

Subject card

Subject name and code	Automation of application build and deployment, PG_00201687						
Field of study	Informatics						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Optional subject group		
Mode of study	part-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish Polish		
Semester of study	6		ECTS credits		5.0		
Learning profile	academic		Assessment form		exam		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		mgr Mateusz Miotk				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	0.0	20.0	0.0	0.0	40
	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	40		0.0		0.0	40
Subject objectives	The aim of the course is to acquaint students with the principles and tools for automating the building, testing and deployment of applications, and to develop the ability to independently prepare a reproducible process leading from source code to a working application, taking into account good practices and security.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[INFL3_W02] has knowledge of discrete mathematics and probabilistic methods and statistics		The student knows and understands the principles of automating the building, testing and deployment of applications, along with the related good practices and security issues.		[SW4] test/exam - oral or written		
	[INFL3_U04] is able to work in a team of IT specialists, manage his time and make commitments and meet deadlines, communicate using various techniques including dedicated tools		The student is able to independently design and automate the process of building, testing and deploying applications, and to work in a team, manage time and meet deadlines using appropriate tools.		[SU4] test/exam - oral or written		
Subject contents	Building and packaging applications. Running and orchestrating multi-service environments. Designing and automating continuous integration and delivery pipelines. Good practices, security and reliability of the deployment process.						
Prerequisites and co-requisites	Basics of programming, command-line usage and version control.						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	exam	51.0%	60.0%
	test	51.0%	40.0%
Recommended reading	Basic literature	1. N. Poulton, <i>Docker Deep Dive: Zero to Docker in a Single Book</i> , Leanpub, 2025. 2. S. P. Kane, K. Matthias, <i>Docker: Up & Running</i> , wyd. 3, O'Reilly Media, 2023. 3. B. Laster, <i>Learning GitHub Actions: Automation and Integration of CI/CD with GitHub</i> , O'Reilly Media, 2023.	
	Supplementary literature	1. R. Leszko, <i>Continuous Delivery with Docker and Jenkins</i> , Packt Publishing, 2022. 2. D. DeJonghe, <i>NGINX Cookbook: Advanced Recipes for High-Performance Load Balancing</i> , O'Reilly Media, 2024. 3. Official documentation GitHub Actions (docs.github.com/actions) and Docker (docs.docker.com).	
	eResources addresses	Supplementary https://docs.docker.com - Official documentation of Docker https://docs.github.com/actions - Official documentation GitHub Actions	
Example issues/ example questions/ tasks being completed	• Principles of automating the building, testing and deployment of applications. • Preparing a reproducible process from code to a working application. • Good practices and security of the deployment process.		
Work placement	Not applicable		

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