

**Study programme: PHYTOMEDICINE - 4 YEAR STUDY PROGRAMME**  
**DIPLOMA: Agricultural engineer, Baccaureat, Plant protection (NQF level VI B)**

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

CODE	VII SEMESTER – FOURTH YEAR			
	COURSE	Credits	Classes	Total
2ZF100612	Selected chapter of entomology	8	3+2+2	216
2ZF100712	Mycology	8	3+2+2	216
2ZF100812	Bacteriology	6	2+2+1	156
	<i>Faculty elective course</i>	4	2+1+1	120
	<i>Faculty elective course</i>	4	2+1+1	120
<b>Total:</b>		30	12+8+7	828

CODE	VIII SEMESTER – FOURTH YEAR			
	COURSE	Credits	Classes	Total
2ZF100912	Virology	6	2+2+1	156
2ZF101012	Herbology	6	2+2+1	156
	<i>University elective course</i>	6	2+2+1	156
	<i>Faculty elective course</i>	4	2+1+1	120
<b>Graduation thesis</b>		8	0+0+8	192
<b>Total:</b>		30	8+7+12	780

CODE	<i>Faculty elective course VII semester</i>			
2ZF101112	Nematology	4	2+1+1	120
2ZF101212	Phytopharmacy	4	2+1+1	120
2ZF101312	Anatomy and physiology of diseased plants	4	2+1+1	120
2ZF101412	Plant resistance	4	2+1+1	120
<b><i>Faculty elective course VIII semester</i></b>				
2MF103712	Quality Management	4	2+1+1	120
2ZF101512	Biological protection	4	2+1+1	120

Code	<b><i>University elective courses VII semester and VIII semester</i></b>			
<b>UGD102212</b>	Fundamentals of Tourism	6	2+2+1	156
<b>UGD102312</b>	Earth Sciences	6	2+2+1	156
<b>UGD102412</b>	Physics	6	2+2+1	156
<b>UGD102512</b>	Biology	6	2+2+1	156
<b>UGD102612</b>	Health care	6	2+2+1	156
<b>UGD102012</b>	History of Art	6	2+2+1	156
<b>UGD102112</b>	National history	6	2+2+1	156

Appendix No.3		Syllabus for the first, second and third cycle of study			
1.	Course title	Selected chapter of entomology			
2.	Course code	2ZF100612			
3.	Study programme:	<b>PHYTOMEDICINE - 4 YEAR STUDY PROGRAMME</b>			
4.	Organizers of the study programme (faculty, institute, group)	University "Goce Delcev"- Stip, Faculty of Agriculture Department for plant and environmental protection			
5.	Level of study (first, second, third cycle)	First cycle			
6.	Academic year / semester	Fourth year / VII semester	7.	Number of ECTS credits	8
8.	Professor	Prof. Dusan Spasov Ph.D			
9.	Preconditions for course enrollment	No			
10.	Goals of the course programme: Aim of this course is to enable students familiarize with the basic taxonomic characteristics of insects for their taxonomic categories: Ordinal number, family, genus; study of significant harmful and beneficial insects, and other pests of agricultural crops.				
11.	<p>Content of the course programme:</p> <p><b>Content of lectures:</b> 1. Classification of insects; Apterygota. 2. Class Pterygota: Ordinal number Ephemeroptera, Ordinal number Odonata. 3. Ordinal number Orthoptera, Ordinal number Phasmida. 4. Ordinal number Dictyoptera, Ordinal number Isoptera, Ordinal number Dermaptera. 5. Ordinal number Anoplura, 6. Ordinal number Thysanoptera. 7. Ordinal number Hemiptera. 8. Ordinal number Homoptera, Ordinal number Neuroptera. 9. Ordinal number Coleoptera. 10. Ordinal number Lepidoptera. 11. Ordinal number Diptera.12. Ordinal number Hymenoptera, Ordinal number Siphonoptera.</p> <p><b>Content of exercises:</b> 1. The most important taxonomic characteristics of insects from specific rows 2. Morphological characteristic of insect from Apterygota 3. Morphological characteristic of insect from Orthoptera, 4. Morphological characteristic of insect from Dycyoptera Isoptera 5. Morphological characteristic of insect from Dermaptera. 6th Morphological characteristic of insect in Ordinal number Thysanoptera 7. Morphological characteristic of insect in Ordinal number Heteroptera. 8. Morphological characteristic of insect in the Ordinal number Homoptera and Neuroptera. 9. Morphological characteristic of insect in the Ordinal number Coleoptera. 10. Morphological characteristic of insect in the Ordinal number Lepidoptera. 11. Morphological characteristic of insect in Ordinal number Diptera 12. Morphological characteristic of insect in Ordinal number Hymenoptera.</p>				
12.	Methods of study: lectures, theoretical and field exercises, consultations; making independent seminar work; preparatory classes for mid-term tests and exams consultation.				
13.	Total amount of available time	216 hours			
14.	Distribution of the available time	3+2+2			

15.	Forms of teaching activities	15.1.	Lectures - theoretical training	3	
		15.2.	Practice (laboratory, auditory), workshops, outreach and teamwork	2	
16.	Other forms of activities	16.1.	Team projects		
		16.2.	Individual projects	2	
		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 / 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 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				
22.1.	Compulsory literature				
	Ordinal number	Author	Title	Publisher	Year
	1.	Dusan Spasov, Biljana Atanasova	Special entomology	UGD Stip	2010
	2.	Dusan Spasov, Biljana Atanasova	Entomology practical book	UGD Stip	2010
22.2.	Additional literature				
	Ordinal number	Author	Title	Publisher	Year
	1.	Tanasijevic, N., Simonova Tomic Duska	Special entomology	Faculty of Agriculture, Zemun	1985
	2.	Chinery M.	Collins field guide Insects of Britain and Northern Europe	Harper Collins Publishers	1993

