

Subject card

Subject name and code	The Digital Transformation in Economy- from AI Agent Replacing the Doctor to Self Driving Cars , PG_00181577						
Field of study	Finance and Accounting, Informatics and Econometrics, Management						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2026/2027		
Education level	Master's studies	Subject group			Optional subject group		
Mode of study	full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			English		
Semester of study	1	ECTS credits			2.0		
Learning profile	academic	Assessment form			credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Jarosław Waśniewski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	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	15		1.0		34.0	50
Subject objectives	The course introduces students to the economic and managerial impact of digital transformation, focusing on how AI, automation, and data technologies reshape industries, business models, and society. Students will learn to analyse and evaluate the role of digital innovation in creating value and driving change in the modern economy.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[ZARZMU2_W02] The student has an in-depth knowledge and understanding of various organizations, including their complexities, functional areas, internal processes, and their interactions with the environment.	The student is able to analyze the impact of digitalization on organizations' business models (e.g. AI in healthcare) and technological connections with the market environment.	[SW1] oral statement/ conversation/discussion
	[IiEMU2_W02] The student comprehends advanced theoretical and practical concepts in econometrics, informatics, or statistics, which are essential for a deeper understanding of economic and social phenomena.	The student understands the importance of data in the analysis of economic trends and is able to interpret the role of predictive and simulation models used in the digital economy.	[SW1] oral statement/ conversation/discussion
	[ZARZMU2_U07] Students can create detailed written papers, including reviews, analyses, or research, along with presentations and oral discussions on management topics.	The student is able to design a concept for a digital health organization strategy using AI and automation, taking into account ethical and economic aspects.	[SU1] oral statement/conversation/ discussion
	[IiEMU2_U07] Students can prepare detailed written papers, presentations, and oral speeches on econometrics, informatics, or statistics issues.	The student is able to develop an analysis of the impact of artificial intelligence and automation on healthcare, and prepare a presentation on the use of data in assessing the economic effectiveness of digital transformation.	[SU1] oral statement/conversation/ discussion
	[FiRMU2_W02] The student possesses a comprehensive understanding of the complexities and functions of both domestic and international financial markets, as well as financial instruments and institutions.	The student is able to explain the role of data and digital technologies in the evolution of markets (e.g. healthtech, blockchain, AI in diagnostics).	[SW1] oral statement/ conversation/discussion
	[FiRMU2_U07] Students can create detailed written papers, including reviews, analyses, or research papers, along with presentations and oral speeches on finance and accounting topics.	The student is preparing a report on the impact of digital transformation in healthcare with AI technologies.	[SU1] oral statement/conversation/ discussion
Subject contents	<p>1. The Digital Transformation Economy</p> <ul style="list-style-type: none"> Defining digitization, digitalization, and transformation Economic value creation in digital ecosystems Industry 4.0 and the rise of smart automation <i>Case studies:</i> Amazon, Tesla, Google <p>2. AI in Healthcare: From Doctor to Digital Twin</p> <ul style="list-style-type: none"> Clinical decision support, telemedicine, and patient monitoring Ethical and economic implications of AI replacing traditional care models Digital twins and preventive healthcare <i>Case studies:</i> Babylon Health, DeepMind, Ada Health <p>3. Autonomous Systems and Smart Mobility</p> <ul style="list-style-type: none"> Self-driving cars, drones, and robotics Economic and social implications of autonomy The regulatory and safety challenges of AI-driven systems <i>Case studies:</i> Waymo, Tesla Autopilot <p>4. Data as the New Currency</p> <ul style="list-style-type: none"> Data monetization and the platform economy GDPR, AI Act, and European Health Data Space (EHDS) The economics of trust, privacy, and digital sovereignty <p>5. The Future of Work and Society</p> <ul style="list-style-type: none"> AI and the transformation of the labour market Human-machine collaboration and skill adaptation Ethical and social inclusion in the digital era <i>Debate:</i> Will AI replace or empower human intelligence? 		
Prerequisites and co-requisites	No prerequisites		

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		Essay, Attendance plus activity	51.0%
Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. Schwab K. <i>The Fourth Industrial Revolution</i>. World Economic Forum, 2016. (https://www.weforum.org/focus/fourth-industrial-revolution) 2. OECD. <i>Digital Transformation in the Economy</i>. Paris: OECD, 2021. (https://www.oecd.org/digital) 3. WHO. <i>Ethics and Governance of Artificial Intelligence for Health</i>. Geneva: World Health Organization, 2021. (https://www.who.int/publications/i/item/9789240029200) 4. European Commission. <i>Artificial Intelligence in Healthcare</i>. Brussels: EC, 2022. (https://health.ec.europa.eu) 5. McKinsey Global Institute. <i>The State of AI in 2023</i>. McKinsey & Company, 2023. (https://www.mckinsey.com) 6. OECD. <i>AI and the Future of Work</i>. OECD Publishing, 2023. (https://www.oecd.org/future-of-work/) 7. World Economic Forum. <i>The Future of Jobs Report 2023</i>. Geneva: WEF, 2023. (https://www.weforum.org/reports/the-future-of-jobs-report-2023) 8. European Commission. <i>European Health Data Space Proposal</i>. Brussels: EC, 2022. (https://health.ec.europa.eu/ehealth-digital-health-and-care/european-health-data-space_en) 	
	Supplementary literature	Kolasa K. <i>The Digital Transformation of the Healthcare System</i> . Routledge, 2023	
	eResources addresses		
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> 1. Short essay or reflection: Which sector will be most transformed by AI in the next decade? 2. Group project: Build a business model for an AI-enabled service (e.g., virtual doctor, autonomous delivery, or predictive maintenance). 3. Final discussion or debate: Can AI ever replace professional judgment? 		
Work placement	Not applicable		

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