

1.	Field of study	Mathematics
2.	Academic year of entry	2016/2017 (winter term)
3.	Academic year for which the revised course structure applies	—
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time
7.	ISCED code	0541 (Mathematics)

## Specialization: Biomathematics

### Grupa treści podstawowych

No.	Module	E/C	form of teaching			Total ECTS	year 1						year 2							
			Total	L	O		semester 1			semester 2			semester 3			semester 4				
							L	O	E	L	O	E	L	O	E	L	O	E		
1	Complex Analysis	E	60	30	30	5	30	30	5											
2	Mathematical Foundations of Computer Science	Z	30	15	15	3	15	15	3											
3	Real Analysis	E	60	30	30	5	30	30	5											
4	Wybrane metody algebraiczne	Z	30	15	15	2	15	15	2											
5	Differential Equations	E	60	30	30	5				30	30	5								
6	Functional Analysis	E	60	30	30	5				30	30	5								
7	Stochastic Methods	Z	45	15	30	3				15	30	3								
8	Topology	E	60	30	30	4				30	30	4								
9	Analysis	E	75	45	30	6							45	30	6					
10	Computational Mathematics	Z	45	15	30	3							15	30	3					
11	Statistics	Z	45	15	30	3							15	30	3					
<b>TOTAL Grupa treści podstawowych:</b>			<b>570</b>	<b>270</b>	<b>300</b>	<b>44</b>	<b>90</b>	<b>90</b>	<b>15</b>	<b>105</b>	<b>120</b>	<b>17</b>	<b>75</b>	<b>90</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### Grupa treści kierunkowych

No.	Module	E/C	form of teaching			Total ECTS	year 1						year 2								
			Total	L	O		semester 1			semester 2			semester 3			semester 4					
							L	O	E	L	O	E	L	O	E	L	O	E			
1	Wykład monograficzny	E	60	30	30	6	30	30	6												
2	Specialized Module	E	240	120	120	24	30	30	6	30	30	6	30	30	6	30	30	6	30	30	6
3	Wykład monograficzny w języku angielskim	E	60	30	30	6				30	30	6									
4	Graduate Seminar I	Z	30		30	2								30	2						
5	Workshops Problem	Z	30		30	2								30	2						
6	Facultative Module	E	120	60	60	12							30	30	6	30	30	6	30	30	6
7	Graduate Seminar II	Z	45		45	11													45	11	

8	Team Project	Z	30		30	4												30	4		
		<b>TOTAL Grupa treści kierunkowych:</b>				<b>615</b>	<b>240</b>	<b>375</b>	<b>67</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>120</b>	<b>16</b>	<b>60</b>	<b>135</b>	<b>27</b>

**Inne wymagania**

No.	Module	E/C	Total	form of teaching			year 1			year 2												
				L	O	Total ECTS	semester 1			semester 2			semester 3			semester 4						
1	English Language	Z	30		30	2		30	2													
2	Entrepreneurship, Intellectual Property Protection, Workplace Safety and Health ( WSH)	Z	18	18		1	18		1													
3	Physical Education	Z	30		30	1				30	1											
4	Philosophy	Z	30	20	10	2							20	10	2							
5	Przedmiot z obszaru nauk społecznych	Z	30	30		3												30			3	
			<b>TOTAL Inne wymagania:</b>				<b>138</b>	<b>68</b>	<b>70</b>	<b>9</b>	<b>18</b>	<b>30</b>	<b>3</b>	<b>0</b>	<b>30</b>	<b>1</b>	<b>20</b>	<b>10</b>	<b>2</b>	<b>30</b>	<b>0</b>	<b>3</b>
			<b>TOTAL:</b>				<b>1323</b>	<b>578</b>	<b>745</b>	<b>120</b>	<b>348</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>225</b>	<b>30</b>		
<b>TOTAL</b>										<b>1323</b>												

The study ends with the awarding of a Master's Degree in the field of Mathematics: Biomathematics.

**Legend**

Each semester consists of 15 weeks

E/C - examination/course work

E - ECTS

L - lecture, O - all forms of teaching excluding lecture (practical classes, laboratory classes, discussion classes, seminar, proseminar, language classes, field practice, workshop, internship, tutoring)

Plan studiów zatwierdzony przez Radę Wydziału w dniu 20.06.2017 r.

