



Faculty of Natural Sciences and Education

Courses in English

(face-to-face and online education)

Postgraduate Programme	Page
Master Studies in Software Engineering 2
Master Studies in Informatics 3
Master Studies in Mathematical Modelling 4
Master Studies in Information Technologies in Mathematics and Informatics Education 5
Master Studies in Mathematical Modelling in the Finance, Insurance and Social Work <small>(for graduates holding a BA degree in the Professional Field 4.5. MATEMATICS)</small> 6
Master Studies in Mathematical Modelling in the Finance, Insurance and Social Work <small>(for graduates holding a BA degree in other professional fields)</small> 7
Master Studies in Linguistics and Didactics for Primary School Teachers of English 8
Master Studies in Linguistics and Didactics for Lower- secondary School Teachers of English 9

Master Studies in Software Engineering

Winter semester, 2021 / 2022 academic year			Summer semester, 2021 / 2022 academic year		
FIRST YEAR					
Code	Course name	ECTS	Code	Course name	ECTS
SM13427	Object Oriented Programming	6	SM13432	Programming of Web-components	6
SM13428	Databases	6	SM13433	Implementation of Software Systems	6
SM13429	Design of Software Systems	6	SM13434	IT Projects Management	6
SM13430	Computer Systems and Networks	5	SM13435	Instrumental Environments	5
SM13431	Workshop 1	7	SM13436	Workshop 2	7
SECOND YEAR					
SM13437	Workshop 3	15			

Master Studies in Informatics

Winter semester, 2021 / 2022 academic year			Summer semester, 2021 / 2022 academic year		
FIRST YEAR					
Code	Course name	ECTS	Code	Course name	ECTS
SM13439	Modern Software Engineering	5	SM13445	Management and Analysis of Computer Networks	4
SM13440	Object-oriented and Distributed Databases (DBs)	6	SM13446	Programming in Network Environment and Data Security	4
SM13441	Digital Image Processing	5	SM13447	Modern Internet Technologies	4
SM13442	Operations Research	5	SM13448	Workshop 2	3
SM13443	Multi-agent and Artificial Intelligence Systems	5			
SM13444	Workshop 1	4			

Master Studies in Mathematical Modelling

Winter semester, 2021 / 2022 academic year			Summer semester, 2021 / 2022 academic year		
FIRST YEAR					
Code	Course name	ECTS	Code	Course name	ECTS
S02001	Ordinary Differential Equations	6	S03796	Partial Differential Equations	6
SM15733	Numerical Analysis	6	SM15734	Numerical Methods for Differential Equations with MATLAB	6
S00370	Variational Methods and Optimization	6	SM15735	Finite Element Methods with MATLAB	6
S00369	Applied Functional Analysis	6			
<i>Elective courses (students elect a course from each group)</i>			<i>Elective courses (students elect a course)</i>		
S00364	Introduction to Financial Mathematics	6	S00360	Differential Models in Financial Mathematics	6
S00365	Analytical Dynamics with Matlab	6	S00373	Mechanics of Continuous Media	6
			<i>Elective courses (students elect a course)</i>		
			S00374	Topological Methods for Differential Equations	6
			SM15736	Difference Schemes for Interface Problems	6
SECOND YEAR					
S00376	Workshop	3			
<i>Elective courses (students elect 2 courses from Module A or Module B)</i>					
<i>Module A (Technical Modelling)</i>					
S00378	Nonlinear Vibrations of Mechanical Systems	6			
S00390	Numerical Simulations of Semiconductor Devices	6			
SM13975	Mathematical Models in Hydromechanics	6			
<i>Module B (Economic Modelling)</i>					
S00425	Financial Mathematics	6			
SM15737	Mathematical Theory of Risk	6			
SM15738	Credit Risk	6			

Master Studies in Informatics and Information Technologies in Education

Winter semester, 2021 / 2022 academic year			Summer semester, 2021 / 2022 academic year		
FIRST YEAR					
Code	Course name	ECTS	Code	Course name	ECTS
SM13295	Information Technologies	4	SM13453	Discrete Mathematics	4
SM13450	Introduction to Programming	5	SM13300	Computer Graphics	5
SM13451	Methods of Teaching Informatics and Information Technologies	6	SM13306	Multimedia Systems and Technologies in Education	5
SM13303	Databases and Information Systems	5	SM13305	Programming in Internet	5
SM13301	Computer Systems and Internet	5	SM13299	Object Oriented Programming	5
SM13298	Operating Systems	5			
SECOND YEAR					
SM13455	Data Structures	5			
<i>Elective courses (students elect a course)</i>			<i>Elective courses (students elect a course)</i>		
	Group 1				
SM13312	Desktop Publishing	3			
SM13313	Software Engineering	3			
SM13314	Extracurricular Studies in Informatics and IT	3			
	Group 2				
SM13316	Web Design	5			
SM13317	Visual Programming	5			

