UNIVERSITY OF ECONOMICS - VARNA

MASTER DEGREE CENTER

DEPARTMENT OF INFORMATICS

Adopted by the FC (record №8 / 05.03.2020)
Adopted by the DC (record №6 / 17.02.2020)

ACCEPTED BY:
Dean:
(Prof. Vladimir Sulov, PhD)

SYLLABUS

SUBJECT: "INTRODUCTION TO PROGRAMMING";

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

YEAR OF STUDY: 5 for other fields graduates; SEMESTER: 10;

TOTAL STUDENT WORKLOAD: 360 hours; incl. curricular 60 hours

CREDITS: 12

DISTRIBUTION OF STUDENT WORKLOAD ACCORDING TO THE CURRICULUM

TYPE OF STUDY HOURS	**WORKLOAD, hours**	**TEACHING HOURS PER WEEK, hours**
CURRICULAR: incl. • LECTURES • SEMINARS / LAB. EXERCISES	 30 30	 2 2
EXTRACURRICULAR	300	-

Prepared by:

1. ……..
(Prof. Vladimir Sulov, PhD)

2. ……
(Chief Assist. Prof. Bonimir Penchev, PhD)

Head of department
of Informatics: ……
(Prof. Julian Vasilev, PhD)

I. ANNOTATION

Programming is one of the main areas in which students enrolled in the professional field "Informatics and Computer Science" should have theoretical knowledge and practical skills.

The course "Introduction to Programming" provides the students as with the basic knowledge of the algorithm fundamentals, programming principles and programming languages, as well as with practical skills to develop applications based on the paradigm of procedural, structural and object-oriented programming.

The application of the acquired knowledge and skills is in the field of software development. After learning the basics of programming, the students will have the opportunity to expand their basic knowledge and to form new skills in order to use other programming languages and tools for software development.

II. THEMATIC CONTENT

№	TITLE OF UNIT AND SUBTOPICS	NUMBER OF HOURS		
		L	S	L.E.
Theme 1. Basic programming concepts.		**5**	**4**	
1.1	Applications and programming. Paradigms. Programming languages. Development environments.	1	1	
1.2	Algorithms.	2	1	
1.3	Application structure.	1	1	
1.4	Scalar data types.	1	1	
Theme 2. Flow control.		**9**	**10**	
2.1	The if statement.	2	3	
2.2	Loops – while, for, break, continue.	6	6	
2.3	The switch statement.	1	1	
Theme 3. Complex data types and data organization.		**8**	**10**	
3.1	Arrays.	2	4	
3.2	Strings.	3	3	
3.3	Lists.	3	3	
Theme 4. Modular organization and user-defined functions.		**8**	**6**	
4.1	Modular organization.	2	1	
4.2	User-defined functions – structure.	2	1	
4.3	User-defined functions interaction.	4	4	
	Total:	**30**	**30**	

III. FORMS OF CONTROL:

№	TYPE AND FORM OF CONTROL	Number	extracur-ricular, hours
1.	**Midterm control**		
1.1.	Test	2	80
1.2.	Practical task	2	80
	Total midterm control:	**4**	**160**
2.	**Final term control**		
2.1.	Test	1	60
2.2.	Practical task	1	80
	Total final term control:	**2**	**140**
	Total for all types of control:	**6**	**300**

IV. LITERATURE

REQUIRED (BASIC) LITERATURE:

1. Online lectures (http://users.ue-varna.bg/vsulov and http://e-learn.ue-varna.bg).
2. Watson, K. at al. Beginning Visual C# 2012. Wrox, New Jersey, 2012.

RECOMMENDED (ADDITIONAL) LITERATURE:

1. Albahari, J., B. Albahari. C# 4.0 in a Nutshell. Fourth Edition. O'Reilly, 2010.
2. Liberty, J. , D. Xie. Programming C# 3.0. 5th Edition, O'Reilly, 2008.
3. Sedgewick, R., Wayne, K. Algorithms (4th Edition). Addison-Wesley Professional, 2011.