Otrzymują:

1. Dział Kształcenia
2. Wydział Matematyki, Fizyki i Chemii
3. Dziekanat

.....  
(pieczęć i podpis Dyrektora Instytutu)

.....  
(pieczęć i podpis Dziekana)

1.	Field of study	Mathematics
2.	Academic year of entry	2016/2017 (winter term)
3.	Academic year for which the revised course structure applies	—
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time
7.	ISCED code	0541 (Mathematics)

### Specialization: mathematical methods in computer science

#### Grupa treści podstawowych

No.	Module	E/C	form of teaching				year 1						year 2							
			Total	L	O	Total ECTS	semester 1			semester 2			semester 3			semester 4				
							L	O	E	L	O	E	L	O	E	L	O	E		
1	Complex Analysis	E	60	30	30	5	30	30	5											
2	Mathematical Foundations of Computer Science	Z	30	15	15	3	15	15	3											
3	Real Analysis	E	60	30	30	5	30	30	5											
4	Wybrane metody algebraiczne	Z	30	15	15	2	15	15	2											
5	Differential Equations	E	60	30	30	5				30	30	5								
6	Functional Analysis	E	60	30	30	5				30	30	5								
7	Stochastic Methods	Z	45	15	30	3				15	30	3								
8	Topology	E	60	30	30	4				30	30	4								
9	Analysis	E	75	45	30	6							45	30	6					
10	Computational Mathematics	Z	45	15	30	3							15	30	3					
11	Statistics	Z	45	15	30	3							15	30	3					
<b>TOTAL Grupa treści podstawowych:</b>			<b>570</b>	<b>270</b>	<b>300</b>	<b>44</b>	<b>90</b>	<b>90</b>	<b>15</b>	<b>105</b>	<b>120</b>	<b>17</b>	<b>75</b>	<b>90</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

#### Grupa treści kierunkowych

No.	Module	E/C	form of teaching				year 1						year 2								
			Total	L	O	Total ECTS	semester 1			semester 2			semester 3			semester 4					
							L	O	E	L	O	E	L	O	E	L	O	E			
1	Wykład monograficzny	E	60	30	30	6	30	30	6												
2	Specialized Module	E	240	120	120	24	30	30	6	30	30	6	30	30	6	30	30	6	30	30	6
3	Wykład monograficzny w języku angielskim	E	60	30	30	6				30	30	6									
4	Graduate Seminar I	Z	30		30	2									30	2					
5	Workshops Problem	Z	30		30	2									30	2					
6	Facultative Module	E	120	60	60	12							30	30	6	30	30	6	30	30	6
7	Graduate Seminar II	Z	45		45	11													45	11	

8	Team Project	Z	30		30	4													30	4	
		<b>TOTAL Grupa treści kierunkowych:</b>				<b>615</b>	<b>240</b>	<b>375</b>	<b>67</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>120</b>	<b>16</b>	<b>60</b>	<b>135</b>	<b>27</b>

### Inne wymagania

No.	Module	E/C	Total	form of teaching			year 1						year 2									
				L	O	Total ECTS	semester 1			semester 2			semester 3			semester 4						
							L	O	E	L	O	E	L	O	E	L	O	E				
1	English Language	Z	30		30	2																
2	Entrepreneurship, Intellectual Property Protection, Workplace Safety and Health ( WSH)	Z	18	18		1	18		1													
3	Physical Education	Z	30		30	1				30	1											
4	Philosophy	Z	30	20	10	2							20	10	2							
5	Przedmiot z obszaru nauk społecznych	Z	30	30		3												30		3		
			<b>TOTAL Inne wymagania:</b>				<b>138</b>	<b>68</b>	<b>70</b>	<b>9</b>	<b>18</b>	<b>30</b>	<b>3</b>	<b>0</b>	<b>30</b>	<b>1</b>	<b>20</b>	<b>10</b>	<b>2</b>	<b>30</b>	<b>0</b>	<b>3</b>
			<b>TOTAL:</b>				<b>1323</b>	<b>578</b>	<b>745</b>	<b>120</b>	<b>348</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>225</b>	<b>30</b>		
<b>TOTAL</b>										<b>1323</b>												

The study ends with the awarding of a Master's Degree in the field of Mathematics: mathematical methods in computer science.

#### Legend

Each semester consists of 15 weeks

E/C - examination/course work

E - ECTS

L - lecture, O - all forms of teaching excluding lecture (practical classes, laboratory classes, discussion classes, seminar, proseminar, language classes, field practice, workshop, internship, tutoring)

Plan studiów zatwierdzony przez Radę Wydziału w dniu 20.06.2017 r.

#### Otrzymują:

1. Dział Kształcenia
2. Wydział Matematyki, Fizyki i Chemii
3. Dziekanat

.....  
(pieczęć i podpis Dyrektora Instytutu)

.....  
(pieczęć i podpis Dziekana)

1.	Field of study	Mathematics
2.	Academic year of entry	2016/2017 (winter term)
3.	Academic year for which the revised course structure applies	—
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time
7.	ISCED code	0541 (Mathematics)

