

UNIVERSITY "GOCE DELCEV", STIP

**FACULTY OF NATURAL AND
TECHNICAL SCIENCES - STIP**

**STUDY PROGRAMS
(CURRICULUMS)**

- Geology
 - Mining
 - Environmental Protection Engineering
 - Geography
 - Interior and furniture design
 - Landscape architecture
 - Industrial logistics
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- GEOLOGY -

First academic year – First semester				
Code	Title of the course	Number of ECTS Credits	Classes	Total*
2FI100117	Mathematics 1	8	3+2+2	240
2FP100217	Physics 1	8	3+2+2	240
2FP110117	Basics of geology	6	2+2+1	180
	Elective faculty course (list 1-1)	4	2+1+1	120
	Elective faculty course (list 1-2)	4	2+1+1	120
4FO107717	Sport and recreation			
Total ECTS		30	12+8+7	900

Elective (Faculty) courses (list 1-1)				
4FF100817	English language	4	2+1+1	120
2FP100417	Basics of mining	4	2+1+1	120

Elective (Faculty) courses (list 1-2)				
2FP100917	Engineering graphics	4	2+1+1	120
2FP101217	Basics of programing	4	2+1+1	120

First academic year – second semester				
Code	Title of the subject	Number of ECTS Credits	Classes	Total*
2FP110217	Mineralogy	8	3+2+2	240
2FP101117	Physics 2	6	2+2+1	180
2ZF107517	General and inorganic chemistry	6	2+2+1	180
	One Elective (faculty) course (list 2)	4	2+1+1	120
	One Elective (university) course II (list 9)	4	0+0+4	120
	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses (list 2)				
2FI100417	Mathematics 2	4	2+1+1	120
2FP107817	Mineral processing	4	2+1+1	120

Second academic year – Third semester				
Code	Title of the course	Number of ECTS Credits	Classes	Total*
2FP110317	Petrology	8	3+2+2	240
2FP110517	Paleontology and stratigraphy	8	3+2+2	240
2FP110417	Geochemistry	6	2+2+1	180
	Elective faculty course (list 3)	4	2+1+1	120
	Elective faculty course (list 3-1, 3-2, 3-3, 3-4)	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses (list 3)				
2FP110617	Structural geology	4	2+1+1	120
2FP110717	Seismotectonics	4	2+1+1	120

Elective (faculty) courses (list 3-1, module Geology and geophysics)				
2FP111417	Historical geology 1	4	2+1+1	120
2FP111517	Geophysical techniques 1	4	2+1+1	120

Elective (faculty) courses (list 3-2, module Petrology, mineralogy and geochemistry)				
2FP110817	Systematics of silicate	4	2+1+1	120
2FP110917	Geochemistry of igneous and metamorphic rocks	4	2+1+1	120

Elective (faculty) courses (list 3-3, module Hydrogeology and engineering geology)				
2FP111217	General hydrogeology	4	2+1+1	120
2FP111317	Geomechanics	4	2+1+1	120

Elective (faculty) courses (list 3-4, module Deposits of mineral raw materials)				
2FP111017	Technogenic deposits	4	2+1+1	120
2FP111117	Metals in soils	4	2+1+1	120

Second academic year – Fourth semester				
Code	Title of the course	Number of ECTS Credits	Classes	Total*
2FP111717	Basics of geophysics 1	8	3+2+2	240
2FP111617	Genesis of ore deposits	6	2+2+1	180
2FP111817	Instrumental methods	6	2+2+1	180

	One Elective (faculty) course (list 4-1, 4-2, 4-3, 4-4)	4	2+1+1	120
	One Elective (university) course (list 9)	4	0+0+4	120
	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses (list 4-1, module Geology and geophysics)				
2FP112617	Historical geology 2	4	2+1+1	120
2FP112517	Geophysical techniques 2	4	2+1+1	120

Elective (faculty) courses (list 4-2, module Petrology, mineralogy and geochemistry)				
2FP111917	Systematics of non-silicates	4	2+1+1	120
2FP112017	Geochemistry of sediments and sedimentation basins	4	2+1+1	120

Elective (faculty) courses (list 4-3, module Hydrogeology and engineering geology)				
2FP112317	Engineering geological research methods	4	2+1+1	120
2FP112417	General hydrology	4	2+1+1	120

Elective (faculty) courses (list 4-4, module Deposits of mineral raw materials)				
2FP112117	Deep drilling	4	2+1+1	120
2FP112217	Exploration of mineral resources	4	2+1+1	120

Third academic year – Fifth semester				
Code	Title of the course	Number of ECTS Credits	Classes	Total*
2FP122717	Projects and design	8	3+2+2	240
2FP112817	Metamorphic rocks	6	2+2+1	180
2FP112917	Mineral resources	8	3+2+2	240
	Elective faculty course (list 5)	4	2+1+1	120
	Elective faculty course list 5-1, 5-2, 5-3, 5-4)	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses (list 5)				
2FP113017	Geophysical explorations	4	2+1+1	120
2FP113117	Basics of geophysics 2	4	2+1+1	120

Elective (faculty) courses (list 5-1, module Geology and geophysics)				
2FP113817	Quaternary geology	4	2+1+1	120
2FP113917	Computer simulation of geoprocesses	4	2+1+1	120

Elective (faculty) courses (list 5-2, module Petrology, mineralogy and geochemistry)				
2FP113217	Crystallochemistry	4	2+1+1	120
2FP113317	Geochemistry of waters	4	2+1+1	120

Elective (faculty) courses (list 5-3, module Hydrogeology and engineering geology)				
2FP114717	Fundamentals of Hydrogeoecology	4	2+1+1	120
2FP113717	Mineral waters	4	2+1+1	120

Elective (faculty) courses (list 5-4, module Deposits of mineral raw materials)				
2FP113417	Prospection of the deposits of mineral resources	4	2+1+1	120
2FP113517	Geology of Coals	4	2+1+1	120

