CURRICULUM

EDUCATIONAL AND QUALIFICATION DEGREE: BACHELOR
COURSE OF STUDY: APPLIED GEOPHYSICS
VOCATIONAL FIELD: 4.4. EARTH SCIENCES

FORM OF STUDY: FULL TIME
DURATION OF STUDY: 4 YEARS
Duration of the semester: 14 weeks

Year	Semester	N	Course unit code	Full name of the course unit (course projects, practical trainings)	Form of control	Teaching hours		Teaching hours per type of seminars			Overall teaching hours per semester	Credits according to ECTS
						L	S	S	Lab	P		
FIRST	First	1	121101	General geology	E	2	2	28			56	6
		2	131103	Mineralogy and crystallography	E	2	4	56			84	8
		3	361101	Mathematics part I	E	2	2	28			56	7
		4	371101	Introduction to computer sciences	CA	1	2	28			42	4
		5	431100	Physical education and sports	CA		(2)			(28)	(28)	1*
			411300	*Optional course:* Humanities, social and legal sciences								
				Overall for the 1st semester:	***3+2***	***98***	***168***	***140***		***28****	***238+28****	***25+1****
	Second	6	361102	Mathematics part II	E	3	3	42			84	8
		7	181102	Physics part I	E	2	2		28		56	6
		8	121102	Fundamentals of geostatistics	CA	2	2	28			56	5
		9	111103	General electrical engineering	E	2	2		28		56	5
		10	361111	Numerical methods and principles of computer programming	CA	2	2	28			56	5
		11	251101	Geodesy	E	2	2	28			56	6
		12	431100	Physical education and sports	CA		(2)			(28)	(28)	1*
		13	121101	Summer practice in General geology						(30)	(30)	1*
		14	131103	Summer practice in Mineralogy and crystallography						(60)	(60)	2*
				Overall for the 2nd semester:	***4+3***	***182***	***210***	***126***	***56***	***118****	***364+118****	***35+4****
				Overall for the first year:	***7+5***	***280***	***378***	***266***	***56***	***146****	***602+146****	***60+5****
SECOND	Third	15	281102	Mechanics	E	2	2	28			56	5
		16	231221 231209 291106	*Elective courses:* A. Rocks Mechanics B. Mining Technologies C. Hydrochemistry	E	2	2	28			56	6
		17	181103	Physics part II	E	2	4		56		84	7
		18	121114	Stratigraphy, historical and regional geology	E	2	2	28			56	5
		19	141111	Algorithms and computer programming in geophysics	CA	2	3	42			70	7
		20	421100	Foreign language	CA		(3)	(42)			(42)	3*
		21	431100	Physical education and sports	CA		(2)			(28)	(28)	1*
				Overall for the 3rd semester:	***4+3***	***140***	***252***	***168***	***56***	***28****	***322+70****	***30+4****
	Fourth	22	181104	Fundamentals of geostatistics	E	2	2		28		56	6
		23	141101	Fundamentals of geophysics	CA	2	2	28			56	6
		24	141102	Theory of the physical field	E	2	2	28			56	6
		25	151130	Hydrogeology and engineering geology	E	2	2	28			56	6
		26	121113	Structural geology and geological mapping	E	2	2	28			56	6
		27	421100	Foreign language	CA		(3)	(42)			(42)	3*
		28	431100	Physical education and sports	CA		(2)			(28)	(28)	1*
			121164 131225	*Optional courses:* Geological heritage Fundamentals of gemology								
		29	121113	Summer practice in Structural geology and geological mapping								
		30	151130	Summer practice in Hydrogeology and engineering geology						(30)	(30)	1*
		31	41111	Summer practice in Algorithms and computer programming in geophysics	CA					(24)	(24)	1*
				Overall for the 4th semester:	***4+3***	***140***	***210***	***154***	***28***	***106****	***280+148****	***30+7****
				Overall for the second year:	***8+6***	***280***	***462***	***322***	***84***	***134****	***602+218****	***60+11****