### Specialization: Teaching Mathematics at the Third and Fourth Level of Education

#### Grupa treści podstawowych

No.	Module	E/C	form of teaching			Total ECTS	year 1			year 2									
			Total	L	O		L	O	E	semester 1		semester 2		semester 3		semester 4			
										L	O	L	O	L	O	L	O	E	
1	Complex Analysis	E	60	30	30	5	30	30	5										
2	Mathematical Foundations of Computer Science	Z	30	15	15	3	15	15	3										
3	Real Analysis	E	60	30	30	5	30	30	5										
4	Wybrane metody algebraiczne	Z	30	15	15	2	15	15	2										
5	Differential Equations	E	60	30	30	5				30	30	5							
6	Functional Analysis	E	60	30	30	5				30	30	5							
7	Stochastic Methods	Z	45	15	30	3				15	30	3							
8	Topology	E	60	30	30	4				30	30	4							
9	Analysis	E	75	45	30	6							45	30	6				
10	Computational Mathematics	Z	45	15	30	3							15	30	3				
11	Statistics	Z	45	15	30	3							15	30	3				
<b>TOTAL Grupa treści podstawowych:</b>			<b>570</b>	<b>270</b>	<b>300</b>	<b>44</b>	<b>90</b>	<b>90</b>	<b>15</b>	<b>105</b>	<b>120</b>	<b>17</b>	<b>75</b>	<b>90</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

#### Grupa treści kierunkowych

No.	Module	E/C	form of teaching			Total ECTS	year 1			year 2									
			Total	L	O		L	O	E	semester 1		semester 2		semester 3		semester 4			
										L	O	L	O	L	O	L	O	E	
1	General Pedagogical Preparation B	E	45	30	15	2	30	15	2										
2	General Psychological Preparation B	E	45	30	15	2	30	15	2										
3	Pedagogical Preparation for Teaching at III and IV Level of Education	Z	30	15	15	2	15	15	2										
4	Pedagogical Preparation for Teaching at III and IV Level of Education	Z	30	15	15	2	15	15	2										
5	Przygotowanie się nauczyciela do pracy w szkole, pierwsza pomoc	Z	15		15	1		15	1										
6	Psychological and Pedagogical Practices ( at III, IV level of education)	Z	30		30	2		30	2										
7	Vocal Pedagogy B	Z	15		15	1		15	1										
8	Didactic Practicum at III and IV Level of Education I	Z	60		60	3				60	3								
9	Didactics of Mathematics at II and IV Level of Education I	Z	30		30	2				30	2								
10	Fundamentals of Didactics B	Z	30		30	1				30	1								

### Grupa treści kierunkowych

No.	Module	E/C	form of teaching				year 1						year 2						
			Total	L	O	Total ECTS	semester 1			semester 2			semester 3			semester 4			
							L	O	E	L	O	E	L	O	E	L	O	E	
11	Wykład monograficzny w języku angielskim	E	60	30	30	6				30	30	6							
12	Continuous Didactic Practicum B	Z	45		45	2								45	2				
13	Didactic Practicum at III and IV Level of Education II	Z	60		60	3								60	3				
14	Didactis of Mathematics at III and IV Level of Education II	Z	30	30		1							30		1				
15	Graduate Seminar I	Z	30		30	2								30	2				
16	Narzędzia badawcze w pracy nauczyciela	Z	30		30	2								30	2				
17	Facultative Module	E	120	60	60	12							30	30	6	30	30	6	
18	Didactis of Mathematics at III and IV Level of Education III	E	30		30	3												30	3
19	Graduate Seminar II	Z	45		45	11												45	11
20	Information Technology for Teachers	Z	30		30	2												30	2
21	Matematyczne zadania konkursowe	Z	30		30	2												30	2
22	Nowe technologie w nauczaniu – warsztaty	Z	30		30	1												30	1
23	Tekst matematyczny – projekt zespołowy	Z	30		30	2												30	2
<b>TOTAL Grupa treści kierunkowych:</b>			<b>900</b>	<b>210</b>	<b>690</b>	<b>67</b>	<b>90</b>	<b>120</b>	<b>12</b>	<b>30</b>	<b>150</b>	<b>12</b>	<b>60</b>	<b>195</b>	<b>16</b>	<b>30</b>	<b>225</b>	<b>27</b>	

### Inne wymagania

No.	Module	E/C	form of teaching				year 1						year 2						
			Total	L	O	Total ECTS	semester 1			semester 2			semester 3			semester 4			
							L	O	E	L	O	E	L	O	E	L	O	E	
1	English Language	Z	30		30	2		30	2										
2	Entrepreneurship, Intellectual Property Protection, Workplace Safety and Health ( WSH)	Z	18	18		1	18		1										
3	Physical Education	Z	30		30	1				30	1								
4	Philosophy	Z	30	20	10	2							20	10	2				
5	Przedmiot z obszaru nauk społecznych	Z	30	30		3										30			3
<b>TOTAL Inne wymagania:</b>			<b>138</b>	<b>68</b>	<b>70</b>	<b>9</b>	<b>18</b>	<b>30</b>	<b>3</b>	<b>0</b>	<b>30</b>	<b>1</b>	<b>20</b>	<b>10</b>	<b>2</b>	<b>30</b>	<b>0</b>	<b>3</b>	
<b>TOTAL:</b>			<b>1608</b>	<b>548</b>	<b>1060</b>	<b>120</b>	<b>438</b>	<b>30</b>	<b>435</b>	<b>30</b>	<b>450</b>	<b>30</b>	<b>285</b>	<b>30</b>					
<b>TOTAL</b>			<b>1608</b>																

The study ends with the awarding of a Master's Degree in the field of Mathematics: Teaching Mathematics at the Third and Fourth Level of Education.

