

STRUCTURE OF THE STUDY PROGRAM

Table 1. Schedule of courses by semesters and years of study

No.	Course Code	Course Title	Semester	Weekly fund of lessons		EKTC
				L	E	
FIRST YEAR						
1	21ICS11A010	Calculus 1	1	2	3	6
2	21ICS11A020	Fundamentals of Programming	1	2	3	6
3	21ICS11A030	Digital Technology	1	2	3	6
4	21ICS11A040	Internet Technologies	1	2	3	6
5	21ICS11B0X0	Elective Course	1	2	3	6
6	21ICS12A011	Calculus 2	2	2	3	6
7	21ICS12A021	Object Oriented Programming	2	2	3	6
8	21ICS12A031	Digital Logic	2	2	3	6
9	21ICS12A041	Algorithms and Data Structures	2	2	3	6
10	21ICS12A0XX	Elective Course	2	2	3	6
Total hours (lectures/exercises) and ECTS for year				20	30	60

No	Course Code	Course Title	Semester	Weekly fund of lessons		EKTC
				L	E	
SECOND YEAR						
1	21ICS13A012	Computer Architecture and Organization	3	2	3	6
2	21ICS13A022	Visual Programming	3	2	3	6
3	21ICS13A032	Fundamentals of Probability and Statistics	3	2	3	6
4	21ICS13A042	Internet Programming	3	2	3	6
5	21ICS13B0X2	Elective Course	3	2	3	6
6	21ICS14A012	Discrete Mathematics and Its Applications	4	2	3	6
7	21ICS14A023	Software Engineering	4	2	3	6
8	21ICS14A032	Databases	4	2	3	6
9	21ICC14A041	Macedonian Language and Academic Writing	4	2	3	6
10	21ICS14B0XX	Elective Course	4	2	3	6
Total hours (lectures/exercises) and ECTS for year				20	30	60

No	Course Code	Course Title	Semester	Weekly fund of lessons		EKTC
				L	E	
THIRD YEAR						
1	21ICS15A012	Advanced Algorithms	3	2	3	6
2	21ICS15A023	Introduction to Cryptography	3	2	3	6
3	21ICS15A032	Graphics and Visualization	3	2	3	6
4	21ICS15A043	Operating Systems	3	2	3	6
5	21ICS15B0X2	Elective Course	3	2	3	6
6	21ICS16A013	Data Mining	4	2	3	6
7	21ICS16A024	Software Project Management	4	2	3	6
8	21ICS16A033	Information Systems	4	2	3	6
9	21ICS16A043	Microcomputer Systems	4	2	3	6
10	21ICS16B0XX	Elective Course	4	2	3	6
Total hours (lectures/exercises) and ECTS for year				20	30	60

No.	Course Code	Course Title	Semester	Weekly fund of lessons		EKTC
FOURTH YEAR						
1	21ICS17A014	High-Performance Systems	7	2	3	6
2	21ICS17A024	Data Analysis	7	2	3	6
3	21ICS17A033	Robotics	7	2	3	6
4	21ICS17A043	Compiler Design	7	2	3	6
5	21ICS17B0XX	Elective Subject	7	2	3	6
6	21ICS18A014	Computer Security	8	2	3	6
7	21ICS18A023	Artificial Intelligence	8	2	3	6
8	21ICS18A034	Advanced Wireless Systems and Networks	8	2	3	6
9	21ICS18A040	Diploma Thesis	8	2	3	6
10	21ICS18B0XX	High-Performance Systems	8	2	3	6
Total hours (lectures/exercises) and ECTS for year				20	30	60

Table 2. Elective courses of the study program

Type of elective course	No
Elective courses from the List of Elective Courses proposed by the unit	16
Elective courses provided by the unit from the University's list of elective courses	0

No.	Course Code	Course Title	Semester	Weekly fund of lessons		ECTS	unit
1	2IICS11B050	English Language 1	1	2	3	6	FIS
2	2IICS11B060	Basics of Web Design	1	2	3	6	FIS
3	2IICS12B051	English Language 2	2	2	3	6	FIS
4	2IICS12B060	Computer Electronic Elements	2	2	3	6	FIS
5	2IICS13B052	Game Programming	3	2	3	6	FIS
6	2IICS13B062	Programming in Scripting Languages 1	3	2	3	6	FIS
7	2IICS14B051	Computer Networks	4	2	3	6	FIS
8	2IICS14B060	Multimedia Tools	4	2	3	6	FIS
9	2IICS15B052	Mobile Device Programming	5	2	3	6	FIS
10	2IICS15B062	Java Programming	5	2	3	6	FIS
11	2IICS16B053	Programming in Scripting Languages 2	6	2	3	6	FIS
12	2IICS16B060	Electronic and Mobile Commerce	6	2	3	6	FIS
13	2IICS17B053	Formal Methods	7	2	3	6	FIS
14	2IICS17B064	Software Design and Architecture	7	2	3	6	FIS
15	2IICS18B053	Distributed Systems and Cloud Computing	8	2	3	6	FIS
16	2IICS18B053	Advanced Databases	8	2	3	6	FIS
				In total:		96	FIS