

Subject card

Subject name and code	Framework front-end, PG_00155055						
Field of study	Information Science and Econometrics						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2025/2026		
Education level	undergraduate studies		Subject group		Obligatory subject group in the field of study		
Mode of study	part-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		8.0		
Learning profile	academic		Assessment form				
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Michał Kuciapski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	12.0	0.0	40.0	0.0	0.0	52
	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	52		30.0		120.0	202
Subject objectives	- To learn about the design, programming and implementation of dynamic business websites based on popular front-end frameworks such as React and Vue. - Acquire skills in programming logic and creating highly interactive web applications using modern programming mechanisms available in front-end frameworks, such as binding, reactivity, dynamic styles, components, watch-e, enumerated fields, directives, routing, Single Page Application, global state management or scaling methods. - Translated with DeepL.com (free version)						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[IiEL3_U04] The student can plan, design and program information systems to support the functioning of economic entities.	• is able to point out differences between key front-end frameworks, • designs modern business websites using the latest front-end framework mechanisms, • designs scalable business websites through routing and state management mechanisms, • is proficient in using front-end framework mechanisms to optimize the performance of web applications,	[SU2] presentation/project/paper/report
	[IiEL3_K01] The student understands the need to constantly supplement and deepen acquired knowledge; is open to new ideas and teaching methods.	• aims to solve the presented problem of creating dynamic websites, • demonstrates creativity in the process of designing business websites,	[SK2] presentation/project/paper/report
	[IiEL3_W03] The student has advanced knowledge of man as an entity that creates economic structures and institutions.	• knows the syntax of key front-end frameworks for preparing fully functional web applications, • understands the need for continuous development of the functionality of websites.	[SW2] presentation/project/paper/report
	[IiEL3_U02] The student is able to acquire basic information about economic processes and phenomena by direct observation, planned experiment or database queries, and collect and process it using modern information technology tools.	• is able to extend the business capabilities of websites with elements of interactivity and modularity available in front-end frameworks, • implements solutions that take into account data access security mechanisms through authentication and authorization.	[SU2] presentation/project/paper/report
	[IiEL3_W05] The student has advanced knowledge of the sources of socio-economic data, their databases and ways of creating them.	• efficiently manages the work of a project team preparing a dynamic website, • efficiently solves programming problems as a team.	[SW2] presentation/project/paper/report
Subject contents	Lecture1. The Concept, Role, and History of Front-End Frameworks2. Overview and Comparison of Front-End Visualization Frameworks3. Overview and Comparison of Front-End Interaction Frameworks4. Designing the Front-End Visualization Layer5. Designing the Front-End Interaction Layer6. Integrating the Front-End with the BackendLab ExercisesI. Vue:1. Basics of Building Vue Applicationsa. Conditional Rendering and Stylesb. Directivesc. Eventsd. Computed Propertiese. Components2. Vue SPA:a. Vue CLI and Vite Environmentsb. Composition APIc. TypeScript3. Building Scalable Solutionsa. Routingb. State Management in Piniac. Implementing Large Nuxt Projects4. Building a Highly Interactive User Interface in Vuetifya. Installing the Frameworkb. Basic ControlsII: React:1. Types of Componentsa. Classb. Functional2. Components and Propertiesa. JSXb. Conditional Renderingc. Composition and Inheritance3. Rendering Elementsa. State and Lifecycleb. Lists and Keysc. Event Handlingd. Moving State Upe. Forms4. Hooksa. State Hooksb. Effect Hooksc. Creating Your Own Hooks		
Prerequisites and co-requisites	Website design, Scripting languages		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Final project	50.0%	100.0%
Recommended reading	Basic literature	• Mezzalira M. (2022), Front-End Reactive Architectures: Explore the Future of the Front-End using Reactive JavaScript Frameworks and Libraries, Apress • Ribeiro H. (2022), Vue.js 3 Cookbook, Packt • Griffiths David, Griffiths Dawn (2022) React. Receptury. Poradnik dla zaawansowanych, Helion	
	Supplementary literature	• Ribeiro H. (2022), Vue.js 3 Cookbook, Packt • Porcello E., Banks A. (2021) React od podstaw. Nowoczesne wzorce tworzenia aplikacji, Helion	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Design a business information portal using one of the popular front-end frameworks.		
Work placement	Not applicable		

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