

Basic data of the subject			
Academic unit:	Faculty of Engineering and Informatics Applied Informatics		
Title of the subject:	Web Programming		
Level:	Bachelor		
Course Status:	Obligatory		
Year of studies:	III		
Number of hours per week:	3		
Value of Credits - ECTS:	5		
Time / location:			
Course lecturer:	Prof.Ass.Dr.Dhuratë Hyseni		
Contact details:	<a href="mailto:Dhurate.hyseni@ushaf.net">Dhurate.hyseni@ushaf.net</a>		
Course Description:	<p><i>This course provides students with the basics of website development using HTML5 for web page structure formation, CSS3 for style and JavaScript for dynamics. Students learn how to properly create the structure of their webpage to ensure their website is responsive to different devices. Furthermore, they practise selecting suitable font types and colours, creating forms and simple elements of dynamics to animate the website. At the end of the course, students are provided with information on content management systems (TVS). Then students compare a few most popular TVS and practise working with WordPress content management system. Practical activities of the course develop student's practical skills in performing the assigned tasks and developing their own project, namely their website.</i></p>		
Objectives of the course:	<p><i>This is a module for students with some prior experience of programming. The primary objective of the course is for the students to gain practical experience with "full-stack" web development. Students will explore the architecture of web applications and the technologies that are used in the three main components: client, server and data store.</i></p>		
Expected learning outcomes:	<p><i>Upon successful completion of this course, student will be able to:</i></p> <ul style="list-style-type: none"> <li>• <i>Understand the architecture of web applications and the internet technologies that underpin clicking on a link and fetching a web page.</i></li> <li>• <i>Use appropriate programming languages for the application logic in the browser and on the server.</i></li> <li>• <i>Use database technologies to store persistent data for a web application.</i></li> <li>• <i>Use tools for version control and deployment.</i></li> </ul>		
Contribution to the student load (which must correspond with learning outcomes)			
Activity	Hour	Day/Week	In total

Lectures with numerical exercises	3	15	45
Internship			
Contacts with teacher / consultations			
Field exercises			
Midterm, seminars and projects.	3	2	6
Homework			
Self-learning time student (at the library or at home)	3	15	45
Final preparation for the exam	7	2	14
Time spent on evaluation (tests, quiz and final exam)			
Projects and presentations.	3	5	15
<b>Total</b>			<b>125</b>
<b>Teaching methodology:</b>	<p><i>The course takes 15 weeks with 2 hours of lectures and 2 hours weekly individual and group exercises.</i></p> <p><i>Exercises will be held in the form of individual and group work in which concrete examples will be discussed.</i></p> <p><i>Active participation is extremely important so students are encouraged to attend lectures and exercises regularly and contribute to the discussions that take place in lectures.</i></p> <p><i>Lectures, exercise, individual work, discussions and group work.</i></p>		
<b>Assessment methods:</b>	<p><i>Test 1, Test 2, Attendance and Activity.</i></p> <p><i>Final exam: 100%</i></p>		
<b>The ratio of theory and practice:</b>	<p><i>70% theory with numerical and 30% laboratory work.</i></p>		
<b>Literature</b>			
<b>Basic Literature:</b>	<p><i>1. "Internet and World Wide Web How To Program", (5th Edition) by Harvey &amp; Paul) Deitel &amp; Associates (Author), Harvey Deitel (Author), Abbey Deitel (Author), (2012)</i></p>		
<b>Additional Literature:</b>	<p><i>2. Hogan, B.P., Warren, G, Weber, M., Johnson, C. and Godin, A., 2012. Web Development Recipes.</i></p>		
<b>Designed learning plan</b>			
<b>Week:</b>	<b>Lectures and exercises to be held</b>		
<b>Week one:</b>	<i>Introduction to the World Wide Web, First tasks including setting up a web server and writing first web page.</i>		
<b>Week two:</b>	<i>The Document Object Model and how web pages are represented as tree diagrams.</i>		
<b>Week three:</b>	<i>Making web pages more interactive with JavaScript and the jQuery library.</i>		
<b>Week four:</b>	<i>Transferring data between client and server with JSON and AJAX.</i>		
<b>Week five:</b>	<i>Software as a Service: writing RESTful web services.</i>		

<b>Week six:</b>	<i>The concepts will be illustrated with an appropriate server-side programming language for example: Java Server Faces or node.js.</i>
<b>Week seven:</b>	<i>Test 1</i>
<b>Week eight:</b>	<i>Version control with git and github.</i>
<b>Week nine:</b>	<i>Deploying a web server on a cloud platform.</i>
<b>Week ten:</b>	<i>Deploying a web server on a cloud platform (continued)</i>
<b>Week eleven:</b>	<i>The data store: using a database to store persistent data.</i>
<b>Week twelve:</b>	<i>The data store: NoSQL vs SQL comparison.</i>
<b>Week thirteen:</b>	<i>An appropriate database technology will be chosen for practical examples.</i>
<b>Week fourteen:</b>	<i>Web analytics.</i>
<b>Week fifteen:</b>	<i>Test 2</i>
<b>Academic policies and rules of conduct</b>	
<i>Regular attendance of lectures and exercises is necessary, as well as active participation with discussion and solution of tasks. Not impeding the progress required for learning using mobile phones turned off or in silent mode.</i>	