## Attachment no. 1 to Programme of Studies

# **PLAN OF STUDIES**

**FACULTY**: Geoengineering, Mining, and Geology

MAIN FIELD OF STUDY: mining and geology

**EDUCATION LEVEL:** 2<sup>nd</sup> level, magister studies

FORM OF STUDIES: full-time

**PROFILE:** general academic

**SPECIALIZATION**: Underground and Surface Mining

**LANGUAGE OF STUDY: Polish** 

Geoengineering, Mining, and Geology Faculty Council Resolution of 05.09.2012

In effect since 01.10.2012

<sup>\*</sup>delete as applicable

# Plan of studies structure in hourly layout $2^{nd}$ level full-time studies in the field of mining and geology, specialization: Underground and Surface Mining

sem./ hrs.	1	ECTS points	2	ECTS points	3	ECTS points
1	Surface Mining Technology	5	Machinery Systems	6	Geological and Mining Law and Mine Rescue Work 11001 E	3
3	20020 E GGG1301		20110E MMG2305		PRG3301	
5	Foreign Language	2			Processing Systems 10020 E GGG3307	2
6 7	03000 Ž	2	Underground Mining Technology	5	Occupational Safety and	
8	Rock Mass Mechanics	5	20020E GGG2301		Health 10100 Z GGG3308	2
9 10	20010E GGG1304	Ů	Computer-Aided Mine		Mine Ventilation and Fires	2
11	Operational Research in Management 10100 Z	2	Planning and Design 20300 E	5	10020 E GGG3309	
12 13	ZMG1302 AutoCAD		ING2306		Finance Management 11100 E	3
14	00200 Z GFG1301	2	Industrial Automation 10100 Z	2	ZMG3301	
15	Physics – The Structure of Matter 20000 Z FZP1013	2	ELG2301  Rock Engineering in		Environment Management 20001 Z	2
16 17	Geology and		Mines 20010 E	3	OSG3310	
18	Exploration of Mineral Deposits	4	GGG2304 Rock Mass Changes		Diploma Seminar 00002 Z GGG3310	1
19 20	20020 E GEG1310		Monitoring and Mining Area Surface	3	GGG3310	
21			Protection 20100 Z GKG2301		Diploma Dissertation GGG3312	15
22	Geostatistics 10300 Z GEG1311	5	Optional Course 20000 Z	3		
24	GEGISTI		Liberal-Managerial Subjects 10000 Z	1		
25	Optional Course	3	Foreign Language 01000 Z	1		
26	20000 Z	3	Diploma Seminar 00001Z GGG2303	1		
Total		30		30		30

# 1. Set of obligatory and optional courses and groups of courses in semestral arrangement

#### Semester 1

**Obligatory courses number of ECTS points 25** 

_			discs number of EC15 points															
N	lо	Course/group	Name of course/group of courses (denote	W	eekly n	umbe	r of	Field-of-	Numbe	r of hours	Numb	per of ECTS points	Form <sup>2</sup> of	Way <sup>3</sup> of	Course/gr	oup of cour	rses	
		of courses	group of courses with symbol <b>GK</b> )		hou	ırs		study					course/group	crediting				
		code	,	lec	el lab	pr	sem	educational effect symbol	ZZU	CNPS	total	BK classes <sup>1</sup>	of courses		university-wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
	1	GGG1301	Surface Mining Technology	2		2		K_W05 K_U07 K_K01	60	150	5	4	Т	E, Z			S	Ob
	2	GGG1304	Rock Mass Mechanics	2		1		K_W03, 09 K_U05, 14 K_K01	45	120	4	4	T	E, Z			S	Ob
	3	ZMG1302	Operational Research in Management	1	1			K_Wo6 K_U08 K_K01	30	60	2	1,5	Т	Z			S	Ob
	4	GFG1301	AutoCAD		2			K_U10 K_K01	30	60	2	1	T	Z			S	Ob
	5	FZP1013	Physics-The Structure of Matter	2				K_W02	30	90	3	2	T	Z	О		PD	Ob
	6	GEG1310	Geology and Exploration of Mineral Deposits	2		2		K_W04 K_U06 K_K01, 02	60	120	4	3	T	E, Z			S	Ob
	7	GEG1301	Geostatistics	1	3			K_W01 K_U04, 09, 10	60	150	5	3	T	Z			S	Ob
			Total	10	6	5			315	750	25	18,5						

<sup>&</sup>lt;sup>1</sup>BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

<sup>&</sup>lt;sup>2</sup>Traditional – enter T, remote – enter Z

<sup>&</sup>lt;sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>&</sup>lt;sup>4</sup>University-wide course /group of courses – enter O

<sup>&</sup>lt;sup>5</sup>Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses

