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

PLAN OF STUDIES

FACULTY: Department of Computer Science and Management

MAIN FIELD OF STUDY: Informatics

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

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

PROFILE: general academic /practical*

SPECIALIZATION: Security and Reliability of Information Systems

LANGUAGE OF STUDY: Polish

Faculty Council Resolution of 23.04.2013

In effect since 01.10.2013

*delete as not applicable

Plan of studies structure (optionally)

1) in point layout

24	CNPS	ECTS	CNPS	ECTS	CNPS	ECTS	24
23	900	30	900	30	900	30	23
22	Foreign Lan	guage 30 CTS					22
21	Foreign La	anguage I					21
20	60	2 ECTS					20
19			Cructo	graphy	Advanced	d information	19
18	Methodology Scier	of Empirical	Стурю	grapny	securit	y systems	18
17	90	3 ECTS	210	7 ECTS	180	6 ECTS	17
16	Decision	support					16
15	Syste	ems	Notwork and a		Optiona	al course II	15
14	150	5 ECTS	Network and S	ecunty systems	120	4 ECTS	14
13	Advanced N	lethods and	210	7 ECTS			13
12	Technique	es of Data			Diplom	a seminar	12
11	Anai	ysis	Reliability mode	ls of Information	60	2 ECTS	11
10	180	6 ECTS	syst	ems			10
9	Teletraffic T	heory and	210	7 ECTS			9
8	Engine	ening					8
7	120	4 ECTS	Safety manager	nent systems for	Master's t	hesis project	7
6	Information	n systems	60	2 ECTS			6
5	120	4 ECTS	Optional	course I	540	10 ECTO	5
4			150	5 ECTS	540	IO ECIS	4
3	Modeling an	d Business					3
2	Anal	ysis	Master's th	esis project			2
1	150	5 ECTS	60	2 ECTS			1
	I						Total
	22 /	330	19 /	285	19	/285	60 / 900

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
 ²Traditional – enter T, remote – enter Z
 ³Exam – 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)
 ⁴University-wide course / group of courses – enter O
 ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

2) in hourly layout

25						25
24	CNPS ECTS	CNPS	ECTS	CNPS	ECTS	24
23	900 30	900	30	900	30	23
22	Foreign Language II					22
21	Foreign Language I					21
20	i oreigir Language i					20
19	03000	O m um tu	h	Advanced	information	19
18	Methodology of Empirical	Crypto	ograpny	security	systems	18
17		202	200 E	20	200	17
16	Decision suport systems					16
15	12000 E	Network and se	ecurity systems	Optional	l course II	15
14						14
13	Advanced Methods and	202	200 E	10	002	13
12	Analysis			Diploma	a seminar	12
11	20200	Reliability	/ models of	00	002	11
10	20200	Informatio	on systems			10
9	Teletraffic Theory and	200	02 E			9
8	Engineering					8
7	10020	Safety manag	ement systems	Master's th	nesis project	7
6	Information systems	10	001			6
5	10002	Optiona	I course I	000	(10)0	5
4				000	(10)0	4
3	Modeling and Business	10	200			3
2	Analysis	Master's th	nesis project			2
1	12000 E	00	020			1
	1					Total
	22 / 330	19,	/ 285	19	/285	60 / 900
	•					

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
 ²Traditional – enter T, remote – enter Z
 ³Exam – 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)
 ⁴University-wide course / group of courses – enter O
 ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

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

Semester 1

No	Course/	Name of course/group of courses (denote	We	ekly r	num	ber o	of	Field-	Nur	nber of	Num	ber of	Form ²	Way ³	C	ourse/grou	p of cours	es
	group of	group of courses with symbol GK)		ho	urs			of-study	h	ours	ECTS	points	of	of				
	courses		le	cl	1	р	s	educatio	ZZU	CNPS	total	BK	course	crediti	univer	practic	kind ⁶	type ⁷
	code		с		а	r	e	nal				classe	/group	ng	sity-	al ⁵		
					b		m	effect				s ¹	of		wide ⁴			
								symbol					course					
													s					
1	INZ	Modeling and Business Analysis	1	0	0	0	0	K2INF	15	60	2	1,2	Т	E			K	Ob.
	003760							_W03										
	W																	
2	INZ	Modeling and Business Analysis	0	2	0	0	0	K2INF	30	90	3	1,8	Т	Z			K	Ob.
	003760	с .						_U06										
	L							_										
3	INZ	Information Systems	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Z			K	Ob.
	003762	,						_W04				,						
	W																	
4	INZ	Information Systems	0	0	0	0	2	K2INF	30	60	2	1,2	Т	Z			K	Ob.
	003762	,						_W04										
	S																	
5	INZ	Decision Support Systems	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Е			K	Ob.
	003761							_W02										
	W																	
6	INZ	Decision Support Systems	0	1	0	0	0	K2INF	15	30	1	0,6	Т	Z			K	Ob.
	003761	11 5						U05				,						
	L																	
7	INZ	Decision Support Systems	0	0	0	1	0	K2INF	15	60	2	1,2	Т	Z		Р	K.	Ob.
	003761	11 5						U05				,						
	Р																	
8	INZ	Teletraffic theory and engineering	1	0	0	0	0	K2INF	15	30	1	0.6	Т	Z			K	Ob.
	003759	,		_		-		W04	_			- , -						
	W																	
9	INZ	Teletraffic theory and engineering	0	0	0	2	0	K2INF	30	90	3	1.8	Т	Z		Р	K	Ob.
-	003759		-	-		-		U05		~ ~	-	-,-	-	_		-		
	Р																	

Obligatory courses number of ECTS points 28

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

10	INZ	Advanced Methods and Techniques of Data	2	0	0	0	0	K2INF	30	60	2	1,2	Т	Z		PD	Ob.
	003758	Analysis						_W01									
	W							K2INF									
								_W05									
11	INZ	Advanced Methods and Techniques of Data	0	0	2	0	0	K2INF	30	120	4	2,4	Т	Z	Р	PD	Ob.
	003758	Analysis						_U05									
	L																
		Total	8	3	2	3	2		270	810	27	16,2					

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

No.	Course/ group of	Name of course/group of courses (denote group of courses with symbol GK)	We	eekly l	/ nui nour	nbeı s	r of	Field-of- study	Numbe	r of hours	Number poi	of ECTS ints	Form ² of	Way ³ of		Course/grou	p of course	S
	courses code		le c	с 1	1 a b	p r	s e m	al effect symbol	ZZU	CNPS	total	BK classes 1	course/ group of	creditin g	universi ty- wide ⁴	practical 5	kind ⁶	type ⁷
1		Foreign language I	0	3	0	0	0	K2INF _U04	45	60	2	1,2	Т	Z	0		КО	W
2		Foreign language II	0	1	0	0	0	K2INF _U04	15	30	1	0,6	Т	Z	0		KO	W
		Total		4					60	90	3	1,8						

Altogether in semester

Т	Cotal ni	umber	of hou	rs	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	la b	pr	se m				
8	7	2	3	2	330	900	30	18

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
 ²Traditional – enter T, remote – enter Z
 ³Exam – 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)
 ⁴University-wide course / group of courses – enter O
 ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

Semester 2

Obligatory courses number of ECTS points ...25....

No	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	n	We um ho	ekl ber ours	ly r of s	f	Field-of-study educational effect symbol	Num hc	ber of ours	Nuı ECT	nber of S points	Form ² of course/group of courses	Way ³ of crediting	Course/	group of	cours	es
		<i>,</i>	lec	c11a	ıbp	ors	em	2	ZZU	CNPS	total	BK classes ¹			university- wide ⁴	practical ⁵	kind ⁶	type ⁷
1	INZ 003822WL	Network and security systems	2	0 2	2 (0	0	K2INF_W01, K2INF_W05,K2INF_U06- K2INF_U07,K2INF_U09	60	210	7	4,2	Т	Е		P(3)	S	W
2	INZ 003821WL	Cryptography	2	0 2	2 (0	0	K2INF_W01, K2INF_W05	60	210	7	4,2	Т	Е		P(3)	S	W
3	INZ 003823WS	Reliability models of information systems	2	0 () (0	2	K2INF_W01- K2INF_W02	60	210	7	4,2	Т	Е			S	W
4	INZ 003818P	Master's thesis project (sem II)	0	0 () 2	2	0	K2INF_W05, K2INF_W01	30	60	2	1,2	Т	Z		P(2)	K	W
5	INZ 003829WS	Safety management systems for IT infrastructure	1	0 () (0	1	K2INF_W01,K2INF_W03- K2INF_W04	30	60	2	1,2	Т	Z			S	W
		Total	7	0 4	1 2	2	3		240	750	25	15				P(8)		

Optional courses (minimum 45 hours in semester, 5 ECTS points)

No	Course/group of courses	Name of course/group of courses (denote group of courses with	W	'eek	ly nu hou	mbe rs	er of	Field-of-study educational effect symbol	Num ho	ber of ours	Nun	nber of ECTS points	Form ² of course/group	Way ³ of crediting	Course/gr	oup of co	urses	
	code	symbol GK)	lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹	of courses		university- wide ⁴	practical5	kind ⁶	type ⁷
1	INZ 003825WL	Diagnostic of information systems	1	0	2	0	0	K2INF_W02-K2INF_W05, K2INF_U06-K2INF_07	45	150	5	3,0	Т	Z		P(2)	S	W
2	INZ 003824WL	Programming secure applications	1	0	2	0	0	K2INF_W02-K2INF_W05, K2INF_U06-K2INF_07,K2INF_U09	45	150	5	3,0	Т	Z		P(2)	S	W
		Total	1	0	2	0	0		45	150	5	3,0				P(4)		

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students ²Traditional – enter T, remote – enter Z ³Exam – 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) ⁴University-wide course /group of courses – enter O

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

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 ¹
lec	cl	lab	pr	sem				
8	0	6	2	3	285	900	30	18

Semester 3

Obligatory courses number of ECTS points ...26....

No	Course/group of courses	Name of course/group of courses (denote group of courses with symbol GK)	W	eek	ly nu hou	mbe rs	er of	Field-of-study educational effect symbol	Nun ho	ber of ours	Nun	ber of ECTS points	Form ² of course/group	Way ³ of crediting	Course/gr	oup of co	ourses	
	code		lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹	of courses		university- wide ⁴	practical ⁵	kind ⁶	type ⁷
1	INZ 003826WL	Advanced information security systems	2	0	2	0	0	K2INF_W03, K2INF_U05	60	180	6	3,6	Т	Z		P(3)	S	W
2	INZ 003819D	Master's thesis project (sem III)	0	0	0	10	0	K2INF_W05, K2INF_W01	150	540	18	10,8	Т	Z		P(18)	K	W
3	INZ 003820S	Diploma seminar	0	0	0	0	2	K2INF_W05,	30	60	2	1,2	Т	Z			K	W
		Total	2	0	2	10	2		240	780	26	15,6				P(21)		

Optional courses (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 GK)	We	ekly h	nu nour	mb :s	er of	Field-of-study educational effect symbol	Nun	nber of ours	Nı EC	umber of TS points	Form ² of course/group	Way ³ of crediting	Course/§	group of o	course	s
	code	· · · · · · · · · · · · · · · · · · ·	lec	cl 1	ab	pr	sem		ZZU	CNPS	total	BK classes ¹	of courses		university- wide ⁴	practical5	kind ⁶	type ⁷
1	INZ 002643WS	Quantum cryptographic systems	1	0	0	0	2	K2INF_W01, K2INF_W02,K2INF_U03	45	120	4	2,4	Т	Z		S(2)	S	W
2	INZ 02644WS	Testing and reliability of computer systems	1	0	0	0	2	K2INF_W01, K2INF_W02,K2INF_U03	45	120	4	2,4	Т	Z		S(2)	S	W
		Razem	1	0	0	0	2		45	120	4	2,48				S(4)		

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students ²Traditional – enter T, remote – enter Z ³Exam – 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) ⁴University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

Altogether in semester

		Т	otal 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
ſ	lec	cl	lab	pr	sem				
	3	0	2	10	4	285	900	30	18

 ¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
 ²Traditional – enter T, remote – enter Z
 ³Exam – 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)
 ⁴University-wide course / group of courses – enter O
 ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

2. Set of examinations in semester arrangement

Course code	Names of courses ending with examination	Semester
	1. Modeling and Business Analysis	1
	2. Decision Support Systems	
INZ003821W	1. Cryptography	2
INZ003822W	2. Network and security systems	
INZ003823W	3. Reliability models of information systems	

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

Semester	Allowable deficit of ECTS points after semester
1	8
2	8
3	0

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

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

³Exam – 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) ⁴University-wide course /group of courses – enter O

Opinion of student government legislative body

.....

Date Name and surname, signature of student representative

.....

