

**INFORMATION SCIENCES, speciality: Engineering of IT Systems**

Educational profile: general academic

from 2017/2018

Form of studies: full-time

Level of qualification: first degree studies

Qualifications gained: first degree studies

Area of education: in science and technological sciences

No.	Name of subject/ module	sem.	ECTS	exam in sem.	Hours in semester									
					lect.	exerc.	lab.	others	self-study	lect.+exerc	contact	practical	together	status
<b>General requirements</b>														
1	Ergonomics	1	0,25	zal.	2			0	3	2	2	0	5	o
2	Intellectual property protection	1	0,25	zal.	2			0	3	2	2	0	5	o
3	Etiquette	1	0,5	zal.	4			0	6	4	4	0	10	o
4	Safety and hygiene at work	1	0,5	zal.	4			4	6	4	8	0	14	o
5	Patent information	5	0,5	zal.	4			4	6	4	8	0	14	o
6	Humanity course 1	1	2	zal_O	30			1	30	30	31	0	61	f
7	Humanity course 2	2	2	zal_O	30			1	30	30	31	0	61	f
8	Foreign language 1	2	2	zal_O		30		1	30	30	31	30	61	f
9	Foreign language 2	3	2	zal_O		30		1	30	30	31	30	61	f
10	Foreign language 3	4	2	zal_O		30		1	30	30	31	30	61	f
11	Foreign language 4	5	2	Egz.		30		1	30	30	31	30	61	f
12	Physical Education	4	0	zal_O		30			0	0	30	30	30	f
<b>Basic subjects</b>														
1	Foundations of logic and set theory	1	5	Egz.	30	30		3	62	60	63	30	125	o
2	Repetitory course of elementary mathematics	1	2	zal_O		30		0	25	30	30	30	55	o
3	Support applications	1	3	zal_O			45	1	30	45	46	45	76	o
4	Mathematical analysis	2	6	Egz.	30	45		5	70	75	80	30	150	o
5	Physics	3	6	Egz.	30		45	5	70	75	80	45	150	o
6	Probability methods and statistics	3	5	Egz.	30	30		5	60	60	65	30	125	o
7	Statistical packages	3	1	zal_O			15	2	8	15	17	15	25	o



<b>Subjects for speciality</b>														
1	Linear algebra and analytical geometry	1	6	Egz.	30	45		5	70	75	80	45	150	o
2	Discrete mathematics for IT	2	5	Egz.	30	30		5	60	60	65	30	125	o
3	Programming of WWW applications	5	4	zal_O	15		45	5	45	60	65	45	110	o
4	Methods of knowledge engineering	6	5	Egz.	30		30	5	60	60	65	30	125	o
5	Subject to be chosen 3	5	4	zal_O	15		30	5	50	45	50	30	100	f
	Administration of computer networks ^^^^													
	Programming of internet services ^^^^													
6	Subject to be chosen 5	7	4	zal_O			45	5	50	45	50		100	f
	Information design management ^^^^^													
	Diagnosing and servicing of computer devices and systems^^^^^													
<b>Specialising</b>														
1	Specialized lecture 1	6	2,5	zal_O	30			3	33	30	33	0	66	f
2	Graduation computer laboratory 1	6	2,5	zal_O			30	8	37	30	38	30	75	f
3	Team design	6	4	zal_O			45	5	50	45	50	50	100	f
4	Specialized lecture 2	7	2,5	zal_O	30			3	33	30	33	0	66	f
5	Graduation computer laboratory 2	7	3,5	zal_O			45	7	52	45	52	45	104	f
<b>Others</b>														
1	Professional practice	6	6	zal_O				52	108	0	52	160	160	f
2	Diploma Thesis	7	15					75	300	0	75	125	375	f

<b>Together:</b>		ECTS	exams	lec.	exer.	lab.	others	self-study	lec.+ex.	contact.	pract.	summary
<b>semester 1</b>	1	30	4	162	105	120	24	355	387	411	225	766
<b>semester 2</b>	2	30	4	150	105	120	27	370	375	402	210	772
<b>semester 3</b>	3	30	4	165	60	165	28	353	390	418	225	771
<b>semester 4</b>	4	30	3	180	60	165	31	362	375	436	225	798
<b>semester 5</b>	5	30	3	154	30	195	39	370	379	418	225	788
<b>semester 6</b>	6	30	3	120	0	165	83	408	285	368	330	776
<b>semester 7</b>	7	30	1	60	0	120	95	495	180	275	200	770
<b>Liczba egzaminów / punktów</b>		<b>210</b>	<b>22</b>	<b>991</b>	<b>360</b>	<b>1050</b>	<b>327</b>	<b>2713</b>	<b>2371</b>	<b>2728</b>	<b>1640</b>	<b>5441</b>

