

PLAN OF STUDIES

FACULTY Computer Science and Management

MAIN FIELD OF STUDY: . Systems Engineering

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

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

PROFILE: general academic / ~~practical~~ *

SPECIALIZATION:.....

LANGUAGE OF STUDY: język polski.

..... 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	24	
24	900	30	900	30	900	30	23	
23	Pro-seminar	60	2					
22	English -level B2+	30	1			22		
21	Foreign Language	level A1	Graduate seminar			21		
20						60	2	20
19	60	2	Elective courses block I	Elective courses block II		19		
18	Macroeconomics	200			6		18	
17							17	
16							16	
15							15	
14	The Right of the European	Union			100	4		14
13								
12	Advanced Problems and Methods of Systems Engineering	180			6	570	19	
11				11				
10				10				
9				9				
8						8		
7	Mathematical modelling and similarity	120	4		540	18	7	
6								6
5							Mid-term project	

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

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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

4	Mathematics	210	7		4
3					3
2					2
1					1
	150	5	Master Thesis		
		60	2		
	I	II	III		Razem
	23 / 345	20 / 300	17 / 255		60 / 900

2) in hourly layout
(*space for scheme of plan*)

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25	CNPS	ECTS	CNPS	ECTS	CNPS	ECTS	24
24	900	30	900	30	900	30	23
23	Pro-seminar	00001					
22	English -level B2+	01000					
21	Foreign Language	level A1					
20		Graduate seminar					
19	03000	00001					
18	Macroeconomics	Elective courses block I	Elective courses block II	7 h E			
17							
16							
15							
14	The Right of the		13 h (2E)	Master Thesis	000(10)0		
13	European Union11000						
12	Advanced Problems and						
11						Methods of Systems	
10						Engineering	
9						20210 E	
8							
7							
6	Mathematical modelling		Mid-term project	000(10)0			
5	and similarity						
4	10020						
3	Mathematics	00040					
2	22000 E						
		Master Thesis					

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1		00020		1
	I	II	III	Razem
	23 / 345	20 / 300	17 / 255	60 / 900

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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/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		English -level B2+		1				K2_INS_U01 K2_INS_U03 K2_INS_U04	15	30	1	1	T	Z	O		KO	W
2		Foreign Language level A1		3				K2_INS_U04	45	60	2	2	T	Z	O		KO	W
3	EKZ001165W	Macroeconomics	2					K2_INS_W07 K2_INS_U12	30	100	3	3	T	E			K	Ob
4	EKZ001165C	Macroeconomics		2				K2_INS_W07 K2_INS_U12	30	100	3	3	T	Z			K	Ob
5	MAP008572W	Mathematics	2					K2_INS_W03 K2_INS_U09	30	80	3	3	T	E	O		PD	Ob
6	MAP008572C	Mathematics		2				K2_INS_W03 K2_INS_U09	30	70	2	2	T	Z	O		PD	Ob

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

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7	INZ001801W	Mathematical modelling and similarity	1					K2_INS_W01 K2_INS_W03 K2_INS_W04 K2_INS_U06 K2_INS_U10	15	40	1	1	T	Z			K	Ob
8	INZ001801P	Mathematical modelling and similarity				2		K2_INS_W01 K2_INS_W03 K2_INS_W04 K2_INS_U06 K2_INS_U10	30	80	3	3	T	Z		P	K	Ob
9	PRZ001162W	The Right Of The European Union	1					K2_INS_W06	15	50	2	2	T	Z			PD	Ob
10	PRZ001162C	The Right Of The European Union		1				K2_INS_W06	15	50	2	2	T	Z			PD	Ob
11	INZ001803S	Pro-seminar					1	K2_INS_U02 K2_INS_U05	15	60	2	2	T	Z			K	Ob
12	INZ001802W	Advanced Problems and Methods of Systems Engineering	2					K2_INS_W02 K2_INS_W05 K2_INS_U07 K2_INS_U08	30	60	2	2	T	E			K	Ob

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								K2_INS_U11										
13	INZ001802L	Advanced Problems and Methods of Systems Engineering			2			K2_INS_W02 K2_INS_W05 K2_INS_U07 K2_INS_U08 K2_INS_U11	30	70	2	2	T	Z		P	K	Ob
14	INZ001802P	Advanced Problems and Methods of Systems Engineering				1		K2_INS_W02 K2_INS_W05 K2_INS_U07 K2_INS_U08 K2_INS_U11	15	50	2	2	T	Z		P	K	Ob
		Total	8	9	2	3	1	345	900	30	30							

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	9	2	3	1	345	900	30	30

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Semester 2

Obligatory courses number of ECTS points 9

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	INZ001805P	Mid-term project				4		K2_INS_U02 K2_INS_U07 K2_INS_U08 K2_INS_U13 K2_INS_K02	60	210	7	7	T	Z		P	K	Ob
2	INZ001804S	Graduate seminar					1	K2_INS_U02 K2_INS_U03 K2_INS_U05	15	60	2	2	T	Z			K	Ob
Total						4	1		75	270	9	9						

Optional courses (minimum 225 hours in semester, 21 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	INZ001800P	Master Thesis				2		K2_INS_U01	30	60	2	2	T	Z		P	K	Ob

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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

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							K2_INS_U02											
							K2_INS_U03											
							K2_INS_U05											
							K2_INS_U14											
							K2_INS_U15											
							K2_INS_U16											
							K2_INS_K01											
							K2_INS_K02											
						2		30	60	2	2							
		Total																

Module SS II.1 – training path "Control systems" (min. 19. pkt ECTS):

