

PLAN OF STUDIES

FACULTY:	FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
MAIN FIELD OF STUDY:	APPLIED COMPUTER SCIENCE
EDUCATION LEVEL:	second-level studies
FORM OF STUDIES:	full-time studies
PROFILE:	general academic
SPECIALIZATION:	Computer Engineering (CE)
LANGUAGE OF STUDY:	English
In effect since	2024/2025

*delete as applicable

Plan of studies structure (optionally):

1) in ECTS point layout

	CNPS	ECTS	CNPS	ECTS	CNPS	ECTS	
	770	30	770	30	760	30	
26	30	1 ECTS	50	2 ECTS			26
25			30	1 ECTS			25
24	60	2 ECTS					24
23			90	3 ECTS			23
22	30	1 ECTS	50	2 ECTS			22
21							21
20							20
19	100 (50+50)	5 (2+3) ECTS					19
18							18
17			175 (75+75+25)	7 (3+3+1) ECTS			17
16							16
15	150 (75+75)	6 (3+3) ECTS					15
14							14
13							13
12			125 (50+50+25)	5 (2+2+1) ECTS	450	18 ECTS	12
11							11
10	150 (75+50+25)	6 (3+2+1) ECTS			50	2 ECTS	10
9					60	2 ECTS	9
8			150 (50+100)	6 (2+4) ECTS			8
7							7
6	125 (50+25+50)	5 (2+1+2) ECTS			100 (50+50)	4 (2+2) ECTS	6
5							5
4							4
3	100 (50+25+25)	4 (2+1+1) ECTS	100 (25+50+25)	4 (1+2+1) ECTS	100 (50+50)	4 (2+2) ECTS	3
2							2
1							1
Sem.	I		II		III		razem
Tydz./sem.	28/420		27/405		11,8/177		62,8/1002

2) in hourly layout:

	CNPS	ECTS	CNPS	ECTS	CNPS	ECTS	
	770	30	770	30	760	30	
28	Methods of planning and analyzing experiments 10000						
27	Foreign Language II 03000	Monographic project 00002				26	
26		Foreign Language B2+ lub C1+ 01000				25	
25							
24	Physics of Contemporary Comp. Science 10000	Fundamentals of Business and Intellectual Property 20000				24	
23	Analysis of Web-based Systems 20020	Recent Advances in Computer Science 00002				23	
22						22	
21						21	
20						20	
19	Advanced Databases 20020 E	Advanced Topics in Artificial Intelligence 20021 E				19	
18						18	
17						17	
16						16	
15						15	
14	Software System Development 20021 E	Project Management 20021				14	
13						13	
12				MSc Thesis 000(8)0			12
11				Diploma Seminar 00002			11
10	Advanced Cybersecurity Issues 20012	User experience 20030 E				10	
9				Ethics of new technologies 00001			9
8				Video game design (GK) 20020			8
7							7
6							6
5				Foundations of Knowledge Engineering 21002	Research Methodology 20201		
4	Mobile and Multimedia Systems (GK) 20020						4
3			3				
2			2				
1			1				
Sem.	I	II		III		razem	
Tydz./sem.	28/420	27/405		11,8/177		66,8/1002	

1. Set of obligatory and optional subjects and groups of classes in semestral arrangement

Semester 1

Obligatory subjects / groups of classes: Mathematics and Physics Number of ECTS points 2

No.	Subject / groups of classescode	Name of subject / groups of classes (denote group of courses with symbol GK)	Weekly number of hours					Learning effect symbol	Number of hours		Number of ECTS points			Form ² of subject / groups of classes	Way ³ of crediting	Subject / groups of classes			
			lec	cl	lab	pr	sem		ZZU	CNPS	Total	DN ⁵ classes	BU ¹ classes			Unive rsity-wide ⁴	Concerni ng scientific activities ⁵	Practical ⁶	Type ⁷
1	W04IST-SM4015W	Physics of Contemporary Computer Science	1					K2IST_W01	15	30	1	0	0,7	T	Z			0	PD
2	W04IST-SM4020W	Methods of planning and analyzing experiments	1					K2IST_W01	15	30	1	0	0,7	T	Z			0	PD
Total			2						30	60	2	0	1,4					0	

