GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Disruptive Technologies , PG_00053756						
Field of study	Engineering Management						
Date of commencement of studies	October 2020		Academic year of realisation of subject		2022/2023		
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	6		ECTS credits		5.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department of Informatics in Management -> Faculty of Management and Economics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr lic. Adegboyega Ojo				
	Teachers		dr Nadzeya Sabatini dr lic. Adegboyega Ojo				

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	7.0	58.0	125

Subject objectives	Students will at the end of the module be able to: • Explain the types and patterns of innovation • Discuss different types of disruptive technologies • Apply the idea of disruptive innovation in different industries • Develop disruptive innovation ideas in selected industry

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U08] analyses engineering and managerial solutions in decision-making processes, taking into account pro-quality and pro-environmental aspects, as well as safety of work processes	Apply the idea of disruptive innovation in different industries; Develop disruptive innovation ideas in selected industry.	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU5] Assessment of ability to present the results of task
	[K6_W13] has a basic knowledge of the design, modelling and optimisation of technical processes and systems	Explain the types and patterns of innovation; Discuss different types of disruptive technologies	[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects

Subject contents	Lectures: INTRODUCTION TO INNOVATION Types & Adoption of Innovation BUSINESS ANALYTICS VR & Immersive Technologies SMART CITIES Analytics-driven Public Service and Policy Innovation SUMMARY Laboratories: 1. Guidelines for laboratories 2. Part 1 - apply the theories and concepts Select an industry Details of DT/solution mass access Cost/finance structure Challenges and Risk management 3. Part 2 - Group Assessment Background of the chosen disruptive technology The technological change in the chosen industry in which the technology will be used The disruptive impact (or potential impact) of the technology in the industry, or how it is being used to create new markets in the industry Explain the challenges associated with the use of the technology in the industry Future developments of the technology and implications for the industry

Prerequisites and co-requisites	nil		

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written inidvidual test	0.0%	60.0%
	Report	0.0%	20.0%
	Report and oral presentation	0.0%	20.0%

Recommended reading	Basic literature	Carlos M. DaSilva, Peter Trkman, Kevin Desouza & Jaka Lindič (2013) Disruptive technologies: a business model perspective on cloud computing, Technology Analysis & Strategic Management, 25:10, 1161-1173, DOI: 10.1080/09537325.2013.843661 2. Coccia, Maria. (2017). Disruptive Technologies and Competitive Advantage of Firms in Dynamic Markets. SSRN Electronic Journal. 10.2139/ssrn.2960190. 3. M. Bublitz, F.; Oetomo, A.; S. Sahu, K.; Kuang, A.; X. Fadrique, L.; E. Velmovitsky, P.; M. Nobrega, R.; P. Morita, P. Disruptive Technologies for Environment and Health Research: An Overview of Artificial Intelligence, Blockchain, and Internet of Things. int. J Environ. Res. Public Health 2019, 16, 3847. https://doi.org/10.3390/ ijerph16203847 4. Boer, Harry. (2001). Innovation, What Innovation? A Comparison between product, process and organizational innovation. International Journal of Technology Management - INT J TECHNOLOGY MANAGEMENT. 22. 83-107. 10.1504/IJTM.2001.002956.
	Supplementary literature	Carlos M. DaSilva, Peter Trkman, Kevin Desouza & Jaka Lindič (2013) Disruptive technologies: a business model perspective on cloud computing, Technology Analysis & Strategic Management, 25:10, 1161-1173, DOI: 10.1080/09537325.2013.843661 2. Coccia, Maria. (2017). Disruptive Technologies and Competitive Advantage of Firms in Dynamic Markets. SSRN Electronic Journal. 10.2139/ssrn.2960190. 3. M. Bublitz, F.; Oetomo, A.; S. Sahu, K.; Kuang, A.; X. Fadrique, L.; E. Velmovitsky, P.; M. Nobrega, R.; P. Morita, P. Disruptive Technologies for Environment and Health Research: An Overview of Artificial Intelligence, Blockchain, and Internet of Things. int. J Environ. Res. Public Health 2019, 16, 3847. https://doi.org/10.3390/ ijerph16203847 4. Boer, Harry. (2001). Innovation, What Innovation? A Comparison between product, process and organizational innovation. International Journal of Technology Management - INT J TECHNOLOGY MANAGEMENT. 22. 83-107. 10.1504/IJTM.2001.002956.
	eResources addresses	Adresy na platformie eNauczanie: Technologie Przełomowe - Disruptive Technologies 2023 - Moodle ID: 29624 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=29624

Example issues/ example questions/ tasks being completed	• Comprise analysis of cases on the application of disruptive technology in social, business or government context • Students will work in a group of five to complete these lab exercises and develop a presentation on the results of their analyses.

Work placement	Not applicable