Third academic year – Sixth semester				
Code	Title of the course	Number of ECTS Credits	Classes	Total
2FP114017	Hydrogeology and engineering geology	8	3+2+2	240
2FP114117	Fluid Geochemistry	6	2+2+1	180
2FP114217	Geological mapping	6	2+2+1	180
	One Elective (faculty) course (list 6-1, 6-2, 6-3, 6-4)	4	2+1+1	180
	One Elective (university) course (list 9)	4	0+0+4	120
	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses (list 6-1, module Geology and geophysics)				
2FP114917	Digital data processing	4	2+1+1	120
2FP115017	Remote detection methods	4	2+1+1	120

Elective (faculty) courses (list 6-2, module Petrology, mineralogy and geochemistry)				
2FP114317	Engineering petrology	4	2+1+1	120
2FP114417	Crystallography	4	2+1+1	120

Elective (faculty) courses (list 6-3, module Hydrogeology and engineering geology)				
2FP113617	Hydrogeology of the deposits of mineral raw materials	4	2+1+1	120
2FP104017	Rock mechanics	4	2+1+1	120

Elective (faculty) courses (list 6-4, module Deposits of mineral raw materials)				
2FP114517	Mineral resources 2	4	2+1+1	120
2FP114617	Applicable software packages in geology	4	2+1+1	120

MODULE GEOLOGY AND GEOPHYSICS

Fourth academic year – Seventh semester				
Code	Title of the course	Number of ECTS Credits	Classes	Total
2FP116517	Engineering geophysics	8	3+2+2	240
2FP116617	Geology of Macedonia	8	3+2+2	240
2FP116717	Measuring technique	6	2+2+1	180
	Elective Faculty course (list 7-1)	4	120	120
	Elective Faculty course (list 7-1)	4	120	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses (list 7-1)				
2FP116817	Mathematical methods in geology and geophysics	4	2+1+1	120
2FP111317	Geomechanics	4	2+1+1	120
2FP123212	Electromagnetic smog	4	2+1+1	120
2FP117117	Exploration drilling	4	2+1+1	120

MODULE PETROLOGY, MINERALOGY AND GEOCHEMISTRY

Fourth academic year – Seventh semester				
Code	Title of the course	Number of ECTS Credits	Classes	Total
2FP115117	Sedimentology	8	3+2+2	240
2FP115217	Industrial mineralogy	8	3+2+2	240
2FP115317	Applied geochemistry	6	2+2+1	180
	Elective Faculty course (list 7-2)	4	2+1+1	120
	Elective Faculty course (list 7-2)	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses (list 7-2)				
2FP115417	Clay mineralogy	4	2+1+1	120
2FP115517	Organic geochemistry	4	2+1+1	120
2FP115617	Petrotectonics	4	2+1+1	120
2FP115717	Petrological examination methods	4	2+1+1	120

MODULE HYDROGEOLOGY AND ENGINEERING GEOLOGY

Fourth academic year – Seventh semester				
Code	Title of the course	Number of ECTS Credits	Classes	Total
2FP117217	Hydrodynamics in real environments	8	3+2+2	240
2FP116517	Engineering geophysics	8	3+2+2	240
2FP117417	Groundwater protection	6	2+2+1	180
	Elective Faculty course (list 7-3)	4	2+1+1	120
	Elective Faculty course (list 7-3)	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses (list 7-3)				
2FP117517	Design of engineering geological research	4	2+1+1	120
2FP117717	GIS	4	2+1+1	120
2FP120712	Investigative drilling in hydrogeology	4	2+1+1	120

MODULE DEPOSITS OF MINERAL RAW MATERIALS

Fourth academic year – Seventh semester				
Code	Title of the course	Number of ECTS Credits	Classes	Total
2FP115817	Management in Geology	8	3+2+2	240
2FP115917	Metallogenetic forecast	8	3+2+2	240
2FP116017	Deposits of rare and scattered elements	6	2+2+1	180
	Elective Faculty course (list 7-4)	4	2+1+1	120
	Elective Faculty course (list 7-4)	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses (list 7-4)				
2FP116117	Economics of mineral raw materials	4	2+1+1	120
2FP116217	Mining geology	4	2+1+1	120
2FP116317	GIS in mineral raw materials	4	2+1+1	120
2FP116417	Geochemistry of the environment	4	2+1+1	120

MODULE GEOLOGY AND GEOPHYSICS

Fourth academic year – eighth semester				
Code	Title of the course	Number of ECTS Credits	Classes	Total*
2FP118717	Geotectonics	4	2+1+1	120
2FP118817	Interpretation and modeling	4	2+1+1	120
2FP117017	Paleomagnetism	4	2+1+1	120
	One Elective (faculty) course (list 8-1)	4	2+1+1	120
	One Elective (university) course (list 9)	4	0+0+4	120
	Practical classes - interdisciplinary project	4	0+0+4	120
	Diploma work	6		180
Total ECTS		30		900

Elective (faculty) courses (list 8-1)				
2FP117717	GIS	4	2+1+1	120
2FP118917	Geothermal energy	4	2+1+1	120

MODULE PETROLOGY, MINERALOGY AND GEOCHEMISTRY

Fourth academic year – eighth semester				
Code	Title of the course	Number of ECTS Credits	Classes	Total*
2FP117817	Applied mineralogy	4	2+1+1	120
2FP117917	Exploration of stone	4	2+1+1	120
2FP120917	Management of architectural decorative stone	4	2+1+1	120
	One Elective (faculty) course (list 8-2)	4	2+1+1	120
	One Elective (university) course (list 9)	4	0+0+4	120
	Practical classes - interdisciplinary project	4	0+0+4	120
	Diploma work	6		180
Total ECTS		30		900

Elective (faculty) courses (list 8-2)				
2FP118117	Mineralogy and environmental protection	4	2+1+1	120
2FP118217	Rocks and minerals and multicultural monuments	4	2+1+1	120

MODULE HYDROGEOLOGY AND ENGINEERING GEOLOGY

Fourth academic year – eighth semester				
Code	Title of the course	Number of ECTS Credits	Classes	Total*
2FP129017	Methods of hydrogeological research	4	2+1+1	120
2FP129117	Geotechnical models of the environment	4	2+1+1	120
2FP129917	Design of hydrogeological researches	4	2+1+1	120
	One Elective (faculty) course (list 8-3)	4	2+1+1	120
	One Elective (university) course (list 9)	4	0+0+4	120
	Practical classes - interdisciplinary project	4	0+0+4	120
	Diploma work	6		180
Total ECTS		30		900

