



Subject card

Subject name and code	Informatization strategies, PG_00045371						
Field of study	Data Engineering						
Date of commencement of studies	October 2023	Academic year of realisation of subject			2025/2026		
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			English		
Semester of study	5	ECTS credits			3.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Informatics In Management -> Faculty of Management and Economics -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr Grażyna Musiatowicz-Podbiał					
	Teachers	dr Grażyna Musiatowicz-Podbiał					
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	E-learning hours included: 0.0						
	eNauczanie source addresses: Moodle ID: 46168 Informatization strategies 25/26 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=46168						
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	4.0	41.0	75		
Subject objectives	The aim of the course is to prepare students to design and implement organisational digitalisation strategies, based on knowledge in the field of IT status analysis and the formulation of goals and IT strategic management tools, as well as to foster attitudes related to the responsible introduction of changes and risk management, within the context of sustainable organisational development and the alignment of the IT strategy with business objectives.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U03] analyses problems and creates appropriate models, data structures and algorithms (including heuristic and numerical ones), assesses their computational complexity, estimates errors of the received solutions	Student can carry out a gap analysis and a business process analysis to assess their alignment with IT area objectives, and design elements of an IT strategy using measurable indicators (KPIs), an IT Balanced Scorecard (IT BSC), and enterprise architecture modelling within the TOGAF and ArchiMate approaches	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools
	[K6_K01] is aware of quickly changing trends and the resulting need for further education and self-improvement in the area of the performed profession of an engineer with IT and economic-financial skills.	Student is prepared to make strategic decisions independently and responsibly in the field of IT, with respect for the principles of communication, transparency, and risk management in technological change projects.	[SK3] Assessment of ability to organize work [SK1] Assessment of group work skills
[K6_W02] Knows and understands the standards of network management, architecture, technologies and services of telecommunications networks. Knows the main protocols of packet networks, understands the operation of local networks and network connection rules.	Student knows and understands the methods and principles of formulating an IT strategy and enterprise architecture in the context of aligning IT goals with the organisation's business goals	[SW1] Assessment of factual knowledge	
Subject contents	Course content – lecture		
	<ul style="list-style-type: none"> • Informatization strategy definition, • Role and scope of Strategic Alignment Model, • Informatization strategy formulation process, • Tools and method used for IT strategy: AS-IS analysis, SWOT, TO-BE definition, IT BSC, SMART goals definition, IT KPI's, • Communication and resistance to change mitigation, • IT Priorities definition, • Risk management in IT strategy. • Monitoring tools implementation, • Various concepts of Enterprise Architecture, • Use of TOGAF elements as Enterprise Architecture. 		
Prerequisites and co-requisites	Course content – laboratory		
	<ul style="list-style-type: none"> • Preparing an IT strategy based on the business strategy, • Analysis of strategic alignment, • Analysis of the current situation (AS-IS) to determine the starting position of the strategy, • The process of formulating an IT strategy (TO-BE), • Determining measurable criteria for implementing the SMART strategy, • Communicating and implementing changes, preventing resistance to change, • Defining IT priorities, Implementing monitoring tools: IT KPIs, digital dashboard, • Preparing the enterprise architecture using TOGAF and ArchiMate, 		
Assessment methods and criteria	Basic knowledge on the scope of use of information technology in organizations.		
	Subject passing criteria	Passing threshold	Percentage of the final grade
	Knowledge test exam and problem-solving tasks	60.0%	40.0%
	Team project: development and presentation	60.0%	45.0%
Individual and teams activities	60.0%	15.0%	

Recommended reading	Basic literature	<ul style="list-style-type: none"> Albeladi K.S., Khan U.A., Khan P.M. (2014). Driving business value through effective IT strategy development. 2014 International Conference on Computing for Sustainable Global Development (INDIACom); https://ieeexplore.ieee.org/document/6828021. Chen D.Q., Mocker M., Preston D.S., Teubner A. (2010). Information systems strategy: reconceptualization, measurement, and implications, MIS Quarterly, 34(2), 233259. de Souza Bermejo P.H., Olímpio Tonelli A., Zambalde A.L., Leomar Todesco J. (2014). Towards an understanding of information technology strategy development based on knowledge management. Revista de Ciências Da Administração, 16(40), 139155. Drive Performance, Harvard Business Review (January/February 1992), ISSN 0017-8012, Retrieved 2020-01-15. Galliers, R. D., Leidner, D. E., & Simeonova, B. (Eds.). (2020). Strategic information management: Theory and practice. Routledge. Materials attached to eCourse.
	Supplementary literature	<ul style="list-style-type: none"> TOGAF framework, https://pubs.opengroup.org/architecture/togaf9-doc/arch/index.html. ArchiMate, https://www.archimatetool.com/
	eResources addresses	
Example issues/ example questions/ tasks being completed	<ul style="list-style-type: none"> IT strategy definition and project, Analysis of the impact of IT on the company's efficiency, Project of the target IT vision with the BSC (Balanced Score Card), Strategic goals definition (SMART technique), Project of monitoring and KPI's for the IT area, Identification of IT strategy implementation risks in a given enterprise. 	
Practical activities within the subject	Not applicable	

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