

**MATHEMATICS, speciality: Financial and actuarial mathematics**

Educational profile: general academic

2017/18

Form of studies: full-time

Level of qualification: first degree studies

Qualifications gained: first degree studies

Area of education: in science

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.	<b>2</b>			0	3	2	2	0	5	o
2	Intellectual property protection	1	0,25	zal.	<b>2</b>			0	3	2	2	0	5	o
3	Etiquette	1	0,5	zal.	<b>4</b>			0	6	4	4	0	10	o
4	Safety and hygiene at work	1	0,5	zal.	<b>4</b>			4	6	4	8	0	14	o
5	Humanity and sociology course 1	1	2	zal_O	<b>30</b>			1	30	30	31	0	61	f
6	Humanity and sociology course 2	5	2	zal_O	<b>30</b>			1	30	30	31	0	61	f
7	Foreign language 1	2	2	zal_O		<b>30</b>		1	30	30	31	30	61	f
8	Foreign language 2	3	2	zal_O		<b>30</b>		1	30	30	31	30	61	f
9	Foreign language 3	4	2	zal_O		<b>30</b>		1	30	30	31	30	61	f
10	Foreign language 4	5	2	Egz.		<b>30</b>		1	30	30	31	30	61	f
11	Physical Education	3	1	zal_O		<b>30</b>		0	0	30	30	30	30	f
<b>Basic subjects</b>														
1	Elementary mathematics	1	3	zal_O		<b>45</b>		0	30	45	45	30	75	o
2	Information technology	1	2	zal_O			<b>30</b>	0	30	30	30	30	60	o
3	Entrepreneurship	1	1	zal_O	<b>15</b>			0	15	15	15	0	30	o
<b>Subjects for field of study</b>														
1	Introduction to logic and set theory	1	5	Egz.	<b>30</b>	<b>30</b>		3	63	60	63	30	126	o
2	Mathematical analysis 1	1	7	Egz.	<b>45</b>	<b>45</b>		5	90	90	95	45	185	o



9b	Risk analysis in property insurance <sup>^^^</sup>													
9c	Facultative subject (according to labor market needs) <sup>^^^</sup>													
<b>Specialising</b>														
1	Specialized lecture 1	5	3	zal_O	45			1	30	45	46	0	76	f
2	Seminar for bachelor's degree 1	5	3	zal_O		45		2	30	45	47	45	77	f
3	Specialized lecture 2	6	2	zal_O	30			1	20	30	31	0	51	f
4	Seminar for bachelor's degree 2	6	3	zal_O		45		2	30	45	47	45	77	f
<b>Others</b>														
1	Professional practice	6	6	zal_O				52	108	0	52	160	160	f
2	Diploma Thesis	6	10					50	200	0	50	50	250	f

<b>Together:</b>		ECTS	exams	lec.	exer.	lab.	others	self-study	lec.+ex.	contact.	pract.	others
<b>semester 1</b>	<b>1</b>	<b>30</b>	<b>2</b>	177	150	75	16	381	402	418	210	799
<b>semester 2</b>	<b>2</b>	<b>30</b>	<b>4</b>	165	135	75	18	384	375	393	210	777
<b>semester 3</b>	<b>3</b>	<b>31</b>	<b>3</b>	180	206	34	18	382	420	438	240	820
<b>semester 4</b>	<b>4</b>	<b>30</b>	<b>3</b>	165	176	64	20	385	405	425	256	810
<b>semester 5</b>	<b>5</b>	<b>30</b>	<b>4</b>	165	195	45	17	373	405	422	225	795
<b>semester 6</b>	<b>6</b>	<b>30</b>	<b>2</b>	90	75	30	110	471	195	305	315	776
<b>Number of exams/ ECTS</b>		<b>181</b>	<b>18</b>	<b>942</b>	<b>937</b>	<b>323</b>	<b>199</b>	<b>2376</b>	<b>2202</b>	<b>2401</b>	<b>1456</b>	<b>4777</b>

