Appendix No. 1a to Resolution No 430 of the UZ Senate of March 30th, 2022

PLAN OF FULL-TIME STUDIES

Degree course: MATHEMATICS – first-cycle course

Course delivery method: full-time course

Recruitment in the academic year 2022/2023

Duration: 6 semesters

University of Zielona Góra

Faculty of Mathematics, Computer Science and Econometrics

No.		COURSE NAME	Hours per semester	ECTS	Form of assignment	SEMESTER 1								SEMESTER 2							
						Form of classes						Form of assignment	ECTS	Form of classes						Forma zal	ECTS
						L	C	Lab	P	S	Pra			L	C	Lab	P	S	Pra		
1	Compulsory subjects module (general, basic and course)	English 1	30	2	O											30				O	2
2		English 2	30	2	O																
3		English 3	30	2	O																
4		English 4	30	2	E																
5		Information Technology	30	2	O			30				O	2								
6		Physical Education 1	30	0	Z		30					Z	0								
7		Physical Education 2	30	0	Z										30					Z	0
8		Linear Algebra 1	90	6	EO	45	45					EO	6								
9		Linear Algebra 2	60	6	EO									30	30					EO	6
10		General Algebra	60	4	EO																
11		Mathematical Analysis 1	120	10	EO	60	60					EO	10								
12		Mathematical Analysis 2	120	10	EO									60	60					EO	10
13		Mathematical Analysis 3	90	6	EO																
14		Mathematical Analysis 4	60	4	EO																
15		Geometry	60	4	EO																
16		Logic and Set Theory	60	6	EO	30	30					EO	6								
17		Computer Programming 1	60	6	EO	30		30				EO	6								
18		Computer Programming 2	60	6	EO									30		30				EO	6
19		Probability Theory	60	5	EO																
20		Mathematical Statistics	75	6	EOO																
21		Topology	60	6	EO																
22		Discrete Mathematics 1	60	6	EO									30	30					EO	6
23		Mathematical Software	30	2	O																
24		Differential Equations	60	5	EO																
25		Diploma Seminar 1	30	3	O																
26		Diploma Seminar 2	60	7	Z																
1	Specialty - Mathematical Computer Science	Algorithms and Data Structures	60	5	EO																
2		Discrete Mathematics 2	60	5	EO																
3		Boolean Methods in Computer Science	60	5	EO																
4		Professional Internship	75	3	O																
5		Object-oriented Programming 1	60	6	OO																
6		Database Systems 1	75	5	OOO																
7		Database Systems 2	75	6	EOO																
8		Database Systems - Project 1	30	4	O																
9		Database Systems - Project 2	30	4	O																
1	Specialty – Mathematics and Computer Science in Economics	Operations Research 1	60	3	OO																
2		Econometrics	90	8	EOO																
3		Mathematical Economics	60	5	OO																
4		Introduction to Optimization	60	6	EO																
5		Professional Internship	75	3	O																
6		Game Theory	60	5	EO																
7		Introduction to Mathematical Finance	60	6	OO																
8		Introduction to Numerical Methods	60	7	EOO																
1	Specialty – Mathematics and Computer Science in Finance and Insurance	Operations Research 1	60	3	OO																
2		Operations Research 2	60	5	OO																
3		Actuarial Methods	75	7	EO																
4		Modelling in Finance	75	7	EO																
5		Introduction to Financial Engineering	60	7	EO																
6		Professional Internship	75	3	O																
7		Game Theory	60	5	EO																
8		Introduction to Mathematical Finance	60	6	OO																
1	Specialty - Mathematical Modelling	Time Series Modelling	75	5	OO																
2		Modelling in Finance	75	7	EO																
3		Introduction to Mathematical Modelling	60	4	OO																
4		Introduction to Optimization	60	6	EO																
5		Professional Internship	75	3	O																
6		Game Theory	60	5	EO																
7		Introduction to Mathematical Finance	60	6	OO																
8		Introduction to Numerical Methods	60	7	EOO																

