### Zał. nr 3 do ZW 64/2012 Attachment no. ... to Programme of Studies

## **PLAN OF STUDIES**

**FACULTY**: Computer Science and Management

MAIN FIELD OF STUDY: Informatics

**EDUCATION LEVEL:** 1st / 2nd-\* level, licencjat / inżynier / magister inżynier\*

FORM OF STUDIES: full-time / part-time\*

**PROFILE:** general academic /<del>practical</del> \*

**SPECIALIZATION**: specializations no distinguished

LANGUAGE OF STUDY: English

Faculty Council Resolution of May 31, 2016

In effect since October 01, 2016

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

**Plan of studies structure (optionally)** 1) in point layout

27	CNPS ECTS	CNPS ECTS	CNPS ECTS	CNPS ECTS	CNPS ECTS	CNPS ECTS	CNPS ECTS	27
26	900 30	900 30	900 30	900 30	900 30	900 30	900 30	26
25						Practical Training		25
24			Sport		M_4	150 5 ECTS		24
23		Humanistic subject I	30 1 ECTS	M_1	120 4 ECTS	3 150		23
22	Introduction to Computer	60 2 ECTS	Logics and Discrete	150 5 ECTS	120 412015			22
21	Systems	General Physics	Mathematics		M_3	M_5	M_7	21
20	150 5 ECTS	60 2 ECTS	180 6 ECTS		- A TI CITIC	150 5 ECTS	120 4 ECTS	20
19	Introduction to	Foreign Language	100 OECIS	Multimedia Embedded Systems	120 4 ECTS		120 4 EC15	19
18	Programming	90 3 ECTS		-		Preparatory seminar		18
17	210 7 ECTS	30 02015	Object-Oriented Programming	150 5 ECTS	M_2		M_6	17
16	210 / EC15		_		150 5 ECTS	60 2 ECTS	120 4ECTS	16
15	General Physics	Computer Architecture and Organization	150 4 ECTS	Computer Networks and Communications	100 0 2015		120	15
14	General Thysics	, and the second		-		Team Project	Diploma Seminar	14
13	150 5 ECTS	150 6 ECTS	Theory of Information and Signals	150 5 ECTS	Data Warehouses	150 5 ECTS		13
12			100 (7)		150 5 ECTS	Introduction to Parallel and	60 2 ECTS	12
11	Foreign Language	Data Structures and	180 6 ECTS	Systems analysis and decision support methods		Distributed Systems		11
10	60 2 ECTS	Algorithms	Electronics and Metrology	in Computer Science	Introduction to	450 57070	Internet Technologies	10
9		180 6 ECTS	<ul><li>basic principles</li><li>60 2 ECTS</li></ul>	150 5 ECTS	Management Science 60 2 ECTS	150 5 ECTS	150 5 ECTS	9
8		1					Humanistic subject II	8
7	Elementary Linear Algebra	Electronics and Metrology	Databases	Operating Systems	Computer Control Systems	Computer Security	30 1 ECTS	7
6	150 5 ECTS	<ul> <li>basic principles</li> </ul>	150 5 ECTS	150 5 ECTS	150 5 ECTS	120 4 ECTS		6
5		150 5 ECTS					Diploma Thesis	5
4	Mathamatical Augini T	Mathematical Analysis II	Theory of Probabilistic	Introduction to Software	Software System	Introduction to Artificial	420 14 ECTS	4
3	Mathematical Analysis I	Wathematical Alialysis II	and Statistics	Engineering	Development	Intelligence	112015	3
2	180 6 ECTS	210 6 ECTS	150 6 ECTS	150 5 ECTS	150 5 ECTS	120 4 ECTS		2
1								1
	I	II	III	IV	V	VI	VII	Total
	22 / 330	23 / 345	24 / 360	24 / 360	24 / 360	22 / 330	22/330	161/2415

