



Subject card

Subject name and code	JEE Tools and Applications, PG_00047971						
Field of study	Informatics						
Date of commencement of studies	October 2023	Academic year of realisation of subject				2026/2027	
Education level	first-cycle studies	Subject group				Optional subject group 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	4	Language of instruction				Polish	
Semester of study	7	ECTS credits				5.0	
Learning profile	general academic profile	Assessment form				exam	
Conducting unit	Department of Computer Architecture -> Faculty of Electronics, Telecommunications and Informatics						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Joanna Szlarczyńska					
	Teachers	dr hab. inż. Joanna Szlarczyńska					
Lesson types and methods of instruction	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	5.0		60.0	125	
Subject objectives	Teaching technologies, mechanisms and tools necessary to create enterprise-class applications using the Java Enterprise Edition (Java EE) platform.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_U01] can apply mathematical knowledge to formulate and solve complex and non-typical problems related to the field of study and perform tasks, in an innovative way, in not entirely predictable conditions, by:n- appropriate selection of sources and information obtained from them, assessment, critical analysis and synthesis of this information,n-selection and application of appropriate methods and toolsn	Student understands what enterprise class applications are. Is able to name architectural layers typical of applications based on the Java EE platform. Knows the different types of components used in each layer. Understands how the components work together. Can describe the life cycle of individual components. Is able to list and describe the individual stages of processing user requests. Understands what authentication and authorization processes are. Knows advanced database utilization mechanisms.			[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment		
	[K6_U02] can perform tasks related to the field of study in an innovative way as well as solve complex and nontypical problems, applying knowledge of physics, in changing and not fully predictable conditions	Student is able to prepare an enterprise class application based on the Java EE platform. Is able to choose the right components for individual architectural layers. Is able to implement and use authentication and authorization processes. Is able to use advanced database utilization mechanisms.			[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools		

Subject contents	<ol style="list-style-type: none"> <li>1. Enterprise class applications.</li> <li>2. Java EE Platform.</li> <li>3. Servlet.</li> <li>4. JavaServer Pages.</li> <li>5. Contexts and Dependency Injections (CDI),</li> <li>6. JavaServer Faces (JSF).</li> <li>7. Java API for RESTful Web Services (JAX-RS).</li> <li>8. Angular.</li> <li>9. Java Persistence API (JPA).</li> <li>10. Bean Validation.</li> <li>11. Java EE Security.</li> <li>12. Java Authentication and Authorization Service (JAAS).</li> <li>13. Enterprise JavaBeans (EJB).</li> <li>14. PrimeFaces.</li> </ol>		
Prerequisites and co-requisites	<p>It is required to complete the Technological Platforms (Java part) course and to learn the following topics:</p> <ul style="list-style-type: none"> <li>• Java Collections and introduction to generics,</li> <li>• Java Beans and overview of standard Java classes,</li> <li>• Enum types,</li> <li>• multithreading programming in Java,</li> <li>• networking and mobile in Java,</li> <li>• parsing XML in Java,</li> <li>• persistence (database access in Java SE).</li> </ul>		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written exam	50.0%	50.0%
	Practical exercise	50.0%	50.0%
Recommended reading	Basic literature	<ul style="list-style-type: none"> <li>• Eclipse Foundation, Jakarta EE 8 Tutorial.</li> <li>• Oracle, Java EE 8 Tutorial.</li> <li>• Oracle, Java EE 7 Tutorial.</li> <li>• WildFly Team, Java EE 7 Tutorial.</li> <li>• WildFly Team, WildFly Documentation.</li> </ul>	
	Supplementary literature	No requirements.	
	eResources addresses	Adresy na platformie eNauczenie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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