

UNIVERSITY OF ECONOMICS - VARNA
MASTER DEGREE CENTER
DEPARTMENT OF INFORMATICS

Adopted by the FC (record №8 / 05.03.2020)

Adopted by the DC (record №7 / 28.02.2020)

ACCEPTED BY:

Dean:

(Prof. Vladimir Sulov, PhD)

SYLLABUS

SUBJECT: “GRAPHICAL USER INTERFACE PROGRAMMING IN JAVA”

DEGREE PROGRAMME: „Computer Science”; MASTER’S DEGREE

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

YEAR OF STUDY: 6; SEMESTER: 12; (for other fields graduates)

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

CREDITS: 7

DISTRIBUTION OF STUDENT WORKLOAD ACCORDING TO THE CURRICULUM

<i>TYPE OF STUDY HOURS</i>	WORKLOAD, hours	TEACHING HOURS PER WEEK, hours
CURRICULAR:		
incl.		
• LECTURES	30	2
• SEMINARS / LAB. EXERCISES	30	2
EXTRACURRICULAR	150	-

Prepared by:

1.
(Assoc. Prof. Pavel Petrov, PhD)

2.
(Chief Assist. Prof. Stojcho Stoev, PhD)

Head of department

of Informatics:
(Prof. Julian Vasilev, PhD)

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

№	TITLE OF UNIT AND SUBTOPICS	NUMBER OF HOURS		
		L	S	L.E.
Theme 1. Introduction to Java		4	4	
1.1	Common feature.			
1.2	Structure of the program.			
1.3	Classes. Objects. Interface.			
Theme 2. Integrated development environments		2	2	
2.1	Popular IDEs.			
2.2	Software libraries.			
Theme 3. Console applications		2	2	
3.1	Organization of the input and the output			
3.2	Working with files.			
Theme 4. Graphical user interface		12	12	
4.1	Basic visual components.			
4.2	Swing components.			
Theme 5. Advanced components		10	10	
5.1	The concept MVC.			
5.2	Persistence with RDBMS and NoSQL systems.			
Total:		30	30	

III. FORMS OF CONTROL:

№	TYPE AND FORM OF CONTROL	Number	extracurricular, hours
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. LITERATURE

REQUIRED (BASIC) LITERATURE:

1. Bloch, J. Effective Java. Boston: Addison-Wesley, 2018. (B 77072)
2. <https://www.oracle.com/java/>
3. [http:// www.netbeans.org/](http://www.netbeans.org/)

RECOMMENDED (ADDITIONAL) LITERATURE:

1. Sage, K. Concise Guide to Object-Oriented Programming. An Accessible Approach Using Java. Cham: Springer, 2019. (B 77073)
2. <http://www.eclipse.org/>