

Programming Course

<i>Name of the subject:</i> Programming - BSc	<i>SUBJECT code:</i>	Weekly hours: 2 lectures + 2 exercises	Credit: 8
<i>Subject leader:</i> Vladimir Despotović	<i>Academic Degree:</i> Assistant Professor	Prerequisites: Acquired knowledge in Informatics I, Informatics II and Programming Languages	

Purpose: Students learn fundamental programming concepts, algorithms and data structures and acquire programming skills in an object-oriented programming language.

Course description: Students should understand the principles of object-oriented programming, and should be trained for its application in software development.

Schedule

Weeks	Topics
1.	Structured programming.
2.	Data types. Operators. Control structures.
3.	Pointers and dynamic memory allocation.
4.	Functions. Subroutines. Structures, unions and arrays.
5.	Standard input/output functions. Binary and text files.
6.	Dynamic data structures. Linked lists.
7.	Object-oriented programming. Classes and objects.
8.	Constructors and destructors. Static members.
9.	Friend Functions. Friend Classes. Operator overloading.
10.	Encapsulation and inheritance. Polymorphism and dynamic binding.
11.	Virtual functions. Abstract classes. Multiple inheritance.
12.	Exception handling and assertions.
13.	Generic programming. Templates.
14.	Standard libraries. Input/output streams.

Final grade:

Activity during the lecture: 10

Practical classes: 10

Colloquium: 20

Written exam: 30

Oral exam: 30

Compulsory literature:

1. L. Kraus, Programski jezik C++ sa rešenim zadacima, 10th ed., Akademska misao, Belgrade, 2016.
2. L. Kraus, Programski jezik JAVA sa rešenim zadacima, 2nd ed., Akademska misao, Belgrade, 2015.

Supplemental literature: