



Subject card

Subject name and code	Software Quality, PG_00053909						
Field of study	Informatics						
Date of commencement of studies	October 2024	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	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 Computer Architecture -> Faculty Of Electronics Telecommunications And Informatics -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Jarosław Kuchta				
	Teachers		dr inż. Jarosław Kuchta				
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		2.0		43.0	75
Subject objectives	Know how to evaluate software quality and how to manage the quality in the software enterprise.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[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		Is able to develop a specification of requirements for an IT system, taking into account quality requirements.		[SU1] Assessment of task fulfilment		
	[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		Is able to perform a qualitative assessment of selected design documents using appropriate metrics.		[SU2] Assessment of ability to analyse information		

Subject contents	<ol style="list-style-type: none"> 1. Software quality introduction 2. Quality in the software development process 3. Software quality models 4. Quality measurements. ISO 9126 quality metrics 5. CMM/CMMI maturity models 6. ISO 9001 quality management system 7. AHP - comparative quality evaluation by Saaty 8. GQM - metrics applied by goals 9. Quality in Agile Programming 10. Bugs, faults, errors and defects 11. Error models 12. Environment models 13. Program models 14. Testing levels 15. Black-box testing strategies 16. White-box testing strategies 17. Test documentation. IEEE standards. 18. Classes of test scenarios 19. Test-case life cycle 20. Structure and attributes of test cases 21. Test implementation methods 														
Prerequisites and co-requisites	Software Engineering														
Assessment methods and criteria	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Subject passing criteria</th> <th style="width: 33%;">Passing threshold</th> <th style="width: 34%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>Problem solving projects</td> <td>50.0%</td> <td>50.0%</td> </tr> <tr> <td>Written exam</td> <td>50.0%</td> <td>25.0%</td> </tr> <tr> <td>Midterm colloquium</td> <td>50.0%</td> <td>25.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Problem solving projects	50.0%	50.0%	Written exam	50.0%	25.0%	Midterm colloquium	50.0%	25.0%
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	Written exam	50.0%	25.0%												
Midterm colloquium	50.0%	25.0%													
Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. Pressman R., Software Engineering. A Practitioner"s Approach. McGraw-Hill, 2005 2. Górski J., Inżynieria oprogramowania w projekcie informatycznym. MIKOM, 2000 3. Bugzilla Documentation, Administrators & End Users: http://www.bugzilla.org/docs/ 4. Wiszniewski, B., Bogdan Bereza-Jarociński, B.: Teoria i praktyka testowania programów, PWN, 2006 5. Krawczyk H., Wiszniewski B.: Analysis and Testing of Distributed Software Applications, John Wiley & Sons, 1998. 													
	Supplementary literature	<ol style="list-style-type: none"> 1. Standard ISO/IEC 9001 2. Standard ISO/IEC 9126 3. Mark C. Paulk, Bill Curtis, Mary Beth Chrissis, Charles V. Weber: The Capability Maturity Model for Software 													
	eResources addresses	Adresy na platformie eNauczanie:													
Example issues/ example questions/ tasks being completed															
Work placement	Not applicable														

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