	tion levels; 4. and yield; 6. ses for capital nan resource management							
	B) Contents of exercises: 1. Management in agriculture 2. Accounting records and comparative analysis; 3. Study of economic farm unit; 4. Planning profitability, cash flow and capital investment evaluation (practical examples); 5. Human resource planning and mechanization; 6. Sources of funding-balance sheet and income statement; 7. Tax-practice examples; 8. Marketing (examples); 9. European Union –Farm Management; 10. Agricultural marketing organizations; 11. Cereal markets-examples; 12. Live stock markets, examples;											
12.	Methods of study:											
	Lectures, theoretical and prac											
13.	work; learning home; exam preparatory classes and mid-term tests: consultation. Total amount of available time 120 hours											
13.	Distribution of the available		2 +1 +1									
14.		time										
15.	Forms of teaching	15.1.	Lectures - theoretical tra	aining	2							
	activities	15.2.	Practice (laboratory, auc		1							
			workshops, outreach and									
			teamwork									
16.	Other forms of activities	16.1.	Team projects		0.5							
		16.2.	Individual projects		0.5							
		16.3.	Individual study		/							
17.	Forms of assessment		<u> </u>									
	17.1. Exams (mid-term exam	ns, exai	m, electronic testina)		70							
	17.2. Project activities (oral		•		10							
	17.3. Other forms of studyin		. ,		20							
10		•			20							
18.	Criteria for assessment (poi	nts /	to 50 points	5(five) (F)								
	grade)		from 51 to 60 points from 61 to 70 points	6(six) (E)	וח							
			from 71 to 80 points	7(seven) (8(eight) (C	,							
			from 81 to 90 points	9(nine) (B)	7							
			from 91 to 100 points	10(ten) (A)								
19.	Condition for getting a sign	ature	/ 60% of term activities of		2 points from							
	and taking the final exam		2 mid-term exams, project activities and attending									
			to lectures and discussion									
20.	Language in which classes	are	Macedonian									
1	conducted											

21.		od of mon truction	itoring the quality	Self-evaluation, periodi questionnaires	c tests for st	udents,
22.	Litera	ture				
		Compuls	ory literature			
		William M.Edvards, edition) Ratricia A. Daffy		Title	Publisher	Year
				Farm Management (VI edition)	Publishing CenterTRI	2009
	22.1.	2.	Jonathan Turner, MartinTaylor	Applied Farm Management (Second Edition)	Publishing Center TRI	2010
		3.	Gareth Jones, Jennifer George	Modern Management	ISPPI, Skopje	2009
		Additiona	al literature			
		Ordinal number	Author	Title	Publisher	Year
	22.2. 1.		Biljana Bogičevik	Human Resource Management	Belgrade	2004
		2.	LioydByars, Leslie Rue	Human Resource Management	McGraw-Hill	2006

UNIVERSITY ELECTIVE COURSES - Fourth year of study

Арр	endix No.3	Syllabus for	the first, second	and t	hird cycle of stud	у		
1.	Title of the C	ourse	Fundamentals of Tourism					
2.	Code		UGD102212	UGD102212				
3.	Study Progra	imme	Tourism					
4.	Organizer of	the study	University Goce D	Delcev	v-Stip			
	programme (unit or institute,	Faculty of Tourism	n and	Business Logistics	6		
	Faculty, depa	artment)	Department of Ge	evgelij	ja			
5.	Cycle (first, s	second and third	First cycle					
	cycle)							
6.	Academic ye	ar / semester	1/1	7.	Number of	8		
					credits			
8.	Professor (s)		Ass. Prof. Zlatko	Jako	vlev PhD			
9.	Precondition	s for course	Enrolled in first year studies					
	enrollment							
10.	Goals of the o	course programme:	The objectives are	scien	tific and practical, s	scientific		
	refers to the	acquisition of theore	etical knowledge c	of stu	dents about the ba	asics of		
	tourism, and the	he practical application	on of scientific knov	vledg	e in the hospitality p	oractice.		
11.	Content of th	e course programm	ne: Introduction					
		tical and methodolog		e stud	ly of tourism(subjec	t, tasks,		
	•	nd methods of touris						
		s of the scientific stud	•					
	3. Theore	tical understanding o	я тпе сопсерт от то	unsm				

