GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	GLOBAL DIGITAL TRANSFORMATION, PG_00070740		
Field of study	Engineering Management		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2028/2029
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	Part-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	6	ECTS credits	4.0
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 Tomasz Janowski	
	Teachers		

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	18.0	0.0	9.0	0.0	0.0	27
	E-learning hours included: 0.0						
	eNauczanie source address: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=47434						

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	27	3.0	70.0	100

Subject objectives	Preparing students to analyze and critically evaluate global digital transformation processes, based on knowledge of technological, social, economic, and political development, and to formulate and present conclusions based on reliable information sources in the context of global development trends.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_K01] is ready to fulfill professional roles responsibly, taking legal, ethical, and cultural aspects into account in decision-making processes.	is ready to perform professional roles in digital environments in a responsible manner, taking into account legal, ethical, and cultural dimensions of digital transformation, including data protection, algorithmic decision-making, and cross-cultural diversity.	[SK2] Assessment of progress of work [SK1] Assessment of group work skills
	[K6_W03] knows reliable sources of information and utilizes advanced knowledge to explain contemporary management issues.	knows and understands the key features, determinants, conditions, and directions of development of the global digital transformation and its significance for social, economic, and political processes, using reliable sources of information for the critical analysis of phenomena.	[SW1] Assessment of factual knowledge
	[K6_U07] uses advanced information technologies to enhance data analysis and management processes.	is able to apply advanced information technologies to analyse data and design improvements in management processes within the context of global digital transformation, using analytical tools and decision-support solutions.	[SU1] Assessment of task fulfilment [SU5] Assessment of ability to present the results of task

Subject contents	Course content – lecture
	1. CONCEPT - What is digital transformation (DT) about?
	2. LANDSCAPE - How is DT progressing around the world?
	3. FEATURES - What features define DT?
	4. DYNAMICS - What are DT conditions, mechanisms, and outcomes?
	5. INNOVATION - How is DT enabling digital innovation?
	6. ECONOMICS - How is DT generating productivity, wealth, and inequality?
	7. IMPACT - What is DT impact by type, scope, and target?
	8. SUSTAINABILITY - What is sustainable DT? What is DT for sustainability?

Course content – laboratory
GROUP PROJECT - Digital transformation analysis of a selected country

1. Introduction, group formation, country selection, literature discovery

2. Analysis by area:

- digital infrastructure and connectivity
- legal, regulatory, and policy environment
- human capital, skills, and inclusion
- government and public sector transformation
- economy and business digitalization
- governance and leadership

3. Presentation and discussion

INDIVIDUAL PROJECT - How is the country tackling a selected social problem using digital transformation?

1. Problem selection, research plan, literature gathering
2. Analysis:

- policy problem
- policy stakeholders
- strategy for addressing the problem
- strategy implementation
- impact and outcomes
- challenges and risks

3. Presentation and discussion

Prerequisites and co-requisites	

Assessment methods and criteria			
	Subject passing criteria	Passing threshold	Percentage of the final grade
	Assessment of the ability to collaboratively develop and present an analysis of global digital transformation using reliable data sources (group project).	60.0%	20.0%
	Assessment of the ability to independently analyze a selected aspect of global digital transformation and formulate coherent conclusions (individual project).	60.0%	20.0%
	Assessment of ongoing analytical engagement in discussions on global digital transformation issues (activity during lectures).	0.0%	10.0%
	Assessment of the ability to analyze global digital transformation processes and critically evaluate the reliability of information sources based on problem-based questions (exam).	60.0%	50.0%

Recommended reading	Basic literature	1. E. Brynjolfsson and A. McAfee, The Second Machine Age, 2016 2. Kohli, R., & Melville, N. P. (2019). Digital innovation: A review and synthesis. Information Systems Journal, 29(1), 200-223. 3. Hanelt, A., Bohnsack, R., Marz, D., & Antunes Marante, C. (2021). A systematic review of the literature on digital transformation: Insights and implications for strategy and organizational change. Journal of management studies, 58(5), 1159-1197. 4. Cheng, C., Wang, L., Xie, H., & Yan, L. (2023). Mapping digital innovation: A bibliometric analysis and systematic literature review. Technological Forecasting and Social Change, 194, 122706. 5. Calza, E., Dalla Benetta, A., Kostić, U., Mitton, I., Moraschini, M., Baillet, M. V. P., ... & De-Prato, G. (2023). Analytical insights into the global digital ecosystem (DGTES) (No. JRC132991). Joint Research Centre. 6. ITU. Measuring digital development - ICT Development Index. 2025 7. Schoormann, T., Möller, F., Hoppe, C., & vom Brocke, J. (2025). Digital Sustainability. Business & Information Systems Engineering, 1-10.
	Supplementary literature	1. Janowski, T. (2015). Digital Government Evolution: From Transformation to Contextualization. Government Information Quarterly. 2. Bertot, J., Estevez, E., Janowski, T. Universal and contextualized public services: Digital public service innovation framework. Government Information Quarterly, Elsevier 2016 3. G. Unruh and D. Kiron, Digital Transformation on Purpose, MIT Sloan Manag. Rev., pp. 16, 2017. 4. Kenneth C. Laudon and Jane P. Laudon. Management information systems: Managing the digital firm. 17th edition. Pearson Education. 2022 5. Trinchini, L., & Baggio, R. (2023). Digital sustainability: Ethics, epistemology, complexity and modelling. First Monday. 6. Feroz, A. K., & Kwak, M. (2024). Data science and digital transformation for sustainability. Issues in Information Systems, 25(1). 7. Elia, G., Solazzo, G., Lerro, A., Pigni, F., & Tucci, C. L. (2024). The digital transformation canvas: A conceptual framework for leading the digital transformation process. Business Horizons, 67(4), 381-398. 8. Mühlburger, M., & Krumay, B. (2024). Towards a context-sensitive conceptualisation of digital transformation. Journal of Information Technology, 39(4), 716-731. 9. Soumitra Dutta, Bruno Lanvin (eds). Network Readiness Index 2024. Building a DigitalTomorrow: Public-Private Partnerships for Digital Readiness. 2024 10. World Bank. GovTech Maturity Index 2025. Tracking Public Sector DigitalTransformation Worldwide. 2025
	eResources addresses	
Example issues/ example questions/ tasks being completed	• Does digitization have business value by itself? • What is the main difference between digitalization and digital transformation? • Why is access to technology not accurate to represent the usage of technology? • Why are inequalities in digital skills following traditional inequality patterns? • What does it mean that technological progress happens exponentially? • What are the limits of recombinant growth of digital innovation? • What contextual conditions trigger and shape digital transformation? • What are the main mechanisms for executing digital transformation? • What capabilities should organizations develop to engage in digital innovation? • Why are dynamic capabilities requiring capacity for digital innovation? • How can mobile technology turn people into innovators and knowledge creators? • Why are digital goods difficult to measure within traditional economics? • What is the impact of digital transformation on employees? • What is the impact of digital transformation on employment? • Is sustainable digital transformation automatically contributing to sustainability? • What are the principles of corporate digital sustainability?	
Practical activites within the subject	Not applicable	

Document generated electronically. Does not require a seal or signature.