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: Computer Engineering

LANGUAGE OF STUDY: English

…….. Faculty Council Resolution of .....

In effect since …….....

*delete as applicable

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

	CNPS	ECTS	CNPS	ECTS	CNPS	ECTS	CNPS	ECTS	
	900	**30**	**900**	**30**	**900**	**30**	**900**	**30**	
20	Foreign Language I **30**	**1 ECTS**	Modelling and analysis of Web-based systems **180**	**6 ECTS**	Elective Course M3.1 **180**	**6 ECTS**	Research Methodology **90**	**3 ECTS**	20
19	Foreign Language II **60**	**2 ECTS**							19
18							Monographic Subject **90**	**3 ECTS**	18
17									17
16	Advanced Databases **210**	**7 ECTS**	Parallel and Distributed Computing **180**	**6 ECTS**	Elective Course M3.2 **180**	**6 ECTS**	Business modeling and analysis **90**	**3 ECTS**	16
15									15
14							Diploma Seminar **90**	**3ECTS**	14
13									13
12	Advanced Topics in Artificial Intelligence **210**	**7 ECTS**	Mobile and Multimedia Systems **180**	**6 ECTS**	Elective Course M3.3 **180**	**6 ECTS**	MSc Thesis II **540**	**18 ECTS**	12
11									11
10									10
9									9
8	Information Systems Modelling and Analysis **210**	**7 ECTS**	Software System Development **180**	**6 ECTS**	Physics of Contemporary Computer Science **120**	**4 ECTS**			8
7									7
6					Sport **15**	**1 ECTS**			6
5					Ethics of new technologies **60**	**2 ECTS**			5
4	System Modelling and Analysis **180**	**6 ECTS**	Foundations of Knowledge Engineering **180**	**6 ECTS**	Fundamentals of Business and Intellectual Property 90	3 ECTS			4
3									3
2					MSc Thesis I **75**	**2 ECTS**			2
1									1
sem	**1**		**2**		**3**		**4**		**total**
w/sem	**20/300**		**20/300**		**20/300**		**20/300**		**80/1200**

2) in hourly layout

	CNPS ECTS	CNPS ECTS	CNPS ECTS	CNPS ECTS	
	900 30	**900 30**	**900 30**	**900 30**	
20	Foreign Language I **01000**	Modelling and analysis of Web-based systems **20200 E**	Elective Course M3.1 **4h E**	Research Methodology **20000**	20
19	Foreign Language II **03000**				19
18				Monographic Subject **10100**	18
17					17
16	Advanced Databases **10021**	Parallel and Distributed Computing	Elective Course M3.1 **4h E**	Business modeling and analysis **11000**	16
15					15
14				Diploma Seminar **00002**	14
13					13
12	Advanced Topics in Artificial Intelligence **20020 E**	Mobile and Multimedia Systems **10300**	Elective Course M3.2 **4h E**	MSc Thesis **000(12)0**	12
11					11
10					10
9					9
8	Information Systems Modelling and Analysis **22000 E**	Software System Development **20020**	Physics of Contemporary Computer Science **10001**		8
7					7
6			Sport **01000**		6
5			Ethics of new technologies **00001**		5
4	System Modelling and Analysis **21001 E**	Foundations of Knowledge Engineering **22000 E**	Fundamentals of Business and Intellectual Property **20000**		4
3					3
2			MSc Thesis I **00020**		2
1					1
sem	**1**	**2**	**3**	**4**	**total**
w/sem	**20/300**	**20/300**	**20/300**	**20/300**	**80/1200**

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

Semester 1

Obligatory courses number of ECTS points 28

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0108Wcs	System Modelling and Analysis **(GK)**	2	1			1	K2INF _W01 K2INF _W05 K2INF _U05	60	180	6	3,6	T	E		(2)	PD	Ob.
2	INZ0109Wps	Advanced databases **(GK)**	1			2	1	K2INF _W05 K2INF _U05	60	210	7	4,2	T	Z		(3)	K	Ob.
3	INZ0110Wp	Advanced Topics in Artificial Intelligence (GK)	2			2		K2INF_W06 K2INF_U08	60	210	7	4,2	T	E		(3)	S	Ob.
4	INZ0113Wc	Information System Modelling and Analysis **(GK)**	2	2				K2INF _W04	60	210	7	4,2	T	E			K	Ob.
		Total	7	3		4	2		240	810	27	16,2						

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

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1		Foreign language I		3				K2INF _U04	45	60	2	1,2	T	Z	O		KO	W
2		Foreign language II		1				K2INF _U04	15	30	1	0.6	T	Z	O		KO	W.
		Total		4					60	90	3	1,8						

[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

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				
7	7	0	4	2	300	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
[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

Semester 2

Obligatory courses number of ECTS points 30

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0135Wl	Modelling and Analysis of Web-based Systems **(GK)**	2		2			K2INF_W06, **K2INF_U07**, K2INF_U08 K2INF_U09	60	180	6	3,6	T	E		(3)	S	Ob.
2	INZ0136Wcl	Parallel and Distributed Computing **(GK)**	2	1	1			K2INF_W06, **K2INF_U07**, K2INF_U08 K2INF_U09	60	180	6	3,6	T	E		(2)	S	Ob.
3	INZ0137Wl	Mobile and Multimedia Systems **(GK)**	1		3			K2INF_W06, **K2INF_U07**, K2INF_U08 K2INF_U09	60	180	6	3,6	T	Z		(4)	S	Ob.
4	INZ0138Wp	Software System Development **(GK)**	2			2		K2INF _W04 **K2INF_U07**,	60	180	6	3,6	T	Z		(3)	K	Ob.
5	INZ0139Wc	Foundation of Knowledge Engineering **(GK)**	2	2				K2INF _W02, K2INF _U05 K2INF _U05	60	180	6	3,6	T	E			K	Ob.
		Total	9	3	6	2			300	900	30	18						

