Graduate programme - COMPUTER SCIENCE 4-semester - study mode: full-time
applicable to students admitted in the academic year 2026/27

INTRODUCTORY SEMESTER (1)

	Course name	code	hours lect.	hours class/lab	sem1 winter	ECTS score
1	Universal Programming Techniques	UTP	30	30	Z	4
2	Digital Systems and Basics of Electronics	SYC	30	30	Z	4
3	Database systems	SBD	30	30	EZ	5
4	Software Engineering	BYT	30	30	EZ	5
5	Computer Networks and Network Programming in Java	SKJ	30	30	EZ	5
6	Foreign language	LEK	0	30	Z	3
		ECTS required in semester 1:				***26***

*) Available only as Web-based course

FOLLOWING SEMESTERS (2-4)

	Course name	code	hrs. lect.	hrs. class	sem1 spring	sem2 winter	sem3 spring	ECTS	specialized area courses and selective courses scheme A	B	D	E	J
S	Database Management	ZBD	30	30	EZ			4	X	X			
S	Introduction to Big Data	WPBD	30	30	EZ			4			X	X	X
S	Data Exploration and Visualization	EWD	30	30	EZ			4			X	X	X
S	Cloud Platforms and Technologies	TPC	30	30	EZ			4	X	X			
9	Data Integration and Data Warehouses	IDH	30	30	EZ			4	(3 elective courses to choose)				
...	Linguistic Engineering	INL	30	30	EZ			4					
...	Artificial Intelligence in Digital Signal Processing	PSO	30	30	EZ			4					
11	R: Programming and Data Analysis	RDA	30	30	Z			4					
12	Puzzle Based Learning (online course)	PUZ	0	30int	Z			2					
13	Diploma Seminar	SEM1	30	0	Z			4					
14	Foreign Language	LEK	0	30	Z			3					
15	Setting-up IT Startups	TSI	30	30		Z		4					
S	Introduction to Machine Learning	WUM	30	30		EZ		4			X	X	X
S	Business Process Modeling and Management	MZP	30	30		EZ		4	X	X			
S	Big Data - Modeling, Management, Processing and Integration	BGD	30	30		EZ		4			X	X	X
S	Mobile Wireless Systems	SMB	30	30		EZ		4		X			
S	NoSQL Databases	NBD	30	30		EZ		4	X				
18	Project Management	ZPRO	30	30		Z		4	(2 elective courses to choose)				
...	Advanced Modeling and Analysis of Information Systems	ZMA	30	30		Z		4					
19	Data Protection in Big Data Environments	BZBD	30	30		Z		4					
20	Diploma Seminar	SEM2	0	30		Z		6					
21	Foreign Language	LEK	0	30		Z		3					
S	Advanced Methods in Computer Security	ZMI	30	30			EZ	4	X	X			
S	Applications of Machine Learning	ZUM	30	30			EZ	4			X	X	X
23	Fairness, Accountability, Transparency and Ethics (FATE) in Information Systems	SOPE	30	0			EZ	3					
24	Generative Artificial Intelligence	TEG	30	30			EZ	4					
25	Analysis of Large Data Sets	ADD	30	30			EZ	4	(2 elective courses to choose)				
...	Distributed Systems and Service Integration	SRI	30	30			EZ	4					
26	Graphs and Their Applications	GIZ	30	30			EZ	4					
27	Diploma Seminar	SEM3	0	30			Z	10					
28	Foreign Language	LEK	0	30			Z	3					
							ECTS required in semesters 2-4:	**90**					

*** 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