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Appendix No.3		Syllabus for the first, second and third cycle of study				
1.	Course title	<b>Mycology</b>				
2.	Course code	2ZF100712				
3.	Study programme:	<b>PHYTOMEDICINE - 4 YEAR STUDY PROGRAMME</b>				
4.	Organizers of the study programme (faculty, institute, group)	Department for plant and environmental protection Faculty of Agriculture University "Goce Delcev"- Stip.				
5.	Level of study (first, second, third cycle)	First cycle				
6.	Academic year / semester	Fourth year/ seventh semester	7.	Number of ECTS credits	8	
8.	Professor	Prof. Ilija Karov PhD				
9.	Preconditions for course enrollment					
10.	Goals of the course programme: Students are introduced with the nature of fungi, their distribution and classification. Introduction to the biology and symptoms caused by major fungi, causers of plants diseases and implementation of measurements for protection against them.					
11.	Content of the course programme: <ol style="list-style-type: none"> <li>I. Lectures: 1. The place of fungi in the living world; 2. Morphology; 3. Reproduction; 4. Nutrition; 5. Environmental factors for development of fungi; 6. Classification and nomenclature; 7. Phylum I: Muxomycota, class: Acrasiomycetes, Myxomycetes, Plasmodiophoromycetes; 8. Phylum II: Eumycota; Subphylum I: Mastigomycotina, classes: Chytridiomycetes, Hyphochytridiomycetes, Oomycetes; 9. Subphylum II: Zygomycotina, classes: Zigomycetes, Trichomycetes; 10. Subphylum III: Ascomycotina, classes: Hemyascomycetes, Plectomycetes, Discomycetes; 11. Subphylum V: Deuteromycotina, classes: Blastomycetes, Hyphomycetes, Coelomycetes; 12. Measurements for protection.</li> <li>II. Practices: 1. Morphological characteristics of the lower fungi; 2. Morphological characteristics of the higher fungi; 3. Bodies for wintering; 4. Mechanism of infection 5. Symptomatology of plant pathogen fungi; 6. Mediums for isolation of fungi and preparation of standard substrate, PDA; 7. Isolation of fungi, in vitro; 8. Description of the morphological characteristics of the isolated culture; 9. Microscopic identification of the species and variety; 10. Mycoses at the vegetable cultures; 11. Mycoses at the field crop cultures; 12. Mycoses at fruit trees and vine culture.</li> </ol>					
12.	Methods of study: Lectures, theoretical and practice exercises, consultations; individual work; home learning; preparatory classes for exams and mid-term tests: consultation;					
13.	Total amount of available time	216				
14.	Distribution of the available time	3+2+2				
15.	Forms of teaching activities	15.1.	Lectures - theoretical training	3		

		15.2.	Practice (laboratory, auditory), workshops, outreach and teamwork	2
16.	Other forms of activities	16.1.	Team projects	-
		16.2.	Individual projects	1
		16.3.	Individual study	1
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 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			
22.1	<i>Compulsory literature</i>			
	Ordinal number	Author	Title	Publisher Year
	1.	Prof. d-r. Filip Pejcinovski and Prof. d-r. Sasa Mitrev	Agriculture Phytopathology (basic part)	UGD-Stip 2007
	2.	Prof. d-r. Filip Pejcinovski and Prof. d-r. Sasa Mitrev	Agriculture Phytopathology (special part)	UGD-Stip 2007
22.2	<i>Additional literature</i>			
	Ordinal number	Author	Title	Publisher Year
	1.	Mirko S. Ivanovic, Dragica M. Ivanovic	Mykosis and Pseudomycosis of plants	P.P.De-eM-Ve, Paris Komun 37 2001

Appendix No.3		Syllabus for the first, second and third cycle of study			
1.	Course title	<b>Bacteriology</b>			
2.	Course code	2ZF100812			
3.	Study programme:	<b>PHYTOMEDICINE - 4 YEAR STUDY PROGRAMME</b>			
4.	Organizers of the study programme (faculty, institute, group)	University "Goce Delcev" - Stip, Faculty of Agriculture Department for plant and environmental protection			
5.	Level of study (first, second, third cycle)	First cycle			
6.	Academic year / semester	Fourth year / VII semester	7.	Number of ECTS credits	6
8.	Professor	Prof. Sasa Mitrev Ph.D			
9.	Preconditions for course enrollment	No			
10.	Goals of the course programme: Study of the basic characteristics of the bacterial causal agent of disease in plants, significant bacterial diseases on plants in the territory of Macedonia and applying appropriate measures to protect				
11.	<p>Content of the course programme:</p> <p><b>Content of lectures:</b> 1. Concept and development of plant diseases 2. Economic importance of plant diseases 3. Characteristics of bacterial cells 4. Symptoms of plant diseases 5. Important plant diseases caused by phytopathogenic bacteria 6. Significant bacterial diseases of vegetable crops - bacterial root rot in plants, bacterial spots on pepper leaves 7. Significant bacterial diseases of vegetable crops - bacterial cancer on tomatoes, tomato bacterial necrosis of stems, bacterial disease on tomato fruits 8. Significant bacterial diseases of vegetable crops - brown root rot of potato 9. Significant bacterial diseases in grapevine 10. Significant bacterial diseases of fruit crops 11. Plant protection of phytopathogenic bacteria 12. Biological suppression</p> <p><b>Content of exercises:</b> 1. Concept and development of plant diseases - conditions for the occurrence of the disease 2. Biotic and abiotic factors - video presentations 3. Methods of isolation of bacteria - Laboratory Exercise 4. Symptoms of plant diseases - symptoms - laboratory exercise 5. Significant plant diseases caused by bacteria - list of diseases with their pathogenic causes 6. Significant bacterial diseases of vegetable crops - bacterial wet rot in plants, bacterial spots of pepper sheets - insulation nutritious substrate 7. Significant bacterial diseases of vegetable crops - bacterial cancer of tomatoes, tomato bacterial necrosis of stems, bacterial disease of tomato fruits - isolation nutritious substrate 8. Significant bacterial diseases of vegetable crops - brown root rot of potato 9. Significant bacterial diseases in grapevine 10. Significant bacterial diseases of fruit crops 11. Protect plants from bacteria - practical application- video presentations 12. Biological Suppression - video presentations</p>				
12.	Methods of study: lectures, theoretical and practical exercises, consultations; making independent seminar work; learning home; exam preparatory classes and mid-term tests: consultation				
13.	Total amount of available time	156 hours			
14.	Distribution of the available time	2+2+1			

