

PROGRAMME OF EDUCATION

FACULTY: Geoengineering, Mining, and Geology

MAIN FIELD OF STUDY: mining and geology

in area of technical sciences

EDUCATION LEVEL: 2nd level, magister studies

FORM OF STUDIES: full-time

PROFILE: general academic

SPECIALIZATION: Exploratory and Mining Geology

LANGUAGE OF STUDY: Polish

Content:

1. Assumed educational effects – attachment no. 1
2. Programme of studies – attachment no. 2

Faculty Council Resolution of 05.09.2012
In effect since 01.10.2012

*delete as applicable

PROGRAMME OF STUDIES

1. Description

<i>Number of semesters: 3</i>	<i>Number of ECTS points necessary to obtain qualifications: 90</i>
<i>Prerequisites (particularly for second-level studies): professional degree of engineer, 1st level qualifications</i>	<i>Upon completion of studies a graduate obtains professional degree of: magister inżynier 2nd level qualifications</i>
<i>Possibility of continuing studies: 3rd level studies (doctoral studies)</i>	<i>Graduate profile, employability: Graduate profile: Graduates will meet requirements of the Minister of the Industry Regulation for recognition the qualifications of the mining geologist. In accordance with the Minister of the Environment Regulation, after vocational practices they will be able to apply for ascertaining of the qualifications to perform the regulated professions in the field of geology. Employability: The graduates will be prepared for working in mining enterprises, in companies exploring and extracting mineral deposits and in firms connected with management and exploitation of mineral resources.</i>
<i>Indicate connection with University's mission and its development strategy: Faculty of Geoengineering, Mining, and Geology is a leading scientific and educational centre in Poland and a significant one in EU. The faculty is a regional leader in science and education in the field of geotechnology and earth sciences. The profile and quality of education are of international level and fit home and European</i>	

<p><i>demand.</i></p> <p><i>The faculty educates in technological fields supported by natural and economic sciences. The faculty aims its educational offer at students with aptitude for exact sciences and simultaneously interested in natural and social sciences.</i></p> <p><i>The faculty stimulates international exchange of students and scientists on a large scale. Part of the educational offer is available in English. The faculty creates ties with selected foreign universities and in reasonable cases collaborates in the process leading to granting a double diploma.</i></p>	
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2. Fields of science and scientific disciplines to which educational effects apply:

The field of science: technical sciences

Scientific disciplines: geodesy and cartography, mining and engineering geology

3. Concise analysis of consistency between assumed educational effects and labour market needs

The economic development of the country depends on natural resources, abilities to use them and required adequate technical staff. The assumed educational effects meet economy practice needs in the field of mineral resources management, technologies and techniques of their exploration and prospecting, mining, processing, industrial land reclamation and development, and enterprises (especially mines) management supported by information, environment, and people management with the use of state-of-the-art information and marketing techniques and technologies. Such the integration of economy needs and assumed educational effects makes the labour market favourable for the Faculty graduates.

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⁷ Optional – enter W, obligatory – enter Ob

4. List of education modules:

4.1. List of obligatory modules:

4.1.1 List of general education modules

4.1.1.1 Liberal-managerial subjects module (min. 3 ECTS points):

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	ZMG3301	Finance Management (GK)	1	1	1			K_W15 K_U20 K-K01	45	90	3	2,5	T	E (lec), Z			KO	Ob
Total			1	1	1				45	90	3	2,5						

Altogether for general education modules

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes ¹
lec	cl	lab	pr	sem				
1	1	1			45	90	3	2,5

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4.1.2 List of basic sciences modules

4.1.2.2 Physics module

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	FZP1013	Physics-The Structure of Matter	2					K_W02	30	60	2	2	T	Z	O		PD	Ob
		Total	2						30	60	2	2						

Altogether for basic sciences modules:

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes ¹
lec	cl	lab	pr	sem				
2					30	60	2	2

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4.1.3 List of specialization modules

4.1.3.1 *Obligatory specialization subjects module*

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	CHG1303	Geochemistry	3		2		1	K_W04 K_U06 K_K06	90	210	7	4,5	T	E, Z			S	Ob
2	GEG1312	Mineral Deposits Exploration and Reconnaissance Methodology	2	2			1	K_W03 K_U02 K_K01, 02	75	210	7	5,5	T	E, Z			S	Ob
3	ING1305	Computer Applications in Geological Works	1		1			K_W03 K_U02 K_K01, 02	30	90	3	2,5	T	Z			S	Ob
4	GEG1311	Geostatistics	1		3			K_W01, 08 K_U01, 07	60	150	5	3	T	Z			S	Ob
5	GGG2306	Geophysics	2			2	1	K_W01, 08 K_U03 K_K06	75	180	6	4,5	T	E, Z			S	Ob
6	GEG2306	Geology of Mineral Deposits I	2		1		1	K_W06 K_U05 K_K06	60	150	5	4	T	E, Z			S	Ob
7	GEG2307	Geology of Mineral Deposits II	1		2		1	K_W06 K_U05 K_K01, 02	60	150	5	4,5	T	E, Z			S	Ob
8	GEG2308	Mining Geology	2		2		1	K_W07 K_U04 K_K02	75	180	6	5	T	E, Z			S	Ob
9	GEG2309	The Ore Body Modelling	1		2			K_W08 K_U07 K_K01, 02	45	90	3	2	T	Z			S	Ob
10	GEG3304	Geological and Mining Conditions of Exploitation	3		1		1	K_W09, 11, 16 K_U09, 10, 19	75	90	3	2	T	E, Z			S	Ob