Date Dean's signature

 ¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
 ²Traditional – enter T, remote – enter Z
 ³Exam – 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)
 ⁴University-wide course / group of courses – enter O
 ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

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: Computer Science

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

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

PROFILE: general academic /practical *

SPECIALIZATION: Software Engineering

LANGUAGE OF STUDY:

...... Faculty Council Resolution of

In effect since

*delete as applicable

Plan of studies structure (optionally)

1) in point layout

(space for scheme of plan)

25	CNPS ECTS	CNPS ECTS	CNPS ECTS	25
24	900 30	900 30	900 30	24
23				23
22	Teletraffic Theory and			22
21	Engineering			21
20	120 4 ECTS			20
19	Modeling and Business	Elective course I (e.g.	Elective course II (e.g.	19
18	Analysis	Development)	Azure Platform)	18
17	150 5 ECTS	120 4 ECTS	120 4 ECTS	17
16	Decision Support	Management of	Management of Development & Integ- ration of Information Systems II 2 ECTS	16
15	Systems	of Information Systems	Modeling and	15
14	150 5 ECTS	120 5 ECTS	business data	14
13	Methodology of Empirical Sciences 3 ECTS	Architecture and	120 4 ECTS	13
12		Technologies of Web	Master seminar	12
11	Advanced Methods and	Services	60 2 ECTS	11
10	Techniques of Data	02010		10
9	Analysis	Predictive Models and		9
8	180 6 ECTS	Metrics in Software	Master Thesis II	8
7	Information Systems	Engineering	540 18 ECTS	7
6	400	240 7 2013		6
5	120 4 ECTS	Software System Design		5
4	Foreign Language I	180 6 ECTS		4

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

3				3
2	00 2 ECTS	Master Thesis		2
1	Foreign Language II	60 2 ECTS		1
	I	II	III	Razem
	22 / 330	19 / 285	19 /285	60 / 900

2) in hourly layout

(space for scheme of plan)

25	CNPS ECTS	CNPS ECTS	CNPS ECTS	25
24	900 30	900 30	900 30	24
23				23
22	Teletraffic Theory and			22
21	Engineering			21
20	10020			20
19	Modeling and Business	Elective course I (e.g.	Elective course II (e.g. Programming on Windows	19
18	Analysis	Agile Software Development)	Azure Platform)	18
17	12000E	3h	3h	17
16	Decision Support	Management of	Management of Development & Integ- ration of Information Sys. II 00010	16
15	Systems	Development & Integration of Information Systems	Modeling and	15
14	11010E	20001	business data	14
13	Methodology of	Architecture and	10200	13
12	20000	l echnologies of Web Services	Master seminar	12
11	Advanced Methods and	20200	00002	11

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

⁵Practical course / group of courses – enter O ⁶KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷Optional – enter W, obligatory – enter Ob

 $^{{}^{3}}$ 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) 4 University-wide course /group of courses – enter O

10	Techniques of Data			10
9	Analysis	Predictive Models and		9
8	20200	Metrics in Software		8
7	Information Systems	Engineering		7
6		100212	Master Thesis II	6
5	10002		000(10)0	5
4	Foreign Language I	Software System Design 10020E		4
3				3
2	03000	Master Thesis		2
1	Foreign Language II 01000	00020		1
	I	II	111	Razem
	22 / 330	19 / 285	19 /285	60 / 900

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

³Exam – enter I, remote – enter Z ³Exam – 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) ⁴University-wide course /group of courses – enter O ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

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

No	Course/	Name of course/group of courses (denote	Weekly number of hours					Field-	Nu	mber of	Numl	per of	Form ²	Way ³	С	ourse/grou	p of cours	es
	group of	group of courses with symbol GK)	$ \begin{array}{c cccc} \mathbf{GK} & \mathbf{of hours} & \mathbf{of-study} \\ \hline 1 & \mathbf{c} & 1 & \mathbf{p} & \mathbf{s} \\ \hline \end{array} \begin{array}{c cccc} \mathbf{educatio} & \mathbf{z} \\ \mathbf{educatio} & \mathbf{z} \\ \mathbf{c} & \mathbf{c} & \mathbf{c} \\ \mathbf{c} \\$				h	nours	ECTS	points	of	of						
	courses		1	с	1	р	S	educatio	ZZU	CNPS	total	BK	course	crediti	univer	practic	kind ⁶	type ⁷
	code		e	1	а	r	e	nal				classe	/group	ng	sity-	al^5		
			с		b		m	effect				s^1	of		wide ⁴			
								symbol					course					
								-					S					
1	INZ	Modeling and Business Analysis	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Е			Κ	Ob.
	003760							_W03										
	W																	
2	INZ	Modeling and Business Analysis	0	2	0	0	0	K2INF	30	90	3	1,8	Т	Z			Κ	Ob.
	003760		-		-		-	U06			-	y -						
	L							—										
3	INZ	Information Systems	1	0	0	0	0	K2INF	15	60	2	1.2	Т	Z			К	Ob.
-	003762					-		W04			_	-,-	_					
	W																	
4	INZ	Information Systems	0	0	0	0	2	K2INF	30	60	2	1.2	Т	Z			К	Ob.
-	003762					-	_	W04			_	-,-	_					
	S																	
5	INZ	Decision Support Systems	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Е			Κ	Ob.
	003761							W02				,						
	W							_										
6	INZ	Decision Support Systems	0	1	0	0	0	K2INF	15	30	1	0,6	Т	Z			Κ	Ob.
	003761							U05				,						
	L																	
7	INZ	Decision Support Systems	0	0	0	1	0	K2INF	15	60	2	1,2	Т	Z		Р	К.	Ob.
	003761							U05				,						
	Р																	
8	INZ	Teletraffic theory and engineering	1	0	0	0	0	K2INF	15	30	1	0,6	Т	Z			K	Ob.
-	003759			-		-		W04	-			- 7 -						
	W																	
9	INZ	Teletraffic theory and engineering	0	0	0	2	0	K2INF_	30	90	3	1,8	Т	Ζ		Р	Κ	Ob.

Obligatory courses number of ECTS points 28

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 ${}^{3}Exam$ – 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) ${}^{4}University$ -wide course /group of courses – enter O

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

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

	003759							U05									
	Р																
10	INZ	Advanced Methods and Techniques of Data	2	0	0	0	0	K2INF	30	60	2	1,2	Т	Z		PD	Ob.
	003758	Analysis						_W01									
	W							K2INF									
								_W05									
11	INZ	Advanced Methods and Techniques of Data	0	0	2	0	0	K2INF	30	120	4	2,4	Т	Z	Р	PD	Ob.
	003758	Analysis						_U05									
	L																
		Total	8	3	2	3	2		270	810	27	16,2					

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

No.	Course/ group of	Name of course/group of courses (denote group of courses with symbol GK)	We	ekly h	nun ours	nber	of	Field-of- study	Numbe	r of hours	Number po	of ECTS ints	Form ² of	Way ³ of	(Course/grou	p of courses	3
	courses code		le c	с 1	l a b	p r	s e m	al effect symbol	ZZU	CNPS	total	BK classes 1	group of courses	g	universi ty- wide ⁴	practical 5	kind ⁶	type ⁷
1		Foreign language I	0	3	0	0	0	K2INF _U04	45	60	2	1,2	Т	Z	0		KO	W
2		Foreign language II	0	1	0	0	0	K2INF _U04	15	30	1	0,6	Т	Z	0		KO	W
		Total		4					60	90	3	1,8						

Altogether in semester

	Total 1	number	r of hou	ırs	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	la b	pr	sem				
8	7	2	3	2	330	900	30	18

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

Semester 2

No	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours				Weekly number of hours			Nun he	nber of ours	Nun	ber of ECTS points	Form ² of course/group	Way ³ of crediting	Course/g	roup of co	ourses	
			lec	cl	lab	pr	r se	em	educational effect symbol	ZZU	CNPS	total	BK classes ¹	of courses		university- wide ⁴	practical ⁵	kind [€]	type ⁷
1	INZ 003765W	Architecture and Technologies of Web Services	2	0	0	0		0	K2INF_W06	30	60	2	1,2	Т	Z			S	w
2	INZ 003765L	Architecture and Technologies of Web Services	0	0	2	0		0	K2INF _ U07 K2INF_U08	30	120	4	2,4	Т	Z		Р	S	W
3	INZ 003766W	Predictive Models and Metrics in Software Engineering	1	0	0	0		0	K2INF_W06	15	60	2	1,2	Т	E			S	W
4	INZ 003766P	Predictive Models and Metrics in Software Engineering	0	0	0	2		0	K2INF_U08	30	150	5	3	Т	Z		Р	S	W
5	INZ 003766S	Predictive Models and Metrics in Software Engineering	0	0	0	0		1	K2INF_ U01 K2INF_U08	15	30	1	0,6	Т	Z			S	W
6	INZ 003767W	Software System Design	1	0	0	0		0	K2INF_W06	15	60	2	1,2	Т	Е			S	W
7	INZ 003767P	Software System Design	0	0	0	2		0	K2INF_U07 K2INF_U08	30	120	4	2,4	Т	Z		Р	S	W
8	INZ	Management of Development and Integration of Information Systems	2	0	0	0		0	K2INF_W06	30	60	2	1,2	Т	Z			S	W

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

⁵Practical course / group of courses – enter O
 ⁶KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷Optional – enter W, obligatory – enter Ob

 $^{^{3}}$ 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) 4 University-wide course /group of courses – enter O

	003764W																	
9	INZ	Management of Development and Integration of Information Systems	0	0	0	0	1		K2INF_	15	60	2	1,2	Т	Z		S	W
	003764S								001									
								K	2INF_U08									
10	INZ	Master Thesis	0	0	0	2	0	Kź	2INF_U01	30	60	2	1,2	Т	Z		S	W
	003818P																	
P		Total	6	0	2	6	2			240	780	26	15,6					

Groups of optional courses (minimum 3 hours in semester, 4 ECTS points)

N	lo	Course/group	Name of course/group of courses (denote group of	Wee	kly	numt	er o	f hours	Field-of-	Numbe	r of hours	Numb	er of ECTS points	Form ² of	Way ³ of	Course/gr	oup of co	urses	
		of courses code	courses with symbol GK)	lec	cl	lab	pr	sem	study educational effect symbol	ZZU	CNPS	total	BK classes ¹	course/group of courses	crediting	university-wide ⁴	practical ⁵	kind ⁶	type ⁷
	1	INZ003813Wc	Theoretical Foundations of Distributed Processes (GK)	2	1	0	0	0	K2INF_W06 K2INF _U06	45	120	4	2,4	Т	Z			S	W
4	2	INZ003814Wps	Agile Software Development (GK)	1	0	0	1	1	K2INF_W06 K2INF_U08	45	120	4	2,4	Τ	Z		Р	S	W
			Total							45	120	4	2,4						

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

Altogether in semester

	Total r	umber o	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				
7/8	0/1	2	6/7	2/3	285	900	30	18

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
²Traditional – enter T, remote – enter Z
³Exam – 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)
⁴University-wide course / group of courses – enter O
⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
⁷ Optional – enter W, obligatory – enter Ob

Semester 3

No	Course/group of courses	Name of course/group of courses (denote group of courses with symbol GK)	Wee		kly number of Field-of- hours study		Field-of- study	Number of Number of hours point		ber of ECTS points	er of ECTS Form ² of Way ³ of course/group crediting		Course/g	roup of c	ourse	5			
	code		lec	cl	lab	pr	sem	n e ef	educational ffect symbol	ZZU	CNPS	total	BK classes ¹	of courses		university- wide ⁴	practical ⁵	kind	type ⁷
1	INZ	Modeling and implementation of business data	0	0	2	0	0	K	2INF_U06	30	60	2	1,2	Т	Z		Р	S	W
	003776L																		
2	INZ	Modeling and implementation of business data	1	0	0	0	0	K.	2INF_W05	15	60	2	1,2	Т	Z			S	W
	003776W																		
3	INZ	Management of Development and Integration of Information Systems II	0	0	0	1	0	K	K2INF_U08	15	60	2	1,2	Т	Z		Р	S	W
	003769P																		
4	INZ	Master Thesis II	0	0	0	10	0	K.	2INF_U03	150	540	18	10,8	Т	Z			S	W
	003819D																		
5	INZ	Master Seminar	0	0	0	0	2	K.	2INF_U01	30	60	2	1,2	Т	Z			S	W
	003820S							K	2INF_U02										
		Total	1	0	2	11	2			240	780	26	15,6						

Groups of optional courses (e.g. name of specialization) (minimum 3 hours in semester, 4 ECTS points)

No	Course/group	Name of course/group of courses (denote group of	Weel	kly num	ber o	of hours	Field-of-	Numbe	r of hours	Numbe	er of ECTS points	Form ² of	Way3 of	Course/gro	oup of cou	irses	
	of courses	courses with symbol GK)	lec	cl lab	pr	sem	study	ZZU	CNPS	total	BK classes ¹	course/group	crediting	university-wide ⁴	practical ⁵	kind ⁶	type ⁷

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

³Exam – 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)

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

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

	code							educational effect symbol					of courses				
1	INZ 003816Wls	IT services design in organization (GK)	1		1		1	K2INF_W06 K2INF_U03 K2INF _ U06	45	120	4	2,4		Z	Р	S	W
2	INZ 003817WIs	Writing papers using LaTeX (GK)	1		1		1	K2INF_W06 K2INF_ U01 K2INF_U03 K2INF_U08	45	120	4	2,4		Z	Ρ	S	W
3	INZ 003815W1	Programming on Windows Azure Platform	1	0	2	0	0	K2INF_W06 K2INF _ U07 K2INF_U08	45	120	4	2,4		Z	Р	S	W
		Total	1		1		1		45	120	4	2,4					

Altogether in semester

Total number of hours	Total number	Total number	Total number	Number of ECTS points
	of	of CNPS	of ECTS	for BK
	ZZU	hours	points	classes1
	hours		-	

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

³Exam – 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) ⁴University-wide course /group of courses – enter O ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

lec	cl	lab	pr	sem				
2	0	3/4	11	2/3	285	900	30	18

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

³Exam – enter I, remote – enter Z ³Exam – 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) ⁴University-wide course /group of courses – enter O ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

2. Set of examinations in semestral arrangement

Course code	Names of courses ending with examination	Semester
	 Modeling and Business Analysis Decision Support Systems 	1
	 Predictive Models and Metrics in Software Engineering Software System Design 	2
		3

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

Semester	Allowable deficit of ECTS points after semester
1	8
2	8
3	0

Opinion of student government legislative body

Date Name and surname, signature of student representative

.....

Date Dean's signature

¹BK - number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 ${}^{3}Exam$ – 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) ${}^{4}University$ -wide course /group of courses – enter O

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

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

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: Computer Science

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

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

PROFILE: general academic /practical *

SPECIALIZATION:..... Intelligent Information Systems

LANGUAGE OF STUDY:Polish.....

