

<b>Course title</b>	<b>Web Development Fundamentals</b>			
<b>Course code</b>	<b>BIMA-251</b>			
<b>Course type</b>	<b>Compulsory</b>			
<b>Level</b>	<b>1<sup>st</sup> Cycle</b>			
<b>Year / Semester</b>	<b>2<sup>nd</sup></b>			
<b>Teacher's name</b>	<b>Andreas Tsivitanos</b>			
<b>ECTS</b>	6	<b>Lectures / week</b>	12	<b>Laboratories / week</b>
<b>Course purpose and objectives</b>	<p>The main objectives of the course are to:</p> <ul style="list-style-type: none"> <li>• Introduce students to web development using contemporary tools and methods.</li> <li>• Familiarize students with internet communication concepts and the evolution of the internet.</li> <li>• Explain HTML (HTML5) as the basis for structuring web documents.</li> <li>• Describe Cascading Style Sheets (CSS3) and demonstrate how to use them for styling web pages.</li> <li>• Introduce Adobe Dreamweaver and its role in aiding the web document creation process.</li> <li>• Discuss various types of web content (e.g., fonts, images, videos, audio) and explain how to encode them effectively for web deployment.</li> <li>• Address the challenges of multimedia web applications, including browser differences, limitations, security, and bandwidth issues.</li> <li>• Teach students to develop effective time management skills for web project creation.</li> </ul>			
<b>Learning outcomes</b>	<p>After completing the course, students are expected to be able to:</p> <ol style="list-style-type: none"> <li>1. Explain the basics of internet communication protocols, including IP, TCP, and HTTP.</li> <li>2. Apply the rules for formulating valid HTML5 and CSS3 statements in web development.</li> <li>3. Design and develop basic web pages incorporating images, fonts, hyperlinks, and menus.</li> <li>4. Utilize Adobe Dreamweaver as a tool for creating and editing web documents.</li> <li>5. Organize and structure documents by creating formatted text, lists, hyperlinks, tables, and boxes.</li> <li>6. Implement cascading style sheets (CSS) for presentation and layout on a site-wide basis.</li> <li>7. Develop web and mobile-optimized content while considering bandwidth limitations.</li> </ol>			

	<p>8. Analyze and apply methods for encoding and styling text for web applications.</p> <p>9. Illustrate and apply principles for encoding and styling color for the web.</p> <p>10. Evaluate various image and video file formats and compression methods, and integrate them into documents for both content and styling purposes.</p>		
<b>Prerequisites</b>	None	<b>Required</b>	
<b>Course content</b>	<p>The course covers the fundamentals of the internet, including protocols such as TCP/IP and HTTP, URLs, the client-server model, domain names, and DNS servers. Topics include hypertext, hypermedia, browsers, web pages, and websites, with a focus on browser awareness, proxies, security configurations, and limitations for web design. The web document development process is explored, including uploading HTML, file name conventions, standard structures, link structures, maintaining pages and sites, domain registration, and URL management.</p> <p>Students will learn HTML5 basics for structuring various elements of web documents, such as floated text, lists, hyperlinks, images, and tables. CSS3 is introduced for styling documents and creating layouts using spans and div tags, with both manual coding and tools like Dreamweaver. The course also examines color encoding with RGB, binary, and hexadecimal representations, as well as styling text with font families and text formatting.</p> <p>Other key topics include image formats, encoding, and optimization for web deployment, alongside proportional layout techniques for responsive webpage design and mobile device compatibility.</p>		
<b>Teaching methodology</b>	<p>Interactive lectures, hands-on practical sessions, project-based learning, case studies, collaborative activities, tutorials, guided practice, and self-directed learning.</p>		
<b>Bibliography</b>	<p><b>Required Textbooks/Readings</b></p> <p>Connolly, R., &amp; Hoar, R. (2021). <i>Fundamentals of Web Development</i> (3rd ed.). Pearson. ISBN: 9780136792857.</p> <p>Felke-Morris, T. A. (2020). <i>Web Development and Design Foundations with HTML5</i> (10th ed.). Pearson. ISBN: 9780136662402.</p> <p>Duckett, J. (2014). <i>HTML and CSS</i>. Wiley. ISBN: 9781118907443.</p> <p><b>Recommended Textbooks/Readings</b></p> <p>Krug, S. (2013). <i>Don't Make Me Think, Revisited: A Common-Sense Approach to Web Usability</i>. New Riders. ISBN: 0321965515.</p>		

<b>Assessment</b>	Practical coding assignments, web design projects, in-class exercises, written assignments and reports, research activities, mid-term exam, class attendance, and performance.
<b>Language</b>	English