No.		COURSE NAME	SEMESTER 3								SEMESTER 4							
			Form of classes						Form of assignment	ECTS	Form of classes						Forma zal	ECTS
			L	C	Lab	P	S	Pra			L	C	Lab	P	S	Pra		
1	Compulsory subjects module (general, basic and course)	English 1																
2		English 2			30				O	2								
3		English 3											30				O	2
4		English 4																
5		Information Technology																
6		Physical Education 1																
7		Physical Education 2																
8		Linear Algebra 1																
9		Linear Algebra 2																
10		General Algebra	30	30					EO	4								
11		Mathematical Analysis 1																
12		Mathematical Analysis 2																
13		Mathematical Analysis 3	45	45					EO	6								
14		Mathematical Analysis 4									30	30					EO	4
15		Geometry	30	30					EO	4								
16		Logic and Set Theory																
17		Computer Programming 1																
18		Computer Programming 2																
19		Probability Theory	30	30					EO	5								
20		Mathematical Statistics									30	30	15				EOO	6
21		Topology																
22		Discrete Mathematics 1																
23		Mathematical Software																
24		Differential Equations									30	30					EO	5
25		Diploma Seminar 1																
26		Diploma Seminar 2																
1	Specialty - Mathematical Computer Science	Algorithms and Data Structures																
2		Discrete Mathematics 2									30	30					EO	5
3		Boolean Methods in Computer Science																
4		Professional Internship																
5		Object-oriented Programming 1	30		30				OO	6								
6		Database Systems 1									30	15	30				OOO	5
7		Database Systems 2																
8		Database Systems - Project 1																
9		Database Systems - Project 2																
1	Specialty – Mathematics and Computer Science in Economics	Operations Research 1									30	30					OO	3
2		Econometrics																
3		Mathematical Economics									30	30					OO	5
4		Introduction to Optimization																
5		Professional Internship																
6		Game Theory									30	30					EO	5
7		Introduction to Mathematical Finance	30		30				OO	6								
8		Introduction to Numerical Methods																
1	Specialty – Mathematics and Computer Science in Finance and Insurance	Operations Research 1									30	30					OO	3
2		Operations Research 2																
3		Actuarial Methods																
4		Modelling in Finance																
5		Introduction to Financial Engineering																
6		Professional Internship																
7		Game Theory									30	30					EO	5
8		Introduction to Mathematical Finance	30		30				OO	6								
1	Specialty - Mathematical Modelling	Time Series Modelling																
2		Modelling in Finance																
3		Introduction to Mathematical Modelling									30			30			OO	4
4		Introduction to Optimization																
5		Professional Internship																
6		Game Theory									30	30					EO	5
7		Introduction to Mathematical Finance	30		30				OO	6								
8		Introduction to Numerical Methods																

No.		COURSE NAME	SEMESTER 5								SEMESTER 6							
			Form of classes						Form of assignment	ECTS	Form of classes						Form of assignment	ECTS
			L	C	Lab	P	S	Pra			L	C	Lab	P	S	Pra		
1	Compulsory subjects module (general, basic and course)	English 1																
2		English 2																
3		English 3																
4		English 4			30				E	2								
5		Information Technology																
6		Physical Education 1																
7		Physical Education 2																
8		Linear Algebra 1																
9		Linear Algebra 2																
10		General Algebra																
11		Mathematical Analysis 1																
12		Mathematical Analysis 2																
13		Mathematical Analysis 3																
14		Mathematical Analysis 4																
15		Geometry																
16		Logic and Set Theory																
17		Computer Programming 1																
18		Computer Programming 2																
19		Probability Theory																
20		Mathematical Statistics																
21		Topology									30	30					EO	6
22		Discrete Mathematics 1																
23		Mathematical Software											30				O	2
24		Differential Equations																
25		Diploma Seminar 1					30		O	3								
26		Diploma Seminar 2													60		Z	7
1	Specialty - Mathematical Computer Science	Algorithms and Data Structures	30		30				EO	5								
2		Discrete Mathematics 2																
3		Boolean Methods in Computer Science	30	30					EO	5								
4		Professional Internship						75	O	3								
5		Object-oriented Programming 1																
6		Database Systems 1																
7		Database Systems 2	30	15	30				EOO	6								
8		Database Systems - Project 1				30			O	4								
9		Database Systems - Project 2												30			O	4
1	Specialty – Mathematics and Computer Science in Economics	Operations Research 1																
2		Econometrics									30	30	30				EOO	8
3		Mathematical Economics																
4		Introduction to Optimization	30		30				EO	6								
5		Professional Internship						75	O	3								
6		Game Theory																
7		Introduction to Mathematical Finance																
8		Introduction to Numerical Methods	30	15	15				EOO	7								
1	Specialty – Mathematics and Computer Science in Finance and Insurance	Operations Research 1																
2		Operations Research 2	30		30				OO	5								
3		Actuarial Methods	30	45					EO	7								
4		Modelling in Finance									30		45				EO	7
5		Introduction to Financial Engineering	30	30					EO	7								
6		Professional Internship						75	O	3								
7		Game Theory																
8		Introduction to Mathematical Finance																
1	Specialty - Mathematical Modelling	Time Series Modelling									30		45				OO	5
2		Modelling in Finance									30		45				EO	7
3		Introduction to Mathematical Modelling																
4		Introduction to Optimization	30		30				EO	6								
5		Professional Internship						75	O	3								
6		Game Theory																
7		Introduction to Mathematical Finance																
8		Introduction to Numerical Methods	30	15	15				EOO	7								