2) in hourly layout

27	CNPS ECTS	CNPS ECTS	CNPS ECTS	CNPS ECTS	CNPS ECTS	CNPS ECTS	CNPS ECTS	27
26	900 30	900 30	900 30	900 30	900 30	900 30	900 30	26
25						Practical Training		25
24			Sport		M_4	4 weeks		24
23		Humanistic subject I	02000	M_1	3h	4 weeks		23
22	Introduction to Computer	2h	Logics and Discrete	4h				22
21	Systems	General Physics	Mathematics		M_3	M_5	M_7	21
	21000	00100			IVI_5	4h		
20		Foreign Language	22000 E	Multimedia Embedded	3h	411	4h	20
19	Introduction to	1 Oleigh Language		Systems				19
18	Programming	04000	Object-Oriented	20200	) / O	Preparatory seminar	VI. 6	18
17	20200		Programming	20200	M_2	00002	M_6	17
16		Computer Architecture and	20200	Computer Networks and	4h	00002	4h	16
15	General Physics	Organization	20200	Communications				15
14			Theory of Information and			Team Project	Diploma Seminar	14
13	21000 E	20200 E	Signals	20200 E	Data Warehouses	00040	•	13
12		Data Structures and	22000 E		20200		00002	12
11	Foreign Language	Algorithms	22000 E	Systems analysis and	20200	Introduction to Parallel and Distributed Systems		11
	0.4000			decision support methods	Y . 1 . 2	Distributed Systems	Internet Technologies	
10	04000	21200 E	Electronics and Metrology  – basic principles 00200	in Computer Science 21100 E	Introduction to Management Science	21100	20200	10
9			busic principles 00200		20000		20200	9
8				Operating Systems	Computer Control Systems		Humanistic subject II  1h	8
7	Elementary Linear Algebra	Electronics and Metrology	Databases			Computer Security	111	7
6		– basic principles	20200		10210 E	21100		6
5	22000 E	21000		20200 E	10210 L			5
4		21000					Diploma Thesis	4
3	Mathematical Analysis I	Mathematical Analysis II	Theory of Probabilistic and	Introduction to Software	Software System Development	Introduction to Artificial	7h	3
		22000 F	Statistics	Engineering	Development	Intelligence		
2	22000 E	22000 E	22000 E		20020	20200 E		2
1				21100 E				1
	I	II	III	IV	V	VI	VII	Total
	22 / 330	23 / 345	24 / 360	24 / 360	24 / 360	22 / 330	22/330	161/2415

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

### Semester 1

No	Course/group	Name of course/group of courses (denote	Weel	kly	numl	er o	f hours	Field-of-study educational	Numbe	r of hours	Numbe	er of ECTS points	Form <sup>2</sup> of					
	of courses code	group of courses with symbol <b>GK</b> )					sem	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	FZP1052C	General Physics		1				K1INF_W03	15	60	2	1,2	T	Z	О		PD	Ob.
2	FZP1052W	General Physics	2					K1INF_W03	30	90	3	1,8	T	Е	О		PD	Ob.
3	MAT 1400C	Elementary Linear Algebra		2				K1INF_W01	30	60	2	1,2	T	Z	О		PD	Ob.
4	MAT 1400W	Elementary Linear Algebra	2					K1INF_W01	30	90	3	1,8	T	Е	О		PD	Ob.
5	MAT 1411C	Mathematical Analysis I		2				K1INF_W01	30	60	2	1,2	T	Z	О		PD	Ob.
6	MAT 1411W	Mathematical Analysis I	2					K1INF_W01	30	120	4	2.4	T	Е	О		PD	Ob
7	INZ0250Wl	Introduction to Programming (GK)	2		2			K1INF_W04, K1INF_U01, K1INF_U14	60	210	7	4,2	T	Z		(3)	PD	Ob.
8	INZ0251Wc	Introduction to Computer Systems (GK)	2	1				K1INF_W08	45	150	5	3,0	T	Z			PD	Ob
		Total	10	6	2				270	840	28	16,8						

<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 60 hours in semester, 2ECTS points)** 

