SYLLABUS

1. Course title:

Introduction to Computer Science

2. Code:

RI001

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

7. Class restrictions:

Students of Faculty of Electrical Engineering

8. Duration / semester:

1 1

9. Weekly contact hours:

9.1. Lectures:	3
9.2. Seminars:	1
9.3. Laboratory/Practice classes:	1

10. Faculty:

Faculty of Electrical Engineering

11. Department/study program:

Electrical Engineering and Computer Science

12. Lecturer:

Ph.D. Nermin Sarajlić, assoc. prof.

13. Lecturer's e-mail:

nermin.sarajlic@untz.ba

14. Web site:

15. Course aims:

To acquire basic knowledge in numeral systems, Boolean algebra, IEEE arithmetics, operating systems and programming languages of lower level.

16. Learning outcomes:

At the end of the semester, successful students, that have been continuously performing their obligations during the entire period of teaching, will be able to: use different numeral systems and codes, use Boolean logic in the creation of switching functions, do minimization of the switching functions, perform synthesis of the switching network (combinational and sequential), complete correct rounding up of the basic calculation operations using IEEE arithmetic standards, know the architecture basics of the microcomputer and microprocessor i8086, know the basics of lower-level programming languages.

17. Course content:

Emergence and development of computers. Theoretical and practical preconditions for computer development. Basic characteristics and possible applications. Computer generations. Numerical systems. Binary codes. Boolean algebra. Logical functions and operations. Logic circuits. Design and minimization of sequential circuits. Memory registers. Hardware organization of computer systems. IEEE Arithmetics. Concept of operating system. Operating system history. Basic components of operating system. Linux and Windows operating systems. Low-level programming languages. Assembler. High-level programming languages.

18. Learning methods:

Lectures: PowerPoint presentations; blackboard and chalk are used for further clarification.
Auditorial exercises and laboratory exercises (obligatory attendance for the students): with the active participation of the students, examples are elaborated and tasks are solved, that are related to the fields discussed in the lectures.

19. Assessment methods:

1. Midterms
2. Final exam

Midterms
During the semester, students will have three tests with tasks related to the specific areas. Tests will be conducted after completion of planned lectures and theoretical exercises. Tests are held in the eighth, twelfth and last week of the semester after the realization of the expected lectures and auditorial exercises. Students can win a maximum of 45 points (15 points per test). During the semester, students get two tasks (homeworks) from laboratory exercises and can win a maximum of 10 points (5 points per homework).

Final exam
Students who get a lecturers verification for completing the course are allowed to do the Final exam. Final exam is organized three times per school year (in a form of Final exam, Corrective final exam and Additional corrective final exam) according to schedule of final exams made by Senate of University of Tuzla at the beginning of school year.

20. Assessment components:

The final grade is based on the total number of points that student has obtained by fulfilling the pre-requisites and/or passing the final exam. Students can achieve a maximum of 100 points according to the following:
Attendance (L+TE+LE): 6 points
First test: 15 points
Second test: 15 points
Third test: 15 points
Tasks (homework): 10 points
Final exam: 39 points
Total: 100 points

21. Required reading list:

N.Sarajlić, A.Šerifović-Trbalić: Osnovi računarstva, Tuzla,2015., U.Peruško: Digitalna elektronika, Školska knjiga, Zagreb 2005., N.Sarajlić, E.Skejić, A.Šerifović-Trbalić: Osnovi računarstva Zbirka riješenih zadataka,Tuzla, 2010 IEEE Arithmetics Standard

22. Web sources:

23. Applicable starting from the academic year:

2016/2017

24. Adopted in the Faculty/Academy session:

04.04.2016