Study Program: Informatics	
Type and level of studies: Bachelor studies	
Course name: Basics of Computer Technics	
Lecturer: Kontrec Z. Nataša	
Status: Compulsory	
ECTS: 7	
Attendance Prerequisites: Basic, high-school level computer science knowledge.	

Course aims

Acquiring basic knowledge about computer systems, software, hardware: understanding how computers work, understanding mathematical logic.

Course outcome

The students have gained elemental knowledge about the basics of computer technics, the principles of Boolean algebra and capabilities of computer machines.

Course content

Number systems and bases – positional and non positional number system. Decimal, binary, octal and hexadecimal number systems. Number conversion. Number representation. Negative number representation. One's complements and two's complement. Arithmetic operations. Binary addition, subtraction, multiplication and division. Basic notions and definitions of Chomskian grammar. Syntax. Semantics. Codes and coding. Basic notions. Internal and external codes. ECD codes. Code reliability. Standard codes. Computer number representation. Data types and their importance. Elementary logic functions and logic circuits. De Morgan's Law and basic Boolean identities. Ways of representing logical functions. Basic logical functions - functions with two variables. The fictive argument. Analytical and tables finding of fictitious arguments. Principial disjunctive and principial conjunctive normal form. Shannon's development theory. Minimization of logical functions. Analytical. Chart minimization of logic expressions with three variable. Minimization – Karnaugh method (Karnaugh maps). Minimization – the McClusky method. Algorhythm and example 1. McClusky method – example 2 (expressions with 5 variables).

Practical part: Performing simple algebraic operations. The principles of computer functioning. Installing applications and user software.

Literature

1. **РАЧУНАРСТВО И ПРОГРАМСКИ ЈЕЗИЦИ,** Негован Стаменковић, Видосав Стојановић 2012.КМ
2. **КАКО РАДЕ РАЧУНАРИ,** Ron White, Izdao CET 2002.g., Beograd**.**

Number of active classes				Other classes
Lectures: 3	Practical classes: 3	Other forms of teaching:		

Teaching methods:

Lectures, auditory exercises, laboratory exercises, term tests, consulting, tests, homework assignments and written exam.

Assessment (maximum 100 points)			
Course Assignments	**points**	Final exam	**Points**
Activity during lectures	**15**	Written exam	**20**
Practical classes	**20**	Oral exam	**20**
Term tests	**25**	....	
Seminars			
Total	**60**		**40**