Course title: Introduction to informatics and programming

Course Basic Information	
Academic Unit:	Faculty of Civil Engineering
Course title:	Introduction to informatics and programming
Level:	Bachelor
Course Status:	Mandatory
Year of Study:	I (Second semester)
Number of Classes per Week:	2+2 (Lectures + Lab work)
ECTS Credits:	6
Time /Location:	Faculty of Civil Engineering
Teacher:	Prof. Ass. Milot Muhaxheri
Contact Details:	milot.muhaxheri@uni-pr.edu
Course Description:	This course teaches students about basics of informatics, such as processing of word files, spreadsheets and presentations. In addition, the course teaches about fundamental concepts of programming languages, including techniques for designing flow diagrams for solving various computing problems.
Course Goals:	This course aims to teach students with basics of informatics and programming techniques. The main focus is oriented towards Python programming language.
Expected Learning Outcomes:	After finishing this course, the student will have the following knowledge: • Will be able to use software tools for document processing, • Will be able to use software tools for spreadsheet processing, • Will be able to use software tools for presentation preparation, • Understand the principles behind programming, • Be able to understand and use basic commands of Java programming language, • Be able to design flow diagrams for solving different problems that might arise during study period, • Understand principles behind object oriented Programming

Student workload (Consistent with the learning outcomes)			
Activity	**Hours**	**Day/Week**	**Total**
Lectures	2	15	30

Theory/ Lab Work/Exercises	2	15	30
Practical Work	4	4	16
Consultations with the teaher	1	14	14
Field Work	0	0	0
Test, seminar paper	3	2	6
Homework	2	4	8
Self-study (library or home)	2	10	20
Preparation for final exam	10	2	20
Assessment time (test, quiz, final exam)	2	2	4
Projects, presentations, etc.	2	1	2
Total			**150**
Teaching Methods:	Lectures, laboratory works and homework.		
Assessment Methods:	Test 1 (40%) Test 2 (40%) In class activities (20%)		
Literature			
Primary Literature:	1. Introduction to Computers, Peter Norton, 6th International Edition (McGraw-Hill) 2. Fundamentals of Python Programming, Richard L. Halterman, 2018		
Additional Literature:	1. Python for Civil and Structural Engineers, Vittorio Lora, 2019		

Designed teaching plan	
Week	**Title of the lecture**
Week 1:	Processing text documents
Week 2:	Processing documents with objects (figures, tables, equations, etc.)
Week 3:	Processing spreadsheets
Week 4:	Using functions for making calculations in spreadsheets
Week 5:	Preparation of electronic presentations
Week 6:	Inserting objects in presentations (figures, tables, animations, etc.)
Week 7:	Introduction to Programming
Week 8:	Data types, reading input variables and printing output values
Week 9:	Flow diagrams for calculation of sum, product and factorial of a numerical sequence
Week 10:	Branching structures
Week 11:	Loops
Week 12:	Flow diagrams for manipulation with arrays
Week 13:	Programs that manipulate with arrays
Week 14:	Flow diagrams for solving problems by deviding them into parts
Week 15:	Methods

Academic Policies and Code of Conduct
During the lectures, students must be disciplined, while their mobile phones should be in silent mode. During exams or tests, students are not allowed to communicate to each other and the utilization of mobile phones or any other textual material is forbidden.