

Faculty of Electrical Engineering / ELECTRONICS, TELECOMMUNICATIONS AND COMPUTERS / Internet application programming

Course:	Internet application programming			
Course ID	Course status	Semester	ECTS credits	Lessons (Lessons+Exercises+Laboratory)
11172	Mandatory	6	5	3+1+0
Programs	ELECTRONICS, TELECOMMUNICATIONS AND COMPUTERS			
Prerequisites	There is none. It is desirable to have passed the exams in the subjects Programming I and Programming II.			
Aims	Getting to know the basics of programming Internet applications, that is, application programming technologies from the client side (HTML, CSS, Javascript, jQuery) and server side (PHP, MySQL).			
Learning outcomes	After the student passes this exam, he will be able to: 1) Explain current Internet application development technologies, from the client and server side. 2) Creates a simple Web page using HTML, CSS styles, and JavaScript programming language. 3) Explain the advantages of using the jQuery library. 4) Creates a simple three-tier Web application using the PHP programming language and MySQL database. 5) Understands and properly uses AJAX technology.			
Lecturer / Teaching assistant	Prof. dr Nikola Žarić, MSc Slavko Kovačević			
Methodology	Lectures, exercises in the computer classroom / laboratory. Learning and independent preparation of practical tasks. Consultations.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Introduction. Basics of HTML (elements/tags, headings, paragraphs, breaks)			
I week exercises	Getting familiar with the Wamp and XAMPP solution stack, as well as the Visual Studio Code source code editor. Introduction to HTML, creating a first page.			
II week lectures	HTML lists, tables and links. Working with div elements. Working with forms in HTML.			
II week exercises	Creating HTML forms using tables and div elements. Getting to know a lot of HTML tags.			
III week lectures	The basics of CSS. CSS syntax. Id and Class selectors			
III week exercises	Continuing to work with forms, getting to know the iframe tag. Realization of forms with arbitrary input information by the user.			
IV week lectures	Styling HTML elements with CSS. CSS3. Transformations, transitions, animations.			
IV week exercises	Getting to know CSS. Enhancing forms using CSS. Page styling.			
V week lectures	JavaScript - an introduction. Commands, variables, operators, conditional code execution, loops, functions			
V week exercises	Introduction to JavaScript. Realization of advanced forms and their validation using JS.			
VI week lectures	JavaScript objects (String, Date, Array, Boolean, Math, RegExp), events, error handling.			
VI week exercises	Advanced forms and JS. Smart validation using regular expressions, error handling, alert windows.			
VII week lectures	First colloquium			
VII week exercises	First colloquium			
VIII week lectures	The basics of PHP. Syntax. Flow control commands			
VIII week exercises	Introduction to PHP. Differences between PHP and the programming languages studied so far. Arrays and strings.			
IX week lectures	PHP strings. Superglobals. Functions.			
IX week exercises	Writing PHP functions, differences between passing by value and passing by reference.			
X week lectures	Working with forms. PHP cookies and sessions.			
X week exercises	Processing of user data using PHP. Binding with HTML.			
XI week lectures	PHP and MySQL databases.			
XI week exercises	Establishing a connection to a MySQL database, writing basic SQL commands.			
XII week lectures	Working with AJAX.			

XII week exercises	Introduction to AJAX.					
XIII week lectures	Second colloquium					
XIII week exercises	Second colloquium					
XIV week lectures	Responsive Internet applications. CSS frameworks (Bootstrap).					
XIV week exercises	Getting to know web programming frameworks.					
XV week lectures	Correction of the colloquium					
XV week exercises	Correction of the colloquium					
Student workload	4 credits x 40/30 = 5 hours and 20 minutes Structure: 3 hours of lectures 1 hour of exercises 1 hour and 20 minutes of independent work, including consultation Lessons and final exam: (5.33 hours) x 16 = 85 hours and 20 minutes Necessary preparations before the beginning of the semester (administration, registration, certification) 2 x (5.33 hours) = 10 hours and 40 minutes Total workload for the course 4x30 = 120 hours Supplementary work for exam preparation in the make-up exam period, including taking the make-up exam from 0 to 24 hours (remaining time from the first two items to the total load for the course 180 hours) Load structure: 85 hours and 20 minutes (Teaching) + 10 hours and 40 minutes (Preparation) + 24 hours (Additional work)					
Per week			Per semester			
5 credits x 40/30=6 hours and 40 minuts 3 sat(a) theoretical classes 0 sat(a) practical classes 1 excercises 2 hour(s) i 40 minuts of independent work, including consultations			Classes and final exam: 6 hour(s) i 40 minuts x 16 =106 hour(s) i 40 minuts Necessary preparation before the beginning of the semester (administration, registration, certification): 6 hour(s) i 40 minuts x 2 =13 hour(s) i 20 minuts Total workload for the subject: 5 x 30=150 hour(s) Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) 30 hour(s) i 0 minuts Workload structure: 106 hour(s) i 40 minuts (courses), 13 hour(s) i 20 minuts (preparation), 30 hour(s) i 0 minuts (additional work)			
Student obligations			Regular attendance at classes, appropriate behavior, attending tests knowledge (colloquium and final exam).			
Consultations			After the lecture, and if necessary by agreement.			
Literature			Lecture notes. R. Nixon, Learning PHP, MySQL & JavaScript: With jQuery, CSS & HTML5, OReilly Media, 4 edition (December 14, 2014)			
Examination methods			First colloquium total 30 points Second colloquium total 30 points Final exam total 40 points A passing grade (A-E) is obtained if at least 50 points are accumulated cumulatively.			
Special remarks			None.			
Comment			None.			
Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points