I	ECTS: summary	ECTS		Hours	
		Liczba godzin	%	Liczba	%
	<b>Together in plan of studies</b>	210	100%	5441	100%
1	requiring the direct contact with an academic teacher*	105,3	50,1%	2728	50,1%
2	in basic sciences	38	18,1%	956	17,6%
3	of practical nature (laboratories, projects, workshops)	63,3	30,1%	1640	30,1%
4	general academic to be realized with another field of study	14	6,7%	444	8,2%
5	Humanity and social subjects	10	4,8%	272	5,0%
6	subjects to be chosen - at least 30% of ECTS	75,5	36,0%	2032	37,3%
7	Professional practice	6	2,9%	160	2,9%
8	Physical education	0	0,0%	30	0,6%

II	Percentage of ECTS for each field of study in ECTS	%
	<b>field of study</b>	
1	technological sciences	<b>83,3%</b>
2	science	<b>16,7%</b>
	Together % of ECTS	

**INFORMATION SCIENCES, speciality: General Information Sciences**

Educational profile: general academic

from 2017/18

Form of studies: full-time

Level of qualification: first degree studies

Qualifications gained: first degree studies

Area of education: in science and technological sciences

No.	Name of subject/ module	sem.	ECTS	exam in sem.	Hours in semester									
					lect.	exerc.	lab.	others	self-study	lect.+exerc	contact	practical	together	status
<b>General requirements</b>														
1	Ergonomics	1	0,25	zal.	2			0	3	2	2	0	5	o
2	Intellectual property protection	1	0,25	zal.	2			0	3	2	2	0	5	o
3	Etiquette	1	0,5	zal.	4			0	6	4	4	0	10	o
4	Safety and hygiene at work	1	0,5	zal.	4			4	6	4	8	0	14	o
5	Patent information	5	0,5	zal.	4			4	6	4	8	0	14	o
6	Humanity course 1	1	2	zal_O	30			1	30	30	31	0	61	f
7	Humanity course 2	2	2	zal_O	30			1	30	30	31	0	61	f
9	Foreign language 1	2	2	zal_O		30		1	30	30	31	30	61	f
10	Foreign language 2	3	2	zal_O		30		1	30	30	31	30	61	f
11	Foreign language 3	4	2	zal_O		30		1	30	30	31	30	61	f
12	Foreign language 4	5	2	Egz.		30		1	30	30	31	30	61	f
13	Physical Education	4	0	zal_O		30			0	0	30	30	30	f
<b>Basic subjects</b>														
1	Foundations of logic and set theory	1	5	Egz.	30	30		3	62	60	63	30	125	o
2	Repetitory course of elementary mathematics	1	2	zal_O		30		0	25	30	30	30	55	o
3	Support applications	1	3	zal_O			45	1	30	45	46	45	76	o
4	Mathematical analysis	2	6	Egz.	30	45		5	70	75	80	30	150	o
5	Physics	3	6	Egz.	30		45	5	70	75	80	45	150	o
6	Probability methods and statistics	3	5	Egz.	30	30		5	60	60	65	30	125	o
7	Statistical packages	3	1	zal_O			15	2	8	15	17	15	25	o