I	ECTS: summary	ECTS		Hours	
			%		%
	<b>Together in plan of studies</b>	181	100%	4777	100%
1	requiring the direct contact with an academic teacher*	91,0	50,3%	2401	50,3%
2	in basic sciences	3	1,7%	75	1,6%
3	of practical nature (laboratories, projects, workshops)	55,2	30,5%	1456	30,5%
4	general academic to be realized with another field of study	14,5	8,0%	430	9,0%
5	Humanity and social subjects	5	2,8%	152	3,2%
6	subjects to be chosen - at least 30% of ECTS	80,5	44,5%	2152	45,0%
7	Professional practice	6	3,3%	160	3,3%
8	Physical education	1	0,6%	30	0,6%

II	Percentage of ECTS for each field of study in ECTS	%
	<b>field of study</b>	
1	science	<b>100%</b>
	Together % of ECTS	

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Area of education: in science

### Semester 1

		ECTS		lect.	exc.	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 and sociology course 1	2	zal_O	30		
6	Elementary mathematics	3	zal_O		45	
7	Information technology	2	zal_O			30
8	Entrepreneurship	1	zal_O	15		
9	Introduction to logic and set theory	5	Egz.	30	30	
10	Mathematical analysis 1	7	Egz.	45	45	
11	Linear algebra 1	4,5	zal_O	30	30	
12	Computer science tools	4	zal_O	15		45

### Semester 2

		ECTS		lect.	exc.	lab.
1	Foreign language 1	2	zal_O		30	
2	Mathematical analysis 2	7	Egz.	45	45	
3	Linear algebra 2	5	Egz.	30	30	
4	Physics	6	Egz.	30		45
5	Programming I	5	zal_O	30		30
6	Foundations of banking mathematics	5	Egz.	30	30	

### Semester 3

		ECTS		lect.	exc.	lab.
1	Foreign language 2	2	zal_O		30	
2	Physical Education	0	zal_O		30	
3	Analytical geometry	5	Egz.	30	30	
4	Mathematical analysis 3	8	Egz.	60	56	4
5	Algebra 1	5	zal_O	30	30	
6	Algorithms and data structures	5	Egz.	30		30
7	Subject to be chosen 1	5	zal_O	30	30	
7a	Game theory ^					
7b	Operating research ^					

### Semester 4

		ECTS		lect.	exc.	lab.
1	Foreign language 3	2	zal_O		30	
2	Algebra 2	4,5	Egz.	30	30	
3	Data bases	3	zal_O	15		30
4	Geometry	4	zal_O	30	30	
5	Differential equations I	4,5	Egz.	30	26	4
6	Theory of probability with its applications in economy	7	Egz.	45	45	
7	Portfolio analysis	2,5	zal_O	15	15	

8	Project management	2,5	zal_O			<b>30</b>
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<b>Semester 5</b>		ECTS		lect.	exc.	lab.
1	Humanity and sociology course 2	2	zal_O	<b>30</b>		
2	Foreign language 4	2	Egz.		<b>30</b>	
3	Topology I	6	Egz.	<b>30</b>	<b>45</b>	
4	MATLAB package	3,5	zal_O			<b>45</b>
5	Subject to be choosen 2	4,5	Egz.	<b>30</b>	<b>30</b>	
	Mathematical modeling in finances^^					
	Actuarial mathematics^^					
6	Mathematical statistics	6	Egz.	<b>30</b>	<b>45</b>	
7	Specialized lecture 1	3	zal_O	<b>45</b>		
8	Seminar for bachelor's degree 1	3	zal_O		<b>45</b>	

<b>Semester 6</b>		ECTS		lect.	exc.	lab.
1	Differential geometry I	5	Egz.	<b>30</b>	<b>30</b>	
2	Subject to be choosen 3	4	Egz.	<b>30</b>		<b>30</b>
2a	Data analysis^^^					
2b	Risk analysis in property insurance^^^					
2c	Facultative subject (according to labor market needs)^^^					
4	Specialized lecture 2	2	zal_O	<b>30</b>		
5	Seminar for bachelor's degree 2	3	zal_O		<b>45</b>	
6	Professional practice	6	zal_O			
7	Diploma Thesis	10				

**MATHEMATICS, speciality: Teaching Mathematics**

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2017/18

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Qualifications gained: first degree studies