15.	Forms of teaching activities	15.1.	Lectures - theoretical training		2	
		15.2.	Practice (laboratory, auditory), workshops, outreach and teamwork		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-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 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					
	22.1.	Compulsory literature				
		Ordinal number	Author	Title	Publisher	Year
		1.	Pejcinovski Filip, Mitrev Sasa	Phytopathology	UGD-Stip	2007
		2.	Pejcinovski Filip, Mitrev Sasa	Phytopathology – special part	UGD-Stip	2009
		3.	Mitrev Sasa, Kostadinovska Emilija	Phytopathology practice	UGD-Stip	2010
	22.2.	Additional literature				
		Ordinal number	Author	Title	Publisher	Year
		1.	P. Vidhyasekaran, PhD, FNA	Concise Encyclopedia of Plant Pathology	Food Production Press	2004

		2.	Momcilo Arsenijevic	Bacterial diseases on plants	S Print Novi Sad	1997
		3.	Momcilo Arsenijevic	Phytopathogenic bacteria	Scientific book Beograd	1992

Appendix No.3		Syllabus for the first, second and third cycle of study				
1.	Course title	<b>Virology</b>				
2.	Course code	2ZF100912				
3.	Study programme:	<b>PHYTOMEDICINE - 4 YEAR STUDY PROGRAMME</b>				
4.	Organizers of the study programme (faculty, institute, group)	University "Goce Delcev" - Stip, Faculty of Agriculture Department for plant and environmental protection				
5.	Level of study (first, second, third cycle)	First cycle				
6.	Academic year / semester	Fourth year / VIII semester	7.	Number of ECTS credits	6	
8.	Professor	Prof. Sasa Mitrev Ph.D				
9.	Preconditions for course enrollment	No				
10.	Goals of the course programme: Study of the basic characteristics of viruses as causes of plant diseases, significant viral disease on plants at the territory of Macedonia and applying appropriate protective measures					
11.	<p>Content of the course programme:</p> <p><b>Content of lectures:</b> 1. Concept and development of plant diseases 2. Economic importance of plant diseases 3. Plant pathogenic viruses 4. Symptoms of plant diseases 5. Significant plant diseases caused by phytopathogenic viruses 6. Significant plant viruses in garden crops – tomato spotted wild virus, cucumber mosaic virus 7. Significant viruses in garden crops - tobacco mosaic virus in pepper, potato mosaic virus in pepper 8. Significant viruses in cereals – barley yellow dwarf viruses 9. Significant grapevine viruses - grapevine leafroll viral complex, virus infectious degeneration of grapevine (fanleaf virus) 10. Significant fruit crop viruses 11. Measures to protect plants from phytopathogenic viruses 12. Biological suppression</p> <p><b>Content of exercises:</b> 1. Concept and development of plant diseases - conditions for the occurrence of the disease 2. Biotic and abiotic factors - video presentations 3. Methods of isolation of phytopathogenic viruses - Laboratory Exercise 4. Symptoms of plant diseases - symptoms - laboratory exercise 5. Significant plant viral diseases in Macedonia 6. Significant plant viruses in garden crops – tomato spotted wild virus, cucumber mosaic virus 7. Significant viruses in garden crops - tobacco mosaic virus in pepper, potato mosaic virus in pepper 8. Significant viruses in cereals – barley yellow dwarf viruses 9. Significant grapevine viruses - grapevine leafroll viral complex, virus infectious degeneration of grapevine (fanleaf virus) – field observation of symptomatic plants 10. Significant fruit crop viruses 11. Measures to protect plants from phytopathogenic viruses 12. Biological suppression</p>					



12.	Methods of study: lectures, theoretical and practical exercises, consultations; making independent seminar work; learning home; exam preparatory classes and mid-term tests: consultation					
13.	Total amount of available time		156 hours			
14.	Distribution of the available time		2+2+1			
15.	Forms of teaching activities	15.1.	Lectures - theoretical training	2		
		15.2.	Practice (laboratory, auditory), workshops, outreach and teamwork	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-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 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					
	22.1.	Compulsory literature				
		Ordinal number	Author	Title	Publisher	Year
		1.	Pejcinovski Filip, Mitrev Sasa	Phytopathology	UGD-Stip	2007
		2.	Pejcinovski Filip, Mitrev Sasa	Phytopathology – special part	UGD-Stip	2009
		3.	Mitrev Sasa, Kostadinovska Emilija	Phytopathology practice	UGD-Stip	2010
22.2.	Additional literature					

	Ordinal number	Author	Title	Publisher	Year
	1.	Rogert Hull	Comparative Plant Virology	Elsevier Academic Press	2009
	2.	Rogert Hull	Plant virology	Academic press	2002
	3.	Dragoljub Sutic	Plant virology	Institute of Plant and Environmental Protection Belgrade	1995

Appendix No.3		Syllabus for the first, second and third cycle of study			
1.	Course title	<b>Herbology</b>			
2.	Course code	2ZF101012			
3.	Study programme:	<b>PHYTOMEDICINE - 4 YEAR STUDY PROGRAMME</b>			
4.	Organizers of the study programme (faculty, institute, group)	University "Goce Delcev"- Stip Faculty of Agriculture Department for plant and environmental protection			
5.	Level of study (first, second, third cycle)	First cycle			
6.	Academic year / semester	Fourth year / VIII semester	7.	Number of ECTS credits	6
8.	Professor	ass. Prof. Dragica Spasova Ph.D			
9.	Preconditions for course enrollment	No			
10.	Goals of the course programme: The course aims to introduce students to the biological and morphological properties and determination of over 100 types of weeds. Introducing the change that occurs in weed community, proposing measures to prevent the occurrence and spread of weeds.				
11.	Content of the course programme: <b>A) Content of lectures:</b> Introduction, concept and definition of weeds. Origin and division of weeds. Biological properties of weeds. Mode of spread of weeds. Damage from weeds. Ecology of weeds. Classification of weeds (Botanical classification, biological-ecological classification). Methods for the Study of weeds. Review widespread types of weeds in the Republic of Macedonia. Measures to combat weeds. General properties of the herbicides. Technique application (Application) herbicides. Methods for evaluating the effectiveness of herbicides. Evaluation phytotoxic acting herbicides. Destruction of weeds in certain crops. <b>B) Content of exercises:</b> Determining weed vegetation in certain cultures. Evaluation of weed presents. Forecasting weed presents. Introduction to the technique of conducting field trials with herbicides. Specifically dealt with noxious weeds in certain crops				
12.	Methods of study:				

