Graduate programme - INFORMATION TECHNOLOGY 4 semester - study mode: full-time
applicable from academic year 2022/2023

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
PR	Universal Programming Techniques	UTP	30	30	Z	4
PR	Programming in C and C++	PJC	16	16*	Z	4
B	Digital Systems and Basics of Electronics	SYC	30	30	Z	4
D	Database systems	SBD	30	30	EZ	6
D	Software Engineering	BYT	30	30	EZ	6
D	Computer Networks and Network Programming in Java	SKJ	30	30	EZ	5
D	Computer Graphics	GRK	30	30	EZ	6
L	Foreign language	LEK	0	30	Z	3
		Total ECTS required:				***28***

*) 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.	hrs. class	sem2 spring	sem3 winter	sem4 spring	ECTS	profile* courses and selective courses scheme A	B	D	E
S	Database Management	ZBD	26	26	EZ			5	X			
S	Introduction to Big Data	WPBD	26	26	EZ			5			X	
S	Digital Signal and Image Processing	PSO	26	26	EZ			5				X
S	Cloud Platforms and Technologies	TPC	26	26	EZ			5		X		
2	Data Integration and Data Warehouses	IDH	26	26	EZ			5	(2 selective courses to choose)			
...	Linguistic Engineering	INL	26	26	EZ			5				
...	Data Exploration and Visualization	EWD	26	26	EZ			5				
3	Programming for Data Science	PAD	26	26	Z			5				
4	Puzzle Based Learning (online course)	PUZ	0	int	Z			2				
5	Diploma Seminar	SEM1	26	0	Z			4				
6	block course	/	20		Z			2				
7	Foreign Language	LEK	0	26	Z			3				
8	Setting-up IT Startups	TSI	26	26		Z		4				
S	Introduction to Machine Learning	WUM	26	26		EZ		5			X	X
S	Business Process Modeling and Management	MZP	26	26		EZ		5	X	X		X
S	Big Data - Modeling, Management, Processing and Integration	BGD	26	26		EZ		5			X	
S	Mobile Wireless Systems	SMB	26	26		EZ		5		X		
S	NoSQL Databases	NBD	26	26		EZ		5	X			
11	Project Management	ZPRO	26	26		EZ		5	(2 selective courses to choose)			
...	Advanced Modeling and Analysis of Information Systems	ZMA	26	26		EZ		5				
12	Data Protection in Big Data Environments	BZBD	26+16int	26		EZ		5				
13	Diploma Seminar	SEM2	26	13		Z		3				
14	block course	/	20			Z		2				
15	Foreign Language	LEK	0	26		Z		3				
16	AI Ethics	ESI	26int	0			Z	5				
S	Advanced Methods in Computer Security	ZMI	26	26			EZ	5	X	X		
S	Applications of Machine Learning	ZUM	26	26			EZ	5			X	X
18	Analysis of Large Data Sets	ADD	26	26			EZ	5	(1 selective course to choose)			
..	Graphs and Their Applications	GIZ	26	26			EZ	5				
19	Diploma Seminar	SEM3	26	26			Z	15				
20	block course	/	20				Z	2				
21	Foreign Language	LEK	0	26			Z	3				
	Block courses						**ECTS required:**	**93**				
1	Service-Oriented Network Systems	SSU	20	0		Z		2				
2	Software Engineering	INN	20	0		Z		2				
3	Advanced Multimedia Techniques	ZTM	4	16		Z		2				
4	Neural Computing	MKR	20	0		Z		2				
5	Knowledge Systems	SWI	20	0		Z		2				
6	Digital Image Processing: Algorithms and Applications	CPO	20	0		Z		2				
7	Wavelet Analysis: Theory and Applications	AFA	20	0		Z		2				

*** STUDY PROFILES:**

A = Engineering of Software, Business Processes and Databases
area - Databases
field - Software Engineering
area - Project Management
area - Business Applications Programming
B = Technologies for Mobile and Cloud Computing
D = Data Science
E = Interactive Multimedia

Other markings:

S = profile-specific course (see the assignment matrix on the right)
int = part of the course using Internet-based material
no = the numbering in this column totals to the number of courses required to complete the programme