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

ACCEPTED BY:
Rector:
(Prof. Dr. Plamen Iliev)

SYLLABUS

SUBJECT: "DESIGN OF INFORMATION SYSTEMS";

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

YEAR OF STUDY: 5; SEMESTER: 9 (other fields graduates);

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

CREDITS: 12

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	300	-

Prepared by:
1. ……………………………………………
(Assoc.prof. Dr. Nadezhda Filipova)

2. ……………………………………………
(Assist.prof. Yanka Alexandrova)

Head of department: ………………………………….
"Informatics"   (Prof. Dr. Vladimir Sulov)

I. ANNOTATION

The discipline "Design of Information Systems" provides theoretical and practical knowledge about the process of development of information systems (IS). The discipline forms a system view and approach for design and implementation of IS. Some of the main theoretical and methodical concepts are taught during the course. The topics of organizations, documentation and implementation are also covered by the discipline's scope.

During the training in the discipline the students have the opportunity to apply their acquired knowledge and abilities in the system analysis, design and implementation of IS in different subject fields. The preparation of a course project provides students with the needed practical ground for entering the professional area of system designers.

The discipline serves as a basis for developing and broadening the knowledge about implementing new technologies during building and supporting of IS.

II. THEMATIC CONTENT

No. by row	TITLE OF UNIT AND SUBTOPICS	NUMBER OF HOURS		
		L	S	L.E.
1. Architecture of the Information Systems. IS Life Cycle		**4**		
1.1	Information systems – definition, evolution, requiremens, classification.	1		
1.2	Architecture of IS.	1		
1.3	Structure of the information.	1		
1.4	Life cycle of IS. Life cycle models.	1		
2. Design of IS – nature, approaches and principles.		**4**		
2.1	Nature, importance, scope and tasks of IS design.	1		
2.2	Structured design.	1		
2.3	Object oriented design.	1		
2.4	Design principles.	1		
3. Decomposition and functional model of IS.		**3**		**4**
3.1	Principles of decomposition.	1		
3.2	Functional model of IS using structured approach.	2		4
4. Organization of slowly changing data.		**3**		**2**
4.1	Classification of information sets	1		
4.2	Nomenclatures.	1		1
4.3	Coding of information sets.	1		1
5. Data storage design.		**4**		**8**
5.1	Organization of data storage. Methodology for designing the data storage.	1		2
5.2	Database design.	3		6
6. Design of the user interface.		**2**		**4**
6.1	User interface – nature, requirements, trends.	1		
6.2	Methodology of user interface design.	1		4
7. Design of the input.		**4**		**7**
7.1	Forms of organization of the input, input documents, input control procedures.	1		2

7.2	Design of input windows.	3		5
8. Design of the output.		**2**		**5**
9. Project documentation.		**2**		
10. Case tools.		**2**		
	Total:	**30**		**30**

III. FORMS OF CONTROL:

No. by row	TYPE AND FORM OF CONTROL	№	extra-curricu-lar, h.
1.	**Midterm control**		
1.1.	Tests	2	50
1.2.	Project assignment	1	150
	Total midterm control:	**3**	**200**
2.	**Final term control**		
2.1.	Exam (open and/or closed questions)	1	100
	Total final term control:	**1**	**100**
	Total for all types of control:	**4**	**300**

IV. LITERATURE

REQUIRED (BASIC) LITERATURE:

1. Rosenblatt, Harry, Shelly, G., System Analysis and Design, 10th edition, Cengage Learning, 2013
2. Roth, Roberta M., Haley Wixom, Barbara, Dennis, Alan, System Analysis and Design, 6th edi-tion, John Wiley and sons, 2014

RECOMMENDED (ADDITIONAL) LITERATURE:

1. Maciaszek, Leszek A., Requirement Analysis and System Design, 3rd edition, Addison-Wesley, 2007
2. Otero, C., Software Engineering Design, Theory and Practice, CRC Press, 2012