PLAN OF FULL-TIME STUDIES

Degree course: MATHEMATICS – first-cycle course

Course delivery method: full-time course

Recruitment in the academic year 2024/2025

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 Form of classes L	C	Lab	P	S	Pra	Form of assign	ECTS	SEMESTER 2 Form of classes L	C	Lab	P	S	Pra	Form zal	ECTS	SEMESTER 3 Form of classes L	C	Lab	P	S	Pra	Form of assign	ECTS	SEMESTER 4 Form of classes L	C	Lab	P	S	Pra	Forma zal	ECTS	SEMESTER 5 Form of classes L	C	Lab	P	S	Pra	Form of assign	ECTS	SEMESTER 6 Form of classes L	C	Lab	P	S	Pra	Form of assign	ECTS
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				
		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 Form of classes L	C	Lab	P	S	Pra	Form of assign	ECTS	SEMESTER 2 Form of classes L	C	Lab	P	S	Pra	Form of assign	ECTS	SEMESTER 3 Form of classes L	C	Lab	P	S	Pra	Form of assign	ECTS	SEMESTER 4 Form of classes L	C	Lab	P	S	Pra	Form of assign	ECTS	SEMESTER 5 Form of classes L	C	Lab	P	S	Pra	Form of assign	ECTS	SEMESTER 6 Form of classes L	C	Lab	P	S	Pra	Form of assign	ECTS
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