#### Legend

Each semester consists of 15 weeks

E/C - examination/course work

E - ECTS

L - lecture, O - all forms of teaching excluding lecture (practical classes, laboratory classes, discussion classes, seminar, proseminar, language classes, field practice, workshop, internship, tutoring)

Plan studiów zatwierdzony przez Radę Wydziału w dniu 20.06.2017 r.

Otrzymują:

1. Dział Kształcenia
2. Wydział Matematyki, Fizyki i Chemii
3. Dziekanat

.....  
(pieczęć i podpis Dyrektora Instytutu)

.....  
(pieczęć i podpis Dziekana)

1.	Field of study	Mathematics
2.	Academic year of entry	2016/2017 (winter term)
3.	Academic year for which the revised course structure applies	—
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time
7.	ISCED code	0541 (Mathematics)

## Specialization: Mathematics for Finance and Economics

### Grupa treści podstawowych

No.	Module	E/C	form of teaching				year 1						year 2							
			Total	L	O	Total ECTS	semester 1			semester 2			semester 3			semester 4				
							L	O	E	L	O	E	L	O	E	L	O	E		
1	Complex Analysis	E	60	30	30	5	30	30	5											
2	Mathematical Foundations of Computer Science	Z	30	15	15	3	15	15	3											
3	Real Analysis	E	60	30	30	5	30	30	5											
4	Wybrane metody algebraiczne	Z	30	15	15	2	15	15	2											
5	Differential Equations	E	60	30	30	5				30	30	5								
6	Functional Analysis	E	60	30	30	5				30	30	5								
7	Stochastic Methods	Z	45	15	30	3				15	30	3								
8	Topology	E	60	30	30	4				30	30	4								
9	Analysis	E	75	45	30	6							45	30	6					
10	Computational Mathematics	Z	45	15	30	3							15	30	3					
11	Statistics	Z	45	15	30	3							15	30	3					
<b>TOTAL Grupa treści podstawowych:</b>			<b>570</b>	<b>270</b>	<b>300</b>	<b>44</b>	<b>90</b>	<b>90</b>	<b>15</b>	<b>105</b>	<b>120</b>	<b>17</b>	<b>75</b>	<b>90</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### Grupa treści kierunkowych

No.	Module	E/C	form of teaching				year 1						year 2								
			Total	L	O	Total ECTS	semester 1			semester 2			semester 3			semester 4					
							L	O	E	L	O	E	L	O	E	L	O	E			
1	Wykład monograficzny	E	60	30	30	6	30	30	6												
2	Specialized Module	E	240	120	120	24	30	30	6	30	30	6	30	30	6	30	30	6	30	30	6
3	Wykład monograficzny w języku angielskim	E	60	30	30	6				30	30	6									
4	Graduate Seminar I	Z	30		30	2									30	2					
5	Workshops Problem	Z	30		30	2									30	2					
6	Facultative Module	E	120	60	60	12							30	30	6	30	30	6	30	30	6
7	Graduate Seminar II	Z	45		45	11													45	11	

8	Team Project	Z	30		30	4												30	4		
		<b>TOTAL Grupa treści kierunkowych:</b>				<b>615</b>	<b>240</b>	<b>375</b>	<b>67</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>120</b>	<b>16</b>	<b>60</b>	<b>135</b>	<b>27</b>

**Inne wymagania**

No.	Module	E/C	Total	form of teaching			year 1						year 2									
				L	O	Total ECTS	semester 1			semester 2			semester 3			semester 4						
							L	O	E	L	O	E	L	O	E	L	O	E				
1	English Language	Z	30		30	2																
2	Entrepreneurship, Intellectual Property Protection, Workplace Safety and Health ( WSH)	Z	18	18		1	18		1													
3	Physical Education	Z	30		30	1				30	1											
4	Philosophy	Z	30	20	10	2							20	10	2							
5	Przedmiot z obszaru nauk społecznych	Z	30	30		3												30			3	
			<b>TOTAL Inne wymagania:</b>				<b>138</b>	<b>68</b>	<b>70</b>	<b>9</b>	<b>18</b>	<b>30</b>	<b>3</b>	<b>0</b>	<b>30</b>	<b>1</b>	<b>20</b>	<b>10</b>	<b>2</b>	<b>30</b>	<b>0</b>	<b>3</b>
			<b>TOTAL:</b>				<b>1323</b>	<b>578</b>	<b>745</b>	<b>120</b>	<b>348</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>225</b>	<b>30</b>		
<b>TOTAL</b>										<b>1323</b>												

The study ends with the awarding of a Master's Degree in the field of Mathematics: Mathematics for Finance and Economics.