...... Faculty Council Resolution of

In effect since

*delete as applicable

Plan of studies structure (optionally)

1) in point layout

24	CNPS	ECTS	CNPS	ECTS	CNPS	ECTS	24
23	900	30	900	30	900	30	23
22	Foreign	Language II 1 ECTS					22
21	Foreign	l anguage l					21
20	. ereigit	_anguage :					20
19	60	2 ECTS			New trep	de in neural	19
18	Informati	on Systems	Soft cor	mputing -	comp	outations	18
17	monnau		180	6 ECTS	120	4 ECTS	17
16	120	4 ECTS			Knowledg	ge discovery	16
15	Advanced	Methods and			120	4 ECTS	15
14	Techniqu	ues of Data	Machine	e learning	Stimulatio	n techniques	14
13	An	aiysis	180	6 EČTS	60	2 ECTS	13
12	180	6 ECTS			Diplom	a seminar	12
11	Methodolog	gy of Empirical			60	2 ECTS	11
10	Ociences	30 3 2010	Vision 180	systems 6 ECTS			10
9	Decisio	n Support					9
8	Sys	Systems	Natural	language	Diplon	na Thesis	8
7	150 5 ECTS	engir	ieering	540	18 ECTS	7	
6	Madaling	and Dusiness	180	6 ECTS			6
5	wodening a	anu Dusiness	Parallel an	d Distributed			5

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter O ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

4	Analysis	Processing 120 4 FCTS		4
3	Teletraffic Theory and			3
2	Engineering	Diploma Thesis		2
1	120 4 ECTS	60 2 ECTS		1
	I	II		Total
	22 / 330	19 / 285	19 /285	60 / 900

 ¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
 ²Traditional – enter T, remote – enter Z
 ³Exam – 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)
 ⁴University-wide course /group of courses – enter O
 ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

2) in hourly layout

24	CNPS ECTS	CNPS ECTS	CNPS ECTS	24
23	900 30	900 30	900 30	23
22	Foreign Language II 01000			22
21	Foreign Language I			21
20				20
19	03000		New trends in neural	19
18	Information Systems	Soft computing -	computations	18
17		20020E	10020	17
16	10002		Knowledge discovery	16
15	Advanced Methods and		00002	15
14	Techniques of Data	Machine learning	Stimulation techniques	14
13	Analysis	20200E	00002	13
12	20200		Diploma seminar	12
11	Methodology of Empirical		00002	11
10	20000	Vision systems 10020		10
9	Decision Support			9
8	Systems	Natural Janguage		8
7	11010E	engineering		7
6	Modeling and Business	10020	Diploma Thesis	6
5	Analysis	Parallel and Distributed	000(10)0	5
4	12000E	Processing		4
3	Teletraffic Theory and	10020		3
2	Engineering	Diploma Thesis	1	2
1	10020	00020		1

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

³Exam – 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) ⁴University-wide course /group of courses – enter O ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

I	II	III	Total
22 / 330	19 / 285	19 /285	60 / 900

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
²Traditional – enter T, remote – enter Z
³Exam – 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)
⁴University-wide course / group of courses – enter O
⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
⁷ Optional – enter W, obligatory – enter Ob

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

No	Course/	Name of course/group of courses (denote	W	eekl	y ni	ımb	er	Field-	Nu	nber of	Numl	per of	Form ²	Way ³	С	ourse/grou	p of cours	es
	group of	group of courses with symbol GK)		of	hou	rs		of-study	h	ours	ECTS	points	of	of				
	courses		1	с	1	р	S	educatio	ZZU	CNPS	total	BK	course	crediti	univer	practic	kind ⁶	type ⁷
	code		e	1	а	r	e	nal				classe	/group	ng	sity-	al^5		
			с		b		m	effect				s^1	of		wide ⁴			
								symbol					course					
								-					S					
1	INZ	Modeling and Business Analysis	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Е			K	Ob.
	003760							_W03										
	W																	
2	INZ	Modeling and Business Analysis	0	2	0	0	0	K2INF	30	90	3	1,8	Т	Z			K	Ob.
	003760		-		-		-	U06			-	y -						
	L																	
3	INZ	Information Systems	1	0	0	0	0	K2INF	15	60	2	1.2	Т	Z			K	Ob.
-	003762			~		-		W04			_	-,-	_					
	W																	
4	INZ	Information Systems	0	0	0	0	2	K2INF	30	60	2	1.2	Т	Z			К	Ob.
	003762			~		-	_	W04			_	-,-	_					
	S																	
5	INZ	Decision Support Systems	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Е			K	Ob.
	003761							W02				,						
	W							—										
6	INZ	Decision Support Systems	0	1	0	0	0	K2INF	15	30	1	0,6	Т	Ζ			K	Ob.
	003761							U05				,						
	L																	
7	INZ	Decision Support Systems	0	0	0	1	0	K2INF	15	60	2	1,2	Т	Ζ		Р	K.	Ob.
	003761							U05				,						
	Р																	
8	INZ	Teletraffic theory and engineering	1	0	0	0	0	K2INF	15	30	1	0,6	Т	Z			K	Ob.
-	003759					-		W04	-			- 7 -						
	W																	
9	INZ	Teletraffic theory and engineering	0	0	0	2	0	K2INF_	30	90	3	1,8	Т	Ζ		Р	Κ	Ob.

Obligatory courses number of ECTS points 28

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 ${}^{3}Exam$ – 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) ${}^{4}University$ -wide course /group of courses – enter O

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

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

	003759 P							U05									
10	INZ 003758 W	Advanced Methods and Techniques of Data Analysis	2	0	0	0	0	K2INF _W01 K2INF _W05	30	60	2	1,2	Т	Z		PD	Ob.
11	INZ 003758 L	Advanced Methods and Techniques of Data Analysis	0	0	2	0	0	K2INF _U05	30	120	4	2,4	Т	Z	Р	PD	Ob.
		Total	8	3	2	3	2		270	810	27	16,2					

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

No.	Course/ group of	Name of course/group of courses (denote group of courses with symbol GK)	We	ekly h	nun ours	nber	of	Field-of- study	Numbe	r of hours	Number po	of ECTS ints	Form ² of	Way ³ of	(Course/grou	p of courses	3
	courses code		le c	с 1	l a b	p r	s e m	al effect symbol	ZZU	CNPS	total	BK classes 1	group of courses	g	universi ty- wide ⁴	practical 5	kind ⁶	type ⁷
1		Foreign language I	0	3	0	0	0	K2INF _U04	45	60	2	1,2	Т	Z	0		KO	W
2		Foreign language II	0	1	0	0	0	K2INF _U04	15	30	1	0,6	Т	Z	0		KO	W
		Total		4					60	90	3	1,8						

Altogether in semester

	Γotal nι	ımber	of hou	rs	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	la b	pr	se m				
8	7	2	3	2	330	900	30	18

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

Semester 2

No	Course/group	Name of course/group of courses (denote	Wee	ekly	numb	er of	hours	Field-of-	Numbe	r of hours	Numb	er of ECTS points	Form ² of	Way ³ of	Course/gr	oup of cou	irses	
	of courses code	group of courses with symbol GK)	lec	cl	lab	pr	sem	study educational effect symbol	ZZU	CNPS	total	BK classes ¹	course/group of courses	crediting	university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	INZ 003818P	Diploma thesis I	0	0	0	2	0	K2INF_U03	30	60	2	1,2	Т	Z		Р	K	W
2	INZ 003782WP	Natural language engineering	1	0	0	2	0	K2INF_W09 K2INF_U13	45	180	6	3,6	Т	Z		Р	S	W
3	INZ 003778WP	Soft computing - methods and application	2	0	0	2	0	K2INF_W07 K2INF_U10	60	180	6	3,6	Т	Е		Р	S	W
4	INZ 003783WL	Parallel and Distributed Processing	1	0	2	0	0	K2INF_W04 K2INF_U07	45	120	4	2,4	Т	Z		Р	S	W
5	INZ 003779WL	Machine learning	2	0	2	0	0	K2INF_W06 K2INF_U08	60	180	6	3,6	Т	Е		Р	S	W
6	INZ 003781WP	Vision systems	1	0	0	2	0	K2INF_W08 K2INF_U12	45	180	6	3,6	Т	Z		Р	S	W
		Total	7	0	4	8	0		285	900	30	18						

Altogether in semester

	To	otal number o	of hours		Total	Total	Total	Number of
					number	number	number	ECTS points
					of	of CNPS	of ECTS	for BK
					ZZU	hours	points	classes ¹
					hours			
lec	cl	lab	pr	sem				
7	0	4	8	0	285	900	30	18

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

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

Semester 3

No	Course/group	Name of course/group of courses (denote group	Wee	ekly	numl	ber of	hours	Field-of-	Numbe	r of hours	Numb	per of ECTS points	Form ² of	Way ³ of	Course/gr	oup of cou	urses	
	of courses code	of courses with symbol GK)	lec	cl	lab	pr	sem	study educational effect symbol	ZZU	CNPS	total	BK classes ¹	course/group of courses	crediting	university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	INZ 003819D	Diploma Theis II	0	0	0	10	0	K2INF_U03	150	540	18	10,8	Т	Z			K	W
2	INZ 003820S	Diploma seminar	0	0	0	0	2	K2INF_U01 K2INF_U02	30	60	2	1,2	Т	Z			K	W
3	INZ 003784WP	New trends in neural computations	1	0	0	2	0	K2INF_W06 K2INF_U11	45	120	4	2,4	Т	Z		Р	S	W
4	INZ 003785S	Knowledge discovery from data	0	0	0	0	2	K2INF_W10 K2INF_U17	30	120	4	2,4	Т	Z			S	W
5	INZ 003786S	Stimulation techniques of creative thinking	0	0	0	0	2	K2INF_W01 K2INF_U05	30	60	2	1,2	Т	Z			S	W
		Total	1	0	0	12	6		285	900	30	18						

Altogether in semester

	T	otal 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	0	0	12	6	285	900	30	18

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

2. Set of examinations in semestral arrangement

Course code	Names of courses ending with examination	Semester
	1 Modeling and Business Analysis 2 Decision Support Systems	1
	 Soft computing - methods and application Machine learning 	2

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

Semester	Allowable deficit of ECTS points after semester
1	8
2	8
3	0

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

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

Opinion of student government legislative body

.....

Date Name and surname, signature of student representative

Date Dean's signature

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

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

 $^{^{3}}$ 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) 4 University-wide course /group of courses – enter O

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 / magister inżynier*

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

PROFILE: general academic /practical *

SPECIALIZATION: Web and Mobile Technologies (ITM)

LANGUAGE OF STUDY: English

Faculty Council Resolution of

In effect since

*delete as applicable

Plan of studies structure 1) in point lay
--

structure	1) in point la	yout	CNPS	ECTS	CNP	S ECTS	CNPS	ECTS	24
		23	900	30	900	30	900	30	23
		22	Teletraffic Theory and Engineering					22	
		21		raffic Theory and Engineering					21
		20	120 4 ECTS						20
		19			Modeling and Analysis				19
		18	Modeling and Business Analysis 150 5 ECTS	of Web Systems		Parallel and Distributed		18	
		17		5 ECTS	150	5 ECTS	FIOg		17
		16					180	6 ECTS	16
		15	- De	ecision Support Systems 5 ECTS		Team Project			15
		14	150		240	40 8 ECTS	Monographic Subject		14
		13	M Em	1ethodology of pirical Sciences 90 3 ECTS	Internet Infra		120	4 ECTS	13
		12					Diploma Seminar	12	
		11	Advanced Methods and Techniques of Data Analysis 180 6 ECTS			rnet Infrastructure	60	2 ECTS	11
		10		and Research			10		
		9		270	9 ECTS			9	
		8						8	
		7							7
		6	Information Systems		_		Diploma Thesis		6
		5	42013	Mobile Systems and Multimedia 180 6 ECTS		540	18 ECTS	5	
		4	Foreign Language I 60 2 ECTS				4		
		3		eign Language I 2 FCTS					3
		2		22010		Diploma Thesis			2
		1	Foreig	In Language II 30/1 ECTS	60	2 ECTS			1
				I		I		III	Total
				22 / 345		19 / 285	1	9 /285	60 / 915
2) in hourly layout

		1		
24	CNPS ECTS	CNPS ECTS	CNPS ECTS	24
23	900 30	900 30	900 30	23
22	Teletraffic Theory and			22
21	Engineering			21
20	10020			20
19	Modeling and Business	Modeling and Analysis		19
18	Analysis	of Web Systems	Parallel and Distributed	18
17	12000E	20100 E	Programming	17
16	Decision Support		20200	16
15	Systems	Team Project 00030		15
14	11010E		Monographic Subject 10200	14
13	Methodology of			13
12	20000		Diploma Seminar	12
11		Internet Infrastructure	00002	11
10	Advanced Methods and Techniques of Data	and Research		10
9	Analysis	30202 E		9
8	20200			8
7				7
6	Information Systems 10002		Diploma Thesis	6
5		Mobile Systems and	000(10)0	5
4		Multimedia 10300		4
3	Foreign Language I			3
2		Diploma Thesis		2
1	Foreign Language II	00020		1
		II	III	Total
	22 / 300	19 / 300	19 /300	60 / 900
			•	