]	No	Course/group of courses	Name of course/group of courses (denote group of courses with	We	ekly	numb	er of	hours	Field-of-study educational	h	nber of ours	Numb	per of ECTS points	Form <sup>2</sup> of course/group	-	U	oup of cou	rses	
		code	symbol <b>GK</b> )	lec	cl	lab	pr	sem	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	JZL100400BK	JĘZ.OBCE-STACJ.WSZYSTKIE		4				K1INF_U17	60	60	2	1,2	Т	Z	0		КО	W
			Total		4					60	60	2	1,2						

	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				
10	10	2			330	900	30	18

 $<sup>^{1}</sup>$ 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>&</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>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization <sup>7</sup> Optional – enter W, obligatory – enter Ob

#### **Obligatory courses number of ECTS points 25**

No.	Course/group of courses	Name of course/group of courses (denote group of courses with symbol	We	ekly n	uml	ber of	hours	Field-of-study educational effect symbol	Number of	hours		umber of TS points	course/group	Way <sup>3</sup> of crediting		group of	course	s
	code	GK)	lec	cl	lat	pr	sem		ZZU	CNPS	total	BK classes	of courses		university- wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	FZP2079L	General Physics			1			K1INF_W03, K1INF_U07, K1INF_U14	15	60	2	1,2	Т	Z	0	P	PD	Ob
2	MAT1499C	Mathematical Analysis II		2				K1INF_W01	30	90	2	1,2	T	Z	O		PD	Ob
3	MAT1499W	Mathematical Analysis II	2					K1INF_W01	30	120	4	2,4	T	Е	0		PD	Ob
4		Electronics and Metrology – basic principles ( <b>GK</b> )	2	1				K1INF_W07 K1INF_W08, K1INF_U14	45	150	5	3,0	Т	Z			PD	Ob
5		Computer Architecture and Organization ( <b>GK</b> )	2		2			K1INF_W08, K1INF_U06, K1INF_U14	60	150	6	3,6	Т	Е		(3)	K	Ob
6	INZ0254Wcl	Data Structures and Algorithms (GK)	2	1	2			K1INF_W04 K!INF_U01, K1INF_U14	75	180	6	3,6	Т	Е		(3)	K	Ob
		Total	8	4	5				255	750	25	15						

# Optional courses (minimum 60 hours in semester, 3 ECTS points)

N	lo	Course/group of	Name of course/group of courses	Wee	kly n	umbe	r of	hours				Number of 1	ECTS points		Way <sup>3</sup> of		group of c	ourses	
		courses code	(denote group of courses with symbol $GK$ )	lec	cl	lab	pr	sem	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	JZL100400BK	JĘZ.OBCE-STACJ.WSZYSTKIE		4				K1INF_U17	60	90	3	1,8	Т	Е	O		КО	W
			Total		4					60	90	3	1,8						

## Optional courses (Humanistic subject I) (minimum 30 hours in semester, 2 ECTS points)

<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

No	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol	V	Veek	ly nun hours		of	Field-of-study educational effect		nber of ours		mber of S points	Form <sup>2</sup> of course/group of	Way <sup>3</sup> of crediting	Course/g	group of c	ourse	s
			lec	cl	lab 1	pr	sem	symbol	ZZU	CNPS	total	BK classes <sup>1</sup>	courses		university- wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	INZ0295s	Computer Ethics					2	K1INF_W20, K1INF_K03, K1INF_K05	30	60	2	1,2	Т	Z			K	W
2		Ethical Problems in Computer Science (GK)	1				1	K1INF_W20, K1INF_K03, K1INF_K05	30	60	2	1,2	Т	Z			K	W
		Total					2		30	60	2	1,2						

0	ıcı								
		To	otal number o	f hours		Total number of ZZU hours	Total number of CNPS hours		Number of ECTS points for BK classes <sup>1</sup>
	lec	cl	lab	pr	sem				
Γ	8	8	5		2	345	900	30	18