<sup>&</sup>lt;sup>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

<sup>&</sup>lt;sup>7</sup> Optional – enter W, obligatory – enter Ob

**Optional courses (minimum 75 hours in semester, 5 ECTS points)** 

No	Course/group	Name of course/group of courses	We	ekly	numb	er of l	nours	Field-of-	Numbe	r of hours	Numl	per of ECTS points	Form <sup>2</sup> of	Way <sup>3</sup> of	Course/gr	oup of cou	rses	
	of courses code	(denote group of courses with symbol <b>GK</b> )	lec	cl	lab	pr		study educational effect symbol	ZZU	CNPS	total	BK classes <sup>1</sup>	course/group of courses	crediting	university-wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	JZL000000BK	Foreign Language		3				K_U14	45	60	2	1	T	Z	0		KO	W
2	GGG010002	Optional Course	2						30	90	3		T	Z	•		S	W
		Total	2	3					75	150	5	1						

**Altogether in semester** 

35101	Tota	l number of	hours		Total number of ZZU	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes <sup>1</sup>
			ı		hours		r	
lec	cl	lab	pr	sem				
12	3	6	5		390	900	30	19,5

 $<sup>^{1}</sup>$ BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students  $^{2}$ Traditional – enter T, remote – enter Z

<sup>&</sup>lt;sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

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

<sup>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

<sup>7</sup> Optional – enter W, obligatory – enter Ob

## Semester 2

Obligatory courses number of ECTS points 24

00	igatory co	urses number of EC15 points	<i>,</i> = -															
No	Course/group	Name of course/group of courses	We	ekly n	umber	of hou	ırs	Field-of-study	Num		Nun	nber of ECTS	Form <sup>2</sup> of	Way <sup>3</sup> of	_	roup of c	ourses	
	of courses	(denote group of courses with symbol						educational	ho			points	course/group	crediting				
	code	GK)	lec	cl	lab	pr	sem	effect symbol	ZZU	CNPS	total	BK classes <sup>1</sup>	of courses		university-wide4	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	MMG2305	Machinery Systems	2		1	1		K_W08 K_U11	60	180	6	5	T	E, Z			S	Ob
2	GGG2301	Underground Mining Technology	2			2		K_W07, 09 K_U12 K_K01, 02	60	150	5	4	T	E, Z			S	Ob
3	ING2306	Computer-Aided Mine Planning and Design	2		3			K_W06, 07 K_U9, 10	75	150	5	4	T	E, Z			S	Ob
4	ELG2301	Industrial Automation	1		1			K_W12 K_U15 K_K01	30	60	2	1	T	E, Z			S	Ob
5	GGG2304	Rock Engineering in Mines	2			1		K_W03, 09 11 K_U05, 09, 13, 14 K_K01, 02	45	90	3	2	T	E, Z			S	Ob
6	GKG2301	Rock Mass Changes Monitoring and Mining Area Surface Protection	2		1			K_W10, 15 K_U13 K_K01, 02	45	90	3	3	T	Z			S	Ob
	·	Total	11		6	4			315	720	24	19						

 $<sup>^{1}</sup>$ BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students  $^{2}$ Traditional – enter T, remote – enter Z

<sup>&</sup>lt;sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

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

<sup>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

<sup>7</sup> Optional – enter W, obligatory – enter Ob

**Optional courses (minimum 75 hours in semester, 6 ECTS points)** 

No	Course/group	Name of course/group of courses	Wee	kly num	ber of	hours	Field-of-	Numbe	er of hours	Num	ber of ECTS points	Form <sup>2</sup> of	Way <sup>3</sup> of	Course/gr	roup of cou	rses	
	of courses code	(denote group of courses with symbol <b>GK</b> )	lec	cl lal	pr	sem	study educational effect symbol	ZZU	CNPS	total	BK classes <sup>1</sup>	course/group of courses	crediting	university-wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	GGG010002	Optional Course	2					30	90	3		T	Z			S	W
2	PSG108838	Liberal-Managerial Subjects	1				K_W19 K_K02	15	30	1	1	T	Z	0		КО	W
3	JZL000000BK	Foreign Language		1			K_U13	15	30	1	0,5	T	Z	0		KO	W
4	GGG2303	Diploma Seminar				1		15	30	1	1	T	Z			S	W
		Total	3	1		1		75	180	6	2,5						

**Altogether in semester** 

	Tota	l 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 <sup>1</sup>
lec	cl	lab	pr	sem				
14	1	6	4	1	390	900	30	21,5

 $<sup>^{1}</sup>$ BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students  $^{2}$ Traditional – enter T, remote – enter Z

<sup>&</sup>lt;sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

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

<sup>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

<sup>7</sup> Optional – enter W, obligatory – enter Ob

## Semester 3

Obligatory courses number of ECTS points 7

No	Course/group	Name of course/group of courses (denote	Wee	ekly	numb	er of	hours	Field-of-	Numbe	r of hours	Nun	ber of ECTS points	Form <sup>2</sup> of	Way3 of	Course/gro	oup of cou	rses	
	of courses	group of courses with symbol <b>GK</b> )	lec	cl	lab	pr	sem	study educational	ZZU	CNPS	total	BK classes <sup>1</sup>	course/group of courses	crediting	university-wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
	code							effect					courses					
								symbol										
1	PRG3301	Geological and Mining Law and Rescue Work	1	1			1	K_W14	45	90	3	2,5	T	E, Z			S	Ob
								K_U18										
								K_K02										
2	GGG3309	Mine Ventilation and Fires	1			2		K_W16	45	60	2	1,5	T	E, Z			S	Ob
								K_U19										
								K_K01, 02										
3	GGG3308	Occupational Safety and Health	1		1			K_W18	30	60	2	2	T	Z			S	Ob
								K_U21										
								K_K01										
		Total	3	1	1	2	1		120	210	7	6						