Area of education: in science

No.	Name of subject/ module	sem.	ECTS	exam in sem.	Hours in semester									
					lect.	exerc.	lab.	others	self-study	lect.+exerc	contact	practical	alltogethe	status
<b>General requirements</b>														
1	Ergonomics	1	0,25	zal.	<b>2</b>			0	3	2	2	0	5	o
2	Intellectual property protection	1	0,25	zal.	<b>2</b>			0	3	2	2	0	5	o
3	Etiquette	1	0,5	zal.	<b>4</b>			0	6	4	4	0	10	o
4	Safety and hygiene at work	1	0,5	zal.	<b>4</b>			4	6	4	8	0	14	o
5	Foreign language 1	2	2	zal_O		<b>30</b>		1	30	30	31	30	61	f
6	Foreign language 2	3	2	zal_O		<b>30</b>		1	30	30	31	30	61	f
7	Foreign language 3	4	2	zal_O		<b>30</b>		1	30	30	31	30	61	f
8	Foreign language 4	5	2	Egz.		<b>30</b>		1	30	30	31	30	61	f
9	Physical Education	3	1	zal_O		<b>30</b>			0	30	30	30	30	f
<b>Basic subjects</b>														
1	Elementary mathematics	1	3	zal_O		<b>45</b>		0	30	45	45	30	75	o
2	Information technology	1	2	zal_O			<b>30</b>	0	30	30	30	30	60	o
3	Entrepreneurship	1	1	zal_O	<b>15</b>			0	15	15	15	0	30	o
<b>Subjects for field of study</b>														
1	Introduction to logic and set theory	1	5	Egz.	<b>30</b>	<b>30</b>		3	63	60	63	30	126	o
2	Mathematical analysis 1	1	7	Egz.	<b>45</b>	<b>45</b>		5	90	90	95	45	185	o
3	Linear algebra 1	1	4,5	zal_O	<b>30</b>	<b>30</b>		2	55	60	62	30	117	o
4	Mathematical analysis 2	2	7	Egz.	<b>45</b>	<b>45</b>		5	90	90	95	45	185	o



5	Linear algebra 2	2	5	Egz.	30	30		3	63	60	63	30	126	o
6	Physics	2	6	Egz.	30		45	3	75	75	78	45	153	o
7	Programming I	2	5	zal_O	30		30	3	63	60	63	30	126	o
8	Analytical geometry	3	5	Egz.	30	30		3	63	60	63	30	126	o
9	Mathematical analysis 3	3	8	Egz.	60	60		5	100	120	125	60	225	o
10	Algebra 1	3	5	zal_O	30	30		3	63	60	63	30	126	o
11	Algorithms and data structures	3	5	Egz.	30		30	3	63	60	63	30	126	o
12	Algebra 2	4	4,5	Egz.	30	30		2	55	60	62	30	117	o
13	Data bases	4	3	zal_O	15		30	2	40	45	47	30	87	o
14	Geometry	4	4	zal_O	30	30		2	55	60	62	30	117	o
15	Differential equations I	4	4,5	Egz.	30	30		2	55	60	62	30	117	o
16	Topology I	5	6	Egz.	30	45		3	75	75	78	45	153	o
17	MATLAB package	5	3,5	zal_O			45	3	40	45	48	30	88	o
18	Differential geometry I	6	5	Egz.	30	30		3	63	60	63	30	126	o
<b>Subjects for speciality</b>														
1	General psychology	1	3	zal_O	30	15		3	40	45	48	15	88	f
2	General pedagogy	1	3	zal_O	30	15		3	40	45	48	15	88	f
3	Psychology (the 2-nd stage of education)	2	2	Egz.	15	15		2	25	30	32	15	57	f
4	Pedagogy (the 2-nd stage of education)	2	2	zal_O	15	15		2	25	30	32	15	57	f
5	Psychological-pedagogical practical training	2	1	zal_O		30		0	0	30	30	30	30	f
6	The basics of teaching methods	3	2	zal_O	15	15		2	25	30	32	15	57	f
7	Observation-assistant practical training: mathematics	3	1	zal_O		15		1	10	15	16	15	26	f
8	Elements of computer graphics	3	2	zal_O	15		15	2	25	30	32	15	57	
8	Teaching methods of mathematics (the second stage of education)	4	4	Egz.	45	45		2	25	90	92	15	117	f
9	Half-year practical training - mathematics - primary school	4	2	zal_O		30		1	20	30	31	30	51	f
10	Theory of probability and statistics	5	7,5	Egz.	45	45		5	95	90	95	45	190	f
11	Numerical methods	5	5	Egz.	30		30	3	63	60	63	30	126	f
12	Ethics	6	2,5	zal_O	30			3	30	30	33	0	63	f
13	Application of computers in didactics	6	2,5	zal_O			30	3	30	30	33	30	63	f
14	Computer laboratory	6	2,5	zal_O			30	3	30	30	33	30	63	f
15	Voice emission	6	2,5	zal_O		30		3	30	30	33	30	63	f