8	Foundations of electronics and electrical engineering	4	5	zal_O	30		30	5	60	60	65	30	125	o
9	Subject to be choosen 1	5	5	zal_O	30		30	5	60	60	65	30	125	f
	Electronic measuring ^													
	Internet of things ^													
	Sensorics ^													
<b>Subjects for field of study</b>														
1	Introduction to programming	1	5	Egz.	30		30	5	60	60	65	30	125	o
2	Data bases	1	5,5	Egz.	30		45	5	60	75	80	45	140	o
3	Structured programming	2	6	Egz.	30		45	5	70	75	80	45	150	o
4	Data visualization	2	5	Egz.	15		45	5	60	60	65	45	125	o
5	CAD computer supported designing	2	4	zal_O	15		30	5	50	45	50	30	100	o
6	Algorithms and data structures	3	4,5	Egz.	30		30	5	50	60	65	30	115	o
7	Social and vocational problems of computer science	3	1	zal_O	15			0	15	15	15	0	30	o
8	Object oriented programming	3	6	Egz.	30		45	5	70	75	80	45	150	o
9	Digital engineering	3	4,5	zal_O	30		30	5	50	60	65	30	115	o
10	Computers organization and architecture	4	3	zal_O	30		15	5	30	45	50	15	80	o
11	Computer networks	4	5	Egz.	30		30	5	60	60	65	30	125	o
12	Declarative programming – programming paradigms	4	5	Egz.	30		30	7	60	60	67	30	127	o
13	Operating systems	4	5	Egz.	30		30	5	60	60	65	30	125	o
14	Information system design	4	5	zal_O	30		30	3	62	60	63	30	125	o
15	Subject to be choosen 2	5	4,5	zal_O	30		30	5	50	60	65	30	115	f
	Security of computer systems ^^													
	Elements of intelligent robotics^^													
16	Software engineering	5	5	Egz.	30		30	9	69	60	69	30	138	o
17	Introduction to machine graphics	5	5	Egz.	30		30	5	60	60	65	30	125	o
18	Facultative subject	6	5	Egz.	30		30	5	60	60	65	30	125	f
19	Embedded systems	6	5	Egz.	30		30	5	60	60	65	30	125	o
20	Subject to be choosen 4	7	5	Egz.	30		30	5	60	60	65	30	125	f
	Needs of job market ^^^													
	Control systems ^^^													
	Game designing based on Unity engine ^^^													
	Software testing ^^^													
<b>Subjects for speciality</b>														

1	Elements of algebra and analytical geometry	1	6	Egz.	30	45		5	70	75	80	45	150	o
2	Elements of discrete mathematics	2	5	Egz.	30	30		5	60	60	65	30	125	o
2	Operating research	5	4	zal_O	15		30	5	50	45	50	45	100	o
3	Artificial intelligence	6	5	Egz.	30		30	5	60	60	65	30	125	o
4	Subject to be chosen 3	5	4	zal_O	30		30	5	45	60	65	30	110	f
	Elements of numerical methods <sup>****</sup>													
	Automats and formal languages <sup>****</sup>													
5	Subject to be chosen 5	7	4	zal_O	15		30	5	50	45	50		100	f
	WWW applications <sup>****</sup>													
	Computer subassemblies design <sup>****</sup>													
<b>Specialising</b>														
1	Specialized lecture 1	6	2,5	zal_O	30			3	33	30	33	0	66	f
2	Graduation computer laboratory 1	6	2,5	zal_O			30	8	37	30	38	30	75	f
3	Team design	6	4	zal_O			45	5	50	45	50	50	100	f
4	Specialized lecture 2	7	2,5	zal_O	30			3	33	30	33	0	66	f
5	Graduation computer laboratory 2	7	3,5	zal_O			45	7	52	45	52	45	104	f
<b>Others</b>														
1	Professional practice	6	6	zal_O				52	108	0	52	160	160	f
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<b>Together:</b>		ECTS	exams	lec.	exer.	lab.	others	self-study	lec.+ex.	contact.	pract.	summary	
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<b>semester 4</b>	<b>4</b>	<b>30</b>	<b>3</b>	180	60	165	31	362	375	436	225	798	
<b>semester 5</b>	<b>5</b>	<b>30</b>	<b>3</b>	169	30	180	39	370	379	418	225	788	
<b>semester 6</b>	<b>6</b>	<b>30</b>	<b>3</b>	120	0	165	83	408	285	368	330	776	
<b>semester 7</b>	<b>7</b>	<b>30</b>	<b>1</b>	75	0	105	95	495	180	275	200	770	
<b>Liczba egzaminów / punktów</b>		<b>210</b>	<b>22</b>	<b>1021</b>	<b>360</b>	<b>1020</b>	<b>327</b>	<b>2713</b>	<b>2371</b>	<b>2728</b>	<b>1640</b>	<b>5441</b>	

I	ECTS: summary	ECTS		Hours	
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	<b>Together in plan of studies</b>	210	100%	5441	100%
1	requiring the direct contact with an academic teacher*	105,3	50,1%	2728	50,1%
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6	subjects to be chosen - at least 30% of ECTS	75,5	36,0%	2042	37,5%
7	Professional practice	6	2,9%	160	2,9%
8	Physical education	0	0,0%	30	0,6%

II	Percentage of ECTS for each field of study in ECTS	%
	<b>field of study</b>	
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	Together % of ECTS	



