

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



**STUDY PROGRAMME OENOLOGY**

**Study programme: OENOLOGY – 4 YEAR STUDY PROGRAMME  
DIPLOMA: BSc OENOLOGIST**

**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	*
<b>Total:</b>		<b>30</b>	<b>12+8+9</b>	<b>900</b>

**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
<b>Total:</b>		<b>30</b>	<b>10+6+9</b>	<b>900</b>

**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
<b>Total:</b>		<b>30</b>	<b>12+8+7</b>	<b>900</b>

**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
<b>Total:</b>		<b>30</b>	<b>9+7+8</b>	<b>900</b>

**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
<b>Вкупно:</b>		<b>30</b>	<b>12+8+7</b>	<b>900</b>

**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.5-2 Elective (Faculty) courses** (chose just 1 course)

Nb.	Code	Course	Credits	Classes	Total
1	2ZF111217	Alternative plants	4	2+1+1	120
2	4FF101717	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
2ZF105317	Melioration and irrigation	6	2+2+1	180
2ZF105417	Agromenagement	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	Practical work*	2	0+0+2	60
<b>Total:</b>		<b>30</b>	<b>9+7+11</b>	<b>900</b>

**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
2ZF121317	Basic enology	8	3+2+2	240
2ZF120917	Production of vine	8	3+2+2	240
2ZF115317	Special viticulture	6	2+2+1	180
	Elective faculty course	4	2+1+1	120
	Elective faculty course	4	2+1+1	120
Вкупно:		<b>30</b>	<b>12+8+7</b>	<b>900</b>

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

Nb.	Code	Course	Credits	Classes	Total
1	2ZF121617	Process technic in wine industry	4	2+1+1	120
2	2ZF120717	Stogare and packeging	4	2+1+1	120

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

Nb.	Code	Course	Credits	Classes	Total
1	2ZF111417	Decorative plants	4	2+1+1	120
2	2ZF106817	Grape and wine marketing	4	2+1+1	120

**Study programme, IV year, VIII semester**

Code	Course	Credits	Classes	Total
2ZF121017	Microbiology of wine	6	2+2+1	180
2ZF121117	Sensor and analytic evaluation of wine	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
2ZF113317	<i>Practical work in winery</i>	4	0+0+4	120
<b>Diplom work:</b>		6	0+0+6	180
<b>Total:</b>		<b>30</b>	<b>6+5+17</b>	<b>900</b>

**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

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### 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: **Oenology**

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

Type of descriptor	Description
<b>Knowledge and understanding</b>	<ul style="list-style-type: none"><li>- Demonstrate knowledge and understanding in the field of oenology, including technological processes for the production of wine and spirits, sensory and analytical evaluation of wine and organization of a wine cellar.</li><li>- Demonstrate knowledge of modern analytical methods for wine and grape analysis.</li><li>- Ability to extend the knowledge of oenology and viticulture by applying modern techniques.</li><li>- Ability to make comparative and critical analysis of the situation in the winemaking, development and improvement of technological processes for production of quality grapes and wine, based on expert and research studies.</li><li>- Demonstrate knowledge and understanding of the laws and regulations governing the manufacturing process.</li></ul>
<b>Apply theoretical and practical knowledge</b>	<ul style="list-style-type: none"><li>- Apply knowledge and understanding of basic wine production, wine stabilization and treatment procedures, chemical and sensory analysis of wine.</li><li>- Demonstrate ability to research various factors affecting the quality of grapes and wine.</li><li>- Identify, analyze and solve problems during the production and ripening of wines.</li><li>- Demonstrated skill in the organization of the work of the vineyards and the winery.</li></ul>
<b>Appraisal ability</b>	<ul style="list-style-type: none"><li>- Ability to collect, analyze and present information from scientific and technological research.</li><li>- Reasonable in making appropriate conclusions from all technological, production and organizational processes.</li><li>- Technological and organizational operations evaluate and calculate production processes, taking into account social, scientific and ethical aspects.</li></ul>
<b>Communication skills</b>	<ul style="list-style-type: none"><li>- Acquire skills for timely and successful production planning and contracting, as well as product placement.</li><li>- Connect ideas, problems and solutions from different segments of agricultural production.</li><li>- Explain expert, argumentative and acceptable ideas, attitudes, technologies and solutions and results to the professional and general public.</li><li>- Take personal responsibility in communicating different hierarchical levels in the scope of work.</li><li>- Take the initiative and responsibility for teamwork, personal and / or group responsibility in presenting teamwork results.</li></ul>
<b>Skills of learning</b>	<ul style="list-style-type: none"><li>- Continuously develop their skills through self-learning, and present them with confidence.</li><li>- Upgrading the acquired knowledge in the field of viticulture through continuous monitoring of the latest achievements in the world.</li><li>- Ability to implement rulebooks and legislation in the field of viticulture and orchards, and ability to apply changes.</li></ul>

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