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.+exer	contact	practical	together	status
	General requirements													
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
	Basic subjects													
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 ^													
	Subjects for field of study													
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	Methods of knowledge engineering	**6**	5	Egz.	**30**		**30**	5	60	60	65	30	125	o

21	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 ^^^													
	Subjects for speciality													
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
5	Programming of WWW applications	**5**	4	zal_O	**15**		**45**	5	45	60	65	45	110	o
6	Subject to be choosen 3	**5**	4	zal_O	**15**		**30**	5	50	45	50	30	100	f
	Administration of computer networks ^^^^													
	Programming of internet services ^^^^													
7	Subject to be choosen 5	**7**	4	zal_O			**45**	5	50	45	50		100	f
	Information design management ^^^^^													
	Diagnosing and servicing of computer devices and systems^^^^^													
	Specialising													
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
	Others													
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

Together:		ECTS	exams	lec.	exer.	lab.	others	self-study	lec.+ex.	contact.	pract.	summary
semester 1	**1**	**30**	**4**	162	105	120	24	355	387	411	225	766
semester 2	**2**	**30**	**4**	150	105	120	27	370	375	402	210	772
semester 3	**3**	**30**	**4**	165	60	165	28	353	390	418	225	771
semester 4	**4**	**30**	**3**	180	60	165	31	362	375	436	225	798

semester 5	**5**	**30**	**3**	154	30	195	39	370	379	418	225	788
semester 6	**6**	**30**	**3**	120	0	165	83	408	285	368	330	776
semester 7	**7**	**30**	**1**	60	0	120	95	495	180	275	200	770
Number of exams/ ECTS		**210**	**22**	**991**	**360**	**1050**	**327**	**2713**	**2371**	**2728**	**1640**	**5441**

I	ECTS: summary	ECTS		Hours	
		Liczba godzin	%	Liczba	%
	Together in plan of studies	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	%
	field of study	
1	technological sciences	**83,3%**
2	science	**16,7%**
	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.+exer	contact	practical	together	status
	General requirements													
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
	Basic subjects													
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 ^													
	Sensorics ^													
	Subjects for field of study													
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	Artificial intelligence	**6**	5	Egz.	**30**		**30**	5	60	60	65	30	125	o

21	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 ^^^													
	Subjects for speciality													
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	Subject to be choosen 3	**5**	4	zal_O	**30**		**30**	5	45	60	65	30	110	f
	Elements of numerical methods^^^^													
	Automats and formal languages ^^^^													
4	Subject to be choosen 5	**7**	4	zal_O	**15**		**30**	5	50	45	50		100	f
	WWW applications^^^^^													
	Computer subassemblies design ^^^^^													
	Specialising													
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
	Others													
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

Together:		ECTS	exams	lec.	exer.	lab.	others	self-study	lec.+ex.	contact.	pract.	summary	
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semester 2	**2**	**30**	**4**	150	105	120	27	370	375	402	210	772	
semester 3	**3**	**30**	**4**	165	60	165	28	353	390	418	225	771	
semester 4	**4**	**30**	**3**	180	60	165	31	362	375	436	225	798	

semester 5	**5**	**30**	**3**	169	30	180	39	370	379	418	225	788	
semester 6	**6**	**30**	**3**	120	0	165	83	408	285	368	330	776	
semester 7	**7**	**30**	**1**	75	0	105	95	495	180	275	200	770	
Number of exams/ ECTS		**210**	**22**	**1021**	**360**	**1020**	**327**	**2713**	**2371**	**2728**	**1640**	**5441**	

I	ECTS: summary	ECTS		Hours	
		Liczba godzin	%	Liczba	%
	Together in plan of studies	210	100%	5441	100%
1	requiring the direct contact with an academic teacher*	105,3	50,1%	2728	50,1%
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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%	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	%
	field of study	
1	technological sciences	**83,3%**
2	science	**16,7%**
	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	6	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**

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

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

	Semestr 7	ECTS		lect.	exerc.	lab.
1	Subject to be choosen 4	5	Egz.	**30**		**30**
	Needs of job market ^^^					
	Control systems ^^^					
	Game designing based on Unity engine ^^^					
	Software testing ^^^					
2	Subject to be choosen 5	4	zal_O			**45**
	Information design management ^^^^^					
	Diagnosing and servicing of computer devices and systems^^^^^					
3	Specialized lecture 2	2,5	zal_O	**30**		
4	Graduation computer laboratory 2	3,5	zal_O			**45**
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	6	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**

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

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

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