Graduate programme - COMPUTER SCIENCE 4-semester - study mode: full-time
applicable to students admitted in the academic year 2025/26

INTRODUCTORY SEMESTER (1)

	Course name	code	hours lect.	hours class/lab	sem1 winter	ECTS score
PR	Fundamentals of Java Programming	PPJ	30	60	EZ	6
	Universal Programming Techniques	UTP	30	30	Z	4
B	Digital Systems and Basics of Electronics	SYC	30	30	Z	4
	Database systems	SBD	30	30	EZ	5
D	Software Engineering	BYT	30	30	EZ	6
	Computer Networks and Network Programming in Java	SKJ	30	30	EZ	5
	Computer Graphics	GRK	30	30	EZ	6
L	Foreign language	LEK	0	30	Z	3
					ECTS required:	**27**

*) Available only as Web-based course

One course from PR, one from B, three from D, and one from L are to be completed

FOLLOWING SEMESTERS (2-4)

no	Course name	code	hrs. lect.	class	sem2 spring	sem3 winter	sem4 spring	ECTS	A	B	D	E	J
S	Database Management	ZBD	30	30	EZ			5	X				
S	Introduction to Big Data	WPBD	30	30	EZ			5			X		X
S	Digital Signal and Image Processing	PSO	30	30	EZ			5				X	
S	Cloud Platforms and Technologies	TPC	30	30	EZ			5		X			
2	Data Integration and Data Warehouses	IDH	30	30	EZ			5					
...	Linguistic Engineering	INL	30	30	EZ			5					
...	Data Exploration and Visualization	EWD	30	30	EZ			5		(2 elective courses to choose)			
3	Generative Artificial Intelligence	TEG	30	30	Z			5					
4	Fairness, Accountability, Transparency and Ethics (FATE) in Information Systems	SOPE	30	0	Z			3					
5	Puzzle Based Learning (online course)	PUZ	0	30int	Z			2					
6	Diploma Seminar	SEM1	30	0	Z			5					
7	Foreign Language	LEK	0	30	Z			3					
8	Setting-up IT Startups	TSI	30	30		Z		4					
S	Introduction to Machine Learning	WUM	30	30		EZ		5			X	X	X
S	Business Process Modeling and Management	MZP	30	30		EZ		5	X	X		X	
S	Big Data - Modeling, Management, Processing and Integration	BGD	30	30		EZ		5			X		X
S	Mobile Wireless Systems	SMB	30	30		EZ		5		X			
S	NoSQL Databases	NBD	30	30		EZ		5	X				
11	Project Management	ZPRO	30	30		EZ		5					
...	R: Programming and Data Analysis	RDA	30	30		EZ		5		(2 elective courses to choose)			
...	Advanced Modeling and Analysis of Information Systems	ZMA	30	30		EZ		5					
12	Data Protection in Big Data Environments	BZBD	30	30		EZ		5					
13	Diploma Seminar	SEM2	0	30		Z		6					
14	Foreign Language	LEK	0	30		Z		3					
S	Advanced Methods in Computer Security	ZMI	30	30			EZ	5	X	X			
S	Applications of Machine Learning	ZUM	30	30			EZ	5			X	X	X
16	Analysis of Large Data Sets	ADD	30	30			EZ	5					
...	Distributed Systems and Service Integration	SRI	30	30			EZ	5		(2 elective courses to choose)			
17	Graphs and Their Applications	GIZ	30	30			EZ	5					
18	Diploma Seminar	SEM3	0	30			Z	15					
19	Foreign Language	LEK	0	30			Z	3					
						ECTS required:		**94**					

* SPECIALIZED AREAS:

A = Engineering of Software, Business Processes and Databases
sub-areas: *Databases, Software Engineering, Project Mangement,*
Business Appplications Programming
B = Technologies for Mobile and Cloud Computing
D = Data Science
E = Interactive Multimedia
J = Advanced Immersive Technologies and Artificial Intelligence

Other markings:

S = area-specific course (see the assignment matrix on the right)
int = e-learning course component
the numbering totals to the number of courses required
to complete the programme