

**REPUBLIC OF NORTH MACEDONIA
GOCE DELCEV UNIVERSITY
FACULTY OF AGRICULTURE**



STUDY PROGRAMME HORTICULTURE

**Study programme: HORTICULTURE – 4 YEAR STUDY PROGRAMME
DIPLOMA: BSc in HORTICULTURE**

Study programme, I year, I semester

Code	Course	Credits	Classes	Total
2ZF105117	Chemistry	8	3+2+2	240
2ZF110117	Basic of plant production	8	3+2+2	240
2FI110112	Computer science	6	2+2+1	180
	Elective faculty course 1-1	4	2+1+1	120
	Elective faculty course 1-2	4	2+1+1	120
UGD102717	Sport and recreation*	*	0+0+2	*
Total:		30	12+8+9	900

List Nb.1-1 Elective (Faculty) courses (chose just 1 course)

Nb.	Code	Course	Credits	Classes	Total
1	2ZF105717	Meteorology	4	2+1+1	120
2	2ZF110717	Agroecology	4	2+1+1	120

List Nb.1-2 Elective (Faculty) courses (chose just 1 course)

Nb.	Code	Course	Credits	Classes	Total
1	2ZF130217	Biostatistic	4	2+1+1	120
2	4FF100817	English language A2.1	4	2+1+1	120

Study programme, I year, II semester

Code	Course	Credits	Classes	Total
2ZF110417	Botanic	8	3+2+2	240
2ZF105517	Pedology	6	2+2+1	180
2ZF106917	Basic concept of biochemistry	6	2+2+1	180
	One Elective (university) course II	4	0+0+1	120
	One Elective (faculty) course 2-1	4	2+1+1	120
2ZF130117	Practical work*	2	0+0+2	60
Total:		30	10+6+9	900

List Nb.2-1 Elective (Faculty) courses (chose just 1 course)

Nb.	Code	Course	Credits	Classes	Total
1	2ZF140117	Calculation	4	2+1+1	120
2	2ZF135117	Rural development	4	2+1+1	120

Study programme, II year, III semester

Code	Course	Credits	Classes	Total
2ZF105617	Mechanisation	8	3+2+2	240
2ZF114417	Plant physiology	8	3+2+2	240
2ZF110517	Genetics	6	2+2+1	180
	Elective faculty course	4	2+1+1	120
	Elective faculty course	4	2+1+1	120
Total:		30	12+8+7	900

List Nb. 3-1 Elective (Faculty) courses (chose just 1 course)

Nb.	Code	Course	Credits	Classes	Total
1	2ZF115217	Viticulture	4	2+1+1	120
2	2ZF110817	Grain plants	4	2+1+1	120

List Nb. 3-2 Elective (Faculty) courses (chose just 1 course)

Nb.	Code	Course	Credits	Classes	Total
1	2ZF110917	Industrial plants	4	2+1+1	120
2	2ZF111017	Tobacco and tobacco processing	4	2+1+1	120

Study programme, II year, IV semester

Code	Course	Credits	Classes	Total
2ZF110617	Plant breeding and seed production	8	3+2+2	240
2ZF120217	Microbiology	6	2+2+1	180
2ZF105217	Agrochemistry and plant nutrition	6	2+2+1	180
	One Elective (university) course II	4	0+0+1	120
	One Elective (faculty) course I	4	2+1+1	120
2ZF130117	Practical work*	2	0+0+2	60
Total:		30	9+7+8	900

List Nb. 4 Elective (Faculty) courses (chose just 1 course)

Nb.	Code	Course	Credits	Classes	Total
1	2ZF112817	Fruith growing	4	2+1+1	120
2	2ZF111117	Vegetable growing	4	2+1+1	120

Study programme, III year, V semester

Code	Course	Credits	Classes	Total
2ZF100517	Basic entomology	8	3+2+2	240
2ZF100117	Basic phytopathology	8	3+2+2	240
2ZF120117	Livestock breeding	6	2+2+1	180
	Elective faculty course	4	2+1+1	120
	Elective faculty course	4	2+1+1	120
Вкупно:		30	12+8+7	900

List Nb. 5-1 Elective (Faculty) courses (chose just 1 course)

