



## Subject card

Subject name and code	Internet Programming, PG_00047852						
Field of study	Informatics						
Date of commencement of studies	October 2020		Academic year of realisation of subject		2022/2023		
Education level	first-cycle studies		Subject group		Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Part-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		5.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Metrology and Optoelectronics -> Faculty of Electronics, Telecommunications and Informatics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Katarzyna Karpienko				
	Teachers		dr inż. Katarzyna Karpienko				
			dr inż. Bartłomiej Dec				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	15.0	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		7.0		73.0	125
Subject objectives	To provide students with knowledge and skills in web application development by discussing the main techniques, languages and tools used on the server and client side.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U03] can design, according to required specifications, and make a simple device, facility, system or carry out a process, specific to the field of study, using suitable methods, techniques, tools and materials, following engineering standards and norms, applying technologies specific to the field of study and experience gained in the professional engineering environment	The student can design and implement a web application, both on the client and server-side. knows how to prepare software documentation.	[SU1] Assessment of task fulfilment
	[K6_U41] can produce, test or evaluate software using modern programming platforms, tools, languages and paradigms of different levels, as well as use software packages supporting scientific and research processes as well as business decision-making processes and teamwork	The student is able to develop a web application using the known languages and programming tools on the client and server-side.	[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task
	[K6_W41] Knows and understands, to an advanced extent, the operation and evaluation criteria of data processing, storage and transfer methods, including computational algorithms, artificial intelligence and data mining	The student knows and understands how data is transferred across the network layers.	[SW1] Assessment of factual knowledge
	[K6_U04] can apply knowledge of programming methods and techniques as well as select and apply appropriate programming methods and tools in computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study	The student knows how to use HTML, CSS, JavaScript, and tools such as the Node.js runtime environment and the React.js library to create a web application.	[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task
	[K6_W04] Knows and understands, to an advanced extent, the principles, methods and techniques of programming and the principles of computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study, and organisation of systems using computers or such devices	The student has the knowledge necessary to start working on creating a web application. Knows the network model and its layers. He knows the protocols necessary to transfer data across layers. Uses web browsers technologies - HTML, CSS, JavaScript, SVG, and those used on the server-side.	[SW1] Assessment of factual knowledge
Subject contents	<p>Scope of the material covered:</p> <ul style="list-style-type: none"> <li>• the main protocols of the Internet,</li> <li>• XHTML,</li> <li>• Javascript,</li> <li>• DOM + DHTML,</li> <li>• SVG,</li> <li>• Silverlight,</li> <li>• web servers,</li> <li>• PHP,</li> <li>• Symfony,</li> <li>• AJAX,</li> <li>• security of applications and protocols,</li> <li>• sources of standards and their documentation.</li> </ul>		
Prerequisites and co-requisites	Knowledge of basic concepts and models related to distributed computing (client-server model, P2P).		

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	kolokwium zaliczające	50.0%	50.0%
	projekt	50.0%	50.0%
Recommended reading	Basic literature	Shklar L., Rosen R.: "Web Application Architecture - Principles, Protocols and Practice". Wyd. John Wiley & Sons, Ltd.	
	Supplementary literature	RFC documents	
	eResources addresses	Adresy na platformie eNauczanie: Programowanie w Internecie 2022/2023 - Moodle ID: 24894 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=24894">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=24894</a>	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		