

DESCRIPTION OF THE STUDY SUBJECT

Title

INTERACTIVE WEBSITE DEVELOPMENT

Scope of the subject

Semester	Mode of studies	Structure*				Total number of hours	Number of credits	Group and type of subjects
		L	Lw	C	S			
V	Full-time	13	20	6	42	160	6	Subjects for deepening in the branch
VI		12	21	6	40			
VI	Part-time	4	14	21	42	160	6	
VII		4	14	21	40			

*L – lectures, PS – practical activities, seminars, LW – laboratory work, PR – practice, CP – course paper, C – consultations, S – self-study

Aim of the subject

To be able to use scripting languages, the document object model, descriptive language of data structures and their contents, various data transmission methods and formats for interactive website development.

Necessary background knowledge for studying the subject

The student shall have heard the subjects online technologies, object-oriented programming, database management.

Content of the subject

Title of the topic and description of the content	Number of contact hours			S	Total number of hours
	L	Lw	C		
1. Descriptive language XML for data structures and their contents. XML elements, attributes.	2	-	1	-	3
Laboratory work No. 1. To describe the given structure of objects in the XML language, to form and save the description as a XML file.	-	3	-	4	7
2. The Document Object Model (DOM), DOM objects, tree.	2	-	1	-	3
Laboratory work No. 2. To submit DOM tree of the XML file formed in the laboratory work No.1. By means of PHP code to submit all “daughter” elements of the root element.	-	3	-	4	7
3. JavaScript objects, arrays of objects. Properties and methods of objects.	3	-	1	-	4
Laboratory work No. 3. To prepare JavaScript code, which would employ arrays of objects, properties, methods (at least one of each).	-	4	-	8	12
4. HTML document object model, HTML DOM objects, object properties, methods, events.	4	-	1	-	5
Laboratory work No. 4. To prepare JavaScript code, by means of which HTML document objects, events would be controlled.	-	4	-	10	14
5. Development of interactive websites using HTML document object model and JavaScript language.	2	-	-	-	2
Laboratory work No. 5. To develop an interactive website according to given requirements using the HTML DOM model, PHP and JavaScript languages.	-	6	-	2	8
V semester. Preparation for the examination and taking the examination.			2	14	16
V semester. The total number of hours	13	20	6	42	81
6. Synchronous and asynchronous data transfers to (from) the server. The object “XMLHttpRequest ()”, “GET” method.	2	-	-	-	2
Laboratory work No. 6. By means of PHP, JavaScript codes and object “XMLHttpRequest ()” to prepare PHP and JavaScript software illustrating synchronous and asynchronous data transfers to (from) the server using “GET” method.	-	4	1	4	9
7. HTTP protocol data transfer methods “HEAD” and “POST”.	2	-	-	-	2
Laboratory work No. 7. By means of PHP, JavaScript codes and object “XMLHttpRequest ()” to prepare PHP and JavaScript software illustrating synchronous and asynchronous data transfers to (from) the server using “HEAD” and “Post “ methods.	-	4	1	4	9
8. Data transfer using format “Text”.	2	-	-	-	2

Title of the topic and description of the content	Number of contact hours			S	Total number of hours
	L	Lw	C		
Laboratory work No. 8. By means of PHP, JavaScript codes and object "XMLHttpRequest ()" to prepare PHP and JavaScript software illustrating synchronous and asynchronous data transfers to (from) the server using txt file "Text" format.	-	4	1	6	11
9. Data transfer using format "JSON".	2	-	-	-	2
Laboratory work No. 9. By means of PHP, JavaScript codes and object "XMLHttpRequest ()" to prepare PHP and JavaScript software illustrating synchronous and asynchronous data transfers to (from) the server using "JSON" format.	-	4	1	8	13
10. Data transfer using XML format.	4	-	-	-	4
Laboratory work No. 10. By means of PHP, JavaScript codes and object "XMLHttpRequest ()" to prepare PHP and JavaScript software illustrating synchronous and asynchronous data transfers to (from) the server using XML format.	-	5	1	8	14
V semester. Preparation and taking the exam	-	-	1	12	13
VI semester. Total number of hours	12	21	6	40	79
Total number of hours	25	41	12	82	160

Assessment of learning outcomes

Ten-point criteria-based assessment system as well as cumulative assessment using individual cumulative index (ICI) are applied. The overall grade is the sum of grades for intermediate accountings and examination (E) multiplied by weighted coefficients.

V semester. $ICI1 = 0,5 Lw + 0,5 E$

VI semester. $ICI2 = 0,5 Lw + 0,5 E$, where Lw – laboratory works

Final mark. $ICI = 0,5 ICI1 + 0,5 ICI2$

Recommended literature

Key literature						
No.	Year of publishing	Author(s) and title of the publication	Publishing house	Number of copies and/or internet link		
				ŠSSC library	Other premises	Other libraries *
1.	2009	Vidžiūnas A., Vitkutė D. Interneto paslaugos ir svetainių kūrimas	Smaltija	4	-	5
2.	2014	Programming JavaScript Applications	O'Reilly Media.	http://chimera.labs.oreilly.com/books/123400000262/index.html		
3.	2013	Javascript in Ten Minutes		http://jsbooks.revolunet.com -> js-in-ten-min.pdf		
Additional literature						
No.	Year of publishing	Author(s) and title of the publication	Publishing house and/or internet link			
1.	2015	Osmani A. Learning JavaScript Design Patterns	O'Reilly Media			
2.	2015	Nixon R. Learning PHP, MySQL & JavaScript with JQuery	O'Reilly Media			
3.	2009	Goldberg K. H. XML, Second Edition	Peachpit Press			
4.	2007	Holzner S. Ajax Bible	Wiley Publishing			
5.	2006	Darie Cristian ir kt. AJAX and PHP: Building Responsive Web Applications	Pact Publishing Ltd			

* ŠAVB – Šiauliai Region Povilas Višinskis Public Library, ŠU – library of Šiauliai University

Required material resources and their short description

- **Equipment (devices):** a computers (16 units), computers connected to the local network and connected to the Internet, multimedia projector, printer.
- **Software:** editor / interpreter NuSphere PhpED, WampServer.

The description prepared by:

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