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

No	Course/	Name of course/group of courses (denote	W	Weekly number			Field-	Nui	nber of	Num	ber of	Form ²	Way ³	С	ourse/grou	p of cours	es	
	group of	group of courses with symbol GK)		of	hou	rs		of-study	h	ours	ECTS	points	of	of				
	courses		1	с	1	р	S	educatio	ZZU	CNPS	total	BK	course	crediti	univer	practic	kind ⁶	type ⁷
	code		e	1	a	r	e	nal				classe	/group	ng	sity-	al ⁵		
			с		b		m	effect				s ¹	of		wide ⁴			
								symbol					course					
													S					
1	INZ	Modeling and Business Analysis	1	0	0	0	0	K2INF	15	60	2	1,2	Т	E			K	Ob.
	003760							_W03										
-	W					-							_	_				
2	INZ	Modeling and Business Analysis	0	2	0	0	0	K2INF	30	90	3	1,8	Т	Z			K	Ob.
	003760							_006										
2	L		1	0	0	0	0	KODIE	1.5	C 0	0	1.0	T	7			17	01
3	INZ	Information Systems	1	0	0	0	0	K2INF	15	60	2	1,2	1	Z			K	Ob.
	003762							_w04										
4	W	Information Contains	0	0	0	0	2	KOINE	20	(0)	2	1.0	т	7			V	Ob
4	1INZ 002762	Information Systems	0	0	0	0	2	K2INF W04	30	00	Z	1,2	1	Z			K	Ob.
	005762							4										
5	IN7	Decision Support Systems	1	0	0	0	0	KJINE	15	60	2	1.2	т	F			V	Oh
5	003761	Decision Support Systems	1	0	0	0	0	W02	15	00	2	1,2	1	Ľ			К	00.
	W							02										
6	INZ	Decision Support Systems	0	1	0	0	0	K2INF	15	30	1	0.6	Т	7			K	Oh
Ŭ	003761	Decision Support Systems	Ŭ	1	Ŭ	U	Ŭ	U05	15	50	1	0,0	1	2			IX.	00.
	L							_000										
7	INZ	Decision Support Systems	0	0	0	1	0	K2INF	15	60	2	1.2	Т	Z		Р	K.	Ob.
	003761					-		U05				-,-	_			_		
	Р																	
8	INZ	Teletraffic theory and engineering	1	0	0	0	0	K2INF	15	30	1	0,6	Т	Ζ			K	Ob.
	003759							_W04										
	W																	
9	INZ	Teletraffic theory and engineering	0	0	0	2	0	K2INF_	30	90	3	1,8	Т	Ζ		Р	K	Ob.
	003759							U05										

Obligatory courses number of ECTS points 28

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

- 3 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) 4 University-wide course /group of courses enter O

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

⁷ Optional – enter W, obligatory – enter Ob

	Р																
10	INZ	Advanced Methods and Techniques of Data	2	0	0	0	0	K2INF	30	60	2	1,2	Т	Z		PD	Ob.
	003758	Analysis						_W01									
	W							K2INF									
								_W05									
11	INZ	Advanced Methods and Techniques of Data	0	0	2	0	0	K2INF	30	120	4	2,4	Т	Z	Р	PD	Ob.
	003758	Analysis						_U05									
	L																
	Total			3	2	3	2		270	810	27	16,2					

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

No.	Course/ group of	Name of course/group of courses (denote group of courses with symbol GK)	We	ekly ł	nui	nbei s	r of	Field-of- study	Numbe	r of hours	Number	of ECTS ints	Form ² of	Way ³ of		Course/grou	p of courses	S
	courses		le	C 1	1	p	S	al effect	ZZU	CNPS	total	BK	course/ group	creditin g	universi	practical 5	kind ⁶	type ⁷
	coue		C	1	a b	1	m	symbol				1	of courses		wide ⁴			
1		Foreign language I	0	3	0	0	0	K2INF _U04	45	60	2	1,2	Т	Z	0		KO	W
2		Foreign language II	0	1	0	0	0	K2INF _U04	15	30	1	0,6	Т	Z	0		KO	W
		Total		4					60	90	3	1,8						

Altogether in semester

]	Cotal nu	ımber	of hou	rs	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	la b	pr	se m				
8	7	2	3	2	330	900	30	18

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

³Exam – enter I, renote – enter Z ³Exam – 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) ⁴University-wide course / group of courses – enter O ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

Semester 2

Optional courses (minimum 285 hours in semester, 30 ECTS points)

No	Course/ group of	Name of course/group of courses (denote group of courses with symbol GK)	W	eekl of	y nı hou	ımb rs	er	Field- of-study	Nun h	nber of ours	Num ECTS	ber of points	Form ² of	Way ³ of	C	ourse/grou	p of cours	es
	courses code		l e c	c 1	l a b	p r	s e m	educatio nal effect symbol	ZZU	CNPS	total	BK classe s ¹	course /group of course s	crediti ng	univer sity- wide ⁴	practic al ⁵	kind ⁶	type ⁷
1	INZ 003771 W	Internet Infrastructure and Research	3	0	0	0	0	K2INF_ W06	45	120	4	2,4	Т	E			S	W
2	INZ 003771 L	Internet Infrastructure and Research	0	0	2	0	0	K2INF_ U08	30	90	3	1,8	Т	Z		Р	S	W.
3	INZ 003771 S	Internet Infrastructure and Research	0	0	0	0	2	K2INF_ U08	30	60	2	1,2	Т	Z			S	W
4	INZ 003769 W	Modeling and Analysis of Web Systems	2	0	0	0	0	K2INF_ W06	30	90	3	1,8	Т	E			S	W
5	INZ 003769 L	Modeling and Analysis of Web Systems	0	0	1	0	0	K2INF_ U08	15	60	2	1,2	Т	Z		Р	S	W
6	INZ 003770 P	Team Project	0	0	0	3	0	K2INF_ U08	45	240	8	4,8	Т	Z		Р	S	W
7	INZ 003772 W	Mobile Systems and Multimedia	1	0	0	0	0	K2INF_ W06	15	45	2	1,2	Т	Z			S	W
8	INZ 003772 L	Mobile Systems and Multimedia	0	0	3	0	0	K2INF_ U08	45	135	4	2,4	Т	Z		Р	S	W
9	INZ003 818P	Diploma Thesis I						K2INF_ U08	30	60	2	0,6	Т	Z		Р	S	W

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

⁵Practical course / group of courses – enter O
 ⁶KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷Optional – enter W, obligatory – enter Ob

 $^{{}^{3}}$ 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) 4 University-wide course /group of courses – enter O

Total	6	0	6	3	2		285	900	30	17,4						
-------	---	---	---	---	---	--	-----	-----	----	------	--	--	--	--	--	--

Altogether in semester

To	otal nu	ımber	of hou	ırs	Total	Total	Total	Number of
					number	number	number	ECTS points
					of	of	of	for BK
					ZZU	CNPS	ECTS	classes ¹
					hours	hours	points	
le	cl	la	pr	se				
с		b		m				
6		6	3	2	285	900	30	17,4

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

³Exam – enter I, remote – enter Z ³Exam – 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) ⁴University-wide course /group of courses – enter O ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

Semester 3

Optional courses (minimum 285 hours in semester, 30 ECTS points)

No	Course/ group of	Name of course/group of courses (denote group of courses with symbol GK)	1	Weekly number of hours			Field- of-study	Nur h	nber of ours	Num ECTS	ber of points	Form ² of	Way ³ of	C	ourse/grou	p of cours	es	
	courses code	8 I , ,	l e c	c 1	l a b	pr	s e m	educatio nal effect symbol	ZZU	CNPS	total	BK classe s ¹	course /group of course s	crediti ng	univer sity- wide ⁴	practic al ⁵	kind ⁶	type ⁷
1	INZ 003774 W	Parallel and Distributed Programming	2	0	0	0	0	K2INF_ W06	30	90	3	1,8	Т	Z			S	W
2	INZ 003774 L	Parallel and Distributed Programming	0	0	2	0	0	K2INF_ U08	30	90	3	1,8	Т	Z		Р	S	W
3	INZ 003775 W	Monographic Subject	1	0	0	0	0	K2INF_ W06	15	60	1	0,6	Т	Z			S	W
4	INZ 003775 L	Monographic Subject	0	0	2	0	0	K2INF_ U08	30	60	3	1,8	Т	Z		Р	S	W
5	INZ 003819 D	Diploma Thesis II	0	0	0	10	0	K2INF_ U08	150	540	18	6	Т	Z		Р	S	W
6	INZ 003820 S	Diploma Seminar	0	0	0	0	2	K2INF_ U08	30	60	2	1,2	Т	Z			S	W
		Total	3	0	4	10	2		285	900	30	13,2						

Altogether in semester

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter O
 ⁶KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷Optional – enter W, obligatory – enter Ob

To	otal 1	numbe	er of hou	ırs	Total	Total	Total	Number of
					number	number	number	ECTS points
					of	of	of	for BK
					ZZU	CNPS	ECTS	classes ¹
					hours	hours	points	
le	с	la	pr	se				
с	1	b		m				
3		4	10	2	285	900	30	13,2

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
²Traditional – enter T, remote – enter Z
³Exam – 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)
⁴University-wide course / group of courses – enter O
⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
⁶KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
⁷Optional – enter W, obligatory – enter Ob

2. Set of examinations in semestral arrangement

Course code	Names of courses ending with examination	Semester
	1. Modeling and Business Analysis	1
	2. Decision Support Systems	
	1. Modeling and Analysis of Web Systems	2
	2. Internet Infrastructure and Research	

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

Semester	Allowable deficit of ECTS points
	after semester
1	8
2	8

Opinion of student government legislative body

Date Name and surname, signature of student representative

.....

.....

Date Dean's signature

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

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

³Exam – 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) ⁴University-wide course /group of courses – enter O

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: Computer Science

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

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

PROFILE: general academic /practical *

SPECIALIZATION: Designing IT Systems

LANGUAGE OF STUDY: Englisha

...... Faculty Council Resolution of

In effect since

*delete as applicable

Plan of studies structure 1) in point layout

24	CNPS ECTS	CNPS ECT	TS	CNPS	ECTS	24
23	900 30	900	30	900	30	23
22	Teletraffic Theory and					22
21	Engineering					21
20	120 4 ECTS					20
19	Modeling and Business			Comp	Itational	19
18	Analysis			Intelligenc	ce Methods	18
17	150 5 ECTS			180	6 ECTS	17
16	Decision Support					16
15	Systems			Integr	ation of	15
14	150 5 ECTS	Techniques for		Informatio	on Systems	14
13	Methodology of	- momation systems	S	120	4 ECIS	13
12	90 3 ECTS	180 6 ECT	rs –	Diploma	a Seminar	12
11		Human-Computer		60	2 ECTS	11
10	Advanced Methods and Techniques of Data	Interaction 180 6 ECT	rs			10
9	Analysis					9
8	02010	Software Project				8
7		210 7 ECT	rs			7
6	Information Systems 120 4 ECTS			Diplom	a Thesis	6
5		Semantic Web		540	18 ECTS	5
4		270 9 EC ⁻	TS			4
3	Foreign Language I 60 2 FCTS					3
2		Diploma Thesis				2
1	Foreign Language II 30/1 ECTS	60 2 EC	TS			1
		1				Total
	22 / 345	19 / 285		19	/285	60/915
	EE / 010	107 200		10		

2) in hourly layout

24	CNPS ECTS	CNPS ECTS	CNPS ECTS	24
23	900 30	900 30	900 30	23
22	Teletraffic Theory and			22
21	Engineering			21
20	10020			20
19	Modeling and Business			19
18	Analysis		Computational	18
17	12000E		20200	17
16	Decision Support			16
15	Systems		Integration of	15
14	11010E	Implementation Techniques for	Information Systems	14
13	Methodology of	Information Systems 20200	20001	13
12	20000		Diploma Seminar	12
11		Human-Computer	00002	11
10	Techniques of Data	Interaction		10
9	Analysis 20200	20200		9
8		Software Project		8
7		20020		7
6	Information Systems 10002	Comentie Web	Diploma Thesis	6
5		Semantic Web	000(10)0	5
4		20201 E		4
3	Foreign Language I 03000			3
2		Diploma Thesis		2
1	Foreign Language II 01000	00020		1
		l		Total
	22 / 300	19 / 300	19 /300	60 / 900

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

No	Course/	Name of course/group of courses (denote	W	'eek	ly n	umb	er	Field-	Nu	mber of	Numł	per of	Form ²	Way ³	C	ourse/grou	p of cours	es
	group of	group of courses with symbol GK)		of	hοι	ırs		of-study	ł	nours	ECTS	points	of	of				
	courses		1	с	1	р	s	educatio	ZZU	CNPS	total	BK	course	crediti	univer	practic	kind ⁶	type ⁷
	code		e	1	а	r	e	nal				classe	/group	ng	sity-	al ⁵		
			с		b		m	effect				s^1	of		wide ⁴			
								symbol					course					
l													S					
1	INZ	Methodology of Empirical Sciences	2	0	0	0	0	K2INF	30	90	3	1,8	Т	Z			K	Ob.
Ļ	003763W							_W05										
2	INZ	Modeling and Business Analysis	1	0	0	0	0	K2INF	15	60	2	1,2	Т	E			K	Ob.
	003760							_W03										
L	W																	
3	INZ	Modeling and Business Analysis	0	2	0	0	0	K2INF	30	90	3	1,8	Т	Z			K	Ob.
	003760							_U06										
	L																	
4	INZ	Information Systems	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Z			K	Ob.
	003762							_W04										
	W																	
5	INZ	Information Systems	0	0	0	0	2	K2INF	30	60	2	1,2	Т	Z			K	Ob.
	003762	-						W04										
	S							_										
6	INZ	Decision Support Systems	1	0	0	0	0	K2INF	15	60	2	1.2	Т	Е			K	Ob.
-	003761							W02	_			,						
	W																	
7	INZ	Decision Support Systems	0	1	0	0	0	K2INF	15	30	1	0.6	Т	Z			К	Ob
,	003761	Decision Support Systems	Ŭ	-	Ŭ	Ŭ	Ŭ	U05	10	50	-	0,0		2				00.
	L							_005										
8	INZ	Decision Support Systems	0	0	0	1	0	K2INF	15	60	2	1.2	Т	Z		Р	K.	Ob.
Ŭ	003761	200 lon Support Systems	Ŭ		ľ	1		U05	10	00	_	1,2	· ·	-				00.
1	P							_005										
			1	1	1	1	1		1				1	1		i		
9	INZ	Teletraffic theory and engineering	1	0	0	0	0	K2INF	15	30	1	0.6	Т	7			К	Oh