**Legend**

Each semester consists of 15 weeks

E/C - examination/course work

E - ECTS

L - lecture, O - all forms of teaching excluding lecture (practical classes, laboratory classes, discussion classes, seminar, proseminar, language classes, field practice, workshop, internship, tutoring)

Plan studiów zatwierdzony przez Radę Wydziału w dniu 20.06.2017 r.

Otrzymują:

1. Dział Kształcenia
2. Wydział Matematyki, Fizyki i Chemii
3. Dziekanat

.....  
(pieczęć i podpis Dyrektora Instytutu)

.....  
(pieczęć i podpis Dziekana)



1.	Field of study	Mathematics
2.	Academic year of entry	2016/2017 (winter term)
3.	Academic year for which the revised course structure applies	—
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time
7.	ISCED code	0541 (Mathematics)

## Specialization: Mathematical Modelling

### Grupa treści podstawowych

No.	Module	E/C	form of teaching			Total ECTS	year 1			year 2									
			Total	L	O		L	O	E	semester 1		semester 2		semester 3		semester 4			
										L	O	L	O	L	O	L	O	E	
1	Complex Analysis	E	60	30	30	5	30	30	5										
2	Mathematical Foundations of Computer Science	Z	30	15	15	3	15	15	3										
3	Real Analysis	E	60	30	30	5	30	30	5										
4	Wybrane metody algebraiczne	Z	30	15	15	2	15	15	2										
5	Differential Equations	E	60	30	30	5				30	30	5							
6	Functional Analysis	E	60	30	30	5				30	30	5							
7	Stochastic Methods	Z	45	15	30	3				15	30	3							
8	Topology	E	60	30	30	4				30	30	4							
9	Analysis	E	75	45	30	6							45	30	6				
10	Computational Mathematics	Z	45	15	30	3							15	30	3				
11	Statistics	Z	45	15	30	3							15	30	3				
<b>TOTAL Grupa treści podstawowych:</b>			<b>570</b>	<b>270</b>	<b>300</b>	<b>44</b>	<b>90</b>	<b>90</b>	<b>15</b>	<b>105</b>	<b>120</b>	<b>17</b>	<b>75</b>	<b>90</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### Grupa treści kierunkowych

No.	Module	E/C	form of teaching			Total ECTS	year 1			year 2											
			Total	L	O		L	O	E	semester 1		semester 2		semester 3		semester 4					
										L	O	L	O	L	O	L	O	E			
1	Wykład monograficzny	E	60	30	30	6	30	30	6												
2	Specialized Module	E	240	120	120	24	30	30	6	30	30	6	30	30	6	30	30	6	30	30	6
3	Wykład monograficzny w języku angielskim	E	60	30	30	6				30	30	6									
4	Graduate Seminar I	Z	30		30	2								30	2						
5	Workshops Problem	Z	30		30	2								30	2						
6	Facultative Module	E	120	60	60	12							30	30	6	30	30	6	30	6	
7	Graduate Seminar II	Z	45		45	11													45	11	

8	Team Project	Z	30		30	4												30	4		
		<b>TOTAL Grupa treści kierunkowych:</b>				<b>615</b>	<b>240</b>	<b>375</b>	<b>67</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>120</b>	<b>16</b>	<b>60</b>	<b>135</b>	<b>27</b>

**Inne wymagania**

No.	Module	E/C	Total	L	O	Total ECTS	year 1						year 2									
							semester 1			semester 2			semester 3			semester 4						
							L	O	E	L	O	E	L	O	E	L	O	E				
							form of teaching															
1	English Language	Z	30		30	2		30	2													
2	Entrepreneurship, Intellectual Property Protection, Workplace Safety and Health ( WSH)	Z	18	18		1	18		1													
3	Physical Education	Z	30		30	1				30	1											
4	Philosophy	Z	30	20	10	2							20	10	2							
5	Przedmiot z obszaru nauk społecznych	Z	30	30		3												30		3		
			<b>TOTAL Inne wymagania:</b>				<b>138</b>	<b>68</b>	<b>70</b>	<b>9</b>	<b>18</b>	<b>30</b>	<b>3</b>	<b>0</b>	<b>30</b>	<b>1</b>	<b>20</b>	<b>10</b>	<b>2</b>	<b>30</b>	<b>0</b>	<b>3</b>
			<b>TOTAL:</b>				<b>1323</b>	<b>578</b>	<b>745</b>	<b>120</b>	<b>348</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>225</b>	<b>30</b>		
							<b>TOTAL</b>															
							<b>1323</b>															

The study ends with the awarding of a Master's Degree in the field of Mathematics: Mathematical Modelling.