Optional subjects / groups of classes: Foreign Languages (minimum 45 hours in semester, 2 ECTS points)

No.	Subject / groups of classescode	Name of subject / groups of classes (denote group of courses with symbol GK)	Weekly number of hours					Learning effect symbol	Number of hours		Number of ECTS points			Form ² of subject / groups of classes	Way ³ of crediting	Subject / groups of classes			
			lec	cl	lab	pr	sem		ZZU	CNPS	Total	DN ⁵ classes	BU ¹ classes			Unive rsity-wide ⁴	Concerni ng scientific activities ⁵	Practical ⁶	Type ⁷
1	SJO-SM0002	Foreign Language II		3				K2IST_U12	45	60	2	0	1,7	T	Z	O		3	KO
Total				3					45	60	2	0	1,7					3	

¹BU – number of ECTS points assigned to hours of classes requiring direct participation of academic teachers and other persons conducting classes

²Traditional – enter T, remote – enter Z

³Exam – enter E, crediting – enter Z. For the group of classes – after the letter E or Z - enter in brackets the final subject form (lec, cl, lab, pr, sem)

⁴University-wide subject /group of classes – enter O

⁵DN - number of ECTS points assigned to the classes related to the University's academic activity in the discipline/disciplines to which the main field of study is assigned

⁶Practical subject / group of classes – enter P. For the group of classes – in brackets enter the number of ECTS points assigned to practical courses

⁷KO – general education courses, PD – basic sciences courses, K – main field of study courses, S – specialization courses

Optional courses / groups of courses: *Computer Engineering Specialization (minimum 315 hours in semester, 26 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					Learning effect symbol	Number of hours		Number of ECTS points			Form ² of course/group of courses	Way ³ of crediti ng	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	Total	DN ⁵ classes	BU ¹ classes			Univer sity- wide ⁴	Concerni ng scientific activities ⁵	Practical ⁶	Type ⁷
1	W04IST- SM4032G	Software System Development (GK)	2			2	1	K2IST_W02 K2IST_W06 K2IST_W07 K2IST_U01 K2IST_U10 K2IST_U11, K2IST_U06, K2IST_U08 K2IST_U13 K2IST_K04	75	150	6	5	3,6	T/Z (W, S) T (P)	E (W)		T	3	S
2	W04IST- SM4033G	Foundations of Knowledge Engineering (GK)	2	1			2	K2IST_W05 K2IST_U05	60	100	4	3	3,3	T/Z (W, S) T (C)	Z (W)		T	2	S
3	W04IST- SM4018G	Advanced Databases (GK)	2			2		K2IST_W05 K2IST_W07 K2IST_U03 K2IST_U05 K2IST_U08	60	150	6	5	2,9	T/Z (W) T (P)	E (W)		T	3	S
4	W04IST- SM4031G	Advanced Cybersecurity Issues (GK)	2			1	2	K2IST_W06 K2IST_U01 K2IST_U10 K2IST_U11	60	125	5	4	3,6	T/Z (W, S) T (P)	Z (W)		T	3	S
5	W04IST- SM4038G	Analysis of Web-based System (GK)	2			2		K2IST_W02 K2IST_W07 ,K2IST_U03	60	125	5	4	2,7	T/Z (W) T (P)	Z (W)		T	3	
Total			10	1	0	7	5		315	650	26	21	16,1					14	

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²Traditional – enter T, remote – enter Z

³Exam – enter E, crediting – enter Z. For the group of classes – after the letter E or Z - enter in brackets the final subject form (lec, cl, lab, pr, sem)

⁴University-wide subject /group of classes – enter O

⁵DN - number of ECTS points assigned to the classes related to the University's academic activity in the discipline/disciplines to which the main field of study is assigned

⁶Practical subject / group of classes – enter P. For the group of classes – in brackets enter the number of ECTS points assigned to practical courses

⁷KO – general education courses, PD – basic sciences courses, K – main field of study courses, S – specialization courses

Altogether in semester

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Total number of ECTS points for DN classes ⁵	Number of ECTS points for BU classes ¹
lec	cl	lab	pr	sem					
12	4	0	7	5	420	770	30	21	19,2