<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

No	Course/group of courses	Name of course/group of courses (denote group of courses with	Wee	kly nu	ımbe	r of ho	urs	Field-of-study educational effect symbol		nber of ours	Num	nber of ECTS points	course/group	Way <sup>3</sup> of crediting		group of c	ourse	S
	code	symbol <b>GK</b> )	lec	cl	lab	pr	sem		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	INZ0255C	Theory of Information and Signals		2				K1INF_W11, K1INF_U07	30	60	2	1,2	Т	Z			K	Ob
2	INZ0255W	Theory of Information and Signals	2					K1INF_W11	30	120	4	2,4	T	Е			K	Ob.
3		Electronics and Metrology – basic principle			2			K1INF_W07, K1INF_U14	30	60	2	1,2	T	Z		P	PD	Ob.
4		Theory of Probabilistic and Statistics		2				K1INF_W02	30	60	2	1,2	Т	Z			PD	Ob.
5		Theory of Probabilistic and Statistics	2					K1INF_W02	30	90	4	2,4	T	Е			PD	Ob.
6	INZ0258C	Logics and Discrete Mathematics		2				K1INF_W02, K1INF_W17	30	90	3	1,8	T	Z			PD	Ob
7	INZ0258W	Logics and Discrete Mathematics	2					K1INF_W02, K1INF_W17	30	90	3	1,8	T	Е			PD	Ob
8	INZ0259Wcl	Databases ( <b>GK</b> )	2	1	1			K1INF_W07, K1INF_W16 K1INF_W22 K1INF_U19, K1INF_U04, K1INF_U09, K1INF_U14	60	150	5	3,0	Т	E		(2)	K	Ob
9		Object-Oriented Programming (GK)	2		2			K1INF_U02, K1INF_U14 K1INF_W05, K1INF_W06	60	150	4	2,4	Т	Z		(2)	K	Ob.
		Total	10	7	5				330	870	29	17,4						

 $<sup>^{1}</sup>$ 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>&</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>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 30 hours in semester, 1 ECTS point)** 

N	o	Course/group of	Name of course/group of courses	Weel	dy n	umbe	r of l	nours	Field-of-study	Numbe	r of hours	Numb	er of ECTS points	Form <sup>2</sup> of	-	ŭ	oup of cou	rses	
		courses code	(denote group of courses with symbol $GK$ )	lec	cl	lab	pr		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	WFW000000BK	SPORT		2				K1INF_K08	30	30	1	0,6	Т	Z	О	P	КО	W
			Total		2					30	30	1	0,6						

	To	otal number o	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				
10	9	5			360	900	30	18

 $<sup>^{1}</sup>$ 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>&</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>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization <sup>7</sup> Optional – enter W, obligatory – enter Ob

No	Course/group of courses	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )	W	eekly r	number o	f hour	s	Field-of-study educational effect	Number	of hours		er of ECTS points	Form <sup>2</sup> of course/group			group of	cours	es
	code	, ,	lec	cl	lab	pr	sem	symbol	ZZU	CNPS	total	BK classes	of courses		university- wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type
1		Systems analysis and decision support methods in Computer Science	2					K1INF_W15	30	90	3	1,8	Т	Е			K	Ob
2		Systems analysis and decision support methods in Computer Science		1				K1INF_U15, K1INF_U14	15	30	1	0,6	T	Z			K	Ob
3		Systems analysis and decision support methods in Computer Science			1			K1INF_W15	15	30	1	0,6	Т	Z		P	K	Ob
4	INZ0262W	Computer Networks and Communications	2					K1INF_W11	30	90	3	1,8	Т	Е			K	Ob
5	INZ02621	Computer Networks and Communications			2			K1INF_U08, K1INF_U07, K1INF_U09, K1INF_U14	30	60	2	1,2	Т	Z		P	K	Ob
6		Introduction to Software Engineering (GK)	2	1	1			K1INF_U03, K1INF_U14 K1INF_W07	60	150	5	3,0	Т	Е		(2)	K	Ob
7	INZ0264Wl	Operating Systems (GK)	2		2			K1INF_W10, K1INF_U03 K1INF_U06, K1INF_U14	60	150	5	3,0	Т	Z		(2)	K	Ob
8	INZ0265Wl	Multimedia Embedded Systems ( <b>GK</b>	2		2			K1INF_U04, K1INF_U06, K1INF_W09, K1INF_U14	60	150	5	3,0	Т	Z		(2)	K	Ob
		Total	10	2	8				300	750	25	15						