Elective (faculty) courses (list 8-3)				
2FP117617	Geotectonics	4	2+1+1	120
2FP118917	Geothermal energy	4	2+1+1	120

MODULE DEPOSITS OF MINERAL RAW MATERIALS

Fourth academic year – eighth semester				
Code	Title of the course	Number of ECTS Credits	Classes	Total*
2FP118317	Energy resources	4	2+1+1	120
2FP118417	Alterations and mineral paragenesis	4	2+1+1	120
2FP123817	Modeling of ore deposits	4	2+1+1	120
	One Elective (faculty) course (list 8-4)	4	2+1+1	120
	One Elective (university) course (list 9)	4	0+0+4	120
	Practical classes - interdisciplinary project	4	0+0+4	120
	Diploma work	6		180
Total ECTS		30		900

Elective (faculty) courses (list 8-4)				
2FP11851	Hydrogeochemistry	4	2+1+1	120
2FP118617	Geology of geothermal deposits	4	2+1+1	120

List 9. Elective University course

Code	Title of the course	Number of ECTS Credits	Classes	Total*
UGD100117	Macedonian literature and culture	4	0+0+4	120
UGD100217	Macedonian language, spelling and proper speech	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	Informatics	4	0+0+4	120
UGD102917	Basics of Programming	4	0+0+4	120



- MINING-

First academic year – First term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FI100117	Mathematics 1	8	3+2+2	240
2FP100217	Physics 1	8	3+2+2	240
2FP100717	Mineralogy and petrography	6	2+2+1	180
	One elective (faculty) course from list No.1	4	2+1+1	120
	One elective (faculty) course from list No.1	4	2+1+1	120
4F0107717	Sport and Recreation			
Total ECTS		30	12+8+7	900

Elective (Faculty) courses list No.1				
2FP100417	Fundamentals of mining	4	2+1+1	120
2FP100517	Materials in mining	4	2+1+1	120
2FP100617	Basics of geology	4	2+1+1	120

First academic year – second term				
Code	Title of the subject	Number of ECTS Credits	Hours	Total*
2FP100817	General and inorganic chemistry	8	3+2+2	240
2FI100417	Mathematics 2	6	2+2+1	180
2FP100917	Engineering graphics	6	2+2+1	180
	One elective (faculty) course from list No.2	4	2+1+1	120
	One elective (university) course from list No.9	4	0+0+4	120
2FP108417	Practical classes*	2	0+0+2	60
Total ECTS		30	11+8+8	900

Elective (faculty) courses list No.2				
2FP101117	Physics 2	4	2+1+1	120
2ET100117	Electrical Engineering	4	2+1+1	120
2FP101217	Basics of programming	4	2+1+1	120
4FF100817	English Level A 2.1	4	2+1+1	120

Second academic year – Third term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP108317	Statics	8	3+2+2	240
2FP102317	Fluid mechanics	8	3+2+2	240
2FP101517	Numerical methods	6	2+2+1	180
	One elective (faculty) course from list No.3	4	2+1+1	120
	One elective (faculty) course from list No.3	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses list No.3				
2FP101717	Fundamentals of Management	4	2+1+1	120
2FP102017	Mining deposits	4	2+1+1	120
2FP101917	Construction in mining	4	2+1+1	120

Second academic year – Fourth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2MF100517	Kinematics and dynamics	8	3+2+2	240
2MF100417	Strength of materials	6	2+2+1	180
2FP102717	Test methods in the preparation of mineral raw materials	6	2+2+1	180
	One elective (faculty) course from list No.4	4	2+1+1	120
	One elective (university) course from list No.9	4	0+0+4	120
2FP108517	Practical classes*	2	0+0+2	60
Total ECTS		30	11+8+8	900

Elective (faculty) courses list No.4				
2FP102117	Mining machines	4	2+1+1	120
2FP103817	Underground mining operations	4	2+1+1	120

Third academic year – Fifth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP105017	Breaking and Grading	8	3+2+2	240
2FP104017	Rock Mechanics	8	3+2+2	240
2FP102817	Construction of mining facilities	6	2+2+1	180
	One elective (faculty) course from list No.(5-1;5-2)	4	2+1+1	120
	One elective (faculty) course from list No.(5-1;5-2)	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses list No.5-1				
2FP106717	Physical methods of concentration	4	2+1+1	120
2FP103017	Processing of mineral raw materials with leaching	4	2+1+1	120
2FP103117	Physical chemistry	4	2+1+1	120

Elective (faculty) courses list No.5-2				
2FP103517	Soil Mechanics	4	2+1+1	120
2FP104617	Mining modeling	4	2+1+1	120
2FP103617	Mining hoisting	4	2+1+1	120
2FP103717	Opening and development of underground mining sites	4	2+1+1	120

Third academic year – Sixth term - module Preparation of mineral raw materials				
Code	Title of the course	Number of ECTS Credits	Hours	Total
2FP105117	Technical protection	6	2+2+1	180
2FP104117	Mining haulage	8	3+2+2	240
2FP102917	Flotation concentration	6	2+2+1	180
	One elective (faculty) course from list No. 6-1	4	2+1+1	120
	One elective (university) course from list No.9	4	0+0+4	120
2FP108617	Practical classes*	2	0+0+2	60
Total ECTS		30	11+8+8	900

Third academic year – Sixth term – module Exploitation of mineral resources				
Code	Title of the course	Number of ECTS Credits	Hours	Total
2FP105117	Technical protection	6	2+2+1	180
2FP104117	Mining haulage	8	3+2+2	240
2FP102917	Basics of design	6	2+2+1	180
	One elective (faculty) course from list No. 6-2	4	2+1+1	120
	One elective (university) course from list No.9	4	0+0+4	120
2FP108617	Practical classes*	2	0+0+2	60
Total ECTS		30	11+8+8	900

