



Subject card

Subject name and code	Techniques web , PG_00060223						
Field of study	Technologie internetu						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2025/2026		
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	Division of Theoretical Physics and Quantum Informaton -> Institute of Physics and Applied Computer Science -> Faculty of Applied Physics and Mathematics -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Paweł Syty				
	Teachers						
Lesson types	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	Introduce students to the basic internet technologies, i.e. methods of creating websites - using both core technologies and frameworks and content management systems (CMS).						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U02] Can analyze and solve simple scientific and technical problems, based on possessed knowledge, using analytical, numerical, simulation and experimental methods.		The student is able to analyse a problem to be solved and then solve it.		[SU1] Ocena realizacji zadania [SU2] Ocena umiejętności analizy informacji		
	[K6_K01] Understands the need to learn and improve professional and personal competencies. Can inspire and organize other people's learning process		The student is aware of changes in technology and the need for further training.		[SK5] Ocena umiejętności rozwiązywania problemów występujących w praktyce		
	[K6_U03] Knows programming languages and can use basic software packages		The student is able to independently prepare a cloud-based website on a selected topic, using selected technologies and tools.		[SU1] Ocena realizacji zadania [SU3] Ocena umiejętności wykorzystania wiedzy uzyskanej w ramach przedmiotu [SU4] Ocena umiejętności korzystania z metod i narzędzi		

Subject contents	Web standards, website availability (WCAG, ATAG) HTML 5 (with particular emphasis on what's new in relation to older versions) CSS - Cascading Style Sheets Introduction to the PHP language, with particular emphasis on objectivity from version 5.x and the new possibilities of version 7.x HTTP protocol, Internet architecture MVC pattern, example in PHP, layered structure of web applications Template systems on the example of a selected PHP and JavaScript template Website security, including data security Supporting languages / technologies: XML, XSL, XPath, XSLT Document Object Model (DOM) JavaScript language, JSON format, jQuery library, templates (Handlebars / pug) Server-side JavaScript: Node.js environment, React vs AngularJS vs Angular library, Electron platform AJAX technology (including AJAX Push / Comet), providing indexing / positioning of pages Basic Apache configuration (.ht * files, mod_rewrite) Using frameworks, e.g. Django (Python language), Ruby on Rails (Ruby language), ASP.NET (.NET languages), Bootstrap Using ready-made CMS systems, eg Wordpress, creating your own themes Internet of Things (IoT) - intelligent buildings, RFID / NFC, communicating embedded systems based on microcontrollers Cloud computing		
	Students create a website that uses the technologies learned at the lecture. 1. Choosing a topic, a sketch of the layout of the pages of the website. 2. Creating a page layout (HTML + CSS). 3. Creating an administration panel in PHP. 4. JavaScript elements on the page. 5. XML handling elements. 6. Applications of AJAX technology. 7. Implementation of the website based on the selected framework.		
Prerequisites and co-requisites	Not applicable		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Passing the lecture	50.0%	30.0%
	Passing the project	50.0%	70.0%
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		
Example issues/ example questions/ tasks being completed	Preparation of a website on a selected topic, using selected technologies.		
Practical activities within the subject	Not applicable		

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