**Legend**

Each semester consists of 15 weeks

E/C - examination/course work

E - ECTS

L - lecture, O - all forms of teaching excluding lecture (practical classes, laboratory classes, discussion classes, seminar, proseminar, language classes, field practice, workshop, internship, tutoring)

Plan studiów zatwierdzony przez Radę Wydziału w dniu 20.06.2017 r.

Otrzymują:

1. Dział Kształcenia
2. Wydział Matematyki, Fizyki i Chemii
3. Dziekanat

.....  
(pieczęć i podpis Dyrektora Instytutu)

.....  
(pieczęć i podpis Dziekana)

1.	Field of study	Mathematics
2.	Academic year of entry	2016/2017 (winter term)
3.	Academic year for which the revised course structure applies	—
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time
7.	ISCED code	0541 (Mathematics)

## Specialization: Mathematical Methods in Computer Science

### Grupa treści podstawowych

No.	Module	E/C	form of teaching				year 1						year 2							
			Total	L	O	Total ECTS	semester 1			semester 2			semester 3			semester 4				
							L	O	E	L	O	E	L	O	E	L	O	E		
1	Complex Analysis	E	60	30	30	5	30	30	5											
2	Mathematical Foundations of Computer Science	Z	30	15	15	3	15	15	3											
3	Real Analysis	E	60	30	30	5	30	30	5											
4	Wybrane metody algebraiczne	Z	30	15	15	2	15	15	2											
5	Differential Equations	E	60	30	30	5				30	30	5								
6	Functional Analysis	E	60	30	30	5				30	30	5								
7	Stochastic Methods	Z	45	15	30	3				15	30	3								
8	Topology	E	60	30	30	4				30	30	4								
9	Analysis	E	75	45	30	6							45	30	6					
10	Computational Mathematics	Z	45	15	30	3							15	30	3					
11	Statistics	Z	45	15	30	3							15	30	3					
<b>TOTAL Grupa treści podstawowych:</b>			<b>570</b>	<b>270</b>	<b>300</b>	<b>44</b>	<b>90</b>	<b>90</b>	<b>15</b>	<b>105</b>	<b>120</b>	<b>17</b>	<b>75</b>	<b>90</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### Grupa treści kierunkowych

No.	Module	E/C	form of teaching				year 1						year 2								
			Total	L	O	Total ECTS	semester 1			semester 2			semester 3			semester 4					
							L	O	E	L	O	E	L	O	E	L	O	E			
1	Wykład monograficzny	E	60	30	30	6	30	30	6												
2	Specialized Module	E	240	120	120	24	30	30	6	30	30	6	30	30	6	30	30	6	30	30	6
3	Wykład monograficzny w języku angielskim	E	60	30	30	6				30	30	6									
4	Graduate Seminar I	Z	30		30	2									30	2					
5	Workshops Problem	Z	30		30	2									30	2					
6	Facultative Module	E	120	60	60	12							30	30	6	30	30	6	30	30	6
7	Graduate Seminar II	Z	45		45	11													45	11	

8	Team Project	Z	30		30	4												30	4		
		<b>TOTAL Grupa treści kierunkowych:</b>				<b>615</b>	<b>240</b>	<b>375</b>	<b>67</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>120</b>	<b>16</b>	<b>60</b>	<b>135</b>	<b>27</b>

**Inne wymagania**

No.	Module	E/C	Total	L	O	Total ECTS	year 1						year 2									
							semester 1			semester 2			semester 3			semester 4						
							L	O	E	L	O	E	L	O	E	L	O	E				
							form of teaching															
1	English Language	Z	30		30	2		30	2													
2	Entrepreneurship, Intellectual Property Protection, Workplace Safety and Health ( WSH)	Z	18	18		1	18		1													
3	Physical Education	Z	30		30	1				30	1											
4	Philosophy	Z	30	20	10	2							20	10	2							
5	Przedmiot z obszaru nauk społecznych	Z	30	30		3												30		3		
			<b>TOTAL Inne wymagania:</b>				<b>138</b>	<b>68</b>	<b>70</b>	<b>9</b>	<b>18</b>	<b>30</b>	<b>3</b>	<b>0</b>	<b>30</b>	<b>1</b>	<b>20</b>	<b>10</b>	<b>2</b>	<b>30</b>	<b>0</b>	<b>3</b>
			<b>TOTAL:</b>				<b>1323</b>	<b>578</b>	<b>745</b>	<b>120</b>	<b>348</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>225</b>	<b>30</b>		
<b>TOTAL</b>							<b>1323</b>															

The study ends with the awarding of a Master's Degree in the field of Mathematics: Mathematical Methods in Computer Science.

**Legend**

Each semester consists of 15 weeks

E/C - examination/course work

E - ECTS

L - lecture, O - all forms of teaching excluding lecture (practical classes, laboratory classes, discussion classes, seminar, proseminar, language classes, field practice, workshop, internship, tutoring)

Plan studiów zatwierdzony przez Radę Wydziału w dniu 20.06.2017 r.

