Course: Introduction to Information Technologies Semester 1 - 60 hours

Prerequisites	-
Course aim and skills acquired	The aim of the course is to provide fundamental knowledge and develop basic skills in the field of computer science enabling participants to undertake studies. This includes a basic understanding of the logic of computer systems, the functioning of computers, the use of operating systems, and essential application software. The last block is designed to develop the skills of algorithmic thinking and the basics of programming.
Course contents	1. Computer science – introduction 2. Introduction to logic 3. Arithmetic of numbers 1 4. Arithmetic of numbers 2 5. Text processing 1: basic operations 6. Text processing 2: advanced operations 7. Computer components and peripherals 8. Using WWW as an information source 9. Test 1 10. Spreadsheet 1 – basic operations 11. Spreadsheet 2 – advanced operations 12. Spreadsheet 3 – numerical calculations 13. Operating systems 1 – basic concepts, components and usage, virtual machines 14. Operating systems 2 – continued 15. Operating systems 3 – using shell 16. Network – basic architectures, protocols and usage 17. Computer graphics – introduction to image manipulation programs 18. Computer graphics – charts and diagrams 19. Group work – tools and group work flow 20. Test 2 21. Revision and overview of the test 22. Algorithms - problem solving, computational and algorithmic thinking 23. Algorithms – exercises 24. Programming fundamentals - Python 1 25. Programming fundamentals - Python 2 26. Programming fundamentals - Python 3 27. Programming fundamentals - Python 4 28. Final test 29. Revision 30. Retake test
Literature	1. E. Frick, Information Technology Essentials Volume 1: Introduction to Information Systems 2. V. Rajaraman, Introduction to Information Technology 3. Gimp tutorials: https://www.gimp.org/tutorials/ 4. Inkscape tutorials: https://inkscape.org/learn/tutorials/ 5. P. Barry, Head First Python: A Brain-Friendly Guide, O'Reilly, 2016 (new edition Dec. 2022)
Students input	60 hours of supervised teaching 60 hours of individual student's work (preparation for tests and homework)
Assessment criteria	There are two tests covering parts of the course material and the final test covering all topics. The maximum number of points from each of the first two tests is 25 pts. The final test is worth 50pts. The total number of points is 100. To obtain a positive grade (passing the course) the student is required to achieve more than half of the points in total. The following conversion of points scored for the final grade is used:

Points	< 51	51-60	61-70	71-80	81-90	91-100
Final grade	2	3	3.5	4	4.5	5