Elective (faculty) courses list No.6-1				
2FP108217	Flotation reagents	4	2+1+1	120
2FP104417	Extractive metallurgy	4	2+1+1	120

Elective (faculty) courses list No.6-2				
2FP103317	Exploitation of layered deposits	4	2+1+1	120
2FP107217	Exploitation and processing of ACS	4	2+1+1	120
2FP104717	Modern methods in the underground exploitation of metallic mineral resources	4	2+1+1	120
2FP104917	Construction of tunnels	4	2+1+1	120

Fourth academic year – Seventh term - module Preparation of mineral raw materials				
Code	Title of the course	Number of ECTS Credits	Hours	Total
2FP105317	Industrial application of mineral raw material preparation 1	8	3+2+2	240
2FP106617	Ventilation engineering	8	3+2+2	240
2FP107117	Recycling technologies	6	2+2+1	180
	One elective (faculty) course from list No. 7-1	4	2+1+1	120
	One elective (faculty) course from list No. 7-1	4	2+1+1	120
Total ECTS		30	12+8+7	900

Fourth academic year – Seventh term - module Exploitation of mineral resources				
Code	Title of the course	Number of ECTS Credits	Hours	Total
2FP101617	Drilling and blasting	8	3+2+2	240
2FP106617	Ventilation engineering	8	3+2+2	240
2FP108117	Water drainage of mines	6	2+2+1	180
	One elective (faculty) course from list No. 7-2	4	2+1+1	120
	One elective (faculty) course from list No. 7-2	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses list No.7-1				
2FP105517	Industrial application of mineral raw materials preparation 2	4	2+1+1	120
2FP132017	Mining and technogenic waste	4	2+1+1	120
2FP108117	Water drainage of mines	4	2+1+1	120

Elective (faculty) courses list No.7-2				
2FP103217	Exploitation of non-layered deposits	4	2+1+1	120
2FP107317	Gasification of coal	4	2+1+1	120
2FP106117	Methods of underground exploitation of vein deposits	4	2+1+1	120
2FP106417	Defining of working environment	4	2+1+1	120

Fourth academic year – eighth term - module Preparation of mineral raw materials				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP105417	Design in preparation of mineral raw materials	4	2+1+1	120
2FP121617	Wastewater treatment	4	2+1+1	120
2FP106917	Construction of tailings management facility	4	2+1+1	120
	One elective (faculty) course from list No. 8-1	4	2+1+1	120
	One elective (university) course from list No.9	4	0+0+4	120
2FP108717	Practical classes*	4	0+0+4	120
2FP106817	Graduate thesis	6	0+0+8	180
Total ECTS		30	10+6+7	900

Fourth academic year – eighth term - module Exploitation of mineral resources				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP107917	Technology of surface mine exploitation	4	2+1+1	120
2FP107817	Technology of underground mine exploitation	4	2+1+1	120
2FP101817	Geodesy	4	2+1+1	120
	One elective (faculty) course from list No. 8-2	4	2+1+1	120
	One elective (university) course from list No.9	4	0+0+4	120
2FP108717	Practical classes*	4	0+0+4	120
2FP106817	Graduate thesis	6	0+0+8	180
Total ECTS		30	10+6+7	900

Elective (faculty) courses list No.8-1				
2FP108817	Disposal of industrial waste	4	2+1+1	120
2FP104317	Mathematical methods in the preparation of mineral raw materials	4	2+1+1	120

Elective (faculty) courses list No.8-2				
2FP108017	New methods of exploitation	4	2+1+1	120
2FP104517	Special blasting methods	4	2+1+1	120
2FP107517	Underground coal exploitation	4	2+1+1	120
2FP102517	Environmental Protection	4	2+1+1	120

Elective University course

Code	Title of the course	Number of ECTS Credits	Classes	Total*
UGD100117	Macedonian literature and culture	4	0+0+4	120
UGD100217	Macedonian language, spelling and proper speech	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	Informatics	4	0+0+4	120
UGD102917	Basics of Programming	4	0+0+4	120



**- Environmental Protection
Engineering -**

First academic year – First term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FI100117	Mathematics 1	8	3+2+2	240
2FP100217	Physics 1	8	3+2+2	240
	Chemistry	6	2+2+1	180
	Elective faculty course A	4	2+1+1	120
	Elective faculty course B	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (Faculty) courses A				
2FP120217	Basics of Ecology and Ecosystems	4	2+1+1	120
2FP120117	Geo Environment	4	2+1+1	120

Elective (faculty) courses B				
2FP120317	Internet	4	2+1+1	120
2FP110117	Principles in geology	4	2+1+1	120

First academic year – second term				
Code	Title of the subject	Number of ECTS Credits	Hours	Total*
2FP120417	Geochemistry	8	3+2+2	240
2FP133317	Statistics	6	2+2+1	180
2FP120517	Global Ecological Processes	6	2+2+1	180
	One Elective (faculty) course I	4	2+1+1	120
	One Elective (university) course II	4	0+0+4	120
4FO107717	Sport Activities	0		
2FP123417	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses				
2FP101117	Physics 2	4	2+1+1	120
2FP100917	Engineering graphics	4	2+1+1	120
4FF100817	English language A2.1	4	2+1+1	120

Second academic year – Third term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP120617	Ecological Process Engineering	8	3+2+2	240
2FP120717	Rocks and Environment	8	3+2+2	240
2FP120817	Soil research	6	2+2+1	180
	Elective faculty course A	4	2+1+1	120
	Elective faculty course B	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses A				
2FP101517	Numerical methods	4	2+1+1	120
2FP121417	Quality and standard system	4	2+1+1	120

Elective (faculty) courses B				
2FP121017	Climate and energy	4	2+1+1	120
2FP140917	Geo Ecology	4	2+1+1	120

Second academic year – Fourth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP121117	General Hydrology	8	3+2+2	240
2FP121217	Industrial processes	6	2+2+1	180
2FP121317	Instrumental methods	6	2+2+1	180
	One Elective (faculty) course I	4	2+1+1	120
	One Elective (university) course II	4	0+0+4	120
2FP123417	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses				
2FP120917	Technical materials	4	2+1+1	120
2FP111317	Seismotectonics	4	2+1+1	120