Semester 2

Obligatory subjects / groups of classes: *Humanities and management subjects*

Number of ECTS points 2

No.	Subject / groups of classescode	Name of subject / groups of classes (denote group of courses with symbol GK)	Weekly number of hours					Learning effect symbol	Number of hours		Number of ECTS points			Form ² of subject / groups of classes	Way ³ of crediting	Subject / groups of classes			
			lec	cl	lab	pr	sem		ZZU	CNPS	Total	DN ⁵ classes	BU ¹ classes			University-wide ⁴	Concerning scientific activities ⁵	Practical ⁶	Type ⁷
1	W08IST-SM4018W	Fundamentals of Business and Intellectual Property	2					K2IST_W08 K2IST_K02	30	90	3	0	1,2	T	Z	O		0	KO
		Total	2	0	0	0	0		30	90	3	0	1,2					0	

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²Traditional – enter T, remote – enter Z

³Exam – enter E, crediting – enter Z. For the group of classes – after the letter E or Z - enter in brackets the final subject form (lec, cl, lab, pr, sem)

⁴University-wide subject /group of classes – enter O

⁵DN - number of ECTS points assigned to the classes related to the University's academic activity in the discipline/disciplines to which the main field of study is assigned

⁶Practical subject / group of classes – enter P. For the group of classes – in brackets enter the number of ECTS points assigned to practical courses

⁷KO – general education courses, PD – basic sciences courses, K – main field of study courses, S – specialization courses

Optional subjects / groups of classes: Foreign Languages (minimum 15 hours in semester, 1 ECTS points)

No.	Subject / groups of classes code	Name of subject / groups of classes (denote group of courses with symbol GK)	Weekly number of hours					Learning effect symbol	Number of hours		Number of ECTS points			Form ² of subject / groups of classes	Way ³ of crediting	Subject / groups of classes			
			lec	cl	lab	pr	sem		ZZU	CNPS	Total	DN ⁵ classes	BU ¹ classes			University-wide ⁴	Concerning scientific activities ⁵	Practical ⁶	Type ⁷
1	SJO-SM0001	Foreign Language I		1				K2IST_U12	15	30	1	0	0,7	T	Z	O		1	KO
Total			0	1	0	0	0		15	30	1	0	0,7					1	

Optional subjects / groups of classes: Main Field of Study (minimum 30 hours in semester, 2 ECTS points)

No.	Subject group of classes code	Name of Subjectgroup of classes (denote group of courses with symbol GK)	Weekly number of hours					Learning effect symbol	Number of hours		Number of ECTS points			Form ² of Subjectgroup of courses	Way ³ of crediting	Subjectgroup of classes			
			lec	cl	lab	pr	sem		ZZU	CNPS	Total	DN ⁵ classes	BU ¹ classes			University-wide ⁴	Concerning scientific activities ⁵	Practical ⁶	Type ⁷
6	W04IST-SM4039P	Monographic project				2		K2IST_U01 K2IST_U04 K2IST_U09 K2IST_U14 K2IST_K01	30	50	2	1	1,5	T	Z		T	2	K
Total			0	0	0	2	0		30	50	2	1	1,5					2	

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²Traditional – enter T, remote – enter Z

³Exam – enter E, crediting – enter Z. For the group of classes – after the letter E or Z - enter in brackets the final subject form (lec, cl, lab, pr, sem)

⁴University-wide subject /group of classes – enter O

⁵DN - number of ECTS points assigned to the classes related to the University's academic activity in the discipline/disciplines to which the main field of study is assigned

⁶Practical subject / group of classes – enter P. For the group of classes – in brackets enter the number of ECTS points assigned to practical courses

⁷KO – general education courses, PD – basic sciences courses, K – main field of study courses, S – specialization courses

