

Subject card

Subject name and code	Web Applications 1, PG_00207600						
Field of study	Informatics						
Date of commencement of studies	October 2026		Academic year of realisation of subject			2027/2028	
Education level	Bachelor's studies		Subject group			Obligatory subject group in the field of study 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	2		Language of instruction			Polish	
Semester of study	3		ECTS credits			5.0	
Learning profile	academic		Assessment form			credit	
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		65.0	125
Subject objectives	The goal of the course is to familiarize students with the most important aspects of web application development, with a focus on the use of database servers and the Node.js runtime environment.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[INFOL3_W08] knows and understands advanced concepts in the field of network technologies, including communication protocols, security and construction of network applications		Knows and understands the key advantages of relational and document-based data models. Is familiar with and understands REST server architecture and the key principles of building secure and efficient web applications.			[SW4] test/exam - oral or written [SW5] implementation of a problem task	
	[INFOL3_U06] is able to select and apply appropriate IT methods and tools to solve complex problems, is able to use acquired knowledge by appropriately selecting sources and information derived from them, and perform evaluation, critical analysis, and synthesis of this information		Is able to design and develop a web application by selecting an appropriate data model.			[SU4] test/exam - oral or written [SU5] implementation of a problem task	
Subject contents	- JavaScript and the Node.js runtime environment - Principles of creating and using RESTful APIs - Creating Web application servers using Express.js - Using database servers from Node.js – tools and libraries - Design and implementation of the examination project						

Prerequisites and co-requisites	acquaintance with the relational model and SQL language		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	programming colloquia	51.0%	10.0%
	oral exam	51.0%	90.0%
Recommended reading	Basic literature	E. Brown, Web Development with Node and Express, 2nd Edition, O'Reilly Media, 2019. S. Brandshaw, E. Brazil, K. Chodorow, MongoDB: The Definitive Guide, O'Reilly Media, 2020. S. Springer, Node.js: The Comprehensive Guide, Rheinwerk Computing, 2022.	
	Supplementary literature	F. Dogilo, REST API Development with Node.js, Apress, 2018. D. Herron, Node.js Web Development, Fifth Edition, Apress, 2020. A. Mend, Learning Node.js Development, Packt Publishing, 2018	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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