

Study Program: Mathematics				
Type and level of studies: Bachelor studies, I semester				
<b>Course name:</b> Basics of Computer Science Technics				
<b>Lecturer:</b> Hranislav M. Milošević				
Status: Compulsory				
ECTS: 7				
Attendance Prerequisites: none				
<b>Course aims</b> Enabling mathematics students to apply the acquired knowledge in higher mathematics: series, arrays, Boolean algebra; recognition and analysis of computer and information technologies; studying the basics of multimedia technologies with applying the acquired knowledge.				
<b>Course outcome</b> Acquiring the necessary knowledge regarding the basics of computer systems, technology and the Internet which are related to mathematics: functions, probabilities, predictions and their application, mathematical models of physical and natural phenomena. Introducing networks and the Internet.				
<b>Course content</b> <i>Theoretical part</i> The concept of computer and information systems, computer technology. Function of computer systems. Computer systems architecture. Development and history of computer systems. Continuous and discrete computing resources. Computer generations. Number systems. Positioning of numbers. Number bases. Registering numbers and data. Codes and coding. Logical variables. Generating logic functions. DeMorgan's theorems. Logical circuits and their synthesis. Minimization of logical functions. Karnaugh methods for minimizing. Minimal form of functions. Personal computers. Operating systems, development and comparing. Technology and global communication. <i>Practical part</i> Exercises, other forms of teaching, research work. Solving problems from the aforementioned areas of informatics.				
<b>Literature</b> 1. X. Milošević, Tehnički osnovi informatike, PMF Kosovska Mitrovića, Kraljevo 2010 M. Stančković, Ž. Tošić, D. Milosavljević; 2. Stojanović, D. Stojanović i S. Kečman, Zbirka zadataka iz Osnova računarske tehnike, Elektronski fakultet u Nišu, Niš 1998				
<b>Number of active classes</b>				Other classes
Lectures: 3	Practical classes: 3	Other forms of teaching:	Students' research work	
<b>Teaching methods</b> Lectures (3 classes per week), calculation exercises (2 classes per week) and laboratory exercises (1 class per week).				
<b>Assessment (maximum 100 points)</b>				
<b>Course assignments</b>	<b>points</b>	<b>Final exam</b>		<b>points</b>
activity during lectures	20	written exam		<b>20</b>
practical classes	20	oral exam		<b>10</b>
term test(s)	20	.....		
seminar(s)	10			
<b>Total</b>	<b>70</b>			<b>30</b>