	5. 6. 7. 8. 9.	 4. Practical importance of defining tourism 5. Tourism and analog appear 6. Socio-economic conditionality tourism 7. Theoretical views on the emergence of tourism 8. Tourist need 9. Factors of tourism 10. Tourism functions 11. Tourism values 12. Tourist destination 								
		Tourist attractions and	activitie	es						
		Types of tourism								
		Tourist regulation Tourist differential								
		Tourist futurology								
12.										
13.	Total a	available time			216 hours					
14.	Distril	oution of available tim	ne		3 + 2 + 2 / per w	/eek				
15.	Forms of teaching /15.1.lectures / theoretical -3 hours					ırs				
	learni	ng activities			ntact teaching,					
	e-teaching									
			15.2.		oretical and pra	ctical	2 hou	ırs		
					ercises, exams, preparati	on of				
						ependent seminar				
				wo	-					
16.	Other	forms of activities	16.1.	Project tasks			1 hou	ırs		
			16.2.	Individual tasks 1 hours			ırs			
			16.3.	Но	me learning		1 hours			
17.	Forms	s of assessment								
	17.1.	Tests / oral exams					0-20	points		
	17.2.	Seminars (paper / p	roject -	prese	ntation: written		10	points		
		and/or oral)								
	17.3.	Activity and participa	ation				20	points		
18.		ia for assessment			up 50 points		(five)	(F)		
	(point	s/grade)			51 to 60 points		(six)	(E)		
					61 to 70 points		(seven)	(D)		
					71 to 80 points		(eight)	(C)		
					81 to 90 points 91 to 100 points		(nine) (ten)	(B) (A)		
19.	Condi	tion for getting a sign	ature	60%	success from all a		· ·	()		
13.		king the final exam			pints from two					
		<u>.</u>		•	dance of lectures					
20.	Langu	age in which classes	are	Macedonian language						
	conducted									
21.		Method of monitoring the quality Self-evaluation								
	of tea	ching								

Арр	endix No.3	Sub	ject pr	ogramme from	first	cycle studies	;		
1.	Course title			BIOLOGY					
2.	Course cod	e		UGD102512					
3.	Study progr	ramme:		University electiv	e su	ıbject			
4.	•	of the study (faculty, institute,		Faculty of Agricu Department of P					
	group)								
5.	2	dy (first, second,	third	First cycle					
6.	Academic y	ear / semester		Second / forth Third / sixth	7.	Number of EC credits	CTS	6	
8.	Professor			Ass. prof. Liljana	Kol	eva Gudeva Pl	hD	1	
9.	Precondition	ns for course		No					
	enrollment								
10.	necessary for understanding of life and life processes. Gaining of wide knowledge about the living organisms, cell structure, biological systems, as well as understanding of reproduction. Development of proper attitude to the each own health and health of other humans. Understanding of principles of inheritance. Implementation of gained knowledge.								
11.	Content of	the course prog	ramme	:					
	•••	as science of living							
		and cell structural	elemer	nts					
	3. Nucleic a								
	4. Cell cycle								
	5. Reproduc								
	6. Basics of	0							
	7. Plant cyte	0,							
		ation of basic type	s of ani	imal tissues					
	9. Plant tiss								
		y, morphology an		•••••					
		y and physiology							
10		enic and taxonomy	of life	organisms					
12.	Methods of	•							
		ork; work in sma			Irnin	g; practical cla	asses;	project	
10		ssion; debate; ind							
13.		nt of available tim		156 hours					
14.	Distribution	of the available ti	me	2 +2 +1					
15.	Forms of te	aching activities	15.1.	Lectures - theo	oretic	cal training		2	
							hou	rs/week	

				15.2.		Practice (laboratory, a	• •		2	
						vorkshops, outreach eamwork	and	hou	urs/week	
16.	Other	forms of a	activities	16.1.	Т	eam projects			-	
				16.2.	II	ndividual projects		1 hc	our/week	
				16.3.	II	ndividual study			-	
17.	Forms	s of assess	sment							
	17.1.	Exams (mid-term exa	ms, exa	am	, electronic testing)			70	
	17.2.	Project a	ctivities (oral	and wr	ritte	en presentation)			10	
	17.3.	Other for	rms of studyir	ng activ	⁄itie	es			20	
18.	Crite	eria for ass	sessment (po	ints /	to	o 50 points	5 (five) ((F)		
			rade)		_	rom 51 to 60 points	6 (six) (I	. ,		
					fı	rom 61 to 70 points	7 (seven) (D)		
					fı	rom 71 to 80 points	8 (eight)	8 (eight) (C)		
					fı	rom 81 to 90 points	9 (nine)	9 (nine) (B)		
						rom 91 to 100 points	10 (ten)	(A)		
19.	5 5 5				/	60% of term activitie	s or minimu	m 42	points	
	and taking the final exam				fı	rom 2 mid-term exan	ns, project a	ctivitie	s and	
						ttending to lectures a	and discussi	ions		
20.	Langu condu		ich classes a	re	Macedonian					
21.	Metho instrue		toring the qua	ality of	Self-evaluation					
22.	Literat	ture								
		Compuls	ory literature							
		Ordinal	Author			Title	Publish	er	Year	
	22.1.	number							rour	
		1.	Ass. Prof. L	iljana	С	ell biology	Authorized	b	2009	
			Koleva Gud	-		07	lessons			
		2.	Ass. Prof. L	iljana			GDU - Sti	р	2010	
	Koleva Gudeva		eva							
	Additional literature									
	22.2.	Ordinal number	Autho	or		Title	Publishe	ər	Year	
		1.	Prof. Jordar Dimova	nka		Phisiology	UKIM - Sko	pje	2000	