Obligatory courses number of ECTS points 28

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

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

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

⁷ Optional – enter W, obligatory – enter Ob

³Exam – 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) ⁴University-wide course /group of courses – enter O

	W																
10	INZ	Teletraffic theory and engineering	0	0	0	2	0	K2INF_	30	90	3	1,8	Т	Z	Р	K	Ob.
	003759							U05									
	Р																
11	INZ	Advanced Methods and Techniques of Data	2	0	0	0	0	K2INF	30	60	2	1,2	Т	Z		PD	Ob.
	003758	Analysis						_W01									
	W							K2INF									
								_W05									
12	INZ	Advanced Methods and Techniques of Data	0	0	2	0	0	K2INF	30	120	4	2,4	Т	Z	Р	PD	Ob.
	003758	Analysis						_U05									
	L	-															
	-	Total	8	3	2	3	2		270	810	27	16,2					

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

No.	Course/ group of	Name of course/group of courses (denote group of courses with symbol GK)	We	eekly h	nur nours	nber 3	of	Field-of- study	Numbe	r of hours	Number po	of ECTS ints	Form ² of	Way ³ of	(Course/grou	p of courses	3
	courses code		le c	с 1	1 a	p r	s e	al effect	ZZU	CNPS	total	BK classes	group	creditin g	uni versi ty-	practical 5	kind ⁶	type ⁷
					b		m	symbol				1	of courses		wide ⁴			
1		Foreign language I	0	3	0	0	0	K2INF _U04	45	60	2	1,2	Т	Z	0		КО	W
2		Foreign language II	0	1	0	0	0	K2INF _U04	15	30	1	0,6	Т	Z	0		KO	W
		Total		4					60	90	3	1,8						

Altogether in semester

]	otal number o	of hours	5	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				
8	7	2	3	2	330	900	30	18

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

³Exam – 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) ⁴University-wide course /group of courses – enter O ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

⁷ Optional – enter W, obligatory – enter Ob

Semester 2

Optional courses (minimum 285 hours in semester, 30 ECTS points)

No	Course/	Name of course/group of courses (denote	W	eekl	y nu	imbe	er	Field-	Nur	nber of	Num	ber of	Form ²	Way ³	C	ourse/grou	p of cours	es
	courses code	group of courses with symbol GK)	1 e c	01 C 1	l a b	rs p r	s e m	of-study educatio nal effect symbol	n ZZU	OURS CNPS	total	BK classe s ¹	of course /group of course	or crediti ng	univer sity- wide ⁴	practic al ⁵	kind ⁶	type ⁷
1	INZ 003791W	Semantic Web	2					S2PSI_ W07, S2PSI_ W08, S2PSI_ W09	30	120	4	2,4	s T	E			S	W
2	INZ 003791L	Semantic Web			2			S2PSI_ U10, S2PSI_ U11	30	90	3	1,8	Т	Z		Р	S	W.
3	INZ 003791S	Semantic Web					1	S2PSI_ W07, S2PSI_ W08, S2PSI_ W09	15	60	2	1,2	Т	Z			S	W
4	INZ 003790W	Human-Computer Interaction	2					S2PSI_ W09, S2PSI_ W10	30	90	3	1,8	Т	Z			S	W
5	INZ 003790L	Human-Computer Interaction			2			S2PSI_ U13, S2PSI_ U14, S2PSI_ U16	30	90	3	1,8	Т	Z		Р	S	W

¹BK - number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

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

⁷ Optional – enter W, obligatory – enter Ob

6	INZ 003827W	Software Project Management	2				S2PSI_ W06	30	120	4	2,4	Т	E		S	W
7	INZ 003827P	Software Project Management			2		S2PSI_ U17, S2PSI_ U08, S2PSI_ U09	30	90	3	1,8	Т	Z	Р	S	W
8	INZ 003789W	Implementation Techniques for Information Systems	2				S2PSI_ W11, S2PSI_ W08, S2PSI_ W09	30	90	3	1,8	Т	Z		S	W
9	INZ 003789L	Implementation Techniques for Information Systems		2			S2PSI_ U15, S2PSI_ U17	30	90	3	1,8	Т	Z	Р	S	W
10	INZ 003818P	MSc Thesis			2		K2INF_ U03	30	60	2	1,2	Т	Z		K	
		Razem	8	6	2	1		285	900	30	18					

Altogether in semester

	Totalı	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				
8	0	6	2	1	285	900	30	18

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
²Traditional – enter T, remote – enter Z
³Exam – 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)
⁴University-wide course / group of courses – enter O
⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
⁷ Optional – enter W, obligatory – enter Ob

Semester 3

Optional courses (minimum 285 hours in semester, 30 ECTS points)

No	Course/	Name of course/group of courses (denote	1	Nee	kly i	numbe	er	Field-	Nur	nber of	Num	ber of	Form ²	Way ³	C	ourse/grou	p of cours	es
	courses code	group of courses with symbol GK)	1 e c	c 1	l a b	pr	s e m	educatio nal effect symbol	ZZU	CNPS	total	BK classe s ¹	course /group of course	crediti ng	univer sity- wide ⁴	practic al ⁵	kind ⁶	type ⁷
1	INZ 003795W	Computational Intelligence Methods	2					S2PSI_ W10, S2PSI_ W07, S2PSI_ W08, S2PSI_ W09	30	90	3	1,8	T	Z			S	W
2	INZ 003795L	Computational Intelligence Methods			2			S2PSI_ U12	30	90	3	1,8	Т	Z		Р	S	W
3	INZ 003794W	Integration of Information Systems	2					S2PSI_ W06, S2PSI_ W07, S2PSI_ W08, S2PSI_ W10, S2PSI_ W11	30	60	2	1.2	Т	Z			S	W
4	INZ 003794S	Integration of Information Systems					1	S2PSI_ W06, S2PSI_ W07, S2PSI_ W08, S2PSI	15	60	2	1,2	Т	Z			S	W

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

⁷ Optional – enter W, obligatory – enter Ob

								W10,									
								S2PSI_									
								5W11									
5	INZ	MSc Thesis II	0	0	0	10	0	K2INF_	150	540	18	6	Т	Z	Р	S	W
	003819							U08									
	D																
6	INZ	Diploma Seminar	0	0	0	0	2	K2INF_	30	60	2	1,2	Т	Ζ		S	W
	003820							U08									
	S																
		Total	4		2	10	3		285	900	30	18					

Altogether in semester

	Total	numbe	r of hou	rs	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		2	10	3	285	900	30	18

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

³Exam – 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) ⁴University-wide course /group of courses – enter O ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

2. Set of examinations in semestral arrangement

Course code	Names of courses ending with examination	Semester
INZ003760	Modelling and Business Analysis	1
INZ003761	Decision Support Systems	
INZ003791	Semantic Web	2
INZ003827	Software Project Management	

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

Semester	Allowable deficit of ECTS points
	after semester
1	8
2	8

Opinion of student government legislative body

.....

Date Name and surname, signature of student representative

.....

Date of Dean's signature

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

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

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

³Exam – 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) ⁴University-wide course /group of courses – enter O

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: Computer Science

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

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

PROFILE: general academic /practical *

SPECIALIZATION: Database systems

LANGUAGE OF STUDY: Polish

...... Faculty Council Resolution of

In effect since

*delete as applicable

Plan of studies structure (optionally)

1) in point layout

27	CNPS ECTS	CNPS ECTS	CNPS ECTS	27
26	900 30	900 30	900 30	26
22	Foreign Language II 30 1 ECTS			22
21	Foreign Language I			21
20				20
19	60 2 ECTS	Diploma thesis		19
18	Information systems			18
17		Information retrieval systems	-	17
16	120 4 ECTS			16
15		120 4 FCTS	Diploma thesis	15
14	Advanced methods and techniques of data analysis	Deductive databases	540 40 5070	14
13	400 0 5 0 7 0		540 18 ECTS	13
12	180 6 ECTS	240 8 ECTS		12
11	Methodology Empirical SSciences		-	11
10		Database Security		10
9	Pon 3 FCTS Decision Support Systems		Diploma seminar	9
8		180 0 EC13		8
7	150 5 ECTS		60 2 FCTS	7
6	Modeling and Business Analysis	Implementation of Database Systems	Multimedia Databases	6
5		120 4 ECTS		5
4	150 5 ECTS		120 4 ECTS	4
3		New database technologies		3
2	Teletraffic theory and engineering		Advanced database systems	2
1	120 <i>4</i> ECTS	180 6 ECTS	180 6 ECTS	- 1
	120 4 2013			
	 			I otal
	22 / 330	19 / 285	19 / 285	60/900

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

	2) in hourly layout			
27	CNPS ECTS	CNPS ECTS	CNPS ECTS	27
26	900 30	900 30	900 30	26
22	Foreign Language II 0100			22
21	Foreign Language I			21
20				20
19	0300	Diploma thesis		19
18	Information systems	00020		18
17	· · · · · · · · · · · · · · · · · · ·	Information retrieval systems		17
16	10002	10000		16
15		10020	Diploma thesis	15
14	Advanced methods and techniques of data analysis	Deductive databases	000(10)0	14
13	20200	20020 E		13
12				12
11	Methodology Empirical SSciences			11
10	22222	Database Security		10
9	Decision Support Systems	20010 E	Diploma seminar	9
8		20010 L		8
7	11010 E	Implementation of Database Systems	00020	7
6	Modeling and Business Analysis	implementation of Database Systems	Multimedia Databases	6
5		20010		5
4	12000 E		10020	4
3		New database technologies		3
2	I eletraffic theory and engineering		Advanced database systems	2
1	10020	10201	20020	1
	Ι	II	III	Total
	22 / 330	19 / 285	19 / 285	60/900

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
 ²Traditional – enter T, remote – enter Z
 ³Exam – 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)
 ⁴University-wide course /group of courses – enter O
 ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

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

Semester 1

Obligatory courses number of ECTS points 30

No	Course/	Name of course/group of courses (denote	W	/eek	ly n	umb	er	Field-	Nui	nber of	Num	ber of	Form ²	Way ³	C	ourse/grou	p of cours	es
	group of	group of courses with symbol GK)		of	hou	ırs		of-study	h	ours	ECTS	points	of	of				
	courses		1	с	1	р	s	educatio	ZZU	CNPS	total	BK	course	crediti	univer	practic	kind ⁶	type ⁷
	code		e	1	a	r	e	nal				classe	/group	ng	sity-	al^5		
			с		b		m	effect				s ¹	of		wide ⁴			
								symbol					course					
													S					
1	INZ	Modeling and Business Analysis	1	0	0	0	0	K2INF	15	60	2	1,2	Т	E			K	Ob.
	003760							_W03										
	W																	
2	INZ	Modeling and Business Analysis	0	2	0	0	0	K2INF	30	90	3	1,8	Т	Z			K	Ob.
	003760							_U06										
	L																	
3	INZ	Information Systems	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Z			K	Ob.
	003762							_W04										
	W																	
4	INZ	Information Systems	0	0	0	0	2	K2INF	30	60	2	1,2	Т	Z			K	Ob.
	003762							_W04										
	S																	
5	INZ	Decision Support Systems	1	0	0	0	0	K2INF	15	60	2	1,2	Т	E			K	Ob.
	003761							_W02										
	W																	
6	INZ	Decision Support Systems	0	1	0	0	0	K2INF	15	30	1	0,6	Т	Z			K	Ob.
	003761							_U05										
	L																	
7	INZ	Decision Support Systems	0	0	0	1	0	K2INF	15	60	2	1,2	Т	Z		Р	К.	Ob.
	003761							_U05										
	Р																	
8	INZ	Teletraffic theory and engineering	1	0	0	0	0	K2INF	15	30	1	0,6	Т	Z			K	Ob.
	003759							_W04										
	W																	
9	INZ	Teletraffic theory and engineering	0	0	0	2	0	K2INF_	30	90	3	1,8	Т	Z		Р	K	Ob.
	003759							U05										
	Р																	

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

²Traditional – enter T, remote – enter Z

 ${}^{3}Exam$ – 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) ${}^{4}University$ -wide course /group of courses – enter O

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

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

10	INZ	Advanced Methods and Techniques of Data	2	0	0	0	0	K2INF	30	60	2	1,2	Т	Ζ		PD	Ob.
	003758	Analysis						_W01									
	W							K2INF									
								_W05									
11	INZ	Advanced Methods and Techniques of Data	0	0	2	0	0	K2INF	30	120	4	2,4	Т	Z	Р	PD	Ob.
	003758	Analysis						_U05									
	L																
		Total	8	3	2	3	2		270	810	27	16,2					

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

No.	Course/	Name of course/group of courses (denote	We	eekly	/ nu	mbe	r of	Field-of-	Numbe	r of hours	Number	of ECTS	Form ²	Way ³	(Course/grou	p of course	5
	group of	group of courses with symbol GK)		1	nour	s		study			poi	ints	of	of				
	courses		le	с	1	р	s	education	ZZU	CNPS	total	BK	course/	creditin	universi	practical	kind ⁶	type ⁷
	code		с	1	а	r	e	al effect				classes	group	g	ty-	5		- 7 F-
					b		m	symbol				1	IO		wide ⁴			
													courses					
1		Foreign language I	0	3	0	0	0	K2INF	45	60	2	1,2	Т	Z	0		KO	W
								_U04										
2		Foreign language II	0	1	0	0	0	K2INF	15	30	1	0,6	Т	Z	0		KO	W
								_U04										
		Total		4					60	90	3	1,8						

Altogether in semester

Т	ີ otal nເ	umber	of hou	rs	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	la b	pr	se m				
8	7	2	3	2	330	900	30	18

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

³Exam – 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) ⁴University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter O
 ⁶KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷Optional – enter W, obligatory – enter Ob