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	INZ001806W	Intelligent Control Systems	2					K2_INS_U14 K2_INS_U15 K2_INS_U16	30	90	3	3	T	E			K	W
2	INZ001806L	Intelligent Control Systems			2				30	90	3	3	T	Z		P	K	W
3	INZ001807W	Supporting Decisions in Biomedical Systems	1						15	40	1	1	T	Z			K	W
4	INZ001807P	Supporting Decisions in Biomedical Systems				2			30	90	3	3	T	Z		P	K	W

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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

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5	INZ001808W	Uncertain systems	2						30	90	3	3	T	E			K	W
6	INZ001808P	Uncertain systems				2			30	90	3	3	T	Z		P	K	W
7	INZ001809W	Data mining	1						15	30	1	1	T	Z			K	W
8	INZ001809L	Data mining			1				15	50	2	2	T	Z		P	K	W
Total			6		3	4			195	570	19	19						

Module SL II.1 – training path "Logistics systems" (min. 19. pkt ECTS):

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	ZMZ001481L	Advanced logistics management in enterprise			2			K2_INS_U14 K2_INS_U15 K2_INS_U16	30	90	3	3	T	Z			K	W
2	ZMZ001482P	Project Management				2			30	90	3	3	T	Z		P	K	W
3	ZMZ001483W	Optimisation methods in logistics	1						15	40	2	2	T	E			K	W
4	ZMZ001483P	Optimisation methods in logistics				2			30	90	3	3	T	Z		P	K	W
5	ZMZ001484W	Logistics Service Quality Management	2						30	70	2	2	T	E			K	W
6	ZMZ001484S	Logistics Service Quality Management					1		15	60	2	2	T	Z		P	K	W

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7	ZMZ001485W	Assessment and certification of products and management systems	2						30	70	2	2	T	Z			K	W
8	ZMZ001485P	Assessment and certification of products and management systems				1			15	60	2	2	T	Z		P	K	W
Total																		

Module SE II.1 – training path "Energy systems" (min. 19. pkt ECTS):

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	ESN1115	New generation energy technologies	2					K2_INS_U14 K2_INS_U15 K2_INS_U16	30	90	3	3	T	E			K	W
2		Power Production System and Technology From Biomass	2						30	90	3	3	T	E			K	W
3		Power Production System and Technology From Biomass		1					15	60	2	2	T	Z			K	W
4		Power Production System and Technology From Biomass					1		15	60	2	2	T	Z			K	W
5		Installations for Environmental Protection-Optymalization and	1						15	60	2	2	T	Z			K	W

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

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[illegible]

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
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lec	cl	lab	pr	sem				
6	0	3	10	1	300	900	30	30

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

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Semester 3

Obligatory courses number of ECTS points 18

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
	INZ001814D	Master Thesis				10		K2_INS_U01 K2_INS_U02 K2_INS_U03 K2_INS_U05 K2_INS_U14 K2_INS_U15 K2_INS_U16 K2_INS_K01 K2_INS_K02	150	540	18	18	T	Z		P	K	W
		Total				10			150	540	18	18						

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

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⁷Optional – enter W, obligatory – enter Ob

Module SS II.2 – training path "Control systems" (min. 12. pkt ECTS):

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	INZ001816W	Implementation of Decision Support Systems	1					K2_INS_U14 K2_INS_U15 K2_INS_U16	15	60	2	2	T	E			K	W
2	INZ001816L	Implementation of Decision Support Systems			1				15	40	2	2	T	Z		P	K	W
3	INZ001816P	Implementation of Decision Support Systems				2			30	100	3	3	T	Z		P	K	W
4	INZ001817W	Control of Computer Systems	2						30	90	3	3	T	Z			K	W
5	INZ001817P	Control of Computer Systems				1			15	70	2	2	T	Z		P	K	W
Total			3		1	3			105	360	12	12						

Module SL II.2 – training path "Logistics systems" (min. 12. pkt ECTS):

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	ZMZ001486W	Lean Production implementation in an enterprise	1					K2_INS_U14	15	40	1	1	T	Z			K	W
2	ZMZ001486P	Lean Production implementation in an enterprise				1		K2_INS_U15	15	60	2	2	T	Z		P	K	W

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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

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3	ZMZ001487P	Modeling and simulation of logistics processes				2		K2_INS_U16	30	100	4	4	T	Z		P	K	W
4	ZMZ001488W	Quality Costs	2						30	100	3	3	T	Z			K	W
5	ZMZ001488S	Quality Costs					1		15	60	2	2						
Total																		

Module SE II.2 – training path "Energy systems" (min. 12. pkt ECTS):

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
	ESN1062W	Energy systems	2					K2_INS_U14 K2_INS_U15 K2_INS_U16	30	90	3	3	T	E			K	W
	ESN1062C	Energy systems		1					15	90	3	3	T	Z			K	W
	ESN0211W	Gas	1						15	30	2	2	T	Z			K	W
	ESN0211C	Gas		1					15	60	1	1	T	Z			K	W
	ESN1300W	Environmental management	2						30	90	3	3	T	Z			K	W
Total			5	2					105	360	12	12						

Altogether in semester

Total number of hours	Total	Total	Total	Number of
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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

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					number of ZZU hours	number of CNPS hours	number of ECTS points	ECTS points for BK classes ¹
lec	cl	lab	pr	sem				
3	0	1	13	0	255	900	30	30

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. Mathematics 2. Advanced Problems and Methods of Systems Engineering 3. Macroeconomics	1
	1. Elective course 1 2. Elective course 2	2
	1. Elective course 1	3

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

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

Opinion of student government legislative body

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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)

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