

Faculty of Science and Mathematics / COMPUTER SCIENCE / OBJECT ORIENTED PROGRAMMING

Course:	OBJECT ORIENTED PROGRAMMING			
Course ID	Course status	Semester	ECTS credits	Lessons (Lessons+Exercises+Laboratory)
1358	Mandatory	3	3	2+1+0
Programs	COMPUTER SCIENCE			
Prerequisites				
Aims	Through this course students learn basic and advanced concepts of object-oriented programming, and practical programming in the C++ language			
Learning outcomes	Once a student passes the exam, will be able to: i) write computer programs in the C++ language; ii) use the Class concept for software implementation; iii) use inheritance and abstract classes in order to connect different software modules; iv) reuse program code by means of the object-oriented programming concepts; v) create generic classes and operator functions in the C++ language.			
Lecturer / Teaching assistant	Doc. dr Aleksandar Popović, Mr Igor Ivanović			
Methodology	Lectures, exercises in computer classroom/laboratory. Learning and practical exercises. Consultations.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Introduction, Basic notions in the object-oriented programming paradigm			
I week exercises	Introduction, Basic notions in the object-oriented programming paradigm			
II week lectures	Basics of the C++ language, Overview of concepts inherited from the C language			
II week exercises	Basics of the C++ language, Overview of concepts inherited from the C language			
III week lectures	Introduction to classes and objects, Interface and implementation of a class			
III week exercises	Introduction to classes and objects, Interface and implementation of a class			
IV week lectures	Objects and methods. References. Pointer named this			
IV week exercises	Objects and methods. References. Pointer named this			
V week lectures	Constructors and destructors			
V week exercises	Constructors and destructors			
VI week lectures	Inline methods, Const methods, Objects as function arguments			
VI week exercises	Inline methods, Const methods, Objects as function arguments			
VII week lectures	Static attributes of a class, Static methods, Friendship relation between classes			
VII week exercises	Static attributes of a class, Static methods, Friendship relation between classes			
VIII week lectures	Inheritance			
VIII week exercises	Inheritance			
IX week lectures	COLLOQUIUM I			
IX week exercises	COLLOQUIUM I			
X week lectures	Polymorphism			
X week exercises	Polymorphism			
XI week lectures	Multiple Inheritance. Abstract classes			
XI week exercises	Multiple Inheritance. Abstract classes			
XII week lectures	Operator overloading, Operator functions			
XII week exercises	Operator overloading, Operator functions			
XIII week lectures	Exception handling			
XIII week exercises	Exception handling			
XIV week lectures	Generic classes and methods			

XIV week exercises	Generic classes and methods					
XV week lectures	COLLOQUIUM II					
XV week exercises	COLLOQUIUM II					
Student workload	Teaching and final exam: 5 hours and 20 minutes x 16 = 85 hours and 20 minutes Preparation before the beginning of the semester 2 x (5 hours and 20 minutes) = 10 hours i 40 minutes Total work hours for the course 4x30 = 120 hours Additional work for preparation of the exam in remedial exam period, including final exam from 0 to 24 sati (the remaining time of the first two items to the total work hours for the subject of 120 hours) Structure: 85 hours and 20 minutes(lectures) + 10 hours and 40 minutes (preparation) +24 hours (additional work)					
Per week			Per semester			
3 credits x 40/30=4 hours and 0 minuts 2 sat(a) theoretical classes 0 sat(a) practical classes 1 excercises 1 hour(s) i 0 minuts of independent work, including consultations			Classes and final exam: 4 hour(s) i 0 minuts x 16 =64 hour(s) i 0 minuts Necessary preparation before the beginning of the semester (administration, registration, certification): 4 hour(s) i 0 minuts x 2 =8 hour(s) i 0 minuts Total workload for the subject: 3 x 30=90 hour(s) Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) 18 hour(s) i 0 minuts Workload structure: 64 hour(s) i 0 minuts (courses), 8 hour(s) i 0 minuts (preparation), 18 hour(s) i 0 minuts (additional work)			
Student obligations			Students are required to attend classes, as well as to do home exercises, and colloquia			
Consultations						
Literature			D. Milićev, Objektno-orijentisano programiranje na jeziku C++, Mikroknjiga, Beograd			
Examination methods			2 colloquia 70 points total (35 points for each), Final exam 30 points. The passing grade is obtained with at least 45 points			
Special remarks						
Comment						
Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points