Optional courses / groups of courses: *Computer Engineering Specialization (minimum 360 hours in semester, 26 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					Learning effect symbol	Number of hours		Number of ECTS points			Form ² of course/gr oup of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	Total	DN ⁵ classes	BU ¹ classes			Univ ersity - wide ⁴	Concerni ng scientific activities ⁵	Practical ⁶	Type ⁷
1	W04IST- SM4026G	User Experience (GK)	2			3		K2IST_W02 K2IST_W06 K2IST_U06 K2IST_U09	75	125	5	4	3,4	T/Z (W) T (P)	E (W)		T	2	S
2	W04IST- SM4034G	Project Management (GK)	2			2	1	K2IST_W02 K2IST_W06 K2IST_U07 K2IST_U13 K2IST_K04	75	125	5	4	3,3	T/Z (W, S) T (P)	Z (W)		T	3	S
3	W04IST- SM4003G	Advanced Topics in Artificial Intelligence (GK)	2			2	1	K2IST_W03 K2IST_W04 K2IST_U02 K2IST_U04	75	175	7	6	3,5	T/Z (W, S) T (P)	E (W)		T	4	S
4	W04IST- SM4035S	Recent Advances in Computer Science					2	K2IST_W03 K2IST_U01 K2IST_U10 K2IST_U11 K2IST_K01	30	50	2	2	1,3	T/Z (S)	Z		T	2	S
5	W04IST- SM4030G	Research Methodology (GK)	2		2		1	K2IST_W01 K2IST_W04 K2IST_W07 K2IST_U02 K2IST_U03	75	125	5	3	3,2	T/Z (W, S) T (L)	Z (W)		T	3	S
Total			8	0	2	7	5		330	600	24	19	14,7					14	

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²Traditional – enter T, remote – enter Z

³Exam – enter E, crediting – enter Z. For the group of classes – after the letter E or Z - enter in brackets the final subject form (lec, cl, lab, pr, sem)

⁴University-wide subject /group of classes – enter O

⁵DN - number of ECTS points assigned to the classes related to the University's academic activity in the discipline/disciplines to which the main field of study is assigned

⁶Practical subject / group of classes – enter P. For the group of classes – in brackets enter the number of ECTS points assigned to practical courses

⁷KO – general education courses, PD – basic sciences courses, K – main field of study courses, S – specialization courses

Altogether in semester

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Total number of ECTS points for DN classes ⁵	Number of ECTS points for BU classes ¹
lec	cl	lab	pr	sem					
10	1	2	9	5	405	770	30	20	18,1

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²Traditional – enter T, remote – enter Z

³Exam – enter E, crediting – enter Z. For the group of classes – after the letter E or Z - enter in brackets the final subject form (lec, cl, lab, pr, sem)

⁴University-wide subject /group of classes – enter O

⁵DN - number of ECTS points assigned to the classes related to the University's academic activity in the discipline/disciplines to which the main field of study is assigned

⁶Practical subject / group of classes – enter P. For the group of classes – in brackets enter the number of ECTS points assigned to practical courses

⁷KO – general education courses, PD – basic sciences courses, K – main field of study courses, S – specialization courses

Semester 3

Obligatory subjects / groups of classes: Humanities and management subjects Number of ECTS points 2

No.	Subject / groups of classes code	Name of subject / groups of classes (denote group of courses with symbol GK)	Weekly number of hours					Learning effect symbol	Number of hours		Number of ECTS points			Form ² of subject / groups of classes	Way ³ of crediting	Subject / groups of classes			
			lec	cl	lab	pr	sem		ZZU	CNPS	Total	DN ⁵ classes	BU ¹ classes			University-wide ⁴	Concerning scientific activities ⁵	Practical ⁶	Type ⁷
1	W08IST-SM4017S	Ethics of New Technologies					1	K21ST_W09 K21ST_U11 K21ST_K03	15	60	2	0	0,7	T	Z	O		2	KO
Total			0	0	0	0	1		15	60	2	0	0,7					2	

Optional subjects / groups of classes: Main Field of Study (minimum 30 hours in semester, 2 ECTS points)

No.	Subject group of classes code	Name of Subjectgroup of classes (denote group of courses with symbol GK)	Weekly number of hours					Learning effect symbol	Number of hours		Number of ECTS points			Form ² of Subjectgroup of courses	Way ³ of crediting	Subjectgroup of classes			
			lec	cl	lab	pr	sem		ZZU	CNPS	Total	DN ⁵ classes	BU ¹ classes			University-wide ⁴	Concerning scientific activities ⁵	Practical ⁶	Type ⁷
1	W04IST-SM4040D	Master Thesis					0,8	K21ST_U01 K21ST_U04 K21ST_U09 K21ST_U14 K21ST_K02	12	450	18	15	0,5	T	Z		T	18	K
2	W04IST-SM4013S	Diploma seminar					2	K21ST_U01 K21ST_U10 K21ST_U11 K21ST_U14 K21ST_K01	30	50	2	1	1,4	T/Z (S)	Z		T	2	K
Total			0	0	0	0,8	2		42	500	20	16	1,9					20	

