

Study Programme: Information Technology		
Course Unit Title: Programming Methods		
Course Unit Code: OAS064		
Name of Lecturer(s): Assistant Professor Eleonora Brtko, PhD		
Type and Level of Studies: Bachelor Academic Degree		
Course Status (compulsory/elective): Compulsory		
Semester (winter/summer): Summer		
Language of instruction: English		
Mode of course unit delivery (face-to-face/distance learning): Face-to-face		
Number of ECTS Allocated: 6		
Prerequisites: None		
Course Aims: Course aims are directed towards main principles of programming, especially Object Oriented Programming (OOP) as dominant programming paradigm in use today. It is important that students can apply the acquired knowledge through the use of various programming languages and software development environments. This course is the basis for understanding advanced programming techniques.		
Learning Outcomes: Students will fully master the object methodology for the development of software systems through Object paradigm as a methodology and technology. Also, students will master C++ programming language.		
Syllabus: <i>Theory</i> Following topics are covered: Definitions of Terms. Abstraction and information hiding. Encapsulation and modularity. Concept and types of polymorphism. Connections between classes with emphasis on inheritance. Generic class. Exception handling. <i>Practice</i> Code Blocks programming environment. Program structure, variables and constants. Variable scopes. Classes and instances. Inheritance through concrete examples. Memory management. Exceptions through concrete applications and examples. Pointers and data structures.		
Required Reading: 1. Bjarne Stroustrup, "The C++ Programming Language", Fourth Edition, Addison-Wesley, 2013 2. Malbaški Dušan, "Objekti i objektno programiranje kroz programske jezike C++ i Paskal", Univerzitet u Novom Sadu, Fakultet tehničkih nauka, 2008 3. Malbaški Dušan, "Objektno programiranje – programski jezik C++", Univerzitet u Novom Sadu, Fakultet tehničkih nauka, 2008 4. Malbaški Dušan, "Odabrana poglavlja metoda programiranja", Univerzitet u Novom Sadu, Tehnički fakultet "Mihajlo Pupin", 2005		
Weekly Contact Hours: 4	Lectures: 2	Practical work: 2
Teaching Methods: Lectures and students group work		
Knowledge Assessment (maximum of 100 points): 100		

Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	30
Test I and Test II	30	oral exam	30
Preliminary exam(s)			
Seminar(s)			