Third academic year – Fifth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP122217	Environmental Impact Assessment	8	3+2+2	240
2FP121617	Wastewater treatment	6	2+2+1	180
2FP121717	Rare and scattered metals	8	3+2+2	240
	Elective faculty course A	4	2+1+1	120
	Elective faculty course B	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses A				
2FP121817	Occupational safety	4	2+1+1	120
2FP121917	Geo Informatics	4	2+1+1	120

Elective (faculty) courses B				
2FP106317	Environmental protection laws	4	2+1+1	120
2FP151117	Project and technical documentation	4	2+1+1	120

Third academic year – Sixth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total
2FP121517	Air pollution and protection	8	3+2+2	240
2FP122117	Hazardous Waste Management	6	2+2+1	180
2FP122017	Municipal Waste Management	6	2+2+1	180
	One Elective (faculty) course I	4	2+1+1	180
	One Elective (university) course II	4	0+0+4	120
2FP123417	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses				
2FP107117	Recycling technologies	4	2+1+1	120
2FP132017	Mining and technogenic waste	4	2+1+1	120

Fourth academic year – Seventh term				
Code	Title of the course	Number of ECTS Credits	Hours	Total
2FP122317	Environmental Project Management	8	240	240
2FP122417	Landfill design	8	240	240
2FP122517	Environmental Noise	6	180	180
	Elective Faculty course A	4	120	120
	Elective Faculty course B	4	120	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses A					
1	2FP122617	Transport of Hazardous materials	4	2+1+1	120
2	2FP122717	Electrical and electronic waste	4	2+1+1	120

Elective (faculty) courses B					
1	2FP122817	Transport of mineral raw materials through the environment	4	2+1+1	120
2	2FP122917	Remediation of groundwater and geo-environment	4	2+1+1	120

Fourth academic year – eighth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP123017	Ecological Economics	4	2+1+1	120
2FP123117	Ecological Risk Assessment	4	2+1+1	120
2FP133817	Communication skills	4	2+1+1	120
	One Elective (faculty) course I	4	2+1+1	120
	One Elective (university) course II	4	0+0+4	120
2FP123517	Practical classes - Interdisciplinary Project	4	0+0+4	120
2FP123317	Diploma work	6		180
Total ECTS		30		900

Elective University course

Code	Title of the course	Number of ECTS Credits	Classes	Total*
UGD100117	Macedonian literature and culture	4	0+0+4	120
UGD100217	Macedonian language, spelling and proper speech	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	Informatics	4	0+0+4	120
UGD102917	Basics of Programming	4	0+0+4	120



- GEOGRAPHY-

First academic year – First term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP140117	Geography	8	3+2+2	240
2FP140217	Mineralogy and petrography	8	3+2+2	240
2FP118317	GIS	6	2+2+1	180
	Elective faculty course	4	2+1+1	120
	Elective faculty course	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (Faculty) courses				
2FP140417	History of geography	4	2+1+1	120
2FP140617	Revitalization of rural settlements and territories	4	2+1+1	120
2FP140717	Geographical bases of spatial planning	4	2+1+1	120
4FF100817	English language	4	2+1+1	120

First academic year – second term				
Code	Title of the subject	Number of ECTS Credits	Hours	Total*
2FP140817	Earth Physics	8	3+2+2	240
2FP140917	Geoecology	6	2+2+1	180
2FP141017	Basics of Geology	6	2+2+1	180
	One Elective (faculty) course I	4	2+1+1	120
	One Elective (university) course II	4	0+0+4	120
UGD102712	Sport Activities	0		
	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses				
2FP141117	Urban geography	4	2+1+1	120
2FP142917	Tourist geography	4	2+1+1	120

Second academic year – Third term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP141317	Geomorphology	8	3+2+2	240
2FP141417	Cartography	8	3+2+2	240
2FP141517	Population geography	6	2+2+1	180
	Elective faculty course	4	2+1+1	120
	Elective faculty course	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses				
2FP141617	Applied Cartography	4	2+1+1	120
2FP141717	Structural geomorphology	4	2+1+1	120
2FP141817	Geological resources	4	2+1+1	120
2FP141917	Traffic geography	4	2+1+1	120

Second academic year – Fourth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP142017	Paleogeography	8	3+2+2	240
2FP142217	Regional Geography of the Republic of Macedonia	6	2+2+1	180
2FP1124173	General Hydrology	6	2+2+1	180
	One Elective (faculty) course I	4	2+1+1	120
	One Elective (university) course II	4	0+0+4	120
	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses				
2FP142317	Geographical aspects of environmental protection	4	2+1+1	120
2FP142417	Soil erosion	4	2+1+1	120

Third academic year – Fifth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP143417	Regional geography of Europe	8	3+2+2	240
2FP142717	natural disasters	6	2+2+1	180
2FP142617	Economic geography	8	3+2+2	240
	Elective faculty course	4	2+1+1	120
	Elective faculty course	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses				
2FP142817	Industrial geography	4	2+1+1	120
2FP143617	Socio-economic geography of R. Macedonia Macedonia	4	2+1+1	120
2FP143017	Agrarian geography	4	2+1+1	120
2FP143117	Climatology	4	2+1+1	120

Third academic year – Sixth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total
2FP142517	Regional geography of the continents	8	3+2+2	240
2FP143517	Biogeography	6	2+2+1	180
2FP18717	Geotectonics	6	2+2+1	180
	One Elective (faculty) course I	4	2+1+1	180
	One Elective (university) course II	4	0+0+4	120
	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses				
2FP142317	Demography	4	2+1+1	120
2FP142417	Speleology	4	2+1+1	120

Fourth academic year – Seventh term				
Code	Title of the course	Number of ECTS Credits	Hours	Total
4FO107517	Psychology	8	240	240
2FP143717	Geography Teaching Methodology I	8	240	240
4FO107417	Pedagogy	6	180	180
	Elective Faculty course A	4	120	120
	Elective Faculty course B	4	120	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses A					
1	4FO100417	Didactics	4	2+1+1	120
2	4FO105617	Pedagogical communication	4	2+1+1	120