Otrzymują:

1. Dział Kształcenia
2. Wydział Matematyki, Fizyki i Chemii
3. Dziekanat

.....  
(pieczęć i podpis Dyrektora Instytutu)

.....  
(pieczęć i podpis Dziekana)

1.	Field of study	Mathematics
2.	Academic year of entry	2016/2017 (winter term)
3.	Academic year for which the revised course structure applies	—
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time
7.	ISCED code	0541 (Mathematics)

## Specialization: Industrial Mathematics

### Grupa treści podstawowych

No.	Module	E/C	form of teaching			Total ECTS	year 1						year 2							
			Total	L	O		semester 1			semester 2			semester 3			semester 4				
							L	O	E	L	O	E	L	O	E	L	O	E		
1	Complex Analysis	E	60	30	30	5	30	30	5											
2	Mathematical Foundations of Computer Science	Z	30	15	15	3	15	15	3											
3	Real Analysis	E	60	30	30	5	30	30	5											
4	Wybrane metody algebraiczne	Z	30	15	15	2	15	15	2											
5	Differential Equations	E	60	30	30	5				30	30	5								
6	Functional Analysis	E	60	30	30	5				30	30	5								
7	Stochastic Methods	Z	45	15	30	3				15	30	3								
8	Topology	E	60	30	30	4				30	30	4								
9	Analysis	E	75	45	30	6							45	30	6					
10	Computational Mathematics	Z	45	15	30	3							15	30	3					
11	Statistics	Z	45	15	30	3							15	30	3					
<b>TOTAL Grupa treści podstawowych:</b>			<b>570</b>	<b>270</b>	<b>300</b>	<b>44</b>	<b>90</b>	<b>90</b>	<b>15</b>	<b>105</b>	<b>120</b>	<b>17</b>	<b>75</b>	<b>90</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### Grupa treści kierunkowych

No.	Module	E/C	form of teaching			Total ECTS	year 1						year 2								
			Total	L	O		semester 1			semester 2			semester 3			semester 4					
							L	O	E	L	O	E	L	O	E	L	O	E			
1	Wykład monograficzny	E	60	30	30	6	30	30	6												
2	Specialized Module	E	240	120	120	24	30	30	6	30	30	6	30	30	6	30	30	6	30	30	6
3	Wykład monograficzny w języku angielskim	E	60	30	30	6				30	30	6									
4	Graduate Seminar I	Z	30		30	2									30	2					
5	Workshops Problem	Z	30		30	2									30	2					
6	Facultative Module	E	120	60	60	12							30	30	6	30	30	6	30	30	6
7	Graduate Seminar II	Z	45		45	11													45	11	

8	Team Project	Z	30		30	4												30	4		
		<b>TOTAL Grupa treści kierunkowych:</b>				<b>615</b>	<b>240</b>	<b>375</b>	<b>67</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>120</b>	<b>16</b>	<b>60</b>	<b>135</b>	<b>27</b>

**Inne wymagania**

No.	Module	E/C	Total	L	O	Total ECTS	year 1						year 2									
							form of teaching			semester 1		semester 2		semester 3		semester 4						
							L	O	E	L	O	E	L	O	E	L	O	E				
1	English Language	Z	30		30	2		30	2													
2	Entrepreneurship, Intellectual Property Protection, Workplace Safety and Health ( WSH)	Z	18	18		1	18		1													
3	Physical Education	Z	30		30	1				30	1											
4	Philosophy	Z	30	20	10	2							20	10	2							
5	Przedmiot z obszaru nauk społecznych	Z	30	30		3												30		3		
			<b>TOTAL Inne wymagania:</b>				<b>138</b>	<b>68</b>	<b>70</b>	<b>9</b>	<b>18</b>	<b>30</b>	<b>3</b>	<b>0</b>	<b>30</b>	<b>1</b>	<b>20</b>	<b>10</b>	<b>2</b>	<b>30</b>	<b>0</b>	<b>3</b>
			<b>TOTAL:</b>				<b>1323</b>	<b>578</b>	<b>745</b>	<b>120</b>	<b>348</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>225</b>	<b>30</b>		
<b>TOTAL</b>							<b>1323</b>															

The study ends with the awarding of a Master's Degree in the field of Mathematics: Industrial Mathematics.

**Legend**

Each semester consists of 15 weeks

E/C - examination/course work

E - ECTS

L - lecture, O - all forms of teaching excluding lecture (practical classes, laboratory classes, discussion classes, seminar, proseminar, language classes, field practice, workshop, internship, tutoring)

Plan studiów zatwierdzony przez Radę Wydziału w dniu 20.06.2017 r.

