PLAN OF FULL-TIME STUDIES

Degree course: MATHEMATICS – first-cycle course

Course delivery method: full-time course

Recruitment in the academic year 2023/2024

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								SEMESTER 3								SEMESTER 4								SEMESTER 5								SEMESTER 6							
						Form of classes						Form of assign	ECTS	Form of classes						Forma zal	ECTS	Form of classes						Form of assign	ECTS	Form of classes						Forma zal	ECTS	Form of classes						Form of assign	ECTS	Form of classes						Form of assign	ECTS
						L	C	Lab	P	S	Pra			L	C	Lab	P	S	Pra			L	C	Lab	P	S	Pra			L	C	Lab	P	S	Pra			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																			30				O	2																								
3		English 3	30	2	O																											30				O	2																
4		English 4	30	2	E																																			30				E	2								
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																	30	30					EO	4																								
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																	45	45					EO	6																								
14		Mathematical Analysis 4	60	4	EO																									30	30					EO	4																
15		Geometry	60	4	EO																	30	30					EO	4																								
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																	30	30					EO	5																								
20		Mathematical Statistics	75	6	EOO																									30	30	15				EOO	6																
21		Discrete Mathematics 1	60	6	EO									30	30					EO	6																																
22		Mathematical Software	30	2	O																																											30				O	2
23		Differential Equations	60	5	EO																									30	30					EO	5																
24		Diploma Seminar 1	30	3	O																																					30		O	3								
25		Diploma Seminar 2	60	7	Z																																													60		Z	7
26		Introduction to Topology	60	6	EO																																									30	30					EO	6
1	Specialty - Mathematical Computer Science	Algorithms and Data Structures	60	5	EO																																	30		30				EO	5								
2		Discrete Mathematics 2	60	5	EO																									30	30					EO	5																
3		Boolean Methods in Computer Science	60	5	EO																																	30	30					EO	5								
4		Professional Internship	75	3	O																																						75	O	3								
5		Object-oriented Programming 1	60	6	OO																	30		30				OO	6																								
6		Database Systems 1	75	5	OOO																									30	15	30				OOO	5																
7		Database Systems 2	75	6	EOO																																	30	15	30				EOO	6								
8		Database Systems - Project 1	30	4	O																																				30			O	4								
9		Database Systems - Project 2	30	4	O																																												30			O	4
1	Specialty – Mathematics and Computer Science in Economics	Operations Research 1	60	3	OO																									30	30					OO	3																
2		Mathematical Economics	60	5	OO																									30	30					OO	5																
3		Fundamentals of Econometrics	90	8	EOO																																									30	30	30				EOO	8
4		Introduction to Optimization	60	6	EO																																	30		30				EO	6								
5		Professional Internship	75	3	O																																						75	O	3								
6		Game Theory	60	5	EO																									30	30					EO	5																
7		Introduction to Mathematical Finance	60	6	OO																	30		30				OO	6																								
8		Introduction to Numerical Methods	60	7	EOO																																	30	15	15				EOO	7								
1	Specialty – Mathematics and Computer Science in Finance and Insurance	Operations Research 1	60	3	OO																									30	30					OO	3																
2		Operations Research 2	60	5	OO																																	30		30				OO	5								
3		Modelling in Finance	75	7	EO																																									30		45				EO	7
4		Introduction to Financial Engineering	60	7	EO																																	30	30					EO	7								
5		Professional Internship	75	3	O																																						75	O	3								
6		Game Theory	60	5	EO																									30	30					EO	5																
7		Introduction to Mathematical Finance	60	6	OO																	30		30				OO	6																								
8		Introduction to Actuarial Methods	75	7	EO																																	30	45					EO	7								
1	Specialty - Mathematical Modelling	Time Series Modelling	75	5	OO																																									30		45				OO	5
2		Modelling in Finance	75	7	EO																																									30		45				EO	7
3		Introduction to Mathematical Modelling	60	4	OO																									30			30			OO	4																
4		Introduction to Optimization	60	6	EO																																	30		30				EO	6								
5		Professional Internship	75	3	O																																						75	O	3								
6		Game Theory	60	5	EO																									30	30					EO	5																
7		Introduction to Mathematical Finance	60	6	OO																	30		30				OO	6																								
8		Introduction to Numerical Methods	60	7	EOO																																	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								SEMESTER 4								SEMESTER 5								SEMESTER 6							
			Form of classes						Form of assign	ECTS	Form of classes						Form of assign	ECTS	Form of classes						Form of assign	ECTS	Form of classes						Form of assign	ECTS	Form of classes						Form of assign	ECTS	Form of classes						Form of assign	ECTS
			L	C	Lab	P	S	Pra			L	C	Lab	P	S	Pra			L	C	Lab	P	S	Pra			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																																									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		Mathematical Economics																									30	30					OO	5									30	30					OO	5
7		Elements of Modern Geometry																																									30	30					OO	5
8		Elements of the History and Philosophy of Mathematics																									30						O	2									30						O	2
9		Elementary Geometry																																									30	30					EO	4
10		LaTeX																			30				O	2											30				O	2								
11		Macroeconomics																									30	15					EO	6									30	15					EO	6
12		Discrete Mathematics 2																									30	30					EO	5									30	30					EO	5
13		Boolean Methods in Computer Science																																	30	30					EO	5								
14		Microeconomics																		30	15					EO	6									30	15					EO	6								
15		Time Series Modelling																																									30		45				OO	5
16		Modelling in Finance																																									30		45				EO	7
17		Fundamentals of Econometrics																																									30	30	30				EOO	8
18		Introduction to Financial Engineering																																	30	30					EO	7								
19		Introduction to Mathematical Modelling																									30			30			OO	4									30			30			OO	4
20		Introduction to Optimization																																	30		30				EO	6								
21		Basics of Computer Networks																		30		30				OO	5									30		30				OO	5								
22		Basics of Machine Learning																																	30		30				OO	5								
23		Mathematical Workshop 1																			30					O	3										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									30		30				OO	6								
27		Object-oriented Programming 2																									30		30				EO	6									30		30				EO	6
28		Database Systems 1																									30	15	30				OOO	5									30	15	30				OOO	5
29		Database Systems 2																																	30	15	30				EOO	6								
30		Database Systems - Project 1																																				30			O	4								
31		Database Systems - Project 2																																												30			O	4
32		Game Theory																									30	30					EO	5																
33		Number Theory																																	30	30					OO	4								
34		Introduction to Mathematical Finance																		30		30				OO	6									30		30				OO	6								
35		Introduction to Actuarial Methods																																	30	45					EO	7								
36		Introduction to Numerical Methods																																	30	15	15				EOO	7								
1	HUMANITIES	Polish Language in Practice																			30					O	3										30					O	3								
2		Introductory Course to Thesis Writing and Editing																			30					O	3										30					O	3								
1	SOCIAL	Pedagogy																		30	15					OO	2									30	15					OO	2								
2		Psychology																		30	15					OO	2									30	15					OO	2								

Recommended:

Resolution No. 16 of the Mathematics Discipline Council of 08 March 2023

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

Resolution no 1 of 09 March 2023