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²Traditional – enter T, remote – enter Z

³Exam – enter E, crediting – enter Z. For the group of classes – after the letter E or Z - enter in brackets the final subject form (lec, cl, lab, pr, sem)

⁴University-wide subject /group of classes – enter O

⁵DN - number of ECTS points assigned to the classes related to the University's academic activity in the discipline/disciplines to which the main field of study is assigned

⁶Practical subject / group of classes – enter P. For the group of classes – in brackets enter the number of ECTS points assigned to practical courses

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Optional courses / groups of courses (minimum 158 hours in semester, 28 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					Learning effect symbol	Number of hours		Number of ECTS points			Form ² of course/gr oup of courses	Way ³ of credi ng	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	Total	DN ⁵ classes	BU ¹ classes			Univer sity- wide ⁴	Concerni ng scientific activities ⁵	Practical ⁶	Type ⁷
1	W04IST- SM4035G	Mobile and Multimedia Systems (GK)	2			2		K2IST_W06 ,K2IST_U06	60	100	4	2	2,8	T/Z (W) T (P)	Z (W)		T	2	S
2	W04IST- SM4037G	Video Game Design (GK)	2			2		K2IST_W06 ,K2IST_U06	60	100	4	2	2,8	T/Z (W) T (P)	Z (W)		T	2	S
Total			4	0	0	4	0		120	200	8	4	5,6					4	

Altogether in semester

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Total number of ECTS points for DN classes ⁵	Number of ECTS points for BU classes ¹
lec	cl	lab	pr	sem					
4	0	0	4,8	3	177	760	30	20	8,2

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⁴University-wide subject /group of classes – enter O

⁵DN - number of ECTS points assigned to the classes related to the University's academic activity in the discipline/disciplines to which the main field of study is assigned

⁶Practical subject / group of classes – enter P. For the group of classes – in brackets enter the number of ECTS points assigned to practical courses

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2. Set of examinations in semestral arrangement

Subject / groups of classescode	Names of subjects / groups of classesending with examination	Semester
W04IST-SM4032G	Software System Development (GK)	1
W04IST-SM4018G	Advanced Databases (GK)	
W04IST-SM4003G	Advanced Topics in Artificial Intelligence (GK)	2
W04IST-SM4026G	User Experience (GK)	

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

Semester	Allowable deficit of ECTS points after semester
1	9
2	8
3	0

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³Exam – enter E, crediting – enter Z. For the group of classes – after the letter E or Z - enter in brackets the final subject form (lec, cl, lab, pr, sem)

⁴University-wide subject /group of classes – enter O

⁵DN - number of ECTS points assigned to the classes related to the University's academic activity in the discipline/disciplines to which the main field of study is assigned

⁶Practical subject / group of classes – enter P. For the group of classes – in brackets enter the number of ECTS points assigned to practical courses

⁷KO – general education courses, PD – basic sciences courses, K – main field of study courses, S – specialization courses

Opinion of student government legislative body

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Date

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Name and surname, signature of student representative

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Date

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Dean's signature

¹BU – number of ECTS points assigned to hours of classes requiring direct participation of academic teachers and other persons conducting classes

²Traditional – enter T, remote – enter Z

³Exam – enter E, crediting – enter Z. For the group of classes – after the letter E or Z - enter in brackets the final subject form (lec, cl, lab, pr, sem)

⁴University-wide subject /group of classes – enter O

⁵DN - number of ECTS points assigned to the classes related to the University's academic activity in the discipline/disciplines to which the main field of study is assigned

⁶Practical subject / group of classes – enter P. For the group of classes – in brackets enter the number of ECTS points assigned to practical courses

⁷KO – general education courses, PD – basic sciences courses, K – main field of study courses, S – specialization courses