Otrzymują:

1. Dział Kształcenia
2. Wydział Matematyki, Fizyki i Chemii
3. Dziekanat

.....  
(pieczęć i podpis Dyrektora Instytutu)

.....  
(pieczęć i podpis Dziekana)

1.	Field of study	Mathematics
2.	Academic year of entry	2016/2017 (winter term)
3.	Academic year for which the revised course structure applies	—
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time
7.	ISCED code	0541 (Mathematics)

## Specialization: Theoretical Mathematics

### Grupa treści podstawowych

No.	Module	E/C	form of teaching				year 1						year 2							
			Total	L	O	Total ECTS	semester 1			semester 2			semester 3			semester 4				
							L	O	E	L	O	E	L	O	E	L	O	E		
1	Complex Analysis	E	60	30	30	5	30	30	5											
2	Mathematical Foundations of Computer Science	Z	30	15	15	3	15	15	3											
3	Real Analysis	E	60	30	30	5	30	30	5											
4	Wybrane metody algebraiczne	Z	30	15	15	2	15	15	2											
5	Differential Equations	E	60	30	30	5				30	30	5								
6	Functional Analysis	E	60	30	30	5				30	30	5								
7	Stochastic Methods	Z	45	15	30	3				15	30	3								
8	Topology	E	60	30	30	4				30	30	4								
9	Analysis	E	75	45	30	6							45	30	6					
10	Computational Mathematics	Z	45	15	30	3							15	30	3					
11	Statistics	Z	45	15	30	3							15	30	3					
<b>TOTAL Grupa treści podstawowych:</b>			<b>570</b>	<b>270</b>	<b>300</b>	<b>44</b>	<b>90</b>	<b>90</b>	<b>15</b>	<b>105</b>	<b>120</b>	<b>17</b>	<b>75</b>	<b>90</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### Grupa treści kierunkowych

No.	Module	E/C	form of teaching				year 1						year 2								
			Total	L	O	Total ECTS	semester 1			semester 2			semester 3			semester 4					
							L	O	E	L	O	E	L	O	E	L	O	E			
1	Specialized Module	E	180	90	90	18	30	30	6	30	30	6	30	30	6						
2	Wykład monograficzny	E	120	60	60	12	30	30	6							30	30	6			
3	Wykład monograficzny w języku angielskim	E	60	30	30	6				30	30	6									
4	Graduate Seminar I	Z	30		30	2								30	2						
5	Workshops Problem	Z	30		30	2								30	2						
6	Facultative Module	E	120	60	60	12							30	30	6	30	30	6			
7	Graduate Seminar II	Z	45		45	11												45	11		

8	Team Project	Z	30		30	4												30	4
<b>TOTAL Grupa treści kierunkowych:</b>			<b>615</b>	<b>240</b>	<b>375</b>	<b>67</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>60</b>	<b>12</b>	<b>60</b>	<b>120</b>	<b>16</b>	<b>60</b>	<b>135</b>	<b>27</b>	

**Inne wymagania**

No.	Module	E/C	Total	L	O	Total ECTS	year 1						year 2							
							form of teaching			semester 1		semester 2		semester 3		semester 4				
							L	O	E	L	O	E	L	O	E	L	O	E		
1	English Language	Z	30		30	2		30	2											
2	Entrepreneurship, Intellectual Property Protection, Workplace Safety and Health ( WSH)	Z	18	18		1	18		1											
3	Physical Education	Z	30		30	1				30	1									
4	Philosophy	Z	30	20	10	2							20	10	2					
5	Przedmiot z obszaru nauk społecznych	Z	30	30		3											30		3	
<b>TOTAL Inne wymagania:</b>			<b>138</b>	<b>68</b>	<b>70</b>	<b>9</b>	<b>18</b>	<b>30</b>	<b>3</b>	<b>0</b>	<b>30</b>	<b>1</b>	<b>20</b>	<b>10</b>	<b>2</b>	<b>30</b>	<b>0</b>	<b>3</b>		
<b>TOTAL:</b>			<b>1323</b>	<b>578</b>	<b>745</b>	<b>120</b>	<b>348</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>375</b>	<b>30</b>	<b>225</b>	<b>30</b>				
<b>TOTAL</b>							<b>1323</b>													

The study ends with the awarding of a Master's Degree in the field of Mathematics: Theoretical Mathematics.

**Legend**

Each semester consists of 15 weeks

E/C - examination/course work

E - ECTS

L - lecture, O - all forms of teaching excluding lecture (practical classes, laboratory classes, discussion classes, seminar, proseminar, language classes, field practice, workshop, internship, tutoring)

Plan studiów zatwierdzony przez Radę Wydziału w dniu 20.06.2017 r.

Otrzymują:

1. Dział Kształcenia
2. Wydział Matematyki, Fizyki i Chemii
3. Dziekanat

.....  
(pieczęć i podpis Dyrektora Instytutu)

.....  
(pieczęć i podpis Dziekana)