Semester 2

Obligatory courses number of ECTS points 30

No	Course/group	Name of course/group of courses	We	ekly	numb	er of	hours	Field-of-	Numbe	er of hours	Num	ber of ECTS points	Form ² of	Way ³ of	Course/gr	oup of cou	rses	
	of courses code	(denote group of courses with symbol GK)	lec	cl	lab	pr	sem	study educational effect symbol	ZZU	CNPS	total	BK classes ¹	course/group of courses	crediting	university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1.	INZ 003818P	Diploma thesis	0	0	0	2	0	K2INF_U03	30	60	2	1,2	Т	Z			S	W
2.	INZ 003780W	Information retrieval systems	1	0	0	0	0	K2INF_W06	15	60	2	1,2	Т	Z			S	W
3.	INZ 003780P	Information retrieval systems	0	0	0	2	0	K2INF_U08	30	60	2	1,2	Т	Z		Р	S	W
4.	INZ 003787W	Deductive databases	2	0	0	0	0	K2INF_W06	30	120	4	2,4	Т	Е			S	W
5.	INZ 003787P	Deductive databases	0	0	0	2	0	K2INF_U08	30	120	4	2,4	Т	Z		Р	S	W
6.	INZ 003788W	Database Security	2	0	0	0	0	K2INF_W06	30	120	4	2,4	Т	Е			S	W
7.	INZ 003788P	Database Security	0	0	0	1	0	K2INF_U08	15	60	2	1,2	Т	Z		Р	S	W
8.	INZ 003792W	Implementation of Database Systems	2	0	0	0	0	K2INF_W06	30	90	3	1,8	Т	Z			S	W
9.	INZ 003792P	Implementation of Database Systems	0	0	0	1	0	K2INF_U08	15	30	1	0,6	Т	Z		Р	S	W
10.	INZ 003796W	New database technologies	1	0	0	0	0	K2INF_W06	15	60	2	1,2	Т	Z			S	W
11.	INZ 003796L	New database technologies	0	0	2	0	0	K2INF_U08	30	90	3	1,8	Т	Z		Р	S	W
12.	INZ 003796S	New database technologies	0	0	0	0	1	K2INF_U08	15	30	1	0,6	Т	Z			S	W
		Total	8	0	2	8	1		285	900	30	18						

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

Altogether in semester

	Т	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 ¹
lec	cl	lab	pr	sem				
8	0	2	8	1	285	900	30	18

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

⁵Practical course / group of courses – enter O ⁶KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷Optional – enter W, obligatory – enter Ob

 $^{^{3}}$ 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) 4 University-wide course /group of courses – enter O

Semester 3

Obligatory courses number of ECTS points 30

No	Course/group	Name of course/group of courses	We	eekly	/ numl	oer of	hours	Field-of-	Numbe	er of hours	Numl	ber of ECTS points	Form ² of	Way ³ of	Course/gr	oup of cou	rses	
	of courses code	(denote group of courses with symbol GK)	lec	cl	lab	pr	sem	study educational effect symbol	ZZU	CNPS	total	BK classes ¹	course/group of courses	crediting	university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1.	INZ 003819D	Diploma thesis	0	0	0	10	0	K2INF_U03	150	540	18	10,8	Т	Z			S	W
2.	INZ 003820S	Diploma seminar	0	0	0	2	0	K2INF_U01 K2INF_U02	30	60	2	1,2	Т	Z			S	W
3.	INZ 003793W	Multimedia Databases	1	0	0	0	0	K2INF_W06	15	60	2	1,2	Т	Z			S	W
4.	INZ 003793P	Multimedia Databases	0	0	0	2	0	K2INF_U08	30	60	2	1,2	Т	Z		Р	S	W
5.	INZ 003800W	Advanced database systems	2	0	0	0	0	K2INF_W06	30	90	3	1,8	Т	Z			S	W
6.	INZ 003800P	Advanced database systems	0	0	0	2	0	K2INF_U08	30	90	3	1,8	Т	Z		Р	S	W
		Total	3	0	0	16	0		285	900	30	18						

Altogether in semester

	Т	otal 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				
3	0	0	16	0	285	900	30	18

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

2. Set of examinations in semestral arrangement

Course code	Names of courses ending with examination	Semester
	1 Modeling and Business Analysis	1
	2 Decision Support Systems	
	1. Deductive databases	2
	2. Database Security	

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

Semester	Allowable deficit of ECTS points after semester
1	8
2	8
3	0

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

Opinion of student government legislative body

.....

Date Name and surname, signature of student representative

.....

Date Dean's signature

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

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

 $^{^{3}}$ 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) 4 University-wide course /group of courses – enter O

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

PLAN OF STUDIES

FACULTY: Faculty of Computer Science and Management

MAIN FIELD OF STUDY: Computer Science

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

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

PROFILE: general academic /practical *

SPECIALIZATION: Information Systems

LANGUAGE OF STUDY: Polish

...... Faculty Council Resolution of 23. 04. 2013

In effect since 01. 10. 2013

*delete as applicable

Plan of studies structure (optionally)

1) in point layout

24	CNPS	ECTS	CNPS	ECTS	CNPS	ECTS	24
23	900	30	900	30	900	30	23
22	Foreign L	anguage II					22
21	Foreign I	anguage I					21
20		anguage i					20
19	90	3 ECTS	Optiona	al Course I	Option	al Course II	19
18	Methodolog	of Empirical					18
17	Ociences 50	5010	120	4 ECTS	120	4 ECTS	17
16	Advanced N	lethods and	Designing and	Management of	Ducinco	Information	16
15	Techniqu	es of Data	Informati	on Systems	Busines: Sy	stems	15
14	- Ana	IYSIS	240	a FOTO	490	C FOTO	14
13	180	6 ECTS	240	8 2013	160	0 2013	13
12	Decisior	n Support	Prospective	of Information	Diplom	a Seminar	12
11	Sys	tems	90	3 ECTS	60	2 ECTS	11
10	150	5 ECTS	Integraci	a avatamáw			10
9	Teletraffic	Theory and	inform	acyjnych			9
18	Engin	eering	24.0	7 5078			8
7	120	4 ECTS	210	7 2013			7
6	Informatio	n Systems	A	1 N A. 141.00	Diplom	a Thesis II	6
5	120	4 5078	Technologie	s in Information	540	18 ECTS	5
4	120	4 2013	Sys	stems			4
3	Modeling a	nd Business	160	DECIS			3
2	Ana	lysis	Diploma	a Thesis I I			2
1	150	5 ECTS	60	2 ECTS			1
		I		11		III	Razem
	22 /	330	19	/ 285	1	9/285	60 / 900

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter O
 ⁶KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷Optional – enter W, obligatory – enter Ob

2)	in	hour	lv i	lavout
-1	111	nour	Ŀy.	uyout

24	CNPS ECTS	CNPS ECTS	CNPS ECTS	24
23	900 30	900 30	900 30	23
22	Foreign Language II 01000			22
21	Foreign Language I			21
20				20
19	03000	Optional Course I	Optional Course II	19
18	Methodology of Empirical Sciences 2 0000	00004		18
17		20001	20100	17
16	Advanced Methods and	Designing and Management	Business Information	16
15	Techniques of Data	of Information Systems	Systems	15
14	Analysis	20020 F	20020	14
13	20200	20020 L	20020	13
12	Decision Support	Prospective of Information	Diploma Seminar	12
11	Systems	00002	00002	11
10	11010 E	Integracia systemów		10
9	Teletraffic Theory and	informacyjnych		9
8	Engineering	20020 F		8
7	10020	20020 E		7
6	Information Systems	Advanced Multimedia	Diploma Thesis II	6
5	10002	Technologies in Information	000(10)0	5
4		Gystems		4
3	Modeling and Business	20200		3
2	Analysis	Diploma Thesis I		2
1	12000 E	00020		1
			•	

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
²Traditional – enter T, remote – enter Z
³Exam – 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)
⁴University-wide course / group of courses – enter O
⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
⁷ Optional – enter W, obligatory – enter Ob

I	II	111	Razem
22 / 330	19 / 285	19 /285	60 / 900

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

³Exam – enter I, remote – enter Z ³Exam – 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) ⁴University-wide course /group of courses – enter O ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

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

No	Course/	Name of course/group of courses	W	eekly	number	of ho	urs	rs Field- Number of of-study hours			of Number of Form ² ECTS points of		Form ²	Way ³	C	ourse/grou	p of cours	es
	group of	(denote group of courses with						of-study	h	ours	ECTS	points	of	of				
	courses	symbol GK)	le	cl	lab	pr	se	educatio	ZZU	CNPS	total	BK	course	crediti	univer	practic	kind ⁶	type ⁷
	code		с			-	m	nal				classe	/group	ng	sity-	al ⁵		
								effect				s^1	of	-	wide ⁴			
								symbol					course					
								2					s					
1	INZ	Modeling and Business Analysis	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Е			K	Ob.
	003760							W03				,						
	W							—										
2	INZ	Modeling and Business Analysis	0	2	0	0	0	K2INF	30	90	3	1.8	Т	Ζ			K	Ob.
	003760	6						U06				, ,						
	L							—										
3	INZ	Information Systems	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Ζ			K	Ob.
	003762	,						W04				,						
	W							—										
4	INZ	Information Systems	0	0	0	0	2	K2INF	30	60	2	1,2	Т	Ζ			K	Ob.
	003762	5						W04				, ,						
	S																	
5	INZ	Decision Support Systems	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Е			K	Ob.
	003761							_W02										
	W																	
6	INZ	Decision Support Systems	0	1	0	0	0	K2INF	15	30	1	0,6	Т	Z			K	Ob.
	003761							U05										
	L																	
7	INZ	Decision Support Systems	0	0	0	1	0	K2INF	15	60	2	1,2	Т	Z		Р	Κ.	Ob.
	003761							U05				·						
	Р							—										
8	INZ	Teletraffic theory and engineering	1	0	0	0	0	K2INF	15	30	1	0,6	Т	Z			K	Ob.
	003759							_W04										
	W							_										
9	INZ	Teletraffic theory and engineering	0	0	0	2	0	K2INF_	30	90	3	1,8	Т	Z		Р	K	Ob.

Obligatory courses number of ECTS points 28

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

³Exam – 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) ⁴University-wide course /group of courses – enter O

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

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

	003759 P							U05									
10	INZ 003758 W	Advanced Methods and Techniques of Data Analysis	2	0	0	0	0	K2INF _W01 K2INF _W05	30	60	2	1,2	Т	Z		PD	Ob.
11	INZ 003758 L	Advanced Methods and Techniques of Data Analysis	0	0	2	0	0	K2INF _U05	30	120	4	2,4	Т	Z	Р	PD	Ob.
		Total	8	3	2	3	2		270	810	27	16,2					

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

No.	Course/ group of	Name of course/group of courses (denote group of courses with symbol GK)	We	Weekly number of hours			of	Field-of- study	Numbe	r of hours	Number po	of ECTS ints	Form ² of	Way ³ of	(Course/grou	p of courses	3
	courses code		le c	e c l p s c l a r e b m		al effect symbol	ZZU	CNPS	total	BK classes 1	group of courses	g	universi ty- wide ⁴	practical 5	kind ⁶	type ⁷		
1		Foreign language I	0	3	0	0	0	K2INF _U04	45	60	2	1,2	Т	Z	0		KO	W
2		Foreign language II	0	1	0	0	0	K2INF _U04	15	30	1	0,6	Т	Z	0		KO	W
		Total		4					60	90	3	1,8						

Altogether in semester

	Total	numbe	er of ho	ours	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				
8	7	2	3	2	330	900	30	18

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

Semester 2

Obligatory courses number of ECTS points 26

No	Course/group of courses	Name of course/group of courses (denote group of courses with symbol GK)	f Weekly number of hours Field-of- study						Nun he	ber of ours	Nun	nber of ECTS points	Form ² of course/group	Way ³ of crediting	Course	/group of c	ourses	1
	code	· · · · · · · · · · · · · · · · · · ·	lec	cl	lab	pr	sem	educational effect symbol	ZZU	CNPS	total	BK classes ¹	of courses		university- wide ⁴	practical ⁵	kind ⁶	type ⁷
1	INZ 003818P	Diploma Thesis I				2		K2INF_U01	30	60	2	1,2	Т	Z		Р	S	W
2	INZ 003797W	Designing and Management of Information Systems	2					K2INF_W03 K2INF_W04 K2INF_W06	30	120	4	2,4	Т	Ε			S	W
3	INZ 003797P	Designing and Management of Information Systems				2		K2INF_U05 K2INF_U08	30	120	4	2,4	Т	Z		Р	S	W
4	INZ 003799W	Integration of Information Systems	2					K2INF_W06	30	120	4	2,4	Т	Е			S	W
5	INZ 003799P	Integration of Information Systems				2		K2INF_U08	30	90	3	1,8	Т	Z		Р	S	W
6	INZ 003798S	Prospective of Information Systems Development					2	K2INF_W06 K2INF_U01 K2INF_U02 K2INF_U03	30	90	3	1,8	Т	Z			S	W
7	INZ 003801W	Advanced Multimedia Technologies in Information Systems	2					K2INF_W05 K2INF_W06	30	90	3	1,8	Т	Z			S	W
8	INZ 003801L	Advanced Multimedia Technologies in Information Systems			2			K2INF_U05 K2INF_U08	30	90	3	1,8	Т	Z		Р	S	W
		Total	6	0	2	6	2		240	780	26	15,6						

