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 **210**	**7 ECTS**	Research Methodology **90**	**3 ECTS**	20
19	Foreign Language II								19
18	**60**	**2 ECTS**					Monographic Subject		18
17							**90**	**3 ECTS**	17
16							Business modeling and analysis **90**	**3 ECTS**	16
15	Advanced Databases **210**	**7 ECTS**	Parallel and Distributed Computing **180**	**6 ECTS**	Elective Course M3.2 **210**	**7 ECTS**			15
14							Diploma Seminar		14
13							**90**	**3ECTS**	13
12	Advanced Topics in Artificial Intelligence **210**	**7 ECTS**	Mobile and Multimedia Systems **180**	**6 ECTS**	Elective Course M3.3 **210**	**7 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**	Applications and Challenges of Computer Science **150**	**5 ECTS**			8
7									7
6									6
5									5
4	System Modelling and Analysis **180**	**6 ECTS**	Foundations of Knowledge Engineering **180**	**6 ECTS**	**Preparatory seminar** 60 2 ECTS				4
3									3
2					MSc Thesis I				2
1					60 2 ECTS				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 4h E	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	Applications and Challenges of Computer Science 20002		8
7					7
6					6
5					5
4	System Modelling and Analysis 21001 E	Foundations of Knowledge Engineering 22000 E	**Preparatory seminar** 00002		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**)	lec	cl	lab	pr	sem	Field-of-study educational effect symbol	ZZU	CNPS	total	BK classes[1]	Form[2] of course/group of courses	Way[3] of crediting	university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0108	System Modelling and Analysis **(GK)**	2	1	0	0	1	K2INF _W01 K2INF _W05 K2INF _U05	60	180	6	3,6	T	E		(2)	PD	Ob.
2	INZ0109	Advanced databases **(GK)**	1	0	0	2	1	K2INF _W05 K2INF _U05	60	210	7	4,2	T	Z		(3)	K	Ob.
3	INZ0110	Advanced Topics in Artificial Intelligence (GK)	2	0	0	2	0	K2INF_W06 K2INF_U08	60	210	7	4,2	T	E		(3)	S	Ob.
4	INZ0113	Information System Modelling and Analysis **(GK)**	2	2	0	0	0	K2INF _W04	60	210	7	4,2	T	E			K	Ob.
		Total	7	3	0	4	2		240	810	27	16,2						

[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

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	0	3	0	0	0	K2INF _U04	45	60	2	1,2	T	Z	O		KO	W
2		Foreign language II	0	1	0	0	0	K2INF _U04	15	30	1	0.6	T	Z	O		KO	W.
		Total		4					60	90	3	1,8						

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**)	lec	cl	lab	pr	sem	Field-of-study educational effect symbol	ZZU	CNPS	total	BK classes[1]	Form[2] of course/group of courses	Way[3] of crediting	university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0135	Modelling and Analysis of Web-based Systems **(GK)**	2	0	2	0	0	K2INF_W06, K2INF_U08	60	180	6	3,6	T	E		(3)	S	Ob.
2	INZ0136	Parallel and Distributed Computing **(GK)**	2	1	1	0	0	K2INF_W06, K2INF_U08	60	180	6	3,6	T	E		(2)	S	Ob.
3	INZ0137	Mobile and Multimedia Systems **(GK)**	1	0	3	0	0	K2INF_W06, K2INF_U08	60	180	6	3,6	T	Z		(4)	S	Ob.
4	INZ0138	Software System Development **(GK)**	2	0	0	2	0	K2INF _W04	60	180	6	3,6	T	Z		(3)	K	Ob.
5	INZ0139	Foundation of Knowledge Engineering **(GK)**	2	2	0	0	0	K2INF _W02, K2INF _U05 K2INF _U05	60	180	6	3,6	T	E			K	Ob.
		Total	9	3	6	2	0		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]
lec	cl	lab	pr	sem				
9	3	6	2	0	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 3

Obligatory courses number of ECTS points 7

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	lec	cl	lab	pr	sem	Field-of-study educational effect symbol	ZZU	CNPS	total	BK classes[1]	Form[2] of course/group of courses	Way[3] of crediting	university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0140	Application and Challenges of Computer Science (**GK**)	2	0	0	0	2	K2INF_W06, K2INF_U08	60	150	5	3,0	T	Z			S	Ob.
2	INZ0141	Preparatory Seminar	0	0	0	0	2	K2INF_U08	30	60	2	1,2	T	Z			S	Ob.
		Total	2	0	0	0	4		90	210	7	4,2						