	Lectures, theoretical and practical exercises, consultations; making independent seminar work; learning home; exam preparatory classes and mid-term tests: consultation.					
13.	Total amount of available time		156 hours			
14.	Distribution of the available time		2 +2 +1			
15.	Forms of teaching activities	15.1.	Lectures - theoretical training	2		
		15.2.	Practice (laboratory, auditory), workshops, outreach and teamwork	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-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 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					
	22.1.	Compulsory literature				
		Ordinal number	Author	Title	Publisher	Year
		1.	Kojić, M. Janjić, V., Stepić, R.	Weds and their destruction	Subotica	1996
		2.	Kojić, M. Šinžar, B.	Weeds	Sciences book. Belgrade	1985
		3.	Kovačević, J.	Weeds in Agriculture	Croatia, Zagreb	1974
4.		Kostov, T.	Herbology	Faculty of Agriculture	2006	

					Sciences and Food	
22.2.	Additional literature					
	Ordinal number	Author	Title	Publisher	Year	
	1.	Thomas J. M. Stephen C. Weller. Floyd M. Ashton	Weed science. Principles and practices	Printed in the United States of America	2002	

Appendix No.3		Syllabus for the first, second and third cycle of study			
1.	Course title	Nematology			
2.	Course code	2ZF101112			
3.	Study programme:	<b>PHYTOMEDICINE - 4 YEAR STUDY PROGRAMME</b>			
4.	Organizers of the study programme (faculty, institute, group)	University "Goce Delcev"- Stip, Faculty of Agriculture Department for plant and environmental protection			
5.	Level of study (first, second, third cycle)	First cycle			
6.	Academic year / semester	Fourth year / VII semester	7.	Number of ECTS credits	4
8.	Professor	Risto Vuckov Ph.D			
9.	Preconditions for course enrollment	No			
10.	Goals of the course programme: Study the basic features nematodes ways of transmitting diseases and applying appropriate protective measures				
11.	<p>Content of the course programme:</p> <p><b>Content of lectures:</b> 1. Introduction (Historical development of nematology scientific and teaching discipline) Basic features nematodes 2. Morphology of nematodes 3. Propagating modes of nematodes 4. Development of nematodes (embryonic and postembryonic development) 5. Development of nematodes (generations and developmental disruption polymorphism) 6. Ecology of nematodes (populations biocenosis entomocenosis agroekosistemi) 7. Ecology of nematodes (environmental factors (abiotic factors) 8. Biotic factors (intraspecific and interspecific relations) Anthropogenic factors 9. Total effect of environmental factors, ecological plasticity 10. Changes in numerous nematodes - mass phenomena 11. Application of molecular techniques study genome of nematodes 12. Protection measures</p> <p><b>Content of exercises:</b> Basic features nematodes - shape, size, color - video presentations, laboratory exercises 2. Morphology of nematode 3. Propagating modes of nematodes 4. Development of nematodes (embryonic and postembryonic development) 5. Development of nematodes (generations and developmental disruption polymorphism) 6. Ecology of nematodes (populations, biocenosis, entomocenosis agroekosistemi) 7. Ecology of nematodes (environmental factors</p>				

	(abiotic factors) 8. Biotic factors (intraspecific and interspecific relations) Anthropogenic factors ninth Total effect of environmental factors, ecological plasticity 10. Changes in numerous nematode - mass phenomena 11. Application of molecular techniques study of nematode genome - lab exercises, video presentations 12. protection measures - video presentations					
12.	Methods of study: lectures, theoretical and practical exercises, consultations; making independent seminar work; learning home; exam preparatory classes and mid-term tests: consultation.					
13.	Total amount of available time		120			
14.	Distribution of the available time		2+1+1			
15.	Forms of teaching activities	15.1.	Lectures - theoretical training	2		
		15.2.	Practice (laboratory, auditory), workshops, outreach and teamwork	1		
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-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 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					
	22.1.	Compulsory literature				
		Ordinal number	Author	Title	Publisher	Year
		1.	Pejcinovski Filip, Mitrev Sasa	Phytopathology	UGD-Stip	2007
2.		Pejcinovski Filip, Mitrev Sasa	Phytopathology – special part	UGD-Stip	2009	

		3.	Djordje Krnjaic, Smiljka Krnjaic	Phytonematology	Belgrade	1987
	22.2.	Additional literature				
		Ordinal number	Author	Title	Publisher	Year
		1.	Makedonka Dautova	Population and Molecular genetics of Root-Knot Nemathodes	Wageningen University	2001
		2.	James L. Starr, Roger J. Cook, John Bridge	Plant Resistance to Parasitic Nematodes	CABI	2002

Appendix No.3		Syllabus for the first, second and third cycle of study			
1.	Course title	Phytopharmacy			
2.	Course code	2ZF101212			
3.	Study programme:	<b>PHYTOMEDICINE - 4 YEAR STUDY PROGRAMME</b>			
4.	Organizers of the study programme (faculty, institute, group)	Department for plant and environmental protection Faculty of Agriculture University "Goce Delcev"- Stip.			
5.	Level of study (first, second, third cycle)	First cycle			
6.	Academic year / semester	Fourth year/ seventh semester	7.	Number of ECTS credits	4
8.	Professor	Prof. Ilija Karov PhD			
9.	Preconditions for course enrollment				
10.	Goals of the course programme: Students are introduced to fundamentals, principles and rules in phytopharmacy different types of pesticide classification, introduction to biochemical properties of pesticides, mode of action, toxicity and opportunities for application.				
11.	Content of the course programme:				
	I.	Lectures: 1.Introduction and historical development of pesticides; 2. Classification of pesticides; 3. Forms of production of pesticides; 4. Toxicity of pesticides to man and animals; 5. Toxicity: parameters of toxicity, carenza, tolerance and phytotoxicity; 6. Resistance; 7. Fate of pesticides in the environment; 8. Movement of pesticides in plants; 9. Fungicides; 10. Insecticides; 11. Herbicides; 12. Antibiotics, rodenticides, limacides, korvicides and acaricides;			
	II.	Practices: 1. Pesticide formulation; 2. Physico-chemical properties of pesticides; 3. Advantages and disadvantages of the chemical method for plant protection; 4. Application of pesticides in liquid state; 5. Application of pesticides in solid state; 6. Markings on packaging; 7. Dose and			

