

Subject card

Subject name and code	Web Network Technologies, PG_00179346						
Field of study	Informatics						
Date of commencement of studies	October 2023		Academic year of realisation of subject			2025/2026	
Education level	Bachelor's studies		Subject group			Obligatory subject group in the field of study Optional subject group	
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			5.0	
Learning profile	practical		Assessment form				
Conducting unit	Institute of Informatics -> Faculty of Mathematics, Physics and Informatics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Wiesław Pawłowski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	30.0	0.0	0.0	60
	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	60		0.0		0.0	60
Subject objectives	The purpose of the course is to familiarize students with the technologies used to create websites and web applications. By far the most thoroughly discussed technologies and methodologies are those using JavaScript - both on the client and server side. The opportunity to learn more thoroughly and to apply the discussed issues in practice is provided by the laboratory, especially the individual project performed during it.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[INFL3_W07] has knowledge of designing, developing, testing, implementing and maintaining web applications and their security		Student knows the basic methods of creating and principles of modern interactive web applications. Is able to use JavaScript in creating user interface and logic of web applications. Is capable of creating solutions that offer REST architecture compliant services. Knows how to create web applications using Node.js server environment and selected tools for building user interface.			[SW4] test/exam - oral or written [SW2] presentation/project/paper/report	
	[INFL3_W06] has knowledge of operating systems, network technologies including basic web communication protocols		Student is aware of the role and importance of standards related to the Web environment. Understands the architecture of the Web and the capabilities and uses of the HTTP communication protocol that is fundamental to its operation.			[SW4] test/exam - oral or written [SW2] presentation/project/paper/report	

Subject contents	• Overview of basic concepts - servers and clients, web architecture - from static sites to web applications. • Tools for structuring and presenting web content. • JavaScript - characteristics, object-oriented mechanisms, asynchronous programming. • Document Object Model - characteristics, use of mechanisms offered by DOM API. • HTTP protocol - architecture, authentication and authorization methods, use for developing REST services, basic security mechanisms. • Advanced use of client-side and server-side JavaScript (Vue.js, Node.js)		
Prerequisites and co-requisites	• Knowledge of modeling and object-oriented programming principles. • Ability to efficiently navigate in Windows and Linux operating system environments. • Knowledge and ability to use relational model of databases in practice, ability to use SQL language.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	exam project	51.0%	90.0%
	laboratory tasks	51.0%	10.0%
Recommended reading	Basic literature	• David Gourley, Brian Totty, Marjorie Sayer, Sailu Reddy, Anshu Aggarwal, HTTP: The Definitive Guide, O'Reilly, 2002. • Chuck Musciano, Bill Kennedy, HTML & XHTML: The Definitive Guide, 6th Edition, O'Reilly, 2006. • David Flanagan, JavaScript: The Definitive Guide: Master the World's Most-Used Programming Language, 7th Edition, O'Reilly Media, 2020. • Douglas Crockford, JavaScript: The Good Parts, O'Reilly, 2008.	
	Supplementary literature	none	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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