



Subject card

Subject name and code	Techniques for creating web pages, PG_00051070						
Field of study	Technical Physics						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2023/2024		
Education level	first-cycle studies		Subject group		Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Zakład Fizyki Teoretycznej i Informatyki Kwantowej -> Instytut Fizyki i Informatyki Stosowanej -> Faculty of Applied Physics and Mathematics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Paweł Syty				
	Teachers		dr inż. Paweł Syty				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	30.0	0.0	45
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	45		5.0		25.0	75
Subject objectives	To acquaint students with the basic methods of creating websites.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K6_K01		The student is aware of changes in technology and the need for training.		[SK5] Assessment of ability to solve problems that arise in practice		
	K6_U02		The student is able to analyze the problem to be solved and solve it.		[SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment		
	K6_U03		The student is able to independently prepare a website on a selected topic, using selected technologies and tools.		[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools		

Subject contents	<p>LECTURE</p> <p>Web standards, website availability (WCAG, ATAG)</p> <p>HTML 5 (with particular emphasis on what's new in relation to older versions)</p> <p>CSS - Cascading Style Sheets</p> <p>Introduction to the PHP language, with particular emphasis on objectivity from version 5.x and the new possibilities of version 7.x</p> <p>HTTP protocol, Internet architecture</p> <p>MVC pattern, example in PHP, layered structure of web applications</p> <p>Template systems on the example of a selected PHP and JavaScript template</p> <p>Website security, including data security</p> <p>Supporting languages / technologies: XML, XSL, XPath, XSLT</p> <p>Document Object Model (DOM)</p> <p>JavaScript language, JSON format, jQuery library, templates (Handlebars / pug)</p> <p>Server-side JavaScript: Node.js environment, React vs AngularJS vs Angular library, Electron platform</p> <p>AJAX technology (including AJAX Push / Comet), providing indexing / positioning of pages</p> <p>Basic Apache configuration (.ht * files, mod_rewrite)</p> <p>Using frameworks, e.g. Django (Python language), Ruby on Rails (Ruby language), ASP.NET (.NET languages), Bootstrap</p> <p>Using ready-made CMS systems, eg Wordpress, creating your own themes</p> <p>Internet of Things (IoT) - intelligent buildings, RFID / NFC, communicating embedded systems based on microcontrollers</p> <p>PROJECT</p> <p>Students create a website that uses the technologies learned at the lecture.</p> <p>1. Choosing a topic, a sketch of the layout of the pages of the website.</p> <p>2. Creating a page layout (HTML + CSS).</p> <p>3. Creating an administration panel in PHP.</p> <p>4. JavaScript elements on the page.</p> <p>5. XML handling elements.</p> <p>6. Applications of AJAX technology.</p> <p>7. Implementation of the website based on the selected framework.</p>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	50.0%	70.0%
	Lecture exam	50.0%	30.0%
Recommended reading	Basic literature	Jon Duckett, HTML and CSS: Design and Build Websites, John Wiley & Sons 2017 David Flanagan, JavaScript: The Definitive Guide: Master the World's Most-Used Programming Language, O'Reilly 2021 Matt Zandstra, PHP Objects, Patterns, and Practice, Apress 2017	
	Supplementary literature	Brian Messenlehner, Jason Coleman, Building Web Apps with WordPress: WordPress as an Application Framework, O'Reilly 2021 Ethan Brown, Web Development with Node and Express: Leveraging the JavaScript Stack, O'Reilly 2020	
	eResources addresses	Adresy na platformie eNauczanie: Technologie tworzenia stron internetowych (2023/2024) - Moodle ID: 30972 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=30972	
Example issues/ example questions/ tasks being completed	Preparation of a website on a selected topic, using selected technologies.		
Work placement	Not applicable		