Elective (faculty) courses B					
1	4FO107317	Planning and programming of the pedagogical activity in the school	4	2+1+1	120
2	4FO102617	Inclusive education	4	2+1+1	120
3	2FP144317	ICT application in geography teaching	4	2+1+1	120

Fourth academic year – eighth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
4FO107617	Methodology of educational work	4	2+1+1	120
2FP144417	Geography Teaching Methodology II	4	2+1+1	120
4FO107817	Pedagogical research methodology	4	2+1+1	120
	One Elective (faculty) course I	4	2+1+1	120
	One Elective (university) course II	4	0+0+4	120
	Practical - Pedagogical experience	4	0+0+4	120
	Diploma work	6		180
Total ECTS		30		900

Elective (faculty) courses				
4FO104617	Pedagogy of leisure	4	2+1+1	120
2FP140317	Protection of natural heritage	4	2+1+1	120

Elective University course

Code	Title of the course	Number of ECTS Credits	Classes	Total*
UGD100117	Macedonian literature and culture	4	0+0+4	120
UGD100217	Macedonian language, spelling and proper speech	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	Informatics	4	0+0+4	120
UGD102917	Basics of Programming	4	0+0+4	120



- INTERIOR AND FURNITURE DESIGN -

First academic year – First term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP100217	Physics	8	3+2+2	240
2FI163117	Mathematics	8	3+2+2	240
2FP171517	Informatics	6	2+2+1	180
	Elective faculty course A	4	2+1+1	120
	Elective faculty course B	4	2+1+1	120
UGD102717	Sport activities			
Total ECTS		30	12+8+7	900

Elective (Faculty) courses A				
2LA110017	Perspective 1	4	2+1+1	120
2TT100317	Drawing techniques	4	2+1+1	120

Elective (Faculty) courses B				
4FF100816	English Language A2.1	4	2+1+1	120
2FP150317	Building materials	4	2+1+1	120

First academic year – second term				
Code	Title of the subject	Number of ECTS Credits	Hours	Total*
2FP160317	Design basics	8	3+2+2	240
2FP160517	History of Architecture, Art and Urbanism 1	6	2+2+1	180
2FP160717	Engineering graphics	6	2+2+1	180
	One Elective (faculty) course I	4	2+1+1	120
	One Elective (university) course II	4	0+0+4	120
2FP171417	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses				
4FF101716	English Language A2.2	4	2+1+1	120
2LA110117	Perspective 2	4	2+1+1	120

Second academic year – Third term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP161117	History of Architecture, Art and Urbanism 2	6	2+2+1	240
2FP163217	Composition in design	8	3+2+2	240
2FP161717	Design elements	8	3+2+2	180
	Elective faculty course A	4	2+1+1	120
	Elective faculty course B	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses A				
2FP163617	Spatial forms	4	2+1+1	120
2FP130217	Quality systems and standards	4	2+1+1	120

Elective (faculty) courses B				
2FP170017	Architectural constructions	4	2+1+1	120
2FP170117	Protective systems	4	2+1+1	120

Second academic year – Fourth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP161217	Interior and exterior	6	2+2+2	240
2FP172017	Materials 1	8	3+2+1	180
2FP163317	Spatial concepts in culture	6	2+2+1	180
	One Elective (faculty) course I	4	2+1+1	120
	One Elective (university) course II	4	0+0+4	120
2FP171517	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses				
2FP162017	Decorative dendroflora	4	2+1+1	120
2FP121817	Safety at work	4	2+1+1	120

Third academic year – Fifth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP170317	Designing 1	8	3+2+2	240
2FP163417	Space conversion	8	3+2+2	180
2FP163517	Space shaping	6	2+2+1	240
	Elective faculty course A	4	2+1+1	120
	Elective faculty course B	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses A				
2FP162417	Constructive systems	4	2+1+1	120
2FP170417	Computer Simulation 3D	4	2+1+1	120
2FP163617	Space lighting	4	2+1+1	120

Elective (faculty) courses B				
2FP164417	Furniture design	4	2+1+1	120
2FP140317	Natural heritage protection	4	2+1+1	120

Third academic year – Sixth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total
2FP170717	Designing 2	6	2+2+1	240
2FP162517	Industrial design	6	2+2+1	180
2FP164617	Design of office furniture and interiors	8	3+2+2	180
	One Elective (faculty) course I	4	2+1+1	180
	One Elective (university) course II	4	0+0+4	120
2FP171617	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses				
2FP161817	Ergonomics	4	2+1+1	120
2FP170817	Graphic design	4	2+1+1	120

Fourth academic year – Seventh term				
Code	Title of the course	Number of ECTS Credits	Hours	Total

2FP163717	Multifunctional spaces	8	240	240
2FP163817	Shaping public spaces	8	240	240
2FP163917	Space and avant-garde design	6	180	180
	Elective Faculty course A	4	120	120
	Elective Faculty course B	4	120	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses A				
2FP171117	Roof gardens	4	2+1+1	120
2FP171017	Materials 2	4	2+1+1	120

Elective (faculty) courses B				
2FP164017	Project realization	4	2+1+1	120
2FP164117	Eco design	4	2+1+1	120

Fourth academic year – eighth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP164217	Shaping complex spatial structures	4	2+1+1	120
2FP171217	Designing 3	4	2+1+1	120
2FP164317	Urban space design	4	2+1+1	120
	One Elective (faculty) course I	4	2+1+1	120
	One Elective (university) course II	4	0+0+4	120
2FP171717	Practical - Pedagogical experience	4	0+0+4	120
	Diploma work	6		180
Total ECTS		30		900

Elective (faculty) courses				
2FP170517	Architectural building stone	4	2+1+1	120
2FP171317	Design presentation techniques	4	2+1+1	120

Elective University course

Code	Title of the course	Number of ECTS Credits	Classes	Total*
UGD100117	Macedonian literature and culture	4	0+0+4	120
UGD100217	Macedonian language, spelling and proper speech	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	Informatics	4	0+0+4	120
UGD102917	Basics of Programming	4	0+0+4	120