				Semester 1			Semester 2			Semester 3			Semester 4			Semester 5			Semester 6		
Compulsory subjects module	1485	118	16 E	390	4 E	30	360	4 E	30	300	4 E	21	225	2 E	17	60	1 E	5	150	1 E	15
Specialty - Mathematical Computer Science	525	43	5 E	0	0 E	0	0	0 E	0	60	0 E	6	135	2 E	10	300	3 E	23	30	0 E	4
Specialty – Mathematics and Computer Science in Economics	525	43	5 E	0	0 E	0	0	0 E	0	60	0 E	6	180	2 E	13	195	2 E	16	90	1 E	8
Specialty – Mathematics and Computer Science in Finance and Insurance	525	43	5 E	0	0 E	0	0	0 E	0	60	0 E	6	120	1 E	8	270	3 E	22	75	1 E	7
Specialty - Mathematical Modelling	525	43	5 E	0	0 E	0	0	0 E	0	60	0 E	6	120	2 E	9	195	2 E	16	150	1 E	12
Practices	75	3																			
Total (specialty - Mathematical Computer Science)	**2010**	**161**	**21 E**	**390**	**4 E**	**30**	**360**	**4 E**	**30**	**360**	**4 E**	**27**	**360**	**4 E**	**27**	**360**	**4 E**	**28**	**180**	**1 E**	**19**
Total (specialty – Mathematics and Computer Science in Economics)	**2010**	**161**	**21 E**	**390**	**4 E**	**30**	**360**	**4 E**	**30**	**360**	**4 E**	**27**	**405**	**4 E**	**30**	**255**	**3 E**	**21**	**240**	**2 E**	**23**
Total (specialty – Mathematics and Computer Science in Finance and Insurance)	**2010**	**161**	**21 E**	**390**	**4 E**	**30**	**360**	**4 E**	**30**	**360**	**4 E**	**27**	**345**	**3 E**	**25**	**330**	**4 E**	**27**	**225**	**2 E**	**22**
Total (specialty - Mathematical Modelling)	**2010**	**161**	**21 E**	**390**	**4 E**	**30**	**360**	**4 E**	**30**	**360**	**4 E**	**27**	**345**	**4 E**	**26**	**255**	**3 E**	**21**	**300**	**2 E**	**27**