	concentration; 8. Calculation of required amount of pesticide product per unit area and per plant; 9. Legislation; 10. Storage, sale and supply of pesticides; 11. Protection of man and the environment from the harmful effects of pesticides; 12. Methods for determination of pesticide residues;					
12.	Methods of study: Lectures, theoretical and practice exercises, consultations; individual work; home learning; preparatory classes for exams and mid-term tests: consultation;					
13.	Total amount of available time		120 hours			
14.	Distribution of the available time		2+1+1			
15.	Forms of teaching activities	15.1.	Lectures - theoretical training	2		
		15.2.	Practice (laboratory, auditory), workshops, outreach and teamwork	1		
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					
	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 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					
	22.1	Compulsory literature				
		Ordinal number	Author	Title	Publisher	Year
		1.	Pejcinovski Filip Mitrev Sasa	Agriculture Phytopathology (basic part)	UGD-Stip	2007
		2.	Branko Baltovski	Phytopharmacy	Our book, Skopje	1981
Additional literature						

	22.2	Ordinal number	Author	Title	Publisher	Year
	.	1.	Milan Maceljiski, Bogdan Cvjetkovic, Jasminka I. Barcic, Zvonimir Ostojsic	Manual for plant protection	Tiskara MD-Zagreb	1997

Appendix No.3		Syllabus for the first, second and third cycle of study			
1.	Course title	<b>Anatomy and physiology of diseased plants</b>			
2.	Course code	2ZF101312			
3.	Study programme:	<b>PHYTOMEDICINE - 4 YEAR STUDY PROGRAMME</b>			
4.	Organizers of the study programme (faculty, institute, group)	University "Goce Delcev" - Stip Faculty of Agriculture Department for plant and environmental protection			
5.	Level of study (first, second, third cycle)	First cycle			
6.	Academic year / semester	Fourth year / VII semester	7.	Number of ECTS credits	4
8.	Professor	Prof. Sasa Mitrev Ph.D			
9.	Preconditions for course enrollment	No			
10.	Goals of the course programme:	Study of changes in the structure of the plant as a result of the presence of pathogens			
11.	Content of the course programme:	<p><b>Content of lectures:</b> 1. Plant anatomy 2. Patocithology- sick plant cell contamination in stage cytogenesis 3. Cytoplasmic changes - hypoplasia and hyperplasia, cytotrophic changes - wasting and hypertrophy 4. Citohromatic change 5. Citonecrotic citohormonski changes 6. Pathogens in the cells of plants 7. Patohistologija - types of pathologically changed 8. Patohistologija - pathologically changes in certain tissues 9. Plant physiology sick - sick plant cell penetration 10. Physiology of sick plants - plant mineral nutrition of the sick 11. Physiology of sick plants - photosynthesis and plant respiration in patients 12. Physiology of sick plants - plant protein synthesis in patients</p> <p><b>Content of exercises:</b> 1. Anatomy in patients plants - video presentations 2. Patocithology - sick plant cell contamination in stage citogeneza 3. Cytoplasmic changes - hypoplasia and hyperplasia citotrofichni changes - wasting and hypertrophy - video presentations, field situations 4. Citohromatic change 5. Citonecrotic citohormonski changes 6. Pathogens in the cells of plants 7. Patohistologija - types of pathologically changed 8. Patohistologija - pathologically changes in certain tissues 9.</p>			



	Plant physiology sick - sick plant cell penetration 10. Physiology of sick plants - plant mineral nutrition of the sick 11. Physiology of sick plants - photosynthesis and plant respiration in patients 12. Physiology of sick plants - plant protein synthesis in patients					
12.	Methods of study: lectures, theoretical and practical exercises, consultations; making independent seminar work; learning home; exam preparatory classes and mid-term tests: consultation.					
13.	Total amount of available time		120 hours			
14.	Distribution of the available time		2 +1 +1			
15.	Forms of teaching activities	15.1.	Lectures - theoretical training	2		
		15.2.	Practice (laboratory, auditory), workshops, outreach and teamwork	1		
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-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 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					
	22.1.	Compulsory literature				
		Ordinal number	Author	Title	Publisher	Year
		1.	Pejcinovski Filip, Mitrev Sasa	Phytopathology	UGD-Stip	2007
		2.	Pejcinovski Filip, Mitrev Sasa	Phytopathology – special part	UGD-Stip	2009
3.		Mitrev Sasa. Kostadinovska Emilija	Phytopathology practice	UGD-Stip	2010	

22.2.	Additional literature					
	Ordinal number	Author	Title	Publisher	Year	
	1.	Dragoljub Sutic	Anatomy and physiology of diseased plants			

Appendix No.3		Syllabus for the first, second and third cycle of study			
1.	Course title	<b>Plant resistance</b>			
2.	Course code	2ZF101412			
3.	Study programme:	<b>PHYTOMEDICINE - 4 YEAR STUDY PROGRAMME</b>			
4.	Organizers of the study programme (faculty, institute, group)	Department for plant and environmental protection Faculty of Agriculture University "Goce Delcev"- Stip.			
5.	Level of study (first, second, third cycle)	First cycle			
6.	Academic year / semester	Fourth year/ seventh semester	7.	Number of ECTS credits	4
8.	Professor	Prof. Ilija Karov PhD			
9.	Preconditions for course enrollment				
10.	Goals of the course programme: Students are introduced with the mechanisms of plant resistance to diseases, sources of resistance and creation of resistant varieties.				
11.	Content of the course programme: I. Lectures: 1. Introduction 2. Plant resistance of diseases (resistance genes); 3. Importance of plant resistance to diseases in agriculture 4. Passive resistance: factors of preinfection and postinfection passive resistance; 5. Active resistance: antiinfection or antiparasitcal reactions; 6. Acquired resistance; 7. Vegetative resistance; 8. Preimmunity; 9. Induced tolerance; 10. Non-infectious acquired resistance; 11. The role of agro-technical measurments to plant resistance; 12. Creating resistant varieties; II. Practices: 1.Introduction; 2.Antibiosis; 3. Antixenosis; 4. Tigmonasty, mimicry and camouflage; 5. Tolerance; 6. Tobacco plant resistance of <i>tobacco mosaic tobamovirus</i> ; 7. Plant resistance of the family Cruciferae to the black rot; 8.Interaction between tomato and <i>Cladosporium fulvum</i> ; 9. Gene to gene - module system; 10. Interaction between barley and <i>Blumeria graminis</i> ; 11. Creating resistant varieties; 12. Testing the resistance of certain varieties to specific pathogens.				
12.	Methods of study: Lectures, theoretical and practice exercises, consultations; individual work; home learning; preparatory classes for exams and mid-term tests: consultation;				