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

No	Course/group	Name of course/group of courses (denote group	Weekly number of hours Fig			Field-of-	Numbe	r of hours	Number of ECTS points		Form ² of	Way ³ of	Course/gr	oup of cou	irses			
	of courses code	of courses with symbol GK)	lec	cl	lab	pr	sem	sem study ZZU CNPS educational effect symbol		CNPS	total	BK classes ¹	course/group of courses	crediting	university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	INZ 003809W	Advanced Internet Information Search	2	0	0	0	0	K2INF_W06	30	90	3	1,8	Т	Z			S	W
2	INZ 003809S	Advanced Internet Information Search	0	0	0	0	1	K2INF_W06 K2INF_U01 K2INF_U02 K2INF_U03	15	30	1	0,6		Z			S	W
3	INZ 003810W	Social Media	2	0	0	0	0	K2INF_W06	30	90	3	1,8	Т	Z			S	W
4	INZ 003810S	Social Media	0	0	0	0	1	K2INF_W06 K2INF_U01 K2INF_U02 K2INF_U03	15	30	1	0,6	Т	Z			S	W
		Total	4	0	0	0	2		45	120	4	2,4						

Optional courses (minimum 45 hours in semester, 4 ECTS points)

Altogether in semester

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				
10	0	2	6	4	285	900	30	18

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob
No	Course/group	Name of course/group of courses	We	ekly	numb	er of I	hours	Field-of-	Numbe	r of hours	Numl	per of ECTS points	Form ² of	Way ³ of	Course/gr	oup of cour	rses	
	of courses code	(denote group of courses with symbol GK)	lec	cl	lab	pr	sem	study educational effect symbol	ZZU	CNPS	total	BK classes ¹	course/group of courses	crediting	university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	INZ 003819D	Diploma Thesis II	0	0	0	10	0	K2INF_U08	150	540	18	10,8	Т	Z		Р	K	W
2	INZ 003820S	Diploma seminar	0	0	0	0	2	K2INF_U08	30	60	2	1,2	Т	Z			K	W
3	INZ 003802W	Business Information Systems	2	0	0	0	0	K2INF_W06	30	90	3	1,8	Т	Z			S	W
4	INZ 003802P	Business Information Systems	0	0	0	2	0	K2INF_U08	30	90	3	1,8	Т	Z		Р	S	W
		Total	2	0	0	12	2		240	780	26	15,6						

Obligatory courses number of ECTS points 26

Optional courses (minimum 45 hours in semester, 4 ECTS points)

No	Course/group	Name of course/group of courses	We	ekly	numb	er of	hours	s Field-of- Number of hours Numb		per of ECTS points	Form ² of	Way ³ of	Course/gr	oup of cour	ses			
	of courses	(denote group of courses with symbol	lec	cl	lab	pr	sem	study	ZZU	CNPS	total	BK classes ¹	course/group	crediting	university-wide4	practical5	kind ⁶	type ⁷
	code	GK)						effect					of courses					
								symbol										
1	INZ	Digital Image and Video Processing	2	0	0	0	0	K2INF_W06	30	90	3	1,8	Т	Z			S	W
	003811W																	
2	INZ	Digital Image and Video Processing	0	0	1	0	0	K2INF_U08	15	30	1	0,6	Т	Z		Р	S	W
	003811L																	
3	INZ	Speech Recognition and Synthesis	2	0	0	0	0	K2INF_W06	30	90	3	1,8	Т	Z			S	W
	003812W																	
4	INZ	Speech Recognition and Synthesis	0	0	1	0	0	K2INF_U08	15	30	1	0,6	Т	Z		Р	S	W
	003812L																	

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

Total	4	0	2	0	0		45	120	4	2,4						
-------	---	---	---	---	---	--	----	-----	---	-----	--	--	--	--	--	--

Altogether in semester

]	Fotal numbe	r of hours		Total	Total	Total	Number of
					number	number	number	ECTS points
					of	of CNPS	of ECTS	for BK
					ZZU	hours	points	classes1
					hours			
lec	cl	lab	pr	sem				
6	0	2	12	2	285	900	30	18

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

⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

 $^{{}^{3}}$ 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) 4 University-wide course /group of courses – enter O

2. Set of examinations in semestral arrangement

Course code	Names of courses ending with examination	Semester
	 Modeling and Business Analysis Decision Support Systems 	1
	 Designing and Management of Information Systems Integration of Information Systems. 	2

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

Semester	Allowable deficit of ECTS points
	after semester
1	8
2	8
3	0

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

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

Opinion of student government legislative body

.....

Date Name and surname, signature of student representative

Date Dean's signature

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

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

 $^{^{3}}$ 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) 4 University-wide course /group of courses – enter O

Zał. nr 3 do ZW 64/2012 Attachment no1 to Programme of Studies

PLAN OF STUDIES

FACULTY: Computer Science and Managemant

MAIN FIELD OF STUDY: Computer Science

EDUCATION LEVEL: 1st / 2nd * level, licencjat / inżynier / magister / magister inżynier Master of Science*

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

PROFILE: general academic /practical*

SPECIALIZATION: Decision Support Systems

LANGUAGE OF STUDY: Polish

...... Faculty Council Resolution of

In effect since

*delete as applicable

Plan of studies structure (optionally)

1) in point layout

24	CNPS	ECTS	CNPS	ECTS	CNPS	ECTS	24
23	900	30	900	30	900	30	23
22	Foreign 30	Language II 1 ECTS					22
21	Foreign	Language I					21
20	60	2 ECTS					20
19			System Ide	antification and	Implementatio	n of Decision	19
18	Informat	ion Systems	Pattern	Recognition	Support S	Systems	18
17	120	4 ECTS	Technique	s in Computer	180	6 ECTS	17
16			00	Sience			16
15	Advanced	Methods and	300	10 ECTS	Control of Syste	Computer	15
14	Techniques	of Data Analysis			Gyst	51115	14
13	180	6 ECTS			120	4 ECTS	13
12					Diploma	Seminar	12
11	Methodolo Sc	gy of Empirical iences	Intelligent D Sy	ecision Support stems	60	2 ECTS	11
10	90	3 ECTS	270	9 ECTS			10
9	Decision S	upport Systems			Diploma	Thesis	9
8	150	5 ECTS			Dipionia	110010	8
7							7
6	Modeling	and Business	Decision Mał Sv	king in Operation	540	18 ECTS	6
5	AI	ເຊເງ 313					5
4	150	5 ECTS	270	9 ECTS			4
3	Teletraffi	c Theory and					3

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

2	Eng	ineering	Dipl	oma Thesis		2
1	120	4 ECTS	60	2 ECTS		1
		I		II	III	Total
	22	2 / 330		19 / 285	19 /285	60 / 900

2) in hourly layout

24	CNPS	ECTS	CNPS	ECTS	CNPS	ECTS	24
23	900	30	900	30	900	30	23
22	Foreign La	anguage II					22
21	01	000					21
21	Foreign L	anguage I					21
20	03	000					20
19			System Iden	tification and	Implementation	of Decision	19
18	Informatio	n Systems	Techniques	in Computer	Support Sy	/stems	18
17	10	002	Scie	ence	1012	0	17
16							16
15	Advanced M	lethods and	222		Control of C	omputer	15
14	Techniques of	f Data Analysis	222	JU E	Syster	ns	14
13	20	200	Intelligent Dee	cision Support	2001	0	13
12			Syst	ems	Diploma Se	eminar	12
11	Methodology Scie	y of Empirical ences	21'	120	0000;	2	11

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

³Exam – 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) ⁴University-wide course /group of courses – enter O ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

10	20000			10
9	Decision Support Systems	-		9
8	11010E			8
7		Decision Making in Operation	Diploma Thesis	7
6	Modeling and Business	Systems	000(10)0	6
5	Analysis		000(10)0	5
4	12000E	20012 F		4
3	Teletraffic Theory and	20012 2		3
2	Engineering	Diploma Thesis		2
1	10020			1
	I	II		Total
	22 / 330	19 / 285	19 /285	60 / 900

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

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter O
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

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

Semester 1

No	Course/	Name of course/group of courses (denote	W	'eek	ly n	umb	er	Field-	Nur	nber of	Num	ber of	Form ²	Way ³	C	ourse/grou	p of cours	es
	group of	group of courses with symbol GK)		of	hοι	irs		of-study	h	ours	ECTS	points	of	of				
	courses		1	с	1	р	s	educatio	ZZU	CNPS	total	BK	course	crediti	univer	practic	kind ⁶	type ⁷
	code		e	1	а	r	e	nal				classe	/group	ng	sity-	al ⁵		
			с		b		m	effect				s^1	of		wide ⁴			
								symbol					course					
													S					
1	INZ003	Modeling and Business Analysis	1	0	0	0	0	K2INF	15	60	2	1,2	Т	E			K	Ob.
	760W							_W03										
2	INZ003	Modeling and Business Analysis	0	2	0	0	0	K2INF	30	90	3	1,8	Т	Z			Κ	Ob.
	760L							_U06										
3	INZ003	Information Systems	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Z			Κ	Ob.
	762W							_W04										
4	INZ003	Information Systems	0	0	0	0	2	K2INF	30	60	2	1,2	Т	Z			K	Ob.
	762S							_W04										
5	INZ003	Decision Support Systems	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Е			K	Ob.
	761W							_W02										
6	INZ003	Decision Support Systems	0	1	0	0	0	K2INF	15	30	1	0,6	Т	Z			K	Ob.
	761L							_U05										
7	INZ003	Decision Support Systems	0	0	0	1	0	K2INF	15	60	2	1,2	Т	Z		Р	Κ.	Ob.
	761P							_U05										
8	INZ003	Teletraffic theory and engineering	1	0	0	0	0	K2INF	15	30	1	0,6	Т	Z			Κ	Ob.
	759W							_W04										
9	INZ003	Teletraffic theory and engineering	0	0	0	2	0	K2INF_	30	90	3	1,8	Т	Z		Р	Κ	Ob.
	759P							U05										
10	INZ003	Advanced Methods and Techniques of Data	2	0	0	0	0	K2INF	30	60	2	1,2	Т	Z			PD	Ob.
	758W	Analysis						_W01										
		-						K2INF										
								_W05										
11	INZ003	Advanced Methods and Techniques of Data	0	0	2	0	0	K2INF	30	120	4	2,4	Т	Z		Р	PD	Ob.
	758L	Analysis						_U05				,						
	•	Total	8	3	2	3	2		270	810	27	16,2						

Obligatory courses number of ECTS points 28

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

²Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

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

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

No.	Course/ group of	Name of course/group of courses (denote group of courses with symbol GK)	We	ekly h	nur	nber 3	of	Field-of- study	Numbe	r of hours	Number poi	of ECTS ints	Form ² of	Way ³ of		Course/grou	p of courses	8
	courses code		le c	с 1	l a b	p r	s e m	al effect symbol	ZZU	CNPS	total	BK classes 1	group of courses	g	universi ty- wide ⁴	practical 5	kind ⁶	type ⁷
1		Foreign language I	0	3	0	0	0	K2INF _U04	45	60	2	1,2	Т	Z	0		KO	W
2		Foreign language II	0	1	0	0	0	K2INF _U04	15	30	1	0,6	Т	Z	0		KO	W
		Total		4					60	90	3	1,8						

Altogether in semester

Г	fotal nu	umber	of hour	rs	Total number of	Total	Total number of	Number of ECTS points
					ZZUhours	number	ECTS points	for BK classes ¹
						of CNPS		
						hours		
lec	cl	la	pr	se				
		b		m				
8	7	2	3	2	330	900	30	18

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students ²Traditional – enter T, remote – enter Z ³Exam – 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) ⁴University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

Obligatory courses number of ECTS points 30

No.	. Course/grou p of courses	Name of course/group of courses (denote group of courses with symbol	We	ekly 1	numbe	er of l	nours	Field-of-study educational effect	Number	of hours	Number of ECTS points		Form ² of Way ³ of course/gr creditin		Course/group of courses			
	code	GK)	lec	cl	lab	pr	sem	symbol	ZZU	CNPS	total	BK classes ¹	oup of courses	g	univer sity- wide ⁴	practical ⁵	kind ⁶	type ⁷
1	INZ 003818P	Diploma Thesia I				2		K2INF_U08	30	60	2	1,2	Т	Z			S	W
2	INZ 003773W	Decision Making in Operation Systems	2	0	0	0	0	K2INF_W06	30	109	4	2,4	Т	E			S	w
3	INZ 003773P	Decision Making in Operation Systems	0	0	0	1	0	K2INF_U08	15	109	3	1,8	Т	Z		Р	S	W
4	INZ 003773S	Decision Making in Operation Systems	0	0	0	0	2	K2INF_U08	30	52	2	1,2	Т	Z			S	W
5	INZ 003828W	Intelligent Decision Support Systems	2	0	0	0	0	K2INF_W06	30	40	1	0,6	Т	Z			S	W
6	INZ 003828C	Intelligent Decision Support Systems	0	1	0	0	0	K2INF_U08	15	60	2	1,2	Т	Z			S	W
7	INZ 003828L	Intelligent Decision Support Systems	0	0	1	0	0	K2INF_U08	15	60	2	1,2	Т	Z		Р	S	W
8	INZ	Intelligent Decision Support	0	0	0	2	0	K2INF_U08	30	110	4	2,4	Т	Z		Р	S	W

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter O
 ⁶KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷Optional – enter W, obligatory – enter Ob

	003828P	Systems															
9	INZ 003768W	System Identification and Pattern Recognition Techniques in Computer Science	2	0	0	0	0	K2INF_W06	30	120	4	2,4	Т	E		S	W
10	INZ 003768C	System Identification and Pattern Recognition Techniques in Computer Science	0	2	0	0	0	K2INF_U08	30	90	3	1,8	Т	Z		S	W
11	INZ 003768L	System Identification and Pattern Recognition Techniques in Computer Science	0	0	2	0	0	K2INF_U08	30	90	3	1,8	Т	Z	Р	S	W
		Total	6	3	3	5	2		285	900	30	18					

Altogether in semester

	То	otal number o	of hours	Total	Total	Total	Number of	
			number of ZZU hours	number of CNPS hours	number of ECTS points	ECTS points for BK classes ¹		
lec	cl	lab	pr	sem				
6	3	3	5	2	285	900	30	18

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

³Exam – 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) ⁴University-wide course /group of courses – enter O ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