Appendix No.3		Subject programme from the first, second and third cycle studies			
1.	Title of the subject		NATIONAL HISTORY		
2.	Code		UGD102112		
3.	Stady programmeme		First cycle / University selective course		
4.	Organization of the		History and archeology		
	study program	nme (unit			

	or institute,							
	department,							
	department)							
5.	Level of study (first, second, third cycle)	First cycle						
6.	Academic year /	1/2	7.	Number of ECTS	5			
	semester			credits				
8.	Professor	-	-	Kiril Cackov				
9.	Preconditions for	Subs	scrib	ed 2 semester				
	course enrollment							
10.	 Goals for the course programme: Students to gain a thorough knowledge of history; For students to develop critical thinking as a basis for scientific interpretation of human society; Formation - education as the highest human value; Training of young researchers and promoting multiculturalism in the Republic. Macedonia Formation of aesthetic, patriotic and moral values and develop a sense of belonging to their country; Study of the contents of important historical phenomena, processes and moments from antiquity to the independence of the Republic of Macedonia. 							
	moments from antiquity to the independence of the Republic of Macedonia Content of the course programme: Subject of history, historiography and auxiliary sciences Creating Ancient Macedonia state Culture and religion of Ancient Macedonia Settlement of the Slavs in the Balkans and in Macedonia The spread of Christianity and literature in Macedonian Slavs Bogomil Movement Byzantine rule in Macedonia Macedonian liberation wars against the Byzantine Empire Independent rulers Average Falling Macedonia under Serbian rule Macedonia under Ottoman rule Resistance against Turkish rule in Macedonia (Mariovo rebellion and insurrection Skanderbeg) Cultural, educational and religious life of the population in Macedonia Liberation wars in the second half of the 19th century Foreign propaganda and the consequences of their actions Macedonia during the eastern crisis The emergence and growth of the Macedonian national revolutionary movement Liberation movement of the late 19th century Ilinden Uprising in Macedonia in 1903 Consequences of the Ilinden Uprising Macedonia after the Ilinden Uprising Macedonia after the Ilinden Uprising Continuation of revolutionary activity and the outbreak of the Young Turk revolution in the 19th and 20th century Cultural and national development in the 19th and 20th century Macedonia during the Balkan Wars of 1912/13							

Second Macedonia in the period between the two World Wars in the Kingdo SHS and the Kingdom of Yugoslavia Third Second World War and the Anti-Fascist War in Macedonia 1941-1943 Anti-Fascist War 1944-1945 Historical significance of the Anti Macedonia after the Second World War 1944-1953 Macedonia in the period 1953-1991								
Third Second World War and the Anti-Fascist War in Macedonia 1941-1943 Anti-Fascist War 1944-1945 Historical significance of the Anti Macedonia after the Second World War 1944-1953	5							
Historical significance of the Anti Macedonia after the Second World War 1944-1953								
Macedonia after the Second World War 1944-1953								
	Historical significance of the Anti							
Macedonia in the period 1953-1991	Macedonia after the Second World War 1944-1953							
Restoration Ohrid arheiposkopija as Macedonian Orthodox Church								
The collapse of the Yugoslav federation and the independence of Macedon	ia in							
1991								
12. Methods of study::								
Oral Power Point presentation Lectures 								
Presentations								
Seminars on topics of extra-curricular content								
Analysis of text / film / theater / literary works and so on.								
Debate and discussion								
Analysis of the philosophical problems / problematic learning								
Individual assignments (homework, individual presentations, etc.).								
Own research (internet, bibliography, library, media, etc.)								
13. Total available funds - 152								
14. Allocation of the available time 2+2+1								
15. Forms of 15.1 Lectures - theory 2 hours								
teaching Exercises (laboratory 2 hours								
activities 15.2 auditory), seminars,								
teamwork								
16. Other forms 16.1 Project tasks hours								
of activities 16.2 independent tasks 1 hour								
16.3 Home learning hours								
17. Forms of Combined (currently writing and oral final exam)								
assessment								
17.1 tests credits 40 17.2 Seminar paper / project credits 10								
17.2 Seminar paper / project credits 10 (presentation: written								
and oral)								
17.3 Activity and participation credits20								
18. Criteria for assessment (points / from 50 5 (five) (F)								
grade) stitch								
From 51 to 6 (six) (E)								
60								
from 61 to 7 (seven) (D)								
70								
from 71 to 8 (eight) (C)								
80								
од 81 до 9 (nine) (В)								
90								

					From 91to	10 (ten) (A)	
					100		
19.	Condit	Condition for getting a signature			Minimum of 42 points from current activities		
	and ta	king	the final exam				
20.	Language of instruction			Macedonian			
21.	Method of monitoring the quality			Supporting student self-evaluation and			
	of tead	of teaching			evaluation		
22.	Literat	Literature					
	22.1	Со	mpulsory literature	е			
		. Author Ti		Title		Publisher	Year
		1.			рија на	Институт за	1969,1998,199,2002
				Маке	донскиот	национална	
				наро	д, т. 1-3,	историја	
		2.	- д-р		рија на		1988
			Александар	Маке	донскиот		
		Стојановски. наро		д			
		д-р Иван					
			Кантарџиев,				
			д-р Данчо				
			Зогравски, д-р				
			Михаило				
			Апостолски				
		3.	Велјановски,		донија	ини	2002
			H.		-1991- пат		
				до не	езависноста		
	22.2 Additional literature						