Total without practices	**1935**	**158**

Additional subjects offered for degree course: MATHEMATICS

LP.		COURSE NAME	SEMESTER 1								SEMESTER 2								SEMESTER 3							
			Form of classes						Form of assignment	ECTS	Form of classes						Form of assignment	ECTS	Form of classes						Form of assignment	ECTS
			L	C	Lab	P	S	Pra			L	C	Lab	P	S	Pra			L	C	Lab	P	S	Pra		
1	ADDITIONAL	Algorithms and Data Structures																								
2		Combinatorial Analysis of Discrete Structures																								
3		Web Applications and PHP Applications																								
4		Operations Research 1																								
5		Operations Research 2																								
6		Econometrics																								
7		Mathematical Economics																								
8		Elements of Modern Geometry																								
9		Elements of the History and Philosophy of Mathematics																								
10		Elementary Geometry																								
11		LaTeX																			30				O	2
12		Macroeconomics																								
13		Discrete Mathematics 2																								
14		Actuarial Methods																								
15		Boolean Methods in Computer Science																								
16		Microeconomics																	30	15					EO	6
17		Time Series Modelling																								
18		Modelling in Finance																								
19		Introduction to Financial Engineering																								
20		Introduction to Mathematical Modelling																								
21		Introduction to Optimization																								
22		Basics of Machine Learning																								
23		Mathematical Workshop 1																		30					O	3
24		Professional Internship																								
25		Quantum Computing																								
26		Object-oriented Programming 1																	30		30				OO	6
27		Object-oriented Programming 2																								
28		Computer Networks																	30		30				OO	5
29		Database Systems 1																								
30		Database Systems 2																								
31		Database Systems - Project 1																								
32		Database Systems - Project 2																								
33		Game Theory																								
34		Number Theory																								
35		Introduction to Mathematical Finance																	30		30				OO	6
36		Introduction to Numerical Methods																								
1	HUMANITIES	Polish Language in Practice																		30					O	3
2		Introductory Course to Thesis Writing and Editing																		30					O	3
1	SOCIAL	Pedagogy																	30	15					OO	2
2		Psychology																	30	15					OO	2

LP.		COURSE NAME	SEMESTER 4								SEMESTER 5								SEMESTER 6							
			Form of classes						Form of assignment	ECTS	Form of classes						Form of assignment	ECTS	Form of classes						Form of assignment	ECTS
			L	C	Lab	P	S	Pra			L	C	Lab	P	S	Pra			L	C	Lab	P	S	Pra		
1	ADDITIONAL	Algorithms and Data Structures									30		30				EO	5								
2		Combinatorial Analysis of Discrete Structures	30	30					OO	5									30	30					OO	5
3		Web Applications and PHP Applications																	30		30				OO	4
4		Operations Research 1	30	30					OO	3									30	30					OO	3
5		Operations Research 2									30		30				OO	5								
6		Econometrics																	30	30	30				EOO	8
7		Mathematical Economics	30	30					OO	5									30	30					OO	5
8		Elements of Modern Geometry																	30	30					OO	5
9		Elements of the History and Philosophy of Mathematics	30						O	2									30						O	2
10		Elementary Geometry																	30	30					EO	4
11		LaTeX											30				O	2								
12		Macroeconomics	30	15					EO	6									30	15					EO	6
13		Discrete Mathematics 2	30	30					EO	5									30	30					EO	5
14		Actuarial Methods									30	45					EO	7								
15		Boolean Methods in Computer Science									30	30					EO	5								
16		Microeconomics									30	15					EO	6								
17		Time Series Modelling																	30		45				OO	5
18		Modelling in Finance																	30		45				EO	7
19		Introduction to Financial Engineering									30	30					EO	7								
20		Introduction to Mathematical Modelling	30			30			OO	4									30			30			OO	4
21		Introduction to Optimization									30		30				EO	6								
22		Basics of Machine Learning									30		30				OO	5								
23		Mathematical Workshop 1										30					O	3								
24		Professional Internship														75	O	3								
25		Quantum Computing																	30		30				OO	5
26		Object-oriented Programming 1									30		30				OO	6								
27		Object-oriented Programming 2	30		30				EO	6									30		30				EO	6
28		Computer Networks									30		30				OO	5								
29		Database Systems 1	30	15	30				OOO	5									30	15	30				OOO	5
30		Database Systems 2									30	15	30				EOO	6								
31		Database Systems - Project 1												30			O	4								
32		Database Systems - Project 2																				30			O	4
33		Game Theory	30	30					EO	5																
34		Number Theory									30	30					OO	4								
35		Introduction to Mathematical Finance									30		30				OO	6								
36		Introduction to Numerical Methods									30	15	15				EOO	7								
1	HUMANITIES	Polish Language in Practice										30					O	3								
2		Introductory Course to Thesis Writing and Editing										30					O	3								
1	SOCIAL	Pedagogy									30	15					OO	2								
2		Psychology									30	15					OO	2								

Recommended:

Resolution No. 17 of the Mathematics Discipline Council of 02 March 2022

Approved by Faculty Education Council at the Faculty of Mathematics, Computer Science and Econometrics:

Resolution no 2 of 03 March 2022