GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Quality of Information Systems, PG_00047714
Field of study	Informatics

Date of commencement of studies	October 2022	Academic year of realisation of subject	2022/2023
Education level	second-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	Part-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	1	ECTS credits	6.0
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 inż. Jarosław Kuchta
	Teachers	dr inż. Jarosław Kuchta
		prof. dr hab. inż. Bogdan Wiszniewski

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	18.0	0.0	15.0	0.0	0.0	33
	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	33	10.0	107.0	150

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
	[K7_U09] can carry out a critical analysis of the functioning of existing technical solutions and assess these solutions, as well as apply experience related to the maintenance of advanced technical systems, devices and facilities typical for the field of studies, gained in the professional engineering environment	He can indicate deficiencies and defects in the submitted IT project documentation and ways to solve them	[SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
	[K7_K02] is ready to provide critical evaluation of received content and to acknowledge the importance of knowledge in solving cognitive and practical problems	Is able to critically evaluate user requirements	[SK2] Assessment of progress of work [SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice
	[K7_U42] can solve engineering and research problems including design, assessment and maintenance of information systems and applications, using experimental methods and management techniques	He knows and understands the ways of quality assurance in IT projects from the planning phase, through analysis, design and implementation, to the maintenance phase	[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject
	[K7_W43] Knows and understands, to an increased extent, the nformal, technical and social aspects of the operation of complex information systems in the information society and in the global information n infrastructure.	He knows and understands the importance of software quality in the modern world	[SW1] Assessment of factual knowledge
	[K7_U06] can analyse the operation of components, circuits and systems related to the field of study; measure their parameters; examine technical specifications; interpret obtained results and draw conclusions	He can analyze the documentation of an IT project	[SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment

Subject contents	
	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	Subject passing criteria	Passing threshold	Percentage of the final grade
	Practical exercise	50.0%	50.0%
	Written exam	50.0%	25.0%
	Midterm colloquium	50.0%	25.0%

Recommended reading		
	Basic literature	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	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	