- LANDSCAPE ARCHITECTURE -

First academic year – First term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP100217	Physics	8	3+2+2	240
2FI163117	Mathematics	8	3+2+2	240
2FP171517	Informatics	6	2+2+1	180
	Elective faculty course A	4	2+1+1	120
	Elective faculty course B	4	2+1+1	120
UGD102717	Sport activities			
Total ECTS		30	12+8+7	900

Elective (Faculty) courses A				
2LA110017	Perspective 1	4	2+1+1	120
2TT100317	Drawing techniques	4	2+1+1	120

Elective (Faculty) courses B				
4FF100816	English Language A2.1	4	2+1+1	120
2FP150317	Building materials	4	2+1+1	120

First academic year – second term				
Code	Title of the subject	Number of ECTS Credits	Hours	Total*
2FP160317	Design basics	8	3+2+2	240
2FP160517	History of Architecture, Art and Urbanism 1	6	2+2+1	180
2FP160717	Engineering graphics	6	2+2+1	180
	One Elective (faculty) course I	4	2+1+1	120
	One Elective (university) course II	4	0+0+4	120
2FP171417	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses				
4FF101716	English Language A2.2	4	2+1+1	120
2LA110117	Perspective 2	4	2+1+1	120

Second academic year – Third term				
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Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP161117	History of Architecture, Art and Urbanism 2	8	3+2+2	240
2FP163217	Composition in design	8	3+2+2	240
2FP161717	Design elements	6	2+2+1	180
	Elective faculty course A	4	2+1+1	120
	Elective faculty course B	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses A				
2FP161517	History and theory of landscape art	4	2+1+1	120
2FP130217	Quality systems and standards	4	2+1+1	120

Elective (faculty) courses B				
2FP170017	Architectural constructions	4	2+1+1	120
2FP170117	Protective systems	4	2+1+1	120

Second academic year – Fourth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP161217	Interior and exterior	6	2+2+2	240
2FP172017	Materials 1	8	3+2+1	180
2FP162017	Decorative dendroflora	6	2+2+1	180
	One Elective (faculty) course I	4	2+1+1	120
	One Elective (university) course II	4	0+0+4	120
2FP171517	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses				
2FP163317	Spatial concepts in culture	4	2+1+1	120
2FP121817	Safety at work	4	2+1+1	120

Third academic year – Fifth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP170317	Designing 1	8	3+2+2	240
2FP163417	Space conversion	8	3+2+2	180

2FP163517	Space shaping	6	2+2+1	240
	Elective faculty course A	4	2+1+1	120
	Elective faculty course B	4	2+1+1	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses A				
2FP163617	Spacious shapes	4	2+1+1	120
2FP162417	Constructive systems	4	2+1+1	120
2FP170417	Computer Simulation 3D	4	2+1+1	120
2FP163617	Space lighting	4	2+1+1	120

Elective (faculty) courses B				
2FP170517	Architectural building stone	4	2+1+1	120
2FP171417	Water and water systems	4	2+1+1	120
2FP170617	Paedology	4	2+1+1	120
2FP140317	Natural heritage protection	4	2+1+1	120

Third academic year – Sixth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total
2FP170717	Designing 2	6	2+2+1	240
2FP162517	Industrial design	6	2+2+1	180
2FP161917	Planning and maintenance of green areas	8	3+2+2	180
	One Elective (faculty) course I	4	2+1+1	180
	One Elective (university) course II	4	0+0+4	120
2FP171617	Practical classes	2	0+0+2	60
Total ECTS		30	9+7+11	900

Elective (faculty) courses				
2FP161817	Ergonomics	4	2+1+1	120
2FP170817	Graphic design	4	2+1+1	120
2FP170917	Land reclamation	4	2+1+1	120

Fourth academic year – Seventh term				
Code	Title of the course	Number of ECTS Credits	Hours	Total

2FP163717	Multifunctional spaces	8	240	240
2FP163817	Shaping public spaces	8	240	240
2FP163917	Space and avant-garde design	6	180	180
	Elective Faculty course A	4	120	120
	Elective Faculty course B	4	120	120
Total ECTS		30	12+8+7	900

Elective (faculty) courses A				
2ZF106017	Floristry (Flower)	4	2+1+1	120
2ZF111517	Ornamental plants	4	2+1+1	120

Elective (faculty) courses B				
2FP171117	Roof gardens	4	2+1+1	120
2FP164017	Project realization	4	2+1+1	120
2FP164117	Eco design	4	2+1+1	120

Fourth academic year – eighth term				
Code	Title of the course	Number of ECTS Credits	Hours	Total*
2FP164217	Shaping complex spatial structures	4	2+1+1	120
2FP171217	Designing 3	4	2+1+1	120
2FP164317	Urban space design	4	2+1+1	120
	One Elective (faculty) course I	4	2+1+1	120
	One Elective (university) course II	4	0+0+4	120
2FP171717	Practical - Pedagogical experience	4	0+0+4	120
	Diploma work	6		180
Total ECTS		30		900

Elective (faculty) courses				
2FP172117	Materials 2	4	2+1+1	120
2FP171317	Design presentation techniques	4	2+1+1	120

Elective University course

Code	Title of the course	Number of ECTS Credits	Classes	Total*
UGD100117	Macedonian literature and culture	4	0+0+4	120
UGD100217	Macedonian language, spelling and proper speech	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	Informatics	4	0+0+4	120
UGD102917	Basics of Programming	4	0+0+4	120



- INDUSTRIAL LOGISTICS-

Course programs first year - first semester

	Code	Title of the course	ECTS	Hours	Total*
1.	2FI100117	Mathematics 1	8	3+2+2	240
2.	2FP100217	Physics 1	8	3+2+2	240
3.	2FP130117	Logistics activities	6	2+2+1	180
4.		Elective faculty course list no.1-1	4	2+1+1	120
5.		Elective faculty course list no.1-2	4	2+1+1	120
6.		Sport and Recreation			
Total ECTS			30		900

list no.1-1 Elective faculty course

	Code	Title of the course	ECTS	Hours	Total*
1.	2FP120317	Internet	4	2+1+1	120
2.	2FP130217	Business Informatics	4	2+1+1	120

list no.1-2 Elective faculty course

	Code	Title of the course	ECTS	Hours	Total*
1.	2FP130317	Quality systems and standards	4	2+1+1	120
2.	2FP130417	Managing Small and Medium Businesses	4	2+1+1	120

