

Subject card

Subject name and code	Frontend developement II, PG_00179342						
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		exam		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		mgr Aleksandra Tejszerska-Rzeźnik				
	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	- Gaining an understanding of the basic architecture of Angular as a framework for building modern web applications using TypeScript. - Learning how to use tools and libraries provided by Angular, such as Angular CLI, components, services, directives, pipes, forms, routing, HTTP, and RxJS. - Acquiring practical skills in designing and implementing user interfaces using techniques such as data binding, interpolation, and others. - Becoming familiar with best practices and programming patterns in Angular, such as dependency injection, change detection, lifecycle hooks, and component communication. - Utilizing Angulars capabilities to build responsive, efficient, and easy-to-test and maintain applications.						
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		Knows the architecture of web applications and technologies used in designing applications with Angular. Is able to design and implement a web application in Angular following good practices. Can test Angular applications and ensure their security.		[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		Understands the architecture of Angular and its use in web application development. Is able to design and implement applications in Angular using TypeScript. Can use Angular tools and apply good design practices. Is able to develop responsive, efficient, and secure applications, ensuring their testability and maintainability.		[SW4] test/exam - oral or written [SW2] presentation/project/paper/report		

Subject contents	• TypeScript • Components • Forms • Lifecycle hooks • RxJs • Routing • HttpClient • Application security / access control (guards, interceptors) • Internationalization / NgRx		
Prerequisites and co-requisites	Ability to design and program in the object-functional paradigm, good knowledge of HTML, CSS/SCSS, and JavaScript. Familiarity with the HTTP protocol and the principles of client-server web application architecture. Basic knowledge of databases and query creation.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	exam	51.0%	50.0%
	project(s)	51.0%	50.0%
Recommended reading	Basic literature	n/a	
	Supplementary literature	n/a	
	eResources addresses	Basic https://www.typescriptlang.org/docs/ - TypeScript Documentation https://angular.dev/overview - Angular Documentation	
Example issues/ example questions/ tasks being completed	Implement a simple shopping list management mechanism. Using ReactiveForms, implement a mechanism for managing a database of users and their addresses. Each user can have multiple addresses, which can be dynamically added and removed. Implement a guard that will protect the /profile page from unauthorized users.		
Work placement	Not applicable		

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