



Subject card

Subject name and code	Cybersecurity of Enterprise Infrastructure, PG_00053095						
Field of study	Data Engineering						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2027/2028		
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		English		
Semester of study	6		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department Of Informatics In Management -> Faculty Of Management And Economics -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Rafał Leszczyna				
	Teachers		dr hab. inż. Rafał Leszczyna				
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		6.0		9.0	75
Subject objectives	The aim of the course is to acquire knowledge in the area of enterprise IT infrastructure and security management.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W04] demonstrates creative and entrepreneurial activity in formulating and implementing innovative ideas		The student demonstrates creative and entrepreneurial action in analyzing and assessing risks and costs related to IT security, formulating innovative solutions for protecting IT infrastructure and creating security documentation tailored to the specific needs of the enterprise.		[SW2] Assessment of knowledge contained in presentation		
	[K6_U02] prepares and presents convincingly professional presentations of the results of undertaken activities, with their advanced interpretation		The student prepares and presents professional presentations of the results of IT security analyses, including risk and cost assessment		[SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information		
	[K6_U04] formulates logical solutions to complex or unstructured problems		The student formulates logical solutions to complex IT security problems		[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information		

Subject contents	LECTURE:		
	<p>Introduction</p> <p>Enterprise IT infrastructure</p> <p>IT security cost</p> <p>Risk management</p> <p>Risk assessment</p> <p>IT security standards</p> <p>IT threats</p> <p>Enterprise IT infrastructure documentation (including IT infrastructure description, security procedures description)</p> <p>IT infrastructure protection controls</p>		
Prerequisites and co-requisites	LAB:		
	<p>Enterprise IT infrastructure analysis</p> <p>Risk assessment</p> <p>IT security cost assessment</p> <p>Documenting enterprise IT infrastructure</p> <p>Selecting IT infrastructure protection controls</p>		
Assessment methods and criteria	No requirements		
	Subject passing criteria	Passing threshold	Percentage of the final grade
	Lab work reports	60.0%	60.0%
	Exam	60.0%	40.0%
Recommended reading	Basic literature	<p>Ross J. Anderson. 2008. Security Engineering: A Guide to Building Dependable Distributed Systems (2 ed.). Wiley Publishing.</p>	
		<p>NIST, An Introduction to Computer Security: the NIST Handbook, 1995, DOI:10.6028/NIST.SP.800-12.</p> <p>Peter Gutmann, Engineering Security, 2014,</p> <p>Computer security handbook. Vol 1 / ed. by Seymour Bosworth, M. E. Kabay, Eric Whyne, Hoboken : John Wiley & Sons, cop. 2009.</p>	

	Supplementary literature	<p>John R. Vacca, Cyber Security and IT Infrastructure Protection, Syngress; 1 edition, September 23, 2013</p> <p>Douglas Landoll, The Security Risk Assessment Handbook: A Complete Guide for Performing Security Risk Assessments, Second Edition, May 20, 2011.</p> <p>Bruce Schneier, Applied Cryptography, Second Edition, John Wiley & Sons, 1996.</p> <p>Sjaak Laan, It Infrastructure Architecture - Infrastructure Building Blocks and Concepts Second Edition, Lulu.com, February 24, 2013.</p> <p>Art Carapola, Lord of the Infrastructure: A Roadmap for IT Infrastructure Managers, NewVista Advisors, llc; 1 edition, March 27, 2016.</p> <p>John Yani Arrasjid, Mark Gabryjelski, Chris McCain, It Architect: Foundation in the Art of Infrastructure Design: A Practical Guide for It Architects, It Architect Resource, Llc, March 21, 2016.</p>
	eResources addresses	Adresy na platformie eNauczenie:
Example issues/ example questions/ tasks being completed	<p>Analyse enterprise IT infrastructure and prepare its documentation.</p> <p>Perform risk assessment of the analysed IT infrastructure.</p> <p>Propose protection controls for the analysed IT infrastructure.</p> <p>Present examples of critical infrastructures.</p> <p>Present and discuss basic functions of firewalls.</p>	
Work placement	Not applicable	

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