UNIVERSITY OF ECONOMICS – VARNA
FACULTY OF INFORMATICS
DEPARTMENT OF INFORMATICS

Adopted by the FC (record № 9/24.04.2024)

Adopted by the DC (record № 10/16.04.2024)

ACCEPTED BY:

Dean:

    (Prof. Vladimir Sulov, PhD)

SYLLABUS

SUBJECT: SERVER-SIDE WEB PROGRAMMING

DEGREE PROGRAMME: Computer Science; MASTER`S DEGREE

YEAR OF STUDY: 6 for other field graduates; SEMESTER: 11; for other field graduates

TOTAL STUDENT WORKLOAD: 240 hours; incl. curricular 75 hours

CREDITS: 8

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 45	 2 3
EXTRACURRICULAR	165	-

Prepared by:

  1. …………………………………..
    (Assoc. Prof. Pavel Petrov, DSc)

  2. ……………………………………
    (Assoc. Prof. Ivan Kuyumdzhiev, PhD)

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

I. ANNOTATION

During the course the students should receive theoretical and practical knowledge of basic concepts, standards and technologies necessary to create client-server web applications in the local and global networks. It focuses primarily on the server side of client-server web technology. As a result of the training students are expected to understand the principles of creating web server applications and using open source software in a real network environment. The course combines knowledge from programming, operating systems, databases, web design, computer networks and communications.

In the course of training, the following key competencies are applied and developed, according to the recommendation of the Council of the European Union dated May 22, 2018, namely:

• Mathematical competence and competence in the field of exact sciences, technologies and engineering - group 3. Ability to develop and apply mathematical thinking and vision for the purpose of algorithmization, web programming and solving tasks with formulation of solutions.

• Digital competence - group 4. Ability to use and create software. The obtained in-depth knowledge of the functioning of web software allows students to skillfully, critically and freely create web applications, as well as to choose specialized software.

• Entrepreneurial competence - group 7. Ability for critical thinking, analytical, forecasting, programming, designing and planning. Creating web software requires the acquisition of teamwork skills, persistence, work ability, and flexibility.

II. THEMATIC CONTENT

№	TITLE OF UNIT AND SUBTOPICS	NUMBER OF HOURS		
		L	S	L.E.
Theme 1. The concept of client-server		**2**	**3**	
1.1	Client, server.			
1.2	Data, network connection, protocol			
1.3	Features of the web server programming.			
Theme 2. Standards for communication protocols		**2**	**3**	
2.1	De-jure and de-facto standards. RFC.			
2.2	HyperText Transfer Protocol 1.0			
2.3	HTTP 1.1			
2.4	HTTP/2			
Theme 3. Webserver		**4**	**6**	
3.1	Configuration files.			
3.2	Log files.			
3.3	CGI scripts.			
Theme 4. Server applications with web interface		**6**	**9**	
4.1	PHP. Configuration.			
4.2	Super global arrays.			
4.3	Functions.			
4.4	Classes.			
Theme 5. Web apps working with DBMS		**4**	**6**	
5.1	MySQL			
5.2	Administration tasks.			
Theme 6. Working with templates in PHP.		**4**	**6**	
Theme 7. Technology AJAX. Library jQuery.		**4**	**6**	
Theme 8. Security of Web applications. Using Free software.		**4**	**6**	
	Total:	**30**	**45**	

III. FORMS OF CONTROL:

№	TYPE AND FORM OF CONTROL	Number	extracur-ricular, hours
1.	**Midterm control**		
1.1.	Programming test	2	60
1.2.	Programming project related to the topics discussed in this course	1	45
	Total midterm control:	**3**	**105**
2.	**Final term control**		
2.1.	Examination (test)	1	60
	Total final term control:	**1**	**60**
	Total for all types of control:	**4**	**165**

IV. LITERATURE

REQUIRED (BASIC) LITERATURE:
1. Apache HTTP Server Version 2.4 Documentation, http://httpd.apache.org/docs/2.4/
2. jQuery API Documentation, https://api.jquery.com/
3. MySQL Reference Manual, https://dev.mysql.com/doc/refman/8.0/en/
4. PHP Manual, http://php.net/manual/en/

RECOMMENDED (ADDITIONAL) LITERATURE:
1. Duckett, J. PHP & MySQL: Server-side Web Development 1st Edition, Wiley, 2022
2. Zandstra, M. PHP 8 Objects, Patterns, and Practice: Mastering OO Enhancements, Design Patterns, and Essential Development Tools, Apress; 6th edition, 2021)