Obligatory courses number of ECTS points 30

No	Course/group	pName of course/group of courses (denote group of			numl	ber of	f hours	Field-of-	Field-of- Number of hours Number of ECTS points 1			Form ² of	Way ³ of	Cou	rse/group	of cou	rses	
	of courses code	courses with symbol GK)	lec	cl	lab	pr	sem	study educational effect symbol	ZZU	CNPS	total	BK classes ¹	course/group of courses	crediting	univers ity- wide ⁴	practical ⁵	kind ⁶	type ⁷
1	INZ 003819D	Diploma Thesis II	0	0	0	10	0	K2INF_U08	150	540	18	10,8	Т	Z			S	W
2	INZ 003820S	Diploma Seminar	0	0	0	0	2	K2INF_U08	30	60	2	1,2	Т	Z			S	W
3	INZ 003831W	Control of Computer Systems	2	0	0	0	0	K2INF_W06	30	50	2	1,2	Т	Z			S	W
4	INZ 003831P	Control of Computer Systems	0	0	0	1	0	K2INF_U08	15	70	2	1,2	Т	Z		Р	S	W
5	INZ 003830W	Implementation of Decision Support Systems	1	0	0	0	0	K2INF_W06	15	60	2	1,2	Т	Z			S	W
6	INZ 003830L	Implementation of Decision Support Systems	0	0	1	0	0	K2INF_U08	15	30	1	0,6	Т	Z		Р	S	W
7	INZ 003830P	Implementation of Decision Support Systems	0	0	0	2	0	K2INF_U08	30	90	3	1,8	Т	Z		Р	S	w
		Total	3	0	1	13	2		285	900	30	18						

Altogether in semester

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

²Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

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

	T	otal 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				
3	0	1	13	2	285	900	30	18

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
²Traditional – enter T, remote – enter Z
³Exam – 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)
⁴University-wide course / group of courses – enter O
⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
⁷ Optional – enter W, obligatory – enter Ob

2. Set of examinations in semestral arrangement

Course code	Names of courses ending with examination	Semester
INZ 003760W	1. Modeling and Business Analysis	1
INZ 003761W	2. Decision Support Systems	
INZ 003773W	1. Decision Making in Operation Systems	2
INZ 003768W	2. System Identification and Pattern Recognition Techniques in Computer Science	

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

Semester	Allowable deficit of ECTS points after semester
1	8
2	8
3	0

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

Opinion of student government legislative body

Date Name and surname, signature of student representative

.....

.....

Date Dean's signature

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

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

 $^{^{2}}$ Traditional – enter T, remote – enter Z

 $^{^{3}}$ 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) 4 University-wide course /group of courses – enter O

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: Computer science

EDUCATION LEVEL: 2nd level, magister

FORM OF STUDIES: full-time

PROFILE: general academic

SPECIALIZATION: Information and communication technologies (teleinformatics)

LANGUAGE OF STUDY: English

...... Faculty Council Resolution of

In effect since

*delete as applicable

Plan of studies structure (optionally)

1) in point layout

27	CNPS ECTS	CNPS ECTS	CNPS ECTS	27
26	900 30	900 30	900 30	26
22	Foreign Language II 30 1 ECTS			22
21	Foreign Language I			21
20				20
19	60 2 ECTS	Master thesis		19
18	Information Systems	60 3 ECTS		18
17		Methods of knowledge integration		17
16	120 4 ECTS	120 4 ECTS		16
15		Intelligent information systems – services and	Master thesis	15
14	Advanced Methods and Technics of Data Analysis	application	540 18 ECTS	14
13	180 6 ECTS			13
12		180 6 ECTS		12
11	Methodology of Empirical Sciences			11
10	90 3 ECTS	ICT project management		10
9	Decision Support Systems	180 6 ECTS	Master degree seminar	9
8	150 5 ECTS		60 2 ECTS	8
7		Integrated management systems		7
6	Modeling and Business Analysis		Systems security and safety	6
5	150 5 ECTS	150 5 ECTS	150 5 ECTS	5
4		Infrastructure of intelligent building		4
3	Teletraffic Theory and Engineering	180 6 ECTS	Computer communication and telecommunication	3

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter O
 ⁶KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷Optional – enter W, obligatory – enter Ob

2	120 4 ECTS		systems	2
1			150 5 ECTS	1
	Ι	II	ш	Razem
	22 / 330	19 / 285	19 / 285	60/900

2) in hourly layout

27	CNPS ECTS	CNPS ECTS	CNPS ECTS	27
26	900 30	900 30	900 30	26
22	Foreign language II 0100			22
21	Foreign language l			21
20	02000			20
19	03000	Master thesis		19
18	Information systems	00020		18
17		Methods of knowledge integration		17
16	10002	20000	Master thesis	16
15		Intelligent information systems – services and		15
14	Advanced Methods and Technics of Data Analysis	application	000(10)0	14
13	20200	_		13
12		20200 E		12
11	Methodology of Empirical Sciences	ICT project management		11

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

³Exam – enter I, remote – enter Z ³Exam – 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) ⁴University-wide course /group of courses – enter O ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization ⁷ Optional – enter W, obligatory – enter Ob

10	20000	20020 E		10
9	Decision Support Systems		Master degree seminar	9
8	11010 E		00020	8
7		Integrated management systems		7
6	Modeling and Business Analysis		Systems security and safety	6
5	12000 F	20100	20020	5
4	12000 2			4
3	Teletraffic Theory and Engineering	Infrastructure of intelligent building	Computer communication and telecommunication	3
2		20020	Systems	2
1	10020		20001	1
	I	Ш	ш	Razem
	22 / 330	19 / 285	19 / 285	60/900

 ¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
 ²Traditional – enter T, remote – enter Z
 ³Exam – 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)
 ⁴University-wide course /group of courses – enter O
 ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

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

No	Course/	Name of course/group of courses (denote	W	Weekly number			Field-	Nui	nber of	Number of		Form ²	Way ³	Course/group of courses			es	
	group of	group of courses with symbol GK)		of	hou	irs		of-study	h	ours	ECTS	points	of	of				7
	courses		1	с	1	р	s	educatio	ZZU	CNPS	total	BK	course	crediti	univer	practic	kind ⁶	type'
	code		e	1	а	r	e	nal				classe	/group	ng	sity-	al ⁵		
			с		b		m	effect				s^1	of		wide ⁴			
								symbol					course					
													S					
1	INZ003	Modeling and Business Analysis	1	0	0	0	0	K2INF	15	60	2	1,2	Т	E			Κ	Ob.
	760W							_W03										
2	INZ003	Modeling and Business Analysis	0	2	0	0	0	K2INF	30	90	3	1,8	Т	Z			Κ	Ob.
	760L	· ·						_U06										
3	INZ003	Information Systems	1	0	0	0	0	K2INF	15	60	2	1,2	Т	Z			K	Ob.
	762W							W04										
4	INZ003	Information Systems	0	0	0	0	2	K2INF	30	60	2	1.2	Т	Z			K	Ob.
	762S				-			W04				,						
5	INZ003	Decision Support Systems	1	0	0	0	0	K2INF	15	60	2	1.2	Т	Е			К	Ob.
-	761W		_		-	-		W02			_	-,-	_					
6	INZ003	Decision Support Systems	0	1	0	0	0	K2INF	15	30	1	0.6	Т	Z			К	Ob.
-	761L	i i i i i i i i i i i i i i i i i i i						_U05	_			- 7 -						
7	INZ003	Decision Support Systems	0	0	0	1	0	K2INF	15	60	2	1,2	Т	Z		Р	К.	Ob.
	761P							_U05										
8	INZ003	Teletraffic theory and engineering	1	0	0	0	0	K2INF	15	30	1	0,6	Т	Z			K	Ob.
	759W							_W04										
9	INZ003	Teletraffic theory and engineering	0	0	0	2	0	K2INF_	30	90	3	1,8	Т	Z		Р	K	Ob.
	759P							U05										
10	INZ003	Advanced Methods and Techniques of Data	2	0	0	0	0	K2INF	30	60	2	1,2	Т	Z			PD	Ob.
	758W	Analysis						_W01										
								K2INF										
								_W05										
11	INZ003	Advanced Methods and Techniques of Data	0	0	2	0	0	K2INF	30	120	4	2,4	Т	Z		Р	PD	Ob.
	758L	Analysis						_U05										
		Total	8	3	2	3	2		270	810	27	16,2						

Obligatory courses number of ECTS points 28

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

²Traditional – enter T, remote – enter Z

³Exam – 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) ⁴University-wide course /group of courses – enter O

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

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

No.	Course/ group of	Name of course/group of courses (denote group of courses with symbol GK)	We	Weekly number of hours			er of Field-of- N study			Number of hours		Number of ECTS points		Way ³ of		Course/grou	p of courses	3
	courses code		le c	с 1	l a b	p r	s e m	al effect symbol	ZZU	CNPS	total	BK classes 1	group of courses	g	universi ty- wide ⁴	practical 5	kind ⁶	type ⁷
1		Foreign language I	0	3	0	0	0	K2INF _U04	45	60	2	1,2	Т	Z	0		КО	W
2		Foreign language II	0	1	0	0	0	K2INF _U04	15	30	1	0,6	Т	Z	0		KO	W
		Total		4					60	90	3	1,8						

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

Altogether in semester

	Fotal nı	umber	of hou	rs	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	la b	pr	se m				
8	7	2	3	2	330	900	30	18

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter O
 ⁶KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷Optional – enter W, obligatory – enter Ob

Obligatory courses number of ECTS points 30

No	Course/group	Name of course/group of courses	Weekly number of hours			Field-of-	Numb	er of hours	Num	ber of ECTS points	Form ² of	Way ³ of	Course/gr	oup of cou	rses			
	of courses code	(denote group of courses with symbol GK)	lec	cl	lab	pr	sem	study educational effect symbol	ZZU	CNPS	total	BK classes ¹	course/group of courses	crediting	university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	INZ003818P	Master thesis degree	0	0	0	2	0	K2INF_U03	30	60	2	1,2	т	Z		Ρ	S	W
2	INZ003803W	Knowledge integration methods	2	0	0	0	0	K2INF_W05	30	120	4	2,4	т	Z			S	W
3	INZ003832W	Intelligent information systems - services and applications	2	0	0	0	0	K2INF_W04	30	60	3	1,8	Т	E			S	W
4	INZ003832W	Intelligent information systems - services and applications	0	0	2	0	0	K2INF_W04	30	120	3	1,8	Т	Z		Ρ	S	W
5	INZ003804WP	ICT project management	2	0	0	0	0	K2INF_W03	30	60	2	1,2	Т	E			S	W
6	INZ003804WP	ICT project management	0	0	0	2	0	K2INF_W03	30	120	4	2,4	Т	Z		Ρ	S	W
7	INZ003805W	Integrated management systems	2	0	0	0	0	K2INF_W03	30	60	3	1,8	Т	Z			S	W
8	INZ003805L	Integrated management systems	0	0	1	0	0	K2INF_W03	15	120	3	1,8	Т	Z		Ρ	S	W
9	INZ003806W	Infrastructure of intelligent building	2	0	0	0	0	K2INF_W02	30	60	2	1,2	т	Z			S	W
10	INZ003806P	Infrastructure of intelligent building	0	0	0	2	0	K2INF_W02	30	120	4	2,4	т	Z		Ρ	S	W
-		Total	10	0	3	6	0		285	900	30	18	1			1	1	1

Altogether in semester

¹BK - number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

	Tot	al number of	f 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				
10	0	3	6	0	285	900	30	18

 ¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
 ²Traditional – enter T, remote – enter Z
 ³Exam – 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)
 ⁴University-wide course /group of courses – enter O
 ⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
 ⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
 ⁷ Optional – enter W, obligatory – enter Ob

Obligatory courses number of ECTS points 30

No	Course/group	Name of course/group of courses	We	eekly	y numl	ber of	hours	Field-of-	Numb	er of hours	Number of ECTS points		Form ² of	Way ³ of	Course/gr	oup of cou	rses	
	of courses code	(denote group of courses with symbol GK)	lec	cl	lab	pr	sem	study educational effect	ZZU	CNPS	total	BK classes ¹	course/group of courses	crediting	university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	INZ003819P	Master degree thesis	0	0	0	10	0	K2INF_U03	150	540	18	10,8	Т	Z		Р	S	W
2	INZ003820S	Master degree seminar	0	0	0	0	2	K2INF_U01 K2INF_U02	30	60	2	1,2	т	Z		Ρ	S	W
3	INZ003807W	Systems security and safety	2	0	0	0	0	K2INF_W04	30	60	2	1,2	Т	Z			S	W
4	INZ003807P	Systems security and safety	0	0	0	2	0	K2INF_W04	30	90	3	1,8	Т	Z		Ρ	S	W
5	INZ003808WS	Computer communication and telecommunication systems	2	0	0	0	0	K2INF_W02	30	90	3	1,8	Т	Z		Ρ	S	W
6	INZ003808WS	Computer communication and telecommunication systems	0	0	0	0	1	K2INF_W02	15	60	2	1,2	т	Z		Ρ	S	W
		Total	4	0	0	12	3		285	900	30	18						

Altogether in semester

	Т	'otal 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	0	0	12	3	285	900	30	18

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

2. Set of examinations in semestral arrangement

Course code	Names of courses ending with examination	Semester
	1. Modeling and business analysis 2. Decision making support systems	1
	 Intelligent information systems – services and applications ICT project management 	2

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

Semester	Allowable deficit of ECTS points after semester
1	8
2	8

¹BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

 2 Traditional – enter T, remote – enter Z

 3 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) 4 University-wide course /group of courses – enter O

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

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

Opinion of student government legislative body

.....

Date Name and surname, signature of student representative

Date Dean's signature

 1 BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students 2 Traditional – enter T, remote – enter Z

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

 $^{^{3}}$ 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) 4 University-wide course /group of courses – enter O