GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Techniques for creating web pages, PG_00051070
Field of study	Technical Physics

Date of commencement of studies	October 2022	Academic year of realisation of subject	2024/2025
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

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	Introduce students to the basic 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_K01	The student is aware of changes in technology and the need for further training.	[SK5] Assessment of ability to solve problems that arise in practice
	K6_U03	Students will be 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
	K6_U02	The student is able to analyse the problem to be solved and then solve it.	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information

Subject contents	LECTURE 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 PROJECT 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	

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Passing the project	50.0%	70.0%
	Passing the lecture	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 (2024/2025) - Moodle ID: 41213 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=41213

Example issues/ example questions/ tasks being completed	Preparation of a website on a selected topic, using selected technologies.
Work placement	Not applicable

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