## INFORMATION SCIENCES, speciality: Engineering of IT Systems

Educational profile: general academic

actual from 2017/18

Form of studies: full-time

Level of qualification: first degree studies

Qualifications gained: first degree studies

Area of education: in science and technological sciences

### Semestr 1

		ECTS		lect.	exerc.	lab.
1	Ergonomics	0,25	zal.	2		
2	Intellectual property protection	0,25	zal.	2		
3	Etiquette	0,5	zal.	4		
4	Safety and hygiene at work	0,5	zal.	4		
5	Humanity course 1	2	zal_O	30		
6	Foundations of logic and set theory	5	Egz.	30	30	
7	Repetitory course of elementary mathematics	2	zal_O		30	
8	Support applications	3	zal_O			45
9	Introduction to programming	5	Egz.	30		30
10	Data bases	5,5	Egz.	30		45
11	Linear algebra and analytical geometry	6	Egz.	30	45	

### Semestr 2

		ECTS		lect.	exerc.	lab.
1	Humanity course 2	2	zal_O	30		
2	Foreign language 1	2	zal_O		30	
3	Mathematical analysis	6	Egz.	30	45	
4	Structured programming	6	Egz.	30		45
5	Data visualization	5	Egz.	15		45
6	CAD computer supported designing	4	zal_O	15		30
7	Discrete mathematics for IT	5	Egz.	30	30	

### Semestr 3

		ECTS		lect.	exerc.	lab.
1	Foreign language 2	2	zal_O		30	
2	Physics	6	Egz.	30		45
3	Probability methods and statistics	5	Egz.	30	30	
4	Statistical packages	1	zal_O			15
5	Algorithms and data structures	4,5	Egz.	30		30
6	Social and vocational problems of computer science	1	zal_O	15		
7	Object oriented programming	6	Egz.	30		45
8	Digital engineering	4,5	zal_O	30		30

### Semestr 4

		ECTS		lect.	exerc.	lab.
1	Foreign language 3	2	zal_O		30	
2	Physical education	0	zal_O		30	
3	Foundations of electronics and electrical engineering	5	zal_O	30		30
4	Computers organization and architecture	3	zal_O	30		15
5	Computer networks	5	Egz.	30		30
6	Declarative programming – programming paradigms	5	Egz.	30		30
7	Operating systems	5	Egz.	30		30
8	Information system design	5	Egz.	30		30

<b>Semestr 5</b>		ECTS		lect.	exerc.	lab.
1	Patent information	0,5	zal.	<b>4</b>		
2	Foreign language 4	2	Egz.		<b>30</b>	
3	Subject to be choosen 1	5	zal_O	<b>30</b>		<b>30</b>
	Electronic measuring ^					
	Internet of things ^					
	Sensorics ^					
4	Subject to be choosen 2	4,5	zal_O	<b>30</b>		<b>30</b>
	Security of computer systems ^^					
	Elements of intelligent robotics^^					
5	Software engineering	5	Egz.	<b>30</b>		<b>30</b>
6	Introduction to machine graphics	5	Egz.	<b>30</b>		<b>30</b>
7	Programming of WWW applications	4	zal_O	<b>15</b>		<b>45</b>
8	Subject to be choosen 3	4	zal_O	<b>15</b>		<b>30</b>
	Administration of computer networks ^^^^					
	Programming of internet services ^^^^					

<b>Semestr 6</b>		ECTS		lect.	exerc.	lab.
1	Facultative subject	5	Egz.	<b>30</b>		<b>30</b>
2	Embedded systems	5	Egz.	<b>30</b>		<b>30</b>
3	Methods of knowledge engineering	5	Egz.	<b>30</b>		<b>30</b>
4	Specialized lecture 1	2,5	zal_O	<b>30</b>		
5	Graduation computer laboratory 1	2,5	zal_O			<b>30</b>
6	Team design	4	zal_O			<b>45</b>
7	Professional practice	6	zal_O			

<b>Semestr 7</b>		ECTS		lect.	exerc.	lab.
1	Subject to be choosen 4	5	Egz.	<b>30</b>		<b>30</b>
	Needs of job market ^^^					
	Control systems ^^^					
	Game designing based on Unity engine ^^					
	Software testing ^^^					
2	Subject to be choosen 5	4	zal_O			<b>45</b>
	Information design management ^^^^					
	Diagnosing and servicing of computer devices and systems^^^^					
3	Specialized lecture 2	2,5	zal_O	<b>30</b>		
4	Graduation computer laboratory 2	3,5	zal_O			<b>45</b>
5	Diploma Thesis	15				