Nb.	Code	Course	Credits	Classes	Total
1	2ZF110217	Tuber plants	4	2+1+1	120
2	2ZF111317	Fodder plants	4	2+1+1	120

List Nb.5-1 Elective (Faculty) courses (chose just 1 course)

Nb.	Code	Course	Credits	Classes	Total
1	2ZF111217	Alternative plants	4	2+1+1	120
2	2ZF111417	English language A2.2	4	2+1+1	120

Study programme, III year, VI semester

Code	Course	Credits	Classes	Total
2ZF110317	Organic production	8	3+2+2	240
2ZF105417	Agromenagement	6	2+2+1	180
2ZF105317	Melioration and irrigation	6	2+2+1	180
	One Elective (university) course II	4	0+0+4	120
	One Elective (faculty) course I	4	2+1+1	120
2ZF130117	<i>Practical work*</i>	2	0+0+2	60
Total:		30	9+7+11	900

List Nb.6 Elective (Faculty) courses (chose just 1 course)

Nb.	Code	Course	Credits	Classes	Total
1	2ZF120317	Anatomy and physiology of animals	4	2+1+1	120
2	2ZF120817	Process technology	4	2+1+1	120

Study programme, IV year, VII semester

Code	Course	Credits	Classes	Total
2ZF111517	Special vegetable growing	8	3+2+2	240
2ZF111617	Horticulture in greenhouses	8	3+2+2	240
2ZF111717	Plant breeding and seeds production in horticulture	6	2+2+1	180
	Elective faculty course	4	2+1+1	120
	Elective faculty course	4	2+1+1	120
Вкупно:		30	12+8+7	900

List Nb. 7-1 Elective (Faculty) courses (chose just 1 course)

Nb.	Code	Course	Credits	Classes	Total
1	2ZF111817	Seedling production	4	2+1+1	120
2	2ZF111917	Floriculture	4	2+1+1	120

List Nb. 7-2 Elective (Faculty) courses (chose just 1 course)

Nb.	Code	Course	Credits	Classes	Total
1	2ZF120617	Vegetable processing	4	2+1+1	120
2	2ZF111417	Decorative plants	4	2+1+1	120

Study programme, IV year, VIII semester

Code	Course	Credits	Classes	Total
2ZF100317	Special phytopathology in horticulture	6	2+2+1	180
2ZF100817	Pests in horticulture	6	2+2+1	180
	One Elective (university) course II	4	0+0+4	120
	One Elective (faculty) course I	4	2+1+1	120
2ZF112017	<i>Practical work in vegetable growing</i>	4	0+0+4	120
Diplom work:		6	0+0+6	180
Total:		30	6+5+17	900

List Nb. 8 Elective (Faculty) courses (chose just 1 course)

Nb.	Code	Course	Credits	Classes	Total
1	2ZF121417	Quality control	4	2+1+1	120
2	2ZF102017	Farm management	4	2+1+1	120

LIST OF UNIVERSITY COURSE

Code	LIST OF UNIVERSITY COURSE II, IV, VI and VIII semester			
	COURSE	Credits	Classes	Total
UGD100117	Macedonian literature and culture	4	0+0+4	120
UGD100217	Macedonian language and spelling	4	0+0+4	120
UGD100317	Ethics	4	0+0+4	120
UGD100417	History of Macedonia	4	0+0+4	120
UGD100517	Copyright	4	0+0+4	120
UGD100617	Tolerance and conflict resolution	4	0+0+4	120
UGD100717	Business Systems	4	0+0+4	120
UGD100817	Tourism industry	4	0+0+4	120
UGD100917	Entrepreneurship and Innovation	4	0+0+4	120
UGD101017	Management of self-development and behavior	4	0+0+4	120
UGD101117	Business Economics	4	0+0+4	120
UGD101217	Choral singing	4	0+0+4	120
UGD101317	Music and art	4	0+0+4	120
UGD101417	An Introduction to Film History	4	0+0+4	120
UGD101517	Dramaturgy	4	0+0+4	120
UGD101617	Basics of drawing	4	0+0+4	120
UGD101717	History of classical painting	4	0+0+4	120
UGD101817	Health promotion	4	0+0+4	120
UGD101917	Oral health and hygiene	4	0+0+4	120
UGD102017	Precious and semiprecious minerals	4	0+0+4	120
UGD102117	Earth science	4	0+0+4	120
UGD102217	Wildlife Science	4	0+0+4	120
UGD102317	Environmental Protection	4	0+0+4	120
UGD102417	Intelligent electronic components and devices	4	0+0+4	120
UGD102517	Experiment planning	4	0+0+4	120
UGD102617	History of clothing	4	0+0+4	120
UGD102717	Management and quality control	4	0+0+4	120
UGD102817	Computer sciences	4	0+0+4	120
UGD102917	Programming Basics	4	0+0+4	120