Groups of obligatory courses number of ECTS points 7

No	Course/group	Name of course/group of courses	We	ekly	numb	er of	hours	Field-of-	Numbe	r of hours	Numl	ber of ECTS points	Form <sup>2</sup> of			oup of cou	rses	
	of courses	(denote group of courses with	lec	cl	lab	pr		study educational	ZZU	CNPS	total	BK classes <sup>1</sup>	course/group of courses	crediting	university-wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
	code	symbol <b>GK</b> )						effect					or courses					
								symbol										
1	GGG3307	Processing Systems (GK)	1			2		K_W13	45	60	2	1,5	T	E (lec), Z			S	Ob
								K_U16										
								K_K01										
2	ZMG3301	Finance Management (GK)	1	1	1			K_W17	45	90	3	2,5	T	E (lec), Z			KO	Ob
								K_U20										
								K_K01										
3	OSG3310	Environment Management (GK)	2				1	K_W15	45	60	2	1,5	T	Z (lec)			S	Ob
								K_U01, 18										
								K_K01										
		Total	4	1	1	2	1		135	210	7	5,5						

 $<sup>^{1}</sup>$ BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students  $^{2}$ Traditional – enter T, remote – enter Z

<sup>&</sup>lt;sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>&</sup>lt;sup>4</sup>University-wide course /group of courses – enter O

<sup>5</sup>Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical course <sup>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

<sup>7</sup> Optional – enter W, obligatory – enter Ob

**Optional courses (minimum 60 hours in semester, 16 ECTS points)** 

No	Course/group	Name of course/group of courses	We	ekly	numb	er of 1	hours	Field-of-	Numbe	r of hours	Numl	per of ECTS points	Form <sup>2</sup> of	Way <sup>3</sup> of	Course/gr	oup of cou	rses	
110	of courses code	(denote group of courses with symbol <b>GK</b> )	lec	cl		pr	sem	study educational effect symbol	ZZU	CNPS	total		course/group of courses	,	U	practical <sup>5</sup>	-	type <sup>7</sup>
1	GGG3310	Diploma Seminar					2		30	30	1	1	T	Z			S	W
2	GGG3311	Diploma Dissertation		2					30	450	15	5	T	Z			S	W
		Total		2			2		60	480	16	6						

**Altogether in semester** 

	To	otal number o	of hours		Total number of ZZU hours		Total number of ECTS points	Number of ECTS points for BK classes <sup>1</sup>
lec	cl	lab	pr	sem				
7	4	2	4	4	315	900	30	17,5

 $<sup>^{1}</sup>$ BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students  $^{2}$ Traditional – enter T, remote – enter Z

<sup>&</sup>lt;sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

<sup>5</sup>Practical 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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<sup>7</sup> Optional – enter W, obligatory – enter Ob

## 2. Set of examinations in semestral arrangement

Course code	Names of courses ending with examination	Semester
GGG1301	1.Surface Mining Technology	1
GGG1304	2.Rock Mass Mechanics	1
GEG1310	3.Geology and Exploration of Mineral Deposits	1
MMG2305	1.Machinery Systems	2
GGG2301	2.Underground Mining Technology	2
ING2306	3.Coputer-Aided Mine Planning and Design	2
GGG2304	4.Rock Engineering in Mines	2
PRG3301	1.Geological and Mining Law and Rescue Work	3
GGG3309	2.Mine Ventilation and Fires	3
GGG3307	3.Processing Systems	3
ZMG3301	4.Finance Management	3

# 3. Numbers of allowable deficit of ECTS points after particular semesters

Semester	Allowable deficit of ECTS points after semester
1	10
2	10

<sup>&</sup>lt;sup>1</sup>BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

<sup>2</sup>Traditional – enter T, remote – enter Z

<sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course / group of courses – enter O

<sup>5</sup>Practical 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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<sup>7</sup> Optional – enter W, obligatory – enter Ob

Opin	ion of student government legislative body
•••••	
Date	Name and surname, signature of student representative
Date	Dean's signature

<sup>&</sup>lt;sup>1</sup>BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
<sup>2</sup>Traditional − enter T, remote − enter Z

<sup>3</sup>Exam − enter E, crediting − enter Z. For the group of courses − after the letter E or Z − enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses − enter O

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

<sup>6</sup> KO − general education, PD − basic sciences, K − field-of-studies, S − specialization

<sup>7</sup> Optional − enter W, obligatory − enter Ob