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**)	lec	cl	lab	pr	sem	Field-of-study educational effect symbol	ZZU	CNPS	total	BK classes[1]	Form[2] of course/group of courses	Way[3] of crediting	university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0142	MSc Thesis I	0	0	0	2	0	K2INF_U08	30	60	2	1,2	T	Z		P	S	W.
		Total	0	0	0	2	0		30	60	2	1,2						

Optional courses (Optional module M_3.1) (minimum 60 hours in semester, 7 ECTS points)

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	lec	cl	lab	pr	sem	Field-of-study educational effect symbol	ZZU	CNPS	total	BK classes[1]	Form[2] of course/group of courses	Way[3] of crediting	university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0143	Parallel Computer Architecture (**GK**)	2	1			1	K2INF_W06, K2INF_U08	60	210	7	4,2	T	E			S	W.
2	INZ0144	Advanced Computer Network (**GK**)	2	0	2	0	0	K2INF_W06, K2INF_U08	60	210	7	4,2	T	E		(3)	S	W
		Total	2	1	1	0	0		60	210	7	4,2						

[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

Optional courses (Optional module M_3.2) (minimum 60 hours in semester, 7 ECTS points)

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	lec	cl	lab	pr	sem	Field-of-study educational effect symbol	ZZU	CNPS	total	BK classes[1]	Form[2] of course/group of courses	Way[3] of crediting	university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0145	Advanced Computer Graphic **(GK)**	2	0	2	0	0	K2INF_W06, K2INF_U08	60	210	7	4,2	T	E		(3)	S	W.
2	INZ0146	Digital Image Processing **(GK)**	2	0	2	0	0	K2INF_W06, K2INF_U08	60	210	7	4,2	T	E		(3)	S	W
3	INZ0147	Multimedia Information Systems **(GK)**	2	0	2	0	0	K2INF_W06, K2INF_U08	60	210	7	4,2	T	E		(3)	S	W
4	INZ0148	User Interface Development **(GK)**	2	0	2	0	0	K2INF_W06, K2INF_U08	60	210	7	4,2	T	E		(3)	S	W
		Total	2	0	2	0	0		60	210	7	4,2						

Optional courses (Optional module M_3.3) (minimum 60 hours in semester, 7 ECTS points)

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	lec	cl	lab	pr	sem	Field-of-study educational effect symbol	ZZU	CNPS	total	BK classes[1]	Form[2] of course/group of courses	Way[3] of crediting	university-wide[4]	practical[5]	kind[6]	type[7]
1	INZ0149	Data Warehouses **(GK)**	1	0	2	1	0	K2INF_W06, K2INF_U08	60	210	7	4,2	T	E		(3)	S	W.
2	INZ0150	Expert Systems **(GK)**	2	0	2	0	0	K2INF_W06, K2INF_U08	60	210	7	4,2	T	E		(3)	S	W
		Total	2	0	2	0	0		60	210	7	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**)	lec	cl	lab	pr	sem	Field-of-study educational effect symbol	ZZU	CNPS	total	BK classes[1]	Form[2] of course/group of courses	Way[3] of crediting	university-wide[4]	practical[5]	kind[6]	type[7]
			Weekly number of hours						Number of hours		Number of ECTS points				Course/group of courses			
1	INZ0151	Research Methodology	2	0	0	0	0	K2INF _W05	30	90	3	1,8	T	Z			K	Ob.
2	INZ0152	Business modeling and analysis **(GK)**	1	1	0	0	0	K2INF _W03, K2INF _U06	30	90	3	1,8	T	Z			K	Ob.
		Total	3	1	0	0	0		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**)	lec	cl	lab	pr	sem	Field-of-study educational effect symbol	ZZU	CNPS	total	BK classes[1]	Form[2] of course/group of courses	Way[3] of crediting	university-wide[4]	practical[5]	kind[6]	type[7]
			Weekly number of hours						Number of hours		Number of ECTS points				Course/group of courses			
1	INZ0153	Monographic Subject **(GK)**	1	0	1	0	0	K2INF_U08, K2INF_W06	30	90	3	1,8	T	Z		(1)	S	W
2	INZ0154	Diploma Seminar	0	0	0	0	2	K2INF_U08	30	90	3	1,8	T	Z			S	W
3	INZ0155	MSc Thesis II	0	0	0	12	0	K2INF_U08	180	540	18	10,8	T	Z		P	S	W
		Total	1	0	1	12	2		240	720	24	14,4						

Altogether in semester

lec	cl	lab	pr	sem	Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes[1]
		Total number of hours						
4	1	1	12	2	300	900	30	18

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[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

2. Set of examinations in semestral arrangement

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

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

Semester	Allowable deficit of ECTS points 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