## INFORMATION SCIENCES, speciality: General Information Sciences

Educational profile: general academic

from 2017/18

Form of studies: full-time

Level of qualification: first degree studies

Qualifications gained: first degree studies

Area of education: in science and technological sciences

### Semestr 1

		ECTS		lect.	exerc.	lab.
1	Ergonomics	0,25	zal.	2		
2	Intellectual property protection	0,25	zal.	2		
3	Etiquette	0,5	zal.	4		
4	Safety and hygiene at work	0,5	zal.	4		
5	Humanity course 1	2	zal_O	30		
6	Foundations of logic and set theory	5	Egz.	30	30	
7	Repetitory course of elementary mathematics	2	zal_O		30	
8	Support applications	3	zal_O			45
9	Introduction to programming	5	Egz.	30		30
10	Data bases	5,5	Egz.	30		45
11	Elements of algebra and analytical geometry	6	Egz.	30	45	

### Semestr 2

		ECTS		lect.	exerc.	lab.
1	Humanity course 2	2	zal_O	30		
2	Foreign language 1	2	zal_O		30	
3	Mathematical analysis	6	Egz.	30	45	
4	Structured programming	6	Egz.	30		45
5	Data visualization	5	Egz.	15		45
6	CAD computer supported designing	4	zal_O	15		30
7	Elements of discrete mathematics	5	Egz.	30	30	

### Semestr 3

		ECTS		lect.	exerc.	lab.
1	Foreign language 2	2	zal_O		30	
2	Physics	6	Egz.	30		45
3	Probability methods and statistics	5	Egz.	30	30	
4	Statistical packages	1	zal_O			15
5	Algorithms and data structures	4,5	Egz.	30		30
6	Social and vocational problems of computer science	1	zal_O	15		
7	Object oriented programming	6	Egz.	30		45
8	Digital engineering	4,5	zal_O	30		30

### Semestr 4

		ECTS		lect.	exerc.	lab.
1	Foreign language 3	2	zal_O		30	
2	Physical education	0	zal_O		30	
3	Foundations of electronics and electrical engineering	5	zal_O	30		30
4	Computers organization and architecture	3	zal_O	30		15
5	Computer networks	5	Egz.	30		30
6	Declarative programming – programming paradigms	5	Egz.	30		30
7	Operating systems	5	Egz.	30		30
8	Information system design	5	Egz.	30		30

<b>Semestr 5</b>		ECTS		lect.	exerc.	lab.
1	Patent information	0,5	zal.	<b>4</b>		
2	Foreign language 4	2	Egz.		<b>30</b>	
3	Subject to be choosen 1	5	zal_O	<b>30</b>		<b>30</b>
	Electronic measuring ^					
	Internet of things ^					
	Sensorics ^					
4	Subject to be choosen 2	4,5	zal_O	<b>30</b>		<b>30</b>
	Security of computer systems ^^					
	Elements of intelligent robotics^^					
5	Software engineering	5	Egz.	<b>30</b>		<b>30</b>
6	Introduction to machine graphics	5	Egz.	<b>30</b>		<b>30</b>
7	Operating research	4	zal_O	<b>15</b>		<b>30</b>
8	Subject to be choosen 3	4	zal_O	<b>30</b>		<b>30</b>
	Elements of numerical methods^^^^					
	Automats and formal languages ^^^^					

<b>Semestr 6</b>		ECTS		lect.	exerc.	lab.
1	Facultative subject	5	Egz.	<b>30</b>		<b>30</b>
2	Embedded systems	5	Egz.	<b>30</b>		<b>30</b>
3	Artificial intelligence	5	Egz.	<b>30</b>		<b>30</b>
4	Specialized lecture 1	2,5	zal_O	<b>30</b>		
5	Graduation computer laboratory 1	2,5	zal_O			<b>30</b>
6	Team design	4	zal_O			<b>45</b>
7	Professional practice	6	zal_O			

<b>Semestr 7</b>		ECTS		lect.	exerc.	lab.
1	Subject to be choosen 4	5	Egz.	<b>30</b>		<b>30</b>
	Needs of job market ^^^					
	Control systems ^^^					
	Game designing based on Unity engine ^^					
	Software testing ^^^					
2	Subject to be choosen 5	4	zal_O	<b>15</b>		<b>30</b>
	WWW applications^^^^					
	Computer subassemblies design ^^^^^					
3	Specialized lecture 2	2,5	zal_O	<b>30</b>		
4	Graduation computer laboratory 2	3,5	zal_O			<b>45</b>
5	Diploma Thesis	15				