



## Subject card

Subject name and code	Software Project Organization, PG_00047679						
Field of study	Informatics						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2023/2024		
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study 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	3		Language of instruction		Polish		
Semester of study	6		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department of Software Engineering -> Faculty of Electronics, Telecommunications and Informatics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Jakub Miler				
	Teachers		dr inż. Katarzyna Łukasiewicz				
			dr inż. Jakub Miler				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	15.0	0.0	30
	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	30		7.0		38.0	75
Subject objectives	To learn the organization and realization of a software project based on several types of agile methods and frameworks such as Scrum, Kanban, SAFe, DevOps as well as a traditional methodology of Rational Unified Process. To be able to select, adapt and combine methodologies and practices.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U11] can plan and organise individual and team work	Student plans the project following a selected agile or disciplined methodology Student organizes the project infrastructure and the team work	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment
	[K6_W05] Knows and understands, to an advanced extent, methods of supporting processes and functions, specific to the field of study	Student knows the agile and disciplined software development methodologies Student understands advantages and limitations of software development methodologies	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge
	[K6_U07] can apply methods of process and function support, specific to the field of study	Student realizuje projekt zgodnie z wybraną metodyką zwinną lub zdyscyplinowaną Student uses the agile documentation techniques to specify software and development plans Student uses the tools for methodologies	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment
	[K6_K03] is ready to meet social obligations, co-organise activities for the social environment, initiate actions for the public interest, think and act in an entrepreneurial way	Student selects the methodology matching the needs of a project according to market and social factors	[SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice
	[K6_U03] can design, according to required specifications, and make a simple device, facility, system or carry out a process, specific to the field of study, using suitable methods, techniques, tools and materials, following engineering standards and norms, applying technologies specific to the field of study and experience gained in the professional engineering environment	Student runs the project following the selected agile or disciplined methodology Student develops the backlogs and plans following the methodologies	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment
Subject contents	1. Introduction to the subject 2. Introduction to the methodologies, project classes, challenges 3. Project infrastructure - team, communication, documentation, tools 4. Examples of projects following various methods 5. Scrum - roles, artifacts, events, rules 6. Scrum - product definition 7. Scrum - inside the sprint - organisation 8. Scrum - product development 9. Kanban 10. Rational Unified Process 11. SAFe 12. DevOps 13. Selection and adaptation of the methodology		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	51.0%	60.0%
	Written exam	51.0%	40.0%

Recommended reading	Basic literature	<ol style="list-style-type: none"> <li>1. A. Koszłajda, Zarządzanie Projektami IT Przewodnik po Metodach, Helion, 2010</li> <li>2. K. Schwaber, J. Sutherland, The Scrum Guide, The Definitive Guide to Scrum: The Rules of the Game, Scrum.org, 2017</li> <li>3. M. Chrapko "Scrum. O zwinnym zarządzaniu projektami", Helion, 2012</li> <li>4. K. S. Rubin "Scrum. Praktyczny przewodnik po najpopularniejszej metodyce Agile", Helion, 2013</li> <li>5. M. Lacey "Scrum. Praktyczny przewodnik dla początkujących", Helion, 2014</li> <li>6. K. Schwaber, Agile Project Management with Scrum, Microsoft Press, 2004</li> <li>7. K. Beck, C. Andres, Wydajne programowanie. Extreme Programming, wyd. II, MIKOM, 2006</li> <li>8. A. Cockburn, Agile Software Development. Gra zespołowa, wyd. II, Helion, 2008</li> <li>9. J. Shore, S. Warden, Agile Development. Filozofia programowania zwinnego, Helion, 2008</li> <li>10. P. Kruchten, The Rational Unified Process: An Introduction, 3rd edition, Addison-Wesley Professional, 2003</li> <li>11. P. Kroll, P. Kruchten, The Rational Unified Process Made Easy: A Practitioner's Guide to the RUP, Addison-Wesley Professional, 2003</li> <li>12. Rational Unified Process at IBM - <a href="http://www-01.ibm.com/software/awdtools/rup/">www-01.ibm.com/software/awdtools/rup/</a></li> </ol>
	Supplementary literature	<ol style="list-style-type: none"> <li>1. Manifesto for Agile Software Development, <a href="http://www.agilemanifesto.org">www.agilemanifesto.org</a></li> <li>2. K. Schwaber, M. Beedle, Agile Software Development with Scrum, Prentice Hall, 2001</li> <li>3. K. Beck, Extreme Programming Explained: Embrace Change, Addison-Wesley Professional, 1999</li> <li>4. OpenUP process model, <a href="http://epf.eclipse.org/wikis/openup/">http://epf.eclipse.org/wikis/openup/</a>, EPF</li> </ol>
	eResources addresses	<p>Adresy na platformie eNauczanie:</p> <p>Realizacja Projektu Informatycznego 2023/2024 - Moodle ID: 36227  <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=36227">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=36227</a></p>
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> <li>1. Infrastructure of a software project</li> <li>2. Scrum: Product Backlog</li> <li>3. Scrum: Sprint Backlog</li> <li>4. Kanban: Kanban Board</li> <li>5. Scrum: Retrospective</li> <li>6. Selection and adaptation of a project methodology</li> </ol>	
Work placement	Not applicable	