*

SELECTION OF UNIVERSITY ELECTIVES

Selection of university electives is based on the "*first reported first served*" principle. The maximum number of students in a group who can attend one university elective is 120. One professor can have a maximum of two groups of students. Up to two teachers may be engaged in one university elective course.

SPECIFIC DESCRIPTORS

Study programme: **Vegetable growing**

Cycle of qualification: **I cycle, 240 EKTS, VI A**

Type of descriptor	Description
Knowledge and understanding	<ul style="list-style-type: none">- Demonstrate a high level of knowledge and understanding in the field of agriculture and cultivation of agricultural crops.- Demonstrate knowledge and understanding of different production systems for agricultural crops based on expert and scientific knowledge in the field.- Detailed knowledge of the basic processes of agricultural production of the major agricultural crops, their application and the specifics of each of these crops.- Demonstrate knowledge of biological and environmental factors in agricultural production and their impact on the formation of quality and quantity of yield of the respective crops.- Demonstrate adequate knowledge of operating principles and proper use of machinery and equipment in agricultural production.- Gain knowledge of the application of agrotechnical measures in the production of agricultural crops, including proper soil treatment, variety selection, proper sowing, proper crop rotation and proper crop nutrition, harvesting and storage methods. <p>Gain adequate knowledge of the most important pathogens in agricultural crops, the symptoms caused by different pathogens, the protection measures of individual crops or groups of crops, as well as detailed knowledge of the specificities and application of particular groups of pesticides.</p>
Apply theoretical and practical knowledge	<ul style="list-style-type: none">- Apply theoretical and practical knowledge and understanding to the production of agricultural crops, by applying appropriate agro-technical measures.- Demonstrate ability to manage different agricultural production systems at different production levels.- Identify, analyze and solve problems of production, mechanization, protection, nutrition, organization and economics of agricultural production.- Demonstrate ability to research and determine the various factors that influence the quality and quantity of yield from the respective crop.- Able to supervise and control the production process, managing quality, quantity and hygiene of production and processing of the agricultural product. Participate with their ideas in proper packaging, storage and further marketing of agricultural products.
Appraisal ability	<ul style="list-style-type: none">- Have the ability to collect, analyze, evaluate and present information from relevant data sources.- Reasonable in making appropriate conclusions from the whole production process of agricultural crops.- Estimate the damage caused to production as a result of various factors affecting it. <p>Technological and organizational operations evaluate and calculate the specific production conditions, taking into account the personal, social, scientific and ethical aspects.</p>
Communication skills	<ul style="list-style-type: none">- Acquire skills for timely and successful production planning and contracting, as well as product placement.- Connect ideas, problems and solutions from different segments of agricultural production.- Explain expert, argumentative and acceptable ideas, attitudes, technologies and solutions and results to the professional and general public.- Take personal responsibility in communicating different hierarchical levels in the scope of work.- Take the initiative and responsibility for teamwork, personal and / or group responsibility in presenting teamwork results.

