UNIVERSITY OF ECONOMICS - VARNA
MASTER DEGREE STUDIES CENTER
DEPARTMENT „INFORMATICS"

SYLLABUS

SUBJECT: "GRAPHICAL USER INTERFACE PROGRAMMING IN JAVA";

DEGREE PROGRAMME: "Computer Science"; MASTER`S DEGREE

YEAR OF STUDY: 5; SEMESTER: 10; (same field graduates)

YEAR OF STUDY: 6; SEMESTER: 11; (other fields graduates)

TOTAL STUDENT WORKLOAD: 210 h.; incl. curricular 60 h.

CREDITS: 7

DISTRIBUTION OF WORKLOAD ACCORDING TO THE CURRICULUM

TYPE OF STUDY HOURS	WORKLOAD, h.	TEACHING HOURS PER WEEK, h
CURRICULAR: incl. • LECTURES • SEMINARS (lab. exercises)	 30 30	 2 2
EXTRACURRICULAR	150	-

I. ANNOTATION

The course learns the basic principles of the programming language Java by using visual programming environments. Students should acquire knowledge about the structure of the Java programs, the syntax of the language, the main Java classes and to acquire skills to create applications with a graphical user interface.

The students must receive theoretical and practical knowledge to create platform-independent applications that solve a wide range of practical tasks. Knowledge and skills can be extended in the direction to create applications not only for PCs but also for PDAs, mobile phones and more..

II. THEMATIC CONTENT

No. by row	TITLE OF UNIT AND SUBTOPICS	NUMBER OF HOURS		
		L	S	L.E.
1. Introduction to Java		**4**		**4**
1.1	Common feature.			
1.2	Structure of the program.			
1.3	Classes. Objects. Interface.			
2. Integrated development environments		**2**		**2**
2.1	Popular IDEs.			
2.2	Software libraries.			
3. Console applications		**2**		**2**
3.1	Organization of the input and the output			
3.2	Working with files.			
4. Graphical user interface		**12**		**12**
4.1	Basic visual components.			
4.2	AWT and Swing components.			
4.3	Graphics. Basic mechanisms. Graphic primitives.			
5. JavaFX.		**10**		**10**
5.1	Controls.			
5.2	Concept MVC.			
5.3	Persistence.			
	Total:	**30**		**30**

III. FORMS OF CONTROL:

No. by row	TYPE AND FORM OF CONTROL	№	extra-curricu-lar, h.
1.	**Midterm control**		
1.1.	Programming test	1	40
1.2.	Programming project related to the topics discussed in this course	1	40
	Total midterm control:	**2**	**80**
2.	**Final term control**		
2.1.	Test	1	70
	Total final term control:	**1**	**70**
	Total for all types of control:	**3**	**150**

IV. <u>LITERATURE</u>

REQUIRED (BASIC) LITERATURE:
1. Herbert Schildt, Java: The Complete Reference (Ninth Edition), Oracle Press, 2014.
2. Kishori Sharan, Learn JavaFX 8: Building User Experience and Interfaces with Java 8, Apress, 2015.

RECOMMENDED (ADDITIONAL) LITERATURE:
1. James Patterson, JAVA: A Beginner to Expert Guide to Learning the Basics of Java Programming (Computer Science Series), 2016.
2. Allen B. Downey, Chris Mayfield, Think Java: How to Think Like a Computer Scientist, O'Reilly, 2016.
3. Herbert Schildt, Java: A Beginner's Guide (Sixth Edition), 2014.