

Subject card

Subject name and code	Script Languages, PG_00136703						
Field of study	Informatics and Econometrics						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2025/2026		
Education level	Bachelor's studies		Subject group		Obligatory subject group 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		7.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of Business Informatics -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Sławomir Radomski				
	Teachers		dr Sławomir Radomski				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	60.0	0.0	0.0	75
	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	75		20.0		80.0	175
Subject objectives	1. To familiarize students with the syntax of JavaScript. 2. Familiarizing students with changes in Ajax, Fetch API, JSON technologies. 3. Introducing students to the jQuery and Leaflet libraries. 4. Familiarizing students with the ECMAScript standard. 5. Familiarizing students with Babel and webpack technologies. 6. Introducing students to the TypeScript and PHP programming languages. 6. Practical skills in using JavaScript, Ajax, Fetch API, JSON, jQuery, Leaflet, Babel and webpack technologies, as well as TypeScript and PHP.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[liEL3_W04] The student has advanced knowledge of mathematical, statistical, econometric and computer methods of obtaining, processing and analysing data depicting the functioning and development of the national economy and its elements, as well as the phenomena and processes occurring in their environment.	The student knows advanced mathematical, statistical, econometric and IT methods enabling the acquisition, processing and analysis of data reflecting the functioning and growth of the economy. For this purpose, he can use technologies such as JavaScript, Ajax, JSON, TypeScript.	[SW4] test/exam - oral or written [SW2] presentation/project/paper/report
	[liEL3_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.	The student is able to obtain information about economic processes and phenomena through direct observation, planned experiment or database query, and collect and process it using modern IT tools such as JavaScript, Ajax, JSON, TypeScript.	[SU2] presentation/project/paper/report [SU4] test/exam - oral or written
	[liEL3_K02] The student can communicate with the public on computer science and econometrics topics in and outside the workplace, communicate his knowledge and share his skills through various media.	The student is able to communicate with the environment inside and outside the workplace, transfer his knowledge and share his skills using various media in the form of group work.	[SK2] presentation/project/paper/report [SK4] test/exam - oral or written
	[liEL3_K01] The student understands the need to constantly supplement and deepen acquired knowledge; is open to new ideas and teaching methods.	The student understands the need for continuous deepening of knowledge in the field of programming.	[SK2] presentation/project/paper/report [SK4] test/exam - oral or written
	[liEL3_U08] The student can configure and apply advanced modern information and communication technologies in the process of business management and business communication.	The student is able to configure and use advanced modern information and telecommunications technologies such as JavaScript, Ajax, JSON, TypeScript in the process of enterprise management and business communication.	[SU2] presentation/project/paper/report [SU4] test/exam - oral or written
	[liEL3_W05] The student has advanced knowledge of the sources of socio-economic data, their databases and ways of creating them.	The student has advanced knowledge of the sources of socio-economic data, their databases and how to create them. Knows how to use JSON and jQuery in the software development process.	[SW4] test/exam - oral or written [SW2] presentation/project/paper/report

Subject contents	Lecture:		
	1. Introduction to JavaScript: variables and types, functions, loops, native methods, conditional and selection statements, arrays. 2. Ajax - asynchrony, Fetch, JSON, jQuery library, Applications with maps - Leaflet. 3. ECMAScript standards: variables and functions, classes, template strings, symbols, modules, maps. Babel transpiler and webpack. 4. TypeScript programming language: strong typing, interfaces, classes, genericity. 5. PHP language in forms and databases.		
	Laboratory:		
	1. Carrying out a practical project using variables and loops. 2. Use of conditional and selection statements in Java Script. 3. Use of arrays in JavaScript. 4. Use of asynchronous queries - Ajax, Fetch. 5. Use of JSON and jQuery in JavaScript. 6. Creating applications using the Leaflet library. 7. Creating a program containing arrow functions, ES6 classes and symbols. 8. The use of iterators, generators, and field keywords. 9. Asynchrony in ECMAScript. 10. Use of webpack-Babel modules in the ES6 standard. 11. Creating an application using interfaces in TypeScript. 12. Creating an application using TypeScript classes. 13. Using generics in TypeScript. 14. Creating an application that supports forms in PHP. 15. Creating a database application in PHP.		
Prerequisites and co-requisites	Basic knowledge of how the Internet works and how to interpret tags by web browsers. Knowledge of HTML, CSS, Bootstrap technologies.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	work in classes	50.0%	30.0%
	project	50.0%	40.0%
	passing test	50.0%	30.0%

Recommended reading	Basic literature	Duckett J., JavaScript i jQuery. Interaktywne strony WWW dla każdego. Podręcznik Front-End Developera, Helion 2018 Simpson K., Tajniki języka JavaScript. ECMAScript 6 i dalej, Helion 2016 Freeman A., TypeScript 4. Od początkującego do profesjonalisty. Wydanie II, helion 2021
	Supplementary literature	Wrycza S., J. Maślankowski (red.), Informatyka Ekonomiczna, PWN, 2019,
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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