Skills of learning	<ul style="list-style-type: none">- Continuous development and improvement of one's own skills through self-learning, communication and collaboration with the broader expert and scientific public in the field.- Identifying the need to pursue further studies with a higher degree of autonomy.- Demonstrate autonomy in the presentation of knowledge.- Constant monitoring of professional literature, scientific events, laws and regulations and other sources of scientific and popular information in the field of agriculture.
---------------------------	--

RECTOR		
Prof. d-r Blazo Boev	blazo.boev@ugd.edu.mk	032/550002
DEAN		
Prof. d-r Ljupco Mihajlov	ljupco.mihajlov@ugd.edu.mk	032/550618
VICE DEAN FOR SCIENCES		
Ass. Prof. Emilija Arsov	emilija.arsov@ugd.edu.mk	032/550616
PROFESSORS		
Full professors		
Prof. d-r Sasa Mitrev	sasa.mitrev@ugd.edu.mk	032/550610
Prof. d-r Liljana Koleva Gudeva	liljana.gudeva@ugd.edu.mk	032/550627
Prof. d-r Risto Kukutanov	risto.kukutanov@ugd.edu.mk	032/550626
Prof. d-r Ljupco Mihajlov	ljupco.mihajlov@ugd.edu.mk	032/550618
Prof. d-r Verica Ilieva	verica.ilieva@ugd.edu.mk	032/550621
Prof. d-r Rubin Gulaboski	rubin.gulaboski@ugd.edu.mk	032/550641
Prof. d-r Violeta Dimovska	violeta.dimovska@ugd.edu.mk	032/550170
Prof. d-r Aco Kuzelov	aco.kuzelov@ugd.edu.mk	032/550605
Prof. d-r Dusan Spasov	dusan.spasov@ugd.edu.mk	032/550624
Prof. d-r Dragica Spasova	dragica.spasova@ugd.edu.mk	032/550628
Prof. d-r Mite Ilievski	mite.ilievski@ugd.edu.mk	032/550629
Associated professors		
Prof. d-r Violeta Ivanova Petropulos	violeta.ivanova@ugd.edu.mk	032/550639
Prof. d-r Fidanka Trajkova	fidanka.trajkova@ugd.edu.mk	032/550631
Prof. d-r Fidanka Ilieva	fidanka.ilieva@ugd.edu.mk	032/550620
Prof. d-r Sanja Kostadinovik Velickovska	sanja.kostadinovik@ugd.edu.mk	032/550640
Prof. d-r Georgi Asenov Micev	georgi_asenov.micev@ugd.edu.mk	/
Assistant professors		
Ass. prof. Emilija Arsov	emilija.arsov@ugd.edu.mk	032/550616
Ass. prof. Biljana Balabanova	biljana.balabanova@ugd.edu.mk	032/550612
Ass. prof. Natalija Markova Ruzdik	natalija.markova@ugd.edu.mk	032/550615
Ass. prof. Biljana Kovacevik	biljana.kovacevik@ugd.edu.mk	032/550611
Ass. prof. Daniela Dimovska	daniela.dimovska@ugd.edu.mk	/
d-r Biljana Atanasova (associated researcher)	biljana.atanasova@ugd.edu.mk	032/550630
Laborants UNILAB laboratory		
MSc Vesna Zajkova Panova	vesna.zajkova@ugd.edu.mk	032/550572
MSc Elizabeta Karakaseva	elizabeta.karakaseva@ugd.edu.mk	032/550586
MSc Julijana Arsova	julijana.arsova@ugd.edu.mk	032/550716
Valentina Rangelovik	valentina.rangelovik@ugd.edu.mk	032/550586
Dragana Gicev	dragana.gicev@ugd.edu.mk	032/550716
Administration UNILAB laboratory		
Angela Bikova	angela.bikova@ugd.edu.mk	032/550623
Secretary at Faculty of Agriculture		
Elizabeta Davitkovska Barbareeva	elizabeta.barbareeva@ugd.edu.mk	032/550600
CONTACT FOR STUDENT ADMINISTRATIVE QUESTION		
Teaching center in Stip		
Ivan Josifov	ivan.josifov@ugd.edu.mk	032/550071
Teaching center in Kavadarci		
Zorica Gorgieva	zorica.gorgieva@ugd.edu.mk	032/550253
Teaching center in Strumica		
Anica Udovalieva	anica.udovalieva@ugd.edu.mk	032/550250
Teaching center in Prilep		
Natasa Madzoska	natasa.madzoska@ugd.edu.mk	032/550774



<http://zf.ugd.edu.mk/index.php/mk/>

<http://cmus.ugd.edu.mk/faculties-departements.html>