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								K_K01												
11	GEG3305	Economic Geology	1					K_W10 K_U10 K_K01, 02	30	60	2	2		T	Z				S	Ob
12	GGG3308	Occupational Safety and Health	1		1			K_W11 K_U01 K_K05	30	60	2	1,5		T	Z				S	Ob
13	GGG4408	Methods for Mineral resources Examination (GK)	2		1			K_W09 K_U05, 08, 13 K_K01, 02	45	60	2	1,5		T	E (lec), Z				S	Ob
14	OSG3303	Environment Management (GK)	1				1	K_W12 K_U12, 13 K_K05	30	60	2	1,5		T	Z (lec)				S	Ob
Total			23	2	16	4	7		780	1740	58	39,5								

Altogether (for specialization subjects modules):

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes ¹
lec	cl	lab	pr	sem				
23	2	16	4	7	780	1740	58	39,5

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⁷ Optional – enter W, obligatory – enter Ob

4.2 List of optional modules

4.2.1 List of general education modules

4.2.1.1 Liberal-managerial subjects modules (min. 1 ECTS points):

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	PSG108838	Liberal-Managerial Subjects	1					K_W19 K_K02	15	30	1	1	T	Z			KO	W
Total			1						15	30	1	1						

4.2.1.2 Foreign languages module (min. 3 ECTS points):

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	JZL000000BK	Foreign Language		3				K_U14	45	60	2	1	T	Z	O		KO	W
2	JZL000000BK	Foreign Language		1				K_U13	15	30	1	0,5	T	Z	O		KO	W
Total				4					60	90	3	1,5						

Altogether for general education modules:

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes ¹
lec	cl	lab	pr	sem				
1	4				75	120	4	2,5

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4.2.4 List of specialization modules

4.2.4.1 Specialization subjects (e.g. whole specialization) modules (min. 23 ECTS points):

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	GEG104262	Optional Course	2						30	90	3		T	Z			S	W
2	GEG104262	Optional Course	2						30	90	3		T	Z			S	W
3	GGG2303	Diploma Seminar					1		15	30	1	1	T	Z			S	W
4	GGG3310	Diploma Seminar					2		30	30	1	1	T	Z			S	W
5	GGG3311	Diploma Dissertation		3					45	450	15	5	T	Z			S	W
Total			4	3			3		150	690	23	7						

Altogether for specialization modules:

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes ¹
lec	cl	lab	pr	sem				
4	3			3	150	690	23	7

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⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses

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4.3 Diploma dissertation module

Type of diploma dissertation	magisterska	
Number of diploma dissertation semesters	Number of ECTS points	Code
1	15	GGG3311
Character of diploma dissertation		
Literature survey, project, computer program, research		
Number of BK ¹ ECTS points	5	

5. Ways of verifying assumed educational effects

Type of classes	Ways of verifying assumed educational effects
lecture	examination, progress/final test
class	progress/final test
laboratory	pre-test, report on laboratory
project	project defence
seminar	participation in discussion, topic presentation, essay
training	report on training
diploma dissertation	prepared diploma dissertation

6. Total number of ECTS points, which student has to obtain from classes requiring direct academic teacher-student contact (enter total of ECTS points for courses/groups of courses denoted with code BK¹)

53,5 ECTS

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7. Total number of ECTS points, which student has to obtain from basic sciences classes

Number of ECTS points for obligatory subjects	2
Number of ECTS points for optional subjects	-
Total number of ECTS points	2

8. Total number of ECTS points, which student has to obtain from practical classes, including laboratory classes (enter total number of ECTS points for courses/group of courses denoted with code P)

Number of ECTS points for obligatory subjects (lec, pr)	21
Number of ECTS points for optional subjects (lec, pr)	-
Total number of ECTS points	21

9. Minimum number of ECTS points, which student has to obtain doing education modules offered as part of university-wide classes or other main field of study (enter number of ECTS points for courses/groups of courses denoted with code O)

6 ECTS points

10. Total number of ECTS points, which student may obtain doing optional modules (min. 30% of total number of ECTS points)

27 ECTS points

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11. Range of diploma examination

1. Necessary conditions of mineral deposit occurrence.
2. Principles and stages of exploration and prospecting of mineral deposits.
3. Objectives and range of mineral deposit exploration and recognition works.
4. Genetic and economic classification of mineral resource deposits.
5. Polish energy resource deposits.
6. Geological works performed during mineral deposit mining.
7. Counteractions of water hazards.
8. Water management in mining plants.
9. Basic rules of underground water flow, methods for resolving underground water flow problems.
10. Chemical and mechanical underground water impact on grounds.
11. Physical properties and chemical composition of groundwater.
12. Calculation of well-water inflows.
13. Processes forming the surface of the earth crust (lithosphere).
14. Methods of stabilization of slopes and batters.
15. Natural nuclear transformations and their effects.
16. Principles of isotopes application in the research on processes between the geospheres.
17. Basic methods of chemical and isotopic composition determination of rock, water and gas samples.
18. Genetic conditions of uranium occurrence in selected geological formations.
19. Prospecting and exploration geophysics methods, their physical field and physical property investigated, field parameter measured, equipment and measuring apparatus applied in field investigation.
20. Conditions, measuring apparatus and methodology of well geophysics methods.
21. Recognition and assessment of natural hazards in mining with the use of geophysical methods.
22. Factors influencing climatic conditions within mine workings.
23. Factors influencing rock and gas outburst hazard-methods for the hazard recognition and suppression.

12. Plan of studies (attachment no. 1)

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Approved by faculty student government legislative body:

.....
Date, name and surname, signature of student representative

.....
Date, Dean's signature

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