13.	Total amount of available time		120 hours			
14.	Distribution of the available time		2+1+1			
15.	Forms of teaching activities	15.1.	Lectures - theoretical training	2		
		15.2.	Practice (laboratory, auditory), workshops, outreach and teamwork	1		
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					
	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 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					
	22.1	<i>Compulsory literature</i>				
		Ordinal number	Author	Title	Publisher	Year
		1.	Pejcinovski Filip Mitrev Sasa	Agriculture Phytopathology (basic part)	UGD-Stip	2007
	22.2	<i>Additional literature</i>				
		Ordinal number	Author	Title	Publisher	Year
1.		V.A. Shaklicova	Plant immunity	Moscow	2005	
	2.	Dale Walters, Adrian Newton, Gary Lion	Induces resistance for plant defence. A sustainable approach to crop protection	Blackwell Publishing	2007	

		3.	F. Feldmann, D. V. Alford, C. Furk (EDS.)	Crop Plant Resistance to Biotic and Abiotic Factors: Current Potential and Future Demands	DPG Selbstverlag	2009
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<b>Appendix No.3</b>		<b>Syllabus for the first, second and third cycle of study</b>			
1.	Course title	<b>Quality Management</b>			
2.	Course code	2MF103712			
3.	Study programme:	<b>QUALITY CONTROL</b>			
4.	Organizers of the study programme (faculty, institute, group)	University "Goce Delcev" - Stip, Faculty of Agriculture			
5.	Level of study (first, second, third cycle)	First cycle			
6.	Academic year / semester	Fourth year / VIII semester	7.	Number of ECTS credits	4
8.	Professor	Prof. Sasa Mitrev Ph.D			
9.	Preconditions for course enrollment	No			
10.	Goals of the course programme: Quality management in the modern organization. Customer loyalty. Creating a competitive market organizations. Role, importance and implementation of the ISO 9001 family of standards				
11.	Content of the course programme: 1. Introduction to quality management (quality as a strategic goal and utility organizations for competitiveness). 2. Quality management system (general requirements relating to the ISO 9001:2008 Quality Management System). 3. Management responsibility (item 5 of the standard ISO 9001:2008). 4. Resource management (item 6 of the standard ISO 9001:2008). 5. Conversion product (item 7.1, 7.2 and 7.3 of the standard ISO 9001:2008). 6. Realization of the product (see section 7.4, 7.5 and 7.6 of the standard ISO 9001:2008). 7. Measurement, 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. Introducing standard OHSAS 18001 health and safety management. 12. Introduction to ISO 22000 Food Safety Management System.				
12.	Methods of study: lessons, exams.				
13.	Total amount of available time	120 hours			
14.	Distribution of the available time	2+1+1			

15.	Forms of teaching activities	15.1.	Lectures - theoretical training	2	
		15.2.	Practice (laboratory, auditory), workshops, outreach and teamwork	1	
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-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 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				
	22.1.	Compulsory literature			
		Ordinal number	Author	Title	Publisher
		1.	Institute of accreditation of Republic of Macedonia	Quality management systems - Requirements (ISO EN ISO 9001:2008)	IARM
		2.	Hrvoje Skoko	Quality management	Sinergija, Zagreb, Croatia
		3.	David Hoyle	Quality Systems Handbook (4 <sup>th</sup> edition)	Butterworth-Heinemann, A member of the Reed Elsevier plc group
22.2.	Additional literature				

Ordinal number	Author	Title	Publisher	Year
1.	Institute of accreditation of Republic of Macedonia	ISO 17025, ISO 27001, ISO 14001, ISO 22000, ISO 18001	IARM	2010
2.				
3.				

Appendix No.3		Syllabus for the first, second and third cycle of study			
1.	Course title	<b>Biological protection</b>			
2.	Course code	2ZF101512			
3.	Study programme:	<b>PHYTOMEDICINE - 4 YEAR STUDY PROGRAMME</b>			
4.	Organizers of the study programme (faculty, institute, group)	Department for plant and environmental protection Faculty of Agriculture University "Goce Delcev"- Stip.			
5.	Level of study (first, second, third cycle)	First cycle			
6.	Academic year / semester	Fourth year/ seventh semester	7.	Number of ECTS credits	4
8.	Professor	Prof. Ilija Karov PhD; Prof Dusan Spasov PhD			
9.	Preconditions for course enrollment				
10.	Goals of the course programme: Students are introduced to fundamentals and principles biological protection of plants, its advantages and disadvantages.				
11.	Content of the course programme:				
	<p>I. Lectures: 1.Introduction; 2. Advantages and disadvantages of the biological method for plant protection; 3. Principles of biological method for plant protection; 4. Predators; 5. Parasites superparasites and hiperparasites; 6. Antagonistic relationship between microorganisms; 7. Competitive relationships among organisms; 8. Microbiological fermentation products; 9. Natural metabolites of higher plants and products of the inter-relationship between the parasite and the host plant; 10. Avirulent strains of pathogens as part of the biological protection; 11. Acquired and vegetative resistance; 12. Legislation in biological plant protection;</p> <p>II. Practices: 1. Introduction; 2. The importance of biological environmental protection; 3. Biopesticides; 4. The role of insects in biological protection; 5. The influence of chemical and technical measurements at the population of biological agents; 6. Opportunities and prospects for biological control of cereals from diseases and pests; 7. Opportunities and prospects for biological control of animal feed from diseases and pests; 8. Opportunities and prospects for biological control of industrial plants from diseases and pests; 9. Opportunities and prospects for biological control of vegetable plants from diseases and pests 10. Opportunities and prospects for biological control of fruit crops from diseases and pests; 11. Opportunities</p>				