Master Studies in Mathematical Modelling in the Finance, Insurance and Social Work

(for graduates holding a BA degree in the Professional Field 4.5. MATEMATICS)

Winter semester, 2021 / 2022 academic year			Summer semester, 2021 / 2022 academic year		
FIRST YEAR					
Code	Course name	ECTS	Code	Course name	ECTS
SM13773	Financial Mathematics*	5	SM13780	Modelling in Finance*	3
SM13774	Insurance Mathematics*	5	SM13781	Modelling in Insurance*	3

* Individual tuition (in the form of consultations) in English

Master Studies in Mathematical Modelling in the Finance, Insurance and Social Work

(for graduates holding a BA degree in the following Professional Fields:
Natural Sciences, Mathematics and Informatics, and also similar disciplines,
related to Finance, Accounting, Financial Analysis, Control and Audit,
Insurance, Economics, Statistics, Econometrics, Business-informatics)

Winter semester, 2021 / 2022 academic year			Summer semester, 2021 / 2022 academic year		
FIRST YEAR					
Code	Course name	ECTS	Code	Course name	ECTS
SM13786	Introduction to the Financial Mathematics*	5	SM13773	Financial Mathematics*	5
SM13787	Differential Equations*	5	SM13774	Insurance Mathematics*	5
SM13788	Statistics*	5			
SM13789	Numerical Methods with MATLAB*	5			
SM133790	Operations Research*	5			
SECOND YEAR					
Code	Course name	ECTS	Code	Course name	ECTS
SM13780	Modelling in Finance*	3			
SM13781	Modelling in Insurance*	3			

* Individual tuition (in the form of consultations) in English

Master Studies in Linguistics and Didactics for Primary School Teachers of English

Winter semester, 2021 / 2022 academic year			Summer semester, 2021 / 2022 academic year		
FIRST YEAR					
Code	Course name	ECTS	Code	Course name	ECTS
SM13212	English Phonetics and Lexicology	3	SM13219	English Morphology and Syntax	4
SM15676	Area Studies of Britain and the USA	3	SM15677	English and American Children's Literature	3
SM14688	Methods of Instruction of English to Primary School Pupils	8	SM13244	Methods of Intercultural Education at Primary School Level	3
SM13216	Lesson Observation	2	SM13221	Practical English Language - Part 2	12
			SM14691	Teaching Practice in English Language	4
<i>Elective courses (students elect a course)</i>			<i>Elective courses (students elect a course)</i>		
SM13217	Practical English Language - Part 1 (for students with either B1 or B2 level of English)	12	SM13224	Management of Educational Projects	4
SM13218	Practical English Language - Part 1 (for students with either A1 or A2 level of English)	12			
SECOND YEAR					
SM13249	Linguistic Aspects of Acquisition of English by Primary School Pupils	2			
SM13250	Interactive and Multimedia Technologies in the Teaching of English to Primary School Pupils	2			
SM13228	Practical English Language - Part 3	5			
SM14692	Pre-diploma Pedagogical Practice in English Language	5			

Master Studies in Linguistics and Didactics for Lower-secondary School Teachers of English

Winter semester, 2021 / 2022 academic year			Summer semester, 2021 / 2022 academic year		
FIRST YEAR					
Code	Course name	ECTS	Code	Course name	ECTS
SM13212	English Phonetics and Lexicology	3	SM13219	English Morphology and Syntax	4
SM15676	Area Studies of Britain and the USA	3	SM15677	English and American Child and Young Adult Literature	3
SM14688	Methods of Instruction of English to Lower Secondary School Pupils	8	SM13223	Intercultural and Language Training	3
SM13216	Lesson Observation	2	SM13221	Practical English Language - Part 2	12
			SM14691	Teaching Practice in English Language	4
<i>Elective courses (students elect a course)</i>			<i>Elective courses (students elect a course)</i>		
SM13217	Practical English Language - Part 1 (for students with either B1 or B2 level of English)	12	SM13224	Management of Educational Projects	4
SM13218	Practical English Language - Part 1 (for students with either A1 or A2 level of English)	12			
SECOND YEAR					
SM14693	Linguistic Aspects of Acquisition of English by Lower Secondary School Pupils	2			
SM13227	Interactive and Multimedia Technologies in English Language Lower Secondary School Education	2			
SM13228	Practical English Language - Part 3	5			
SM14692	Pre-diploma Pedagogical Practice in English Language	5			