<b>Specialising</b>														
1	Specialized lecture 1	5	3	zal_O	<b>45</b>			1	30	45	46	0	76	f
2	Seminar for bachelor's degree 1	5	3	zal_O		<b>45</b>		2	30	45	47	45	77	f
3	Specialized lecture 2	6	2	zal_O	<b>30</b>			1	20	30	31	0	51	f
4	Seminar for bachelor's degree 2	6	3	zal_O		<b>45</b>		2	30	45	47	45	77	f
<b>Others</b>														
1	Practical training	4	6	zal_O				52	108	0	52	160	160	f
2	Diploma Thesis	6	10					50	200	0	50	50	250	f

<b>Together:</b>		ECTS	exams	lec.	exer.	lab.	others	self-study	lec.+ex.	contact.	pract.	others	
<b>semester 1</b>	<b>1</b>	<b>30</b>	<b>2</b>	192	180	30	20	381	402	422	195	803	
<b>semester 2</b>	<b>2</b>	<b>30</b>	<b>4</b>	165	165	75	19	371	405	424	240	795	
<b>semester 3</b>	<b>3</b>	<b>31</b>	<b>3</b>	180	210	45	20	379	435	455	255	834	
<b>semester 4</b>	<b>4</b>	<b>30</b>	<b>3</b>	150	195	30	64	388	375	439	355	827	
<b>semester 5</b>	<b>5</b>	<b>30</b>	<b>3</b>	150	165	75	18	363	390	408	225	771	
<b>semester 6</b>	<b>6</b>	<b>30</b>	<b>1</b>	90	105	60	68	433	255	323	215	756	
<b>Number of exams/ ECTS</b>		<b>181</b>	<b>16</b>	<b>927</b>	<b>1020</b>	<b>315</b>	<b>209</b>	<b>2315</b>	<b>2262</b>	<b>2471</b>	<b>1485</b>	<b>4786</b>	

I	ECTS: summary	ECTS		Hours	
			%		%
	<b>Together in plan of studies</b>	181	100%	4786	100%
1	requiring the direct contact with an academic teacher*	93,4	51,6%	2471	51,6%
2	in basic sciences	3	1,7%	75	1,6%
3	of practical nature (laboratories, projects, workshops)	56,2	31,0%	1485	31,0%
4	general academic to be realized with another field of study	10,5	5,8%	308	6,4%
5	Humanity and social subjects	15,5	8,6%	440	9,2%
6	subjects to be chosen - at least 30% of ECTS	78,5	43,4%	2104	44,0%
7	Professional practice	6	3,3%	160	3,3%
8	Physical education	1	0,6%	30	0,6%

II	Percentage of ECTS for each field of study in ECTS	%
	<b>field of study</b>	
1	science	<b>100%</b>
	Together % of ECTS	

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Qualifications gained: first degree studies

