Program	Level		Short cycle			
	Name of the program		Information Technologies			

COURSE						

Course title	**Software Development**					
Course code	Semester	Course status		ECTS	Contact hours (L+AE+LE)	
IT 230	III	Mandatory course		6	3+0+2	
Lecturer						
Course Goals	The aim of the course is to introduce students to modelling, designing, implementing, testing, and debugging large object-oriented software. Also, students will be introduced to effective methods during Java application development, including inheritance, multithreading, networking, database work, and web application development.					
Learning Outcomes	Upon completion of the course, students are expected to be able to: independently design and implement larger programs, write quality Java code for them, test software to find and debug, analyze and improve open source Java programs of other developers.					

COURSE CONTENT

1) Introductory consideration. Defining a model through UML. Object-oriented analysis and design. Introduction to facilities.
2) Creating and destroying objects. Common methods to all objects. Operators. Execution controls. Initialization and cleaning of objects.
3) Classes and interfaces. Reuse classes. Polymorphism. Inner classes. Storage of objects. Work with exceptions.
4) Strings. Recognition of class instances. Generic data types. Arrays. Containers.
5) Input-output operations. Enumerated data types. Annotations.
6) General methods and efficient programming. Exceptions. Competitiveness. Serialization.
7) Graphical user interface.

LITERATURE

[1] Alempije Veljović: Osnove objektnog modeliranja UML, drugo izdanje, (2004), Kompjuter biblioteka.

[2] Bruce Eckel: Thinking in Java, 4th edition, (2006), Prentice Hall.

[3] Joshua Bloch: Effective Java, 2nd edition, (2008), Addison-Wesley.

[4] Paul T. Tymann; G. Michael Schneider: Modern Software Development Using Java: A Text for the Second Course in Computer Science, 2nd edition, (2007), Course Technology.

[5] Dejan Živković: Java Programiranje, prvo izdanje, (2013), Beograd.

STUDENT WORKLOAD (hours in a semester)						
Lectures	45	Exercises	30	Individual work	50	T o t a l	125

GRADING			REMARKS		
Criterion	Maximum points	Minimum points			
Midterm exam	30	15			
Homework	10	5			
Students project	30	15			
Final exam	30	20			
Total	100	55			