	and prospects for biological control of grapevine diseases; 12. Opportunities and prospects for biological control of weeds;					
12.	Methods of study: Lectures, theoretical and practice exercises, consultations; individual work; home learning; preparatory classes for exams and mid-term tests: consultation;					
13.	Total amount of available time		120 hours			
14.	Distribution of the available time		2+1+1			
15.	Forms of teaching activities	15.1.	Lectures - theoretical training	2		
		15.2.	Practice (laboratory, auditory), workshops, outreach and teamwork	1		
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					
	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 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					
	22.1	<i>Compulsory literature</i>				
		Ordinal number	Author	Title	Publisher	Year
		1.	John Black (Milena Mamuzić, Budislav Tatić)	Biological protection	Belgrade	1970
2.		Pejcinovski Filip Mitrev Sasa	Agriculture Phytopathology (basic part)	UGD-Stip	2007	

		3.	Dusan Camrag	AGROTEHNIKOM Protiv stetocina ratarskih kultura sa osvrtom na integralnu zastitu bilja	Srpska akademija nauka I umetnosti. Ogranak u Novom Sadu	2002
	22.2	Additional literature				
		Ordinal number	Author	Title	Publisher	Year
		1.	Prof. d-r. Branko Baltovski	Phytopharmacy	Our book, Skopje	1981
		2.	Milan Maceljski, Josip Kišpatić, Zvonko Ostojić	Field crop protection from pests, diseases and weeds	Zagreb Nigro "Joined print"	1984

**UNIVERSITY ELECTIVE COURSES - Fourth year of study**

Appendix No.3		<b>Syllabus for the first, second and third cycle of study</b>				
1.	<b>Title of the Course</b>	<b>Fundamentals of Tourism</b>				
2.	<b>Code</b>	<b>UGD102212</b>				
3.	<b>Study Programme</b>	<b>Tourism</b>				
4.	<b>Organizer of the study programme (unit or institute, Faculty, department)</b>	University Goce Delcev-Stip Faculty of tourism and business logistics Department of Gevgelija				
5.	<b>Cycle (first, second and third cycle)</b>	First cycle				
6.	<b>Academic year / semester</b>	I / I	7.	<b>Number of credits</b>	8	
8.	<b>Professor (s)</b>	Ass. Prof. Zlatko Jakovlev PhD				
9.	<b>Preconditions for course enrollment</b>	Enrolled in first year studies				
10.	<b>Goals of the study programme (competencies):</b> The objectives are scientific and practical, scientific refers to the acquisition of theoretical knowledge of students about the basics of tourism, and the practical application of scientific knowledge in the hospitality practice.					
11.	<b>Content of the course programme:</b> Introduction 10. Theoretical and methodological approach to the study of tourism(subject, tasks, goals and methods of tourism studies) 11. Aspects of the scientific study of tourism 12. Theoretical understanding of the concept of tourism 13. Practical importance of defining tourism 14. Tourism and analog appear 15. Socio-economic conditionality tourism 16. Theoretical views on the emergence of tourism					



	17. Tourist need 18. Factors of tourism 19. Tourism functions 20. Tourism values 21. Tourist destination 22. Tourist attractions and activities 23. Types of tourism 24. Tourist regulation 25. Tourist differential 26. Tourist futurology			
12.	<b>Methods of study::</b> Lectures, tutorials and laboratory exercises			
13.	<b>Total available time</b>	216 hours		
14.	<b>Distribution of available time</b>	3 + 2 + 2 / per week		
15.	<b>Forms of teaching / learning activities</b>	15.1.	<b>lectures / theoretical - contact teaching, e-teaching</b>	3 hours
		15.2.	<b>theoretical and practical exercises, e-exams, preparation of independent seminar work</b>	2 hours
16.	<b>Other forms of activities</b>	16.1.	<b>Project tasks</b>	1 hours
		16.2.	<b>Individual tasks</b>	1 hours
		16.3.	<b>Home learning</b>	1 hours
17.	<b>Forms of assessment</b>			
	17.1.	<b>Tests / oral exams</b>		0-20 points
	17.2.	<b>Seminars (paper / project - presentation: written and/or oral)</b>		10 points
	17.3.	<b>Activity and participation</b>		20 points
18.	<b>Criteria for assessment (points / grade)</b>	up 50 points	5	(five) (F)
		51 to 60 points	6	(six) (E)
		61 to 70 points	7	(seven) (D)
		71 to 80 points	8	(eight) (C)
		81 to 90 points	9	(nine) (B)
		91 to 100 points	10	(ten) (A)
19.	<b>Condition for getting a signature and taking the final exam</b>	60% success from all activities before exam i.e 42 points from two mid-term tests, seminar attendance of lectures and exercises		
20.	<b>Language in which classes are conducted</b>	Macedonian language		
21.	<b>Method of monitoring the quality of teaching</b>	Self-evaluation		

Appendix No.3		<b>Subject programme from first cycle studies</b>
1.	Course title	<b>BIOLOGY</b>
2.	Course code	UGD102512