<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>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 (Optional module M 1: Database Programming) (minimum 60 hours in semester, 5 ECTS points)

	Course/group		_		dy nu	mb	er of	Field-of-study educational effect			Number	of ECTS	Form <sup>2</sup> of	Way <sup>3</sup> of	Course/	group of c	ourse	s
	of courses code	(denote group of courses with symbol <b>GK</b> )			hou	rs		symbol			po	ints	course/grou p of courses	crediting				
		3.1.)	lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes			university- wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	INZ0266Wp	Database Design ( <b>GK</b> )	2			2		K1INF_W07, K1INF_W16, K1INF_W22, K1INF_U03, K1INF_U04, K1INF_U09, K1INF_U16, K1INF_U19	60	150	5	3,0	Т	Z		(2)	K	W
2	INZ0267WI	Client-Server Architecture ( <b>GK</b> )	2			2		K1INF_W07, K1INF_W16, K1INF_W22, K1INF_U03, K1INF_U04, K1INF_U09, K1INF_U16, K1INF_U19	60	150	5	3,0	Т	Z		(2)	K	W
		Total	2			2			60	150	5	3,0						

	To	otal number o	of hours		Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	
lec	cl	lab	pr	sem				
12	2	8	2		360	900	30	18

<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>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

**Semester 5** 

No	Course/group of courses	Name of course/group of courses (denote group of courses with symbol	hours   lec   cl   lab   pr   sem					Field-of-study educational effect symbol	Number of I	nours		nber of S points	Form <sup>2</sup> of course/group			e/group of	f cours	ses
	code	GK)	of courses with symbol GK) lec cl  Management Science 2 es (GK) 2 rol Systems 1						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	ZMZ3456W	Introduction to Management Science	2					K1INF_W18	30	60	2	1,2	Т	Z			PD	Ob
2	INZ0268Wl	Data Warehouses ( <b>GK</b> )	2		2			K1INF_U03, K1INF_U04, K1INF_U16, K1INF_U14 K1INF_W07, K1INF_W15	60	150	5	3,0	Т	Z		(2)	K	Ob
3	INZ0298W	Computer Control Systems	1					K1INF_W15, K1INF_W21	15	30	2	1,2	T	Е			K	Ob
4	INZ0298L	Computer Control Systems			2			K1INF_W07, K1INF_U15, K1INF_U18, K1INF_U14	30	90	2	1,2	Т	Z		P	K	Ob
5	INZ0298P	Computer Control Systems				1		K1INF_W07, K1INF_U15, K1INF_U18, K1INF_K02	15	30	1	0,6	Т	Z		P	K	Ob
6	INZ0270Wp	Software System Development ( <b>GK</b> )	2			2		K1INF_U02, K1INF_U03, K1INF_U04, K1INF_U13, K1INF_U14, K1INF_W05 K1INF_W07	60	150	5	3,0	Т	Е		(2)	K	Ob.
	_	Total	7	0	4	3			210	510	17	10,2	_					

 $<sup>^{1}</sup>$ 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>&</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>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

Optional – enter W, obligatory – enter Ob

Optional courses (Optional module M\_2: Multimedia) (minimum 60 hours in semester, 5 ECTS points)

No	Course/group of courses	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )	W	eekly h	numb ours	er of	Field-of-study educational effect symbol		nber of ours	Nun	nber of ECTS points	Form <sup>2</sup> of course/group	-	,	group of co	ourses	
	code	group of courses with symbol (IK)	lec	cl la		sem	l		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	INZ0271W1	Introduction to Computer Graphics (GK)	2		2		K1INF_U04, K1INF_U09, K1INF_U11, K1INF_U12, K1INF_U14, K1INF_W23	60	150	5	3,0	Т	Z		(2)	K	W
2	INZ0272W1	Multimedia Information Systems (GK)	2		2		K1INF_U04, K1INF_U09, K1INF_U11, K1INF_U12, K1INF_U14, K1INF_W23	60	150	5	3,0	Т	Z		(2)	K	W
		Total	2	1	2			60	150	5	3,0						