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						L	S	S	Lab	P		
THIRD	Fifth	32	111117	Geology and exploration of mineral resources	E	2	2	28			56	4
		33	141112	Petrophysics and physics of the rock massif	E	2	2		28		56	5
		34	141103	Gravitational methods in geophysics	CA	2	2		28		56	5
		35	161129	Fundamentals of drilling	E	2	2	28			56	5
		36	141104	Electrical methods in geophysics	CA	3	3		42		84	7
		37	141125 251131 141113	*Elective courses:* A. Application of GIS in applied geophysics B. Global navigation satellite systems C. Natural disasters and environmental catastrophes	E	2	2	28			56	4
		38	421100	Foreign language	CA		(3)	(42)			(42)	3*
				Overall for 5th semester:	***4+3***	***182***	***224***	***126***	***98***		***364+42****	***30+3****
	Sixth	39	141106	Seismic methods in geophysics	CA	2	2		28		56	6
		40	141103	Gravitational methods in geophysics	E	2	2		28		56	5
		41	141122	CP in Gravitational methods in geophysics	CA		1		14		14	1
		42	141104	Electrical methods in geophysics	E	3	3		42		84	7
		43	141118	CP in Electrical methods in geophysics	CA		1		14		14	1
		44	141105	Magnetic methods in geophysics	CA	2	2		28		56	5
		45	111133	Geology and exploration of oil and gas deposits	E	2	2	28			56	5
		46	141104	Summer practice in Electrical methods in geophysics						(24)	(24)	1*
		47	141103	Summer practice in Gravitational methods in geophysics						(24)	(24)	1*
		48	141105	Summer practice in Magnetic methods in geophysics						(24)	(24)	1*
		49	141106	Summer practice in Seismic methods in geophysics						(24)	(24)	1*
				Overall for 6th semester:	***3+4***	***154***	***182***	***28***	***154***	***96****	***336+96****	***30+4****
				Overall for the third year:	***8+2***	***23***	***7+7***	***336***	***406***	***112***	***252***	***96****
FOURTH	Seventh	50	141105	Magnetic methods in geophysics	E	2	2		28		56	5
		51	141119	CP in Magnetic methods in geophysics	CA		1		14		14	1
		52	141106	Seismic methods in geophysics	E	2	2		28		56	5
		53	141123	CP in Seismic methods in geophysics	CA		1		14		14	1
		54	141107	Radiometry and nuclear geophysics	CA	2	2		28		56	4
		55	141109	Borehole geophysics	CA	2	2		28		56	4
		56	261102	Technical safety	CA	2	2	28			56	5
		57	171123	Ecology and protection of environment	E	2	2	28			56	5
				Overall for 7th semester:	***3+5***	***168***	***196***	***56***	***140***		***364***	***30***
	Eight	58	271113	Economics and management	E	2	2	28			56	5
		59	141107	Radiometry and nuclear geophysics	E	2	2		28		56	6
		60	141109	Borehole geophysics	E	2	2		28		56	7
		61	141108	Remote sensing techniques in geophysics	E	2	2		28		56	5
		62	141110	Integrated geophysical studies	E	2	2	28			56	6
		63	141121	CP in Integrated geophysical studies	CA		1	14			14	1
				Overall for the 8th semester:	***5+1***	***140***	***154***	***70***	***84***		***294***	***30***
				Overall for the fourth year:	***8+4***	***308***	***350***	***126***	***224***		***658***	***60***
				State exam								***10****
				OVERALL FOR THE FULL COURSE OF STUDY :	***30+24***	***1204***	***1484***	***868***	***616***	***264***	***2952***	***240+33****

PARAMETERS OF THE CURRICULUM

Overall teaching hours: 2956, distributed as follows:

Lectures: 1204 teaching hours

Exercises: 1484 teaching hours, including:

- seminars - 868
- laboratory - 616

Practice – 268 teaching hours

The credits above 240 are formed by the courses in Foreign language, Physical education and sports" and partially by the practices, marked with asterisk.

Abbreviations: E - exam; CA - continuous assessment; L - lectures; S - seminars; Lab - laboratory seminars; P - practical seminars; CP - course project.