

CURRICULUM

EDUCATIONAL AND QUALIFICATION DEGREE: BACHELOR

COURSE OF STUDY: GEOLOGY AND GEOINFORMATICS

VOCATIONAL FIELD: 4.4. EARTH SCIENCES

FORM OF STUDY: PART-TIME

DURATION OF STUDY: 4 YEARS

Duration of each semester: 3 weeks

Year	Semester	№	Course unit code	Full name of the course units (course projects, practical training)	Form of control	Teaching hours (weekly)		Overall teaching hours by type of seminar			Overall academic load per semester	Credits acc. to ECTS	
						L	S	S	Lab	P			
First	First	1	121101	General Geology	E	14	21		15	6	35	8	
		2	361101	Linear Algebra and Analytical Geometry	E	14	14	14			28	4	
		3	121111	Fundamentals of Geoinformatics	CA	7	35		21	14	42	8	
		4	131139	Fundamentals of Mineralogy	E	14	14		14		28	6	
		5	291101	General Chemistry	E	14	14		14		28	4	
	Overall for the first semester					4+1	63	98	14	64	20	161	30
	Second	6	361102	Mathematical Analysis	E	14	14	14			28	6	
		7	251150	Geodesy and Mine Surveying	E	14	14			14	28	8	
		8	131144	Petrography	E	21	21		21		42	9	
		9	121120	Fundamentals of Cartography	E	14	14	14			28	7	
		Overall for the second semester					4	63	63	28	21	14	126
			121126	Practical training in General Geology - 2 days							12		
			131143	Practical training in Mineralogy - 1 day							6		
			131106	Practical training in Petrography - 1 day							6		
		251151	Practical training: Geodesy and Mine Surveying - 2 days							12			
Overall for the first year					8+1	126	161	42	85	34	323	60	

Second	Third	10	121153	Paleontology and Stratigraphy	E	14	21		21		35	8	
		11	181101	Physics	E	14	14		14		28	4	
		12	361117	Database Management Systems	E	14	14		14		28	5	
		13	361140	Programming in Python	CA	14	21		21		35	6	
		14	121151	Processing of Geological Information in Geographic Information Systems (GIS)	CA	7	21		21		28	7	
	Overall for the third semester					3+2	63	91		91		154	30
	Fourth	15	111103	Fundamentals of Geostatistics	E	14	14	14			28	5	
		16	121121	Introduction to Geological Geometric Analysis	E	21	21	15		6	42	8	
		17	151112	Hydrogeology and Engineering Geology	E	21	21	21			42	7	
		18	251152	Global Systems for Satellite Navigation	E	7	14		7	7	21	4	
		19	121122	CAD Systems in Geology	CA	7	21		21		28	6	
				<i>Optional course unit:</i>									
			271346	Scientific Ethics		14	7	7			21		
		131325	Fundamentals of Gemology		14	14		14		28			
Overall for the fourth semester					4+1	70	91	50	28	13	161	30	
		121128	Practical training in Paleontology and Stratigraphy - 1 day							6			
		121124	Practical training in Introduction to Geological Geometric Analysis - 1 day							6			
Overall for the second year					7+3	133	182	50	119	13	327	60	

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						L	S	S	Lab	P			
Third	Fifth	20	121112	Historic and Regional Geology	E	21	21	21			42	6	
		21	121150	Geographic Information Systems (GIS) and Spatial Analyses	CA	7	21		21		28	5	
		22	361132	Computer Networks and Communications	CA	14	14		14		28	4	
		23	121125	Geoinformation Analysis of the Relief	E	14	14		14		28	5	
		24	121135	Work with Geoservers	CA		28		28		28	5	
		25	111153	Geology and Geochemistry of Fossil Fuels	E	14	14		14		28	5	
	Overall for the fifth semester					3+3	70	112	21	91		182	30
	Sixth	26	121119	3D Geological Mapping	E	21	28		21	7	49	10	
		27	141115	Applied Geophysics	E	14	14		14		28	4	
		28	111117	Geology and Exploration of Mineral Deposits	E	14	14		14		28	4	
		29	121136	Publishing Illustration Software	CA		28		28		28	4	
		30	211125	Mining Technologies	E	14	14	14			28	4	
		31	271105	Economics and Management	CA	14	14	14			28	4	
				<i>Optional course unit:</i>									
			131332	<i>Environmental Geochemistry</i>		14	14		14		28		
	Overall for the sixth semester					4+2	77	112	28	77	7	189	30
			121187	Practical training in 3D Geological Mapping – 5 days							30		
			121149	Practical training in Regional Geology and Geological Phenomena – 4 days							24		
Overall for the third year					6+5	133	210	35	168	7	397	60	

Fourth	Seventh	32	121115	Geographic Information Systems (GIS) Referencing of Linear Infrastructure Sites	CA	7	28		28		35	7	
		33	111131	Industrial Types of Mineral Deposits	E	14	14		14		28	6	
		34	121138	Primary and Secondary Geological Recording	CA	7	21		15	6	28	6	
		35	121139	Visualisation of Geological Information	CA	7	21		21		28	5	
		36		<i>Elective course unit - one of the three:</i>									
			121240	a. Cartographic Modelling									
			111212	b. Preliminary Survey and Exploration of Oil and Gas Deposits	E	14	14		14		28	6	
			161223	c. Technique of Well Exploration and Operation									
	Overall for the seventh semester					2+3	49	98		92	6	147	30
	Eighth	37	121157	Geological Heritage	E	14	14	8		6	28	4	
		38	111144	3D Geological Modelling	CA		21		21		21	3	
		39	121156	Remote Sensing Methods	CA	7	21		21		28	5	
		40	121148	Geology and the Environment	E	14	14	8		6	28	4	
		41		<i>Elective course unit - one of the three:</i>									
			111251	a. Statistical Analysis of Geological Information	E	14	14		14		28	4	
			131248	b. Vulcanology									
		131247	c. Geoarcheology										
		<i>Optional course unit:</i>											
	111322	<i>Reservoir Geology</i>		14	14	14			14				
Overall for the eighth semester					3+2	49	84	16	56	12	133	20	

	State exam								10
Overall for the fourth year		5+5	98	182	16	148	18	280	60
OVERALL FOR THE FULL COURSE OF STUDY		27+14	504	749	157	520	72	1355	240

Abbreviations: **E** - examination; **CA** -continuous assessment; **L** - lectures; **Lab** - laboratory seminars; **S** -seminars; **P** - practical seminars

Parameters of the educational process:

Overall teaching hours for the full course of study:	1355
Academic load:	1239
lectures:	504
seminars:	749
- seminars	157
- laboratory seminars	520
- practical seminars	72
Extracurricular load (practical training):	102
Number of exams per course of study:	27
Items of continuous assessment:	14