Course programs, first year, second semester

	Code	Title of the course	ECTS	Hours	Total*
1	2FI100417	Mathematics 2	8	3+2+2	240
2	2FP101217	Programming Basics	6	2+2+1	180
3	2FP130517	Technological - economic development	6	2+2+1	180
4		Elective faculty course list no.2	4	2+1+1	120
5		Elective university course list no.9	4	0+0+4	120
6	2FP130617	Practical teaching*	2	0+0+2	60
Total ECTS			30		900

list no.2 Elective faculty course (се избира еден предмет)

	Code	Title of the course	ECTS	Hours	Total*
1	2FP101117	Physics 2	4	2+1+1	120
2	2FP130717	Designing in CAD	4	2+1+1	120
3	4FF100817	English language	4	2+1+1	120

Course programs, second year, third semester

	Code	Title of the course	ECTS	Hours	Total*
1	2FP130817	Industrial property	6	2+2+1	180
2	2FP130917	New product development	8	3+2+2	240
3	2FP131017	Operational Research	8	3+2+2	240
4		Elective faculty course list no.3	4	2+1+1	120
5		Elective faculty course list no.3	4	2+1+1	120
Total ECTS			30		900

list no.3 Elective faculty course

	Code	Title of the course	ECTS	Hours	Total*
1	2FP131117	Systems Theory	4	2+1+1	120
2	2FP101517	Numerical methods	4	2+1+1	120
3	2FP131317	Probability and statistics	4	2+1+1	120

Course programs, second year, fourth semester

	Code	Title of the course	ECTS	Hours	Total*
1	2FP131417	Decision Theory	6	2+2+1	180
2	2FP131517	Models of optimization	8	3+2+2	240
3	2FP131617	Productive management	6	2+2+1	180
4		Elective faculty course list no.4	4	2+1+1	120
5		Elective university course list no.9	4	0+0+4	120
6	2FP131717	Practical teaching *	2	0+0+2	60
Total ECTS			30		900

list no.4 Elective faculty course

	Code	Title of the course	ECTS	Hours	Total*
1	2FP131817	Logistics of Dangerous Goods	4	2+1+1	120
2	2FP131917	Application of industrial logistics	4	2+1+1	120

Course programs, third year, fifth semester

	Code	Title of the course	ECTS	Hours	Total*
1	2FP132017	Distributive logistics	8	3+2+2	240
2	2FP132117	Process Theory	8	3+2+2	240
3	2FP132217	Simulation of decision making	6	2+2+1	180
4		Elective faculty course list no.5-1	4	2+1+1	120
5		Elective faculty course list no.5-2	4	2+1+1	120
Total ECTS			30		900

list no.5-1 Elective faculty course

	Code	Title of the course	ECTS	Hours	Total*
1	2FP132317	Informational systems	4	2+1+1	120
2	2FP132417	Internet management	4	2+1+1	120

list no.5-2 Elective faculty course

	Code	Title of the course	ECTS	Hours	Total*
1	2FI100717	Data Structures and Algorithms	4	2+1+1	120
2	2FP120217	Fundamentals of ecology and eco-systems	4	2+1+1	120

Course programs, third year, sixth semester

	Code	Title of the course	ECTS	Hours	Total*
1	2FP121817	Safety at work	6	2+2+1	180
2	2FP132517	Design of logistics systems	8	3+2+2	240
3	2FP132617	Planning and design of logistics centers	6	2+2+1	180
4		Elective faculty course list no.6	4	2+1+1	120
5		Elective university course list no.9	4	0+0+4	120
6	2FP132717	Practical teaching*	2	0+0+2	60
Total ECTS			30		900

list no.6 Elective faculty course

	Code	Title of the course	ECTS	Hours	Total*
1	2FP132817	Human Resource Management	4	2+1+1	120
2	2FP132917	Intermodal transport technologies	4	2+1+1	120

Course programs, fourth year, seventh semester

	Code	Title of the course	ECTS	Hours	Total*
1	2FP133017	Supply chains	8	3+2+2	240
2	2FP161817	Ergonomics	6	2+2+1	180
3	2FP133117	Logistics of inland transport	8	3+2+2	240
4		Elective faculty course list no.7	4	2+1+1	120
5		Elective faculty course list no.7	4	2+1+1	120
Total ECTS			30		900

list no.7 Elective faculty course

	Code	Title of the course	ECTS	Hours	Total*
1	2FP133217	Raw Material Processing Technology	4	2+1+1	120
2	2FP133317	Industrial processes in the food industry	4	2+1+1	120
3	2FP133417	Industrial processes in the textile industry	4	2+1+1	120

4	2FP133517	Industrial processes in mining	4	2+1+1	120
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Course programs, fourth year, eighth semester

	Code	Title of the course	ECTS	Hours	Total*
1	2FP133617	Return Logistics	4	2+1+1	120
2	2FP133717	Modeling of production processes	4	2+1+1	120
3	2FP131217	Intelligent transport systems	4	2+1+1	120
4		Elective faculty course list no.8	4	2+1+1	120
5		Elective university course list no.9	4	0+0+4	120
6	2FP133817	Practical teaching*- interdisciplinary project	4	0+0+4	120
7		Graduate thesis	6	0+0+8	180
Total ECTS			30		900

list no.8 Elective faculty course

	Code	Title of the course	ECTS	Hours	Total*
1	2FP133917	Communication skills	4	2+1+1	120
2	2FP134017	Multimedia communications and presentations	4	2+1+1	120

Elective University course

Code	Title of the course	Number of ECTS Credits	Classes	Total*
UGD100117	Macedonian literature and culture	4	0+0+4	120
UGD100217	Macedonian language, spelling and proper speech	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	Informatics	4	0+0+4	120
UGD102917	Basics of Programming	4	0+0+4	120