3.	Study programme:	University elective subject			
4.	Organizers of the study programme (faculty, institute, group)	Faculty of Agriculture Department of Plant Protection			
5.	Level of study (first, second, third cycle)	First cycle			
6.	Academic year / semester	Second / forth Third / sixth	7.	Number of ECTS credits	6
8.	Professor	Ass. prof. Liljana Koleva Gudeva PhD			
9.	Preconditions for course enrollment	No			
10.	Goals of the course programme: Gaining fundamental knowledge in biology which is 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.	<b>Content of the course programme:</b> 1. Biology as science of living organisms 2. The cell and cell structural elements 3. Nucleic acids 4. Cell cycle 5. Reproduction 6. Basics of genetics 7. Plant cytology 8. Classification of basic types of animal tissues 9. Plant tissues 10. Anatomy, morphology and physiology of plants 11. Anatomy and physiology of animals 12. Phylogenic and taxonomy of life organisms				
12.	Methods of study: research work; work in small groups; individual learning; practical classes; project work; discussion; debate; individual tasks				
13.	Total amount of available time	156 hours			
14.	Distribution of the available time	2 +2 +1			
15.	Forms of teaching activities	15.1.	Lectures - theoretical training	2 hours/week	
		15.2.	Practice (laboratory, auditory), workshops, outreach and teamwork	2 hours/week	
16.	Other forms of activities	16.1.	Team projects	-	
		16.2.	Individual projects	1 hour/week	
		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 / 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 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				
22.1.	Compulsory literature				
	Ordinal number	Author	Title	Publisher	Year
	1.	Ass. Prof. Liljana Koleva Gudeva	Cell biology	Authorized lessons	2009
	2.	Ass. Prof. Liljana Koleva Gudeva	Plant Physiology	GDU - Stip	2010
22.2.	Additional literature				
	Ordinal number	Author	Title	Publisher	Year
	1.	Prof. Jordanka Dimova	Phisiology	UKIM - Skopje	2000

<b>Appendix No.3</b>		Subject programme from the first, second and third cycle studies
1.	Title of the subject	<b>NATIONAL HISTORY</b>
2.	Code	<b>UGD102112</b>
3.	Stady programmeme	First cycle / University selective course
4.	Organization of the study programme (unit or institute, department, department)	History and archeology
5.	Level of study (first, second, third cycle)	First cycle

6.	Academic year / semester	1/2	7.	Number of ECTS credits	5
8.	Professor	Prof. Kiril Cackov PhD			
9.	Preconditions for course enrollment	Subscribed 2 semester			
10.	<ul style="list-style-type: none"> <li>- Goals of the course programme (competencies):</li> <li>- Students gain a thorough knowledge of history;</li> <li>- students develop critical thinking as a basis for scientific interpretation of human society;</li> <li>- Form - education as the highest human value;</li> <li>- Training of young researchers and promoting multiculturalism in the Republic of Macedonia</li> <li>- Forming aesthetic, patriotic and moral values and develop a sense of belonging to their country;</li> <li>- Study of the contents of important historical phenomena, processes and moments from antiquity to the independence of the Republic of Macedonia ..</li> </ul>				
11.	<p>Content of the course programme: Subject of history, historiography and auxiliary sciences</p> <p>Creating Ancient Macedonian state</p> <p>Culture and religion of Ancient Macedonia</p> <p>Settlement of the Slavs in the Balkans and in Macedonia</p> <p>The spread of Christianity and literature in Macedonian Slavs</p> <p>Bogomil Movement</p> <p>Byzantine rule in Macedonia</p> <p>Macedonian liberation wars against the Byzantine Empire</p> <p>Independent rulers Average</p> <p>Falling Macedonia under Serbian rule</p> <p>Macedonia under Ottoman rule</p> <p>Resistance against Turkish rule in Macedonia (Mariovo rebellion and insurrection Skanderbeg)</p> <p>Cultural, educational and religious life of the population in Macedonia</p> <p>Liberation wars in the second half of the 19th century</p> <p>Foreign propaganda and the consequences of their actions</p> <p>Macedonia during the eastern crisis</p> <p>The emergence and growth of the Macedonian national revolutionary movement</p> <p>Liberation movement of the late 19th century</p> <p>Ilinden Uprising in Macedonia in 1903</p> <p>Consequences of the Ilinden Uprising</p> <p>Macedonia after the Ilinden Uprising</p> <p>Continuation of revolutionary activity and the outbreak of the Young Turk revolution in the 19th and 20th century</p> <p>Cultural and national development in the 19th and 20th century</p> <p>Macedonia during the Balkan Wars of 1912/13</p> <p>First Macedonia during the First World War 1914-1918</p> <p>Second Macedonia in the period between the two World Wars in the Kingdom of SHS and the Kingdom of Yugoslavia</p> <p>Third Second World War and the Anti-Fascist War in Macedonia 1941-1943</p> <p>Anti-Fascist War 1944-1945</p> <p>Historical significance of the Anti</p>				

	Macedonia after the Second World War 1944-1953 Macedonia in the period 1953-1991 Restoration Ohrid arheiposkopija as Macedonian Orthodox Church The collapse of the Yugoslav federation and the independence of Macedonia 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 time- 152			
14.	Distibution of the available time 2+2+1			
15.	Forms of teaching activities	15.1	Lectures - theory	2 hours
		15.2	Exercises (laboratory auditoriski), seminars, teamwork	2 hours
16.	Other forms of activities	16.1	Project tasks	hours
		16.2	independent tasks	1 hour
		16.3	Home learning	hours
17.	Forms of assessment	Combined (currently writing and oral final exam)		
	17.1	tests	credits 40	
	17.2	Seminar paper / project (presentation: written and oral)	credits 10	
	17.3	Activity and participation	credits20	
18.	Criteria for assessment (points / grade)	from 50	stitch	5 (five) (F)
		From 51 to 60		6 (six) (E)
		from 61 to 70		7 (seven) (D)
		from 71 to 80		8 (eight) (C)
		од 81 до 90		9 (nine) (B)
		From 91to 100		10 (ten) (A)
19.	Condition for getting a signature and taking the final exam	Minimum of 42 points from current activities		
20.	Language in which classes are conducted	macedonian		

21.	Method of monitoring the quality of teaching	Supporting student self-evaluation and evaluation			
22.	Literature				
	22.1	Compulsory literature			
	.	Author	Title	Publisher	Year
	1.		Историја на Македонскиот народ, т. 1-3,	Институт за национална историј	1969,1998,199,2002
	2.	- д-р Александар Стојановски. д-р Иван Кантарџиев, д-р Данчо Зогравски, д-р Михаило Апостолски	Историја на Македонскиот народ		1988
	3.	Велјановски, Н.	Македонија 1945-1991- пат до независноста	ИНИ	2002
	22.2	Additional literature			