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]

[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

lec	cl	lab	pr	sem				
9	3	6	2	0	300	900	30	18

Semester 3

Obligatory courses number of ECTS points 10

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0156Ws	Physics of Contemporary Computer Science (GK)	1				1	K2INF_W01	30	120	4	2,4	T	Z			S	Ob.
2	INZ0166S	Ethics of new technologies					1	K2INF_W07 **K2INF_K03**	15	60	2	1,2	T	Z			S	Ob.
	INZ0167W	Fundamentals of Business and Intellectual Property	2					K2INF_W08	30	90	3	1,8	T	Z				
	……..	Spotr		1				K2INF_K04	15	15	1	0,6	T	Z			KO	Ob.
		Total	3	1			2		**90**	**285**	**10**	6						

Optional courses (minimum 30 hours in semester, 2 ECTS point)

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0142P	MSc Thesis I				2		K2INF_U03,	30	**75**	2	1,2	T	Z		P	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

								K2INF_U08										
		Total				2			30	**75**	2	1,2						

Optional courses (Optional module M_3.1) (minimum 60 hours in semester, 6 ECTS points)

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0158Wcs	Parallel Computer Architecture **(GK)**	2	1			1	K2INF_W06,	60	180	6	4,2	T	E			S	W.
2	INZ0159Wl	Advanced Computer Network **(GK)**	2		2			K2INF_W06, K2INF_U09	60	180	6	4,2	T	E		(3)	S	W
		Total	2	1	1				60	180	6	4,2						

Optional courses (Optional module M_3.2) (minimum 60 hours in semester, 6 ECTS points)

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0160Wl	Advanced Computer Graphic **(GK)**	2		2			K2INF_W06, K2INF_U08 K2INF_U09	60	180	6	4,2	T	E		(3)	S	W.
2	INZ0161Wl	Digital Image Processing **(GK)**	2		2			K2INF_W06, K2INF_U08 K2INF_U09	60	180	6	4,2	T	E		(3)	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

3	INZ0162Wl	Multimedia Information Systems **(GK)**	2		2			K2INF_W06, K2INF_U08 K2INF_U09	60	180	6	4,2	T	E		(3)	S	W
4	INZ0163Wl	User Interface Development **(GK)**	2		2			K2INF_W06, K2INF_U08 K2INF_U09	60	180	6	4,2	T	E		(3)	S	W
		Total	2		2				60	180	6	4,2						

Optional courses (Optional module M_3.3) (minimum 60 hours in semester, 6 ECTS points)

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0164Wlp	Data Warehouses **(GK)**	1		2	1		K2INF_W06, K2INF_U08 K2INF_U09	60	180	6	4,2	T	E		(3)	S	W.
2	INZ0165Wl	Expert Systems **(GK)**	2		2			K2INF_W06, K2INF_U08 K2INF_U09	60	180	6	4,2	T	E		(3)	S	W
		Total	2		2				60	180	6	4,2						

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				
8	1	5	2	4	300	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
[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

Semester 4

Obligatory courses number of ECTS points 6

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0151W	Research Methodology	2					K2INF _W05	30	90	3	1,8	T	Z			K	Ob.
2	INZ0152Wc	Business modeling and analysis **(GK)**	1	1				K2INF _W03, K2INF _U06	30	90	3	1,8	T	Z			K	Ob.
		Total	3	1					60	180	6	3,6						

Optional courses (minimum 240 hours in semester, 24 ECTS points)

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0153Wl	Monographic Subject **(GK)**	1		1			K2INF_U08, K2INF_W06 K2INF_U09	30	90	3	1,8	T	Z		(1)	S	W
2	INZ0154S	Diploma Seminar	0				2	K2INF_U01, K2INF_U02 **K2INF_K02**	30	90	3	1,8	T	Z			S	W
3	INZ0155D	MSc Thesis II	0			12		K2INF_U03, K2INF_U08 **K2INF_K01**	180	540	18	10,8	T	Z		P	S	W
		Total	1		1	12	2		240	720	24	14,4						

[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
[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

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				
4	1	1	12	2	300	900	30	18

Set of examinations in semestral arrangement

Course code	Names of courses ending with examination	Semester
INZ0110 INZ0113 INZ0108	1. Advanced Topics in Artificial Intelligence 2. Information System Modeling and Analysis 3. System Modelling and Analysis	1
INZ0135 INZ0136 INZ0139	1. Modelling and Analysis of Web-based Systems 2. Parallel and Distributed Computing 3. Foundation of Knowledge Engineering	2
INZxxx INZxxx INZxxx	1. Elective Course M3.1 2. Elective Course M3.2 3. Elective Course M3.3	3

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

Semester	Allowable deficit of ECTS points

[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

	after semester
1	7
2	13
3	0

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
[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