Optional courses (Optional module M\_3: Web application programming) (minimum 45 hours in semester, 4 ECTS points)

No	Course/group of courses	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )	W	- 1	numb ours	er of	Field-of-study educational effect symbol		ber of urs	Nun	nber of ECTS points	Form <sup>2</sup> of course/group	-		e/group of c	ourses	,
	code	,	lec	cl la	ıb pr	sem		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	INZ0273W1	Java and Internet programming ( <b>GK</b> )	1	2	2		K1INF_U04, K1INF_U09, K1INF_U11, K1INF_U12, K1INF_U14, K1INF_W05, K1INF_W06, K1INF_W07	45	120	4	2,4	Т	Z		(2)	K	W
2	INZ0274W1	Programming of Web-based systems (GK)	1	2	2		K1INF_U04, K1INF_U09, K1INF_U11, K1INF_U12, K1INF_U14, K1INF_W05, K1INF_W06, K1INF_W07	45	120	4	2,4	Т	Z		(2)	K	W

<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

Total	1 2	45	150 4	2,4			

Optional courses (Optional module M\_4: Software Project Management) (minimum 45 hours in semester, 4 ECTS points)

No.	. Course/group of courses code	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )		Week umbe hou	r of		Field-of-study educational effect symbol	Num ho	ber of urs		ber of ECTS points	Form <sup>2</sup> of course/group of courses			group of c	ourses	,
			lec	cllab	prse	em		ZZU	CNPS	total	BK classes <sup>1</sup>			university- wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	INZ0275Wl	Software Project Management ( <b>GK</b> )	2	1			K1INF_U10, K1INF_K02, K1INF_U14, K1INF_W18	45	120	4	2,4	T	Z		(2)	K	W
2		Software Project Management Techniques (GK)	1	1	1	1	K1INF_U10, K1INF_K02, K1INF_U14, K1INF_W18	45	120	4	2,4	T	Z		(2)	K	W
		Total	1	1	1	1		45	120	4	2,4						

	To	otal number o	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				
11	0	9	3	1	360	900	30	18

<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>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>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

**Obligatory courses number of ECTS points 13** 

No	Course/group of courses	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )			y nur hours		Field-of-study educational effect symbol	Numb			umber of TS points	Form <sup>2</sup> of course/gro	-		group of	course	es
	code	• ,	lec (	el la	ab pr	sem		ZZU	CNPS	total	BK classes <sup>1</sup>	up of courses		university- wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	INZ0277Wl	Introduction to Parallel and Distributed Systems (GK)	2	1	1		K1INF_U04, K1INF_U14, K1INF_W12	60	150	5	3,0	Т	Е		(2)	K	Ob
2	INZ0278Wcl	Computer Security ( <b>GK</b> )	2	1	1		K1INF_U03, K1INF_U09, K1INF_U14, K1INF_W13	60	120	4	2,4	T	Е		(2)	K	Ob
3	INZ0279Wl	Introduction to Artificial Intelligence ( <b>GK</b> )	2		2		K1INF_U07, K1INF_U16, K1INF_U14, K1INF_W15	60	120	4	2,4	T	Е		(2)	K	Ob
		Total	6	2 .	4			180	390	13	7,8						

Optional courses (minimum 90 hours in semester, 12 ECTS points)

_			Name of course/group of courses (denote group of				_	Field-of-study educational effect	Number o	f hours	Nu	mber of	Form <sup>2</sup> of	Wav <sup>3</sup> of	Course	group of	f cours	ses
1		of courses	courses with symbol <b>GK</b> )		hou			symbol			ECT	S points	course/group	crediting		8 1		
		code	, ,	lec c	l la	b pr	sen		ZZU	CNPS	total	BK	of courses		university-	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
												classes 1			wide <sup>4</sup>			
	1 ]	INZ0054S	Preparatory seminar			2		K1INF_K01, K1INF_K02,	30	60	2	1,2	T	Z		P	K	W
								K1INF_K03, K1INF_K04,										
								K1INF_K05, K1INF_U11,										
								K1INF_U12, K1INF_U13										
2	2 I	INZ0281P	Team Project			4		K1INF_U02, K1INF_U05,	60	150	5	3,0	T	Z		P	K	W
			·					K1INF_U06, K1INF_U10,										
								K1INF_U12, K1INF_U13,										
								K1INF_K01, K1INF_K03,										
								K1INF K04. K1INF K05									<u> </u>	
3	3		Practical Training							150	5							
			Total			6			90	360	12	4,2						

