

Subject card

Subject name and code	Requirements Engineering, PG_00156624						
Field of study	Information Science and Econometrics						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2024/2025		
Education level	postgraduate 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	2		ECTS credits		3.0		
Learning profile	academic		Assessment form				
Conducting unit	Katedra Informatyki Ekonomicznej -> Faculty of Management						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Jerzy Auksztol				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	9.0	0.0	0.0	0.0	0.0	9
	E-learning hours included: 0.0						
	Additional information: Problem-based lecture						
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	9		15.0		55.0	79
Subject objectives	Mastering the skills of: (i) eliciting, (ii) formulating, (iii) documenting, (iv) evaluating, and (v) validating requirements specifications for software and information systems.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[IiEMU2_U02] The student is able to proficiently acquire detailed information about economic processes and phenomena through direct observation, planned experimentation or database queries, as well as collect and process it using modern information technology tools.	Knowing the methods of identifying and describing the economic processes of commercial and non-commercial organizations, he/she prepares high-quality specifications of information system requirements based on research, interviews, observations and database queries.	[SU2] presentation/project/paper/report
	[IiEMU2_K06] The student knows the need for ethical, sustainable and socially responsible behavior in professional and social life. Initiates and organises activities for the social environment and public interest.	Prepares precise requirements specifications that take into account ethical, sustainable and socially responsible behavior. Is ready to prepare requirements specifications for non-profit and public interest organizations.	[SK2] presentation/project/paper/report
	[IiEMU2_K02] The student can communicate freely with the public on specialised topics in the field of computer science and econometrics in and outside the workplace, communicate his knowledge and share his skills through various media. Culturally participates in discussions, is not afraid to ask questions and knows how to give constructive criticism.	Prepares a report from the developed requirements specification characterized by a detailed discussion of the issue being addressed, while using effective methods of simple communication. Presents own solutions on a wide discussion forum, exchanging knowledge with participants of the discourse.	[SK2] presentation/project/paper/report
	[IiEMU2_W03] The student has an in-depth knowledge of man as a subject who creates economic structures and institutions.	Effectively selects methods for obtaining requirements from stakeholders depending on the complexity of the organizational structures and the legal and social conditions of the analyzed units.	[SW2] presentation/project/paper/report
	[IiEMU2_U04] The student is able to plan, design, and program information systems at an advanced level, supporting the operation of business entities.	Knowing effective methods of designing, constructing and maintaining information systems, he/she prepares high-quality requirements specifications based on the needs formulated by business entities.	[SU2] presentation/project/paper/report
	[IiEMU2_W07] The student has an extended and established knowledge of ethical norms applicable to business, good practices for its conduct and legal regulations for the protection of intellectual property. The student has an extended knowledge of the risks and responsibilities associated with the computerization of business processes. The student knows the principles of netiquette.	Identifies areas concerning intellectual property in IT projects and, on this basis, determines licensing conditions for the constructed information systems.	[SW2] presentation/project/paper/report
	[IiEMU2_U08] The student can analyse business needs and, as appropriate, configure and apply modern information and communication technologies in business management and business communication.	Is able to prepare a specification of information system's requirements that takes into account the complexity of business processes implemented in economic entities supported by a wide range of different information technologies.	[SU2] presentation/project/paper/report
Subject contents	1. Primary definitions and classifications. 2. System and software lifecycle : (i) classical and adaptive approaches, (ii) requirements engineering in the system and software lifecycle. 3. Software acquisition models. 4. Stakeholders and their roles in requirements engineering. 5. Requirements acquisition methods. 6. Documenting and specifying requirements. 7. Enterprise architecture concept. 8. Quality management in requirements engineering. 9. Risk management in requirements engineering.		

Prerequisites and co-requisites	Elementary knowledge of programming, databases and information systems design.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Exam	60.0%	100.0%
Recommended reading	Basic literature	• Chrabski B., Zmitowicz K., Inżynieria wymagań w praktyce (ang. Requirements Engineering in Practice), Wydawnictwo naukowe PWN, Warszawa 2015. • Pankowska M., Język SysML w inżynierii wymagań (ang. SysML Language in Requirements Engineering), Studia ekonomiczne Uniwersytetu w Katowicach 2013, nr 128, s. 91-102. • Wiegers K., Joy B., Specyfikacja oprogramowania, Inżynieria wymagań (ang. Software Specification, Requirements Engineering), Wydawnictwo Helion, Gliwice 2014. • Wrycza S., Marcinkowski B., Język SysML w inżynierii wymagań. Architektura i zastosowanie (ang. SysML Language in Requirements Engineering. Architecture and Application). Profile UML 2.x w praktyce, Wydawnictwo Helion 2010. • Wrycza S., Maślankowski J. (red.), Informatyka ekonomiczna. Podręcznik akademicki (ang. Business Informatics, Academic textbook), Wydawnictwo Naukowe PWN 2019.	
	Supplementary literature	• Digital Security Risk Management for Economic and Social Prosperity - OECD Recommendation and Companion Document, OECD, 2015. • IEEE Std. 1233-1998, IEEE Guide for Developing System Requirements Specification, The Institute of Electrical and Electronics Engineers Inc., 1998. • IEEE Std. 830-1998, IEEE Recommended Practice for Software Requirements Specifications, The Institute of Electrical and Electronics Engineers Inc., 1998. • IEEE/ISO/IEC 24765-2010, Systems and software engineering - Vocabulary, 2010. • ISO/IEC 12207:2008, Systems and software engineering - Software life cycle processes, 2008. • ISO 9000:2015, Quality management systems Fundamentals and vocabulary, 2015 • PN-ISO 31000:2012, Zarządzanie ryzykiem. Zasady i wytyczne (ang. Risk Management. Principles and Guidelines), Polski Komitet Normalizacyjny, Warszawa 2012. • PN-ISO 9001:2015, Systemy zarządzania jakością. Wymagania, (ang. Quality Management Systems. Requirements,). Polski Komitet Normalizacyjny, Warszawa 2016.	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	• Effective selection of methods for acquiring and documenting requirements. • Quality assessment of prepared requirements. • Methods of acquiring hidden requirements. • Identifying threats in the process of acquiring and documenting requirements. • Methods for minimizing threats in the process of specifying requirements. • Lean Software Development in requirements specification.		
Work placement	Not applicable		

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