Area of education: in science

### Semester 1

		ECTS		lect.	exc.	lab.
1	Ergonomics	0,25	zal.	<b>2</b>		
2	Intellectual property protection	0,25	zal.	<b>2</b>		
3	Etiquette	0,5	zal.	<b>4</b>		
4	Safety and hygiene at work	0,5	zal.	<b>4</b>		
5	Elementary mathematics	3	zal_O		<b>45</b>	
6	Information technology	2	zal_O			<b>30</b>
7	Entrepreneurship	1	zal_O	<b>15</b>		
8	Introduction to logic and set theory	5	Egz.	<b>30</b>	<b>30</b>	
9	Mathematical analysis 1	7	Egz.	<b>45</b>	<b>45</b>	
10	Linear algebra 1	4,5	zal_O	<b>30</b>	<b>30</b>	
11	General psychology	3	zal_O	<b>30</b>	<b>15</b>	
12	General pedagogy	3	zal_O	<b>30</b>	<b>15</b>	

### Semester 2

		ECTS		lect.	exc.	lab.
1	Foreign language 1	2	zal_O		<b>30</b>	
2	Mathematical analysis 2	7	Egz.	<b>45</b>	<b>45</b>	
3	Linear algebra 2	5	Egz.	<b>30</b>	<b>30</b>	
4	Physics	6	Egz.	<b>30</b>		<b>45</b>
5	Programming I	5	zal_O	<b>30</b>		<b>30</b>
6	Psychology (the 2-nd stage of education)	2	Egz.	<b>15</b>	<b>15</b>	
7	Pedagogy (the 2-nd stage of education)	2	zal_O	<b>15</b>	<b>15</b>	
8	Psychological-pedagogical practical training	1	zal_O		<b>30</b>	

### Semester 3

		ECTS		lect.	exc.	lab.
1	Foreign language 2	2	zal_O		<b>30</b>	
2	Physical Education	0	zal_O		<b>30</b>	
3	Analytical geometry	5	Egz.	<b>30</b>	<b>30</b>	
4	Mathematical analysis 3	8	Egz.	<b>60</b>	<b>60</b>	
5	Algebra 1	5	zal_O	<b>30</b>	<b>30</b>	
6	Algorithms and data structures	5	Egz.	<b>30</b>		<b>30</b>
7	The basics of teaching methods	2	zal_O	<b>15</b>	<b>15</b>	
8	Observation-assistant practical training: mathematics	1	zal_O		<b>15</b>	
9	Elements of computer graphics	2	zal_O	<b>15</b>		<b>15</b>

### Semester 4

		ECTS		lect.	exc.	lab.
1	Foreign language 3	2	zal_O		<b>30</b>	
2	Algebra 2	4,5	Egz.	<b>30</b>	<b>30</b>	
3a	Data bases	3	zal_O	<b>15</b>		<b>30</b>
3b	Geometry	4	zal_O	<b>30</b>	<b>30</b>	
4	Differential equations I	4,5	Egz.	<b>30</b>	<b>30</b>	
5	Teaching methods of mathematics (the second stage of education)	4	Egz.	<b>45</b>	<b>45</b>	

6	Half-year practical training - mathematics - primary school	2	zal_O		<b>30</b>	
7	Practical training	6	zal_O			

**Semester 5**

		ECTS		lect.	exc.	lab.
1	Foreign language 4	2	Egz.		<b>30</b>	
2	Topology I	6	Egz.	<b>30</b>	<b>45</b>	
3	MATLAB package	3,5	zal_O			<b>45</b>
4	Theory of probability and statistics	7,5	Egz.	<b>45</b>	<b>45</b>	
5	Numerical methods	5	Egz.	<b>30</b>		<b>30</b>
6	Specialized lecture 1	3	zal_O	<b>45</b>		
7	Seminar for bachelor's degree 1	3	zal_O		<b>45</b>	

**Semester 6**

		ECTS		lect.	exc.	lab.
1	Differential geometry I	5	Egz.	<b>30</b>	<b>30</b>	
2	Ethics	2,5	zal_O	<b>30</b>		
3	Application of computers in didactics	2,5	zal_O			<b>30</b>
4	Computer laboratory	2,5	zal_O			<b>30</b>
5	Voice emission	2,5	zal_O		<b>30</b>	
6	Specialized lecture 2	2	zal_O	<b>30</b>		
7	Seminar for bachelor's degree 2	3	zal_O		<b>45</b>	
8	Diploma Thesis	10				