<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>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 (Optional module M 5: Network and computer systems) (minimum 60 hours in semester, 5 ECTS points)

		(Optional module M_3. Network at				, ,				iester,						
No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )		kly n		r Field-of-study educational effect symbol		nber of ours	Nu: ECT	mber of S points	Form <sup>2</sup> of course/group	-		group of	course	es
		coulous man symbol (222)	lec c	l lab	pr sen	n	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	INZ0055W1	Security in Computer Network ( <b>GK</b> )	2	2		K1INF_U03, K1INF_U09, K1INF_U14  K1INF_W13	60	150	5	3,0	Т	Z		(2)	K	W
				Ш		_									<u> </u>	
2	INZ0056Wc	System Administration (GK)	2	2		K1INF_W10, K1INF_W11, K1INF_U08,, K1INF_U09, K1INF_U14	60	150	5	3,0	Т	Z		(2)	K	W
	INZ0068Wl	Designing responsive mobile applications(GK)	2	2		K1INF_W04, K1INF_U06, K1INF_U07,	60	150	5	3,0	Т	Z		(2)	K	W
		Total	2	2			60	150	5	3,0						

	То	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				
8	2	6	6		330	900	30	15,0

<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>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

**Obligatory courses number of ECTS points 5** 

No	Course/group	Name of course/group of		Weekly	numbe	er of h	ours	Field-of-study educational	Number	of hours	Number o	f ECTS points	Form <sup>2</sup> of	Way3 of	Course/g	roup of co	ourses	
	of courses code	courses (denote group of courses with symbol <b>GK</b> )	lec	cl	lab	pr	sem	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	INZ0057W1	Internet Technologies (GK)	2		2			K1INF_W14 K1INF_U05 K1INF_U06, K1INF_U07, K1INF_U14	60	150	5	3	Т	Z		(2)	K	Ob
		Total	2		2				60	150	5	3						

Optional courses (minimum135 hours in semester, 16 ECTS point)

No	Course/group of courses	Name of course/group of courses (denote group of courses with	V	eekly h	num ours		f	Field-of-study educational effect symbol	Number of	of hours		of ECTS	Form <sup>2</sup> of course/grou	-	Course/gr	ourse/group of courses		
	code	symbol <b>GK</b> )	lec	cl la	ıb p	or se	m	·	ZZU	CNPS	total	BK classes 1	p of courses	g	university- wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	INZ0058S	Diploma Seminar				2	2	K1INF_U11, K1INF_U12, K1INF_U13 K1INF_K01, K1INF_K02, K1INF_K03, K1INF_K04, K1INF_K05, K1INF_K07	30	60	2	1,2	Т	Z			K	W
2	INZ0059P	Diploma Thesis				7		K1INF_U11, K1INF_U12, K1INF_U13 K1INF_K01, K1INF_K02, K1INF_K03, K1INF_K04, K1INF_K05,	105	420	14	8,4	Т	Z		P	K	W
		Total				7 2	2		135	480	16	9,6						

<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>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 (Humanistic subject II) (minimum 15hours in semester, 1 ECTS points)

No	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )		Weel umbe hou	er of		Field-of-study educational effect symbol	Number	of hours		r of ECTS pints	Form <sup>2</sup> of course/group of courses	Way <sup>3</sup> of crediting	<i>U</i> 1		course	es
			lec	llab	prs	em		ZZU	CNPS	total	BK classes <sup>1</sup>			university- wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	INZ0060S	Social and Law Aspects of Computer Science					K1INF_W19, K1INF_W20, K1INF_K03, K1INF_K05	15	30	1	0,6	Т	Z			K	W
2	INZ0061S	Copyright and Related Computer Law	1				K1INF_W19, K1INF_W20, K1INF_K03, K1INF_K05	15	30	1	0,6	Т	Z			K	W
	·	Total	1			1		15	30	1	0,6						

Optional courses (Optional module M\_6: Technologies and programming tools) (minimum 60 hours in semester, 4 ECTS points)

	, Î	<b>G</b> /	up Name of course/group of courses (denote		Weekly numbe			of Field-of-study educational effect N			1 £	of Number of ECT	1	Form <sup>2</sup> of	1173 -c	C/-	c		$\overline{}$
N	Ю	Course/group of courses	group of courses with symbol GK)			urs		rieia-oi	symbol	-	Number of hours Number of ECTS points			course/group		Course/g	group or c	course	s
		code	,	lec	cl la	o p	or sem			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	INZ0062Wcl	Programming Languages and Paradigms (GK)	2	1 1				F_W05, K1INF_W06 NF_U02, K1INF_U14	60	120	4	2,4		Z		(2)	K	W
	2	INZ0063Wl	User Interface Development (GK)	2	2			K1INF_U0	K1INF_W04 6, K1INF_U07, K1INF_U13	60	120	4	2,4	T	Z		(2)	K	W
	3	INZ0064Wcl	Program Translation Techniques (GK)	2	1 1				K1INF_W06 K1INF_U01,	60	120	4	2,4	T	Z		(2)	K	W
	4	INZ00065Wc	Numerical Methods (GK)	2	2				K1INF_W04 K1INF_U01,	60	120	4	2,4	T	Z		(2)	K	W
			Total	2	1 1					60	120	4	2,4						

<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>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>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 (Optional module M\_7: Development trends in computer science) (minimum 60 hours in semester, 4 ECTS points)

N	lo (	Course/group of courses	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )	We	Weekly number of hours			Field-of-study educational effect symbol	Number	of hours	Nun	nber of ECTS points	Form <sup>2</sup> of course/group	,	U	roup of c	ourses	
		code		lec	cl la	ıb pr	sem		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	INZ0066Wl	Security in Computer Network (GK)	2	1	2		K1INF_W13 K1INF_U03, K1INF_U09, K1INF_U14	60	120	4	2,40	Т	Z		(2)	K	W
	2	INZ0067W1	System Administration (GK)	2	2	2		K1INF_W10, K1INF_W11, K1INF_U08,, K1INF_U09, K1INF_U14	60	120	4	2,4	T	Z			K	W
			Total	2	1	1			60	120	4	2,4						

### **Altogether in semester**

	To	otal number o	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				
7	2	4	6	3	330	900	30	18

### 2. Set of examinations in semestral arrangement

Course code	Names of courses ending with examination	Semester
FZP1052W	1. General Physics	1

<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>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

MAP1070W	2. Elementary Linear Algebra	
MAP1943W	3. Mathematical Analysis I	
INZ0253W1	Computer Architecture and Organization	2
INZ0254Wcl	2. Data Structures and Algorithms	
MAP2005W	3. Mathematical Analysis II	
JZL100400BK	4. Foreign language	
INZ0258W	1. Logics and Discrete Mathematics	3
INZ0255W	2. Theory of Information and Signals	
INZ0257W	3. Theory of Probalilistics and Statisctics	
INZ0259Wcl	4. Databases	
INZ0297W	1.Systems analysis and decision support methods in Computer Science	4
INZ0262W	2. Computer Networks and Communications	
INZ0263Wcl	3. Introduction to Software Engineering	
INZ0297W	1. Computer Control Systems	5
INZ0270Wp	2. Software System Development	
INZ0277W1	Introduction to Parallel and Distributed Systems	6
INZ0272W1	2. Computer Security	
INZ0279W1	3. Introduction to Artificial Intelligence	

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

Semester	Allowable deficit of ECTS points after semester
1	10

 $<sup>^{1}</sup>$ 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>&</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>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization <sup>7</sup> Optional – enter W, obligatory – enter Ob

2	10
3	10
4	10
5	5
6	0

Opinion 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