GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Business process analysis and optimization, PG_00045372		
Field of study	Data Engineering		
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	blended-learning
Year of study	3	Language of instruction	English
Semester of study	5	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Management -> Faculty of Management and Economics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Marzena Grzesiak	
	Teachers	dr inż. Marzena Grzesiak	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	30.0	0.0	0.0	45

E-learning hours included: 16.0

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	45	5.0	50.0	100

Subject objectives

The aim of the course is to acquaint students with the basics of business process modeling using standard notation, analysis and optimization.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W01] has basic knowledge in the field of mathematics, including mathematical analysis, algebra, geometry, probability calculus, statistics and numerical methods, necessary to formulate and solve simple tasks in the field of IT	The student has knowledge of the area creation, analysis and optimization business process models.	[SW1] Assessment of factual knowledge
[K6_U06] Independently solves complex engineering tasks using literature, materials and devices, prepares extensive documentation of the developed solution using appropriate description techniques.	The student is able to use the acquired knowledge for analysis processes in the organization and conduct an the processes audit in the organisation.	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment
[K6_K05] understands the need for self-improvement through systematic acquisition of knowledge and skills.	The student knows the notation modeling of business processes and their application in the functioning of enterprises	[SK2] Assessment of progress of work [SK1] Assessment of group work skills

Subject contents	LECTURE: 1) Basic issues and definitions for the analysis and optimization of processes. 2) Process architecture - reference model for process classification (PCF) + example. 3) Quantitative process analysis + example. 4) Qualitative process analysis + example. 5) Managerial / analytical cockpit + example. 6) Methods of process improvement and optimization + example. 7) Big data and process analysis + example. 8) Exam. LAB: 1) Modeling of business processes: private, public and collaboration. 2) Modeling the hierarchy of processes (parent, child, key processes) 3) Defining and analyzing process measures. 4) Modeling and analysis of processes with the use of selected management concepts (eg 6s). 5) Building scenarios. 6) Using external data to model process parameters. 7) Building a managerial / analytical cockpit. 8-14) Implementation of an individual project 15) Pass.
Prerequisites and co-requisites	Business process modeling

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Project	56.0%	49.5%
Excercises classes	56.0%	16.5%
Final test	56.0%	34.0%

Recommended reading	Basic literature	Dumas M., La Rosa M., Mendling J., Reijers H.A. (2013, 2018), Fundamentals of Business Process Management, Springer-Verlag GmbH Germany vom Brocke J., Rosemann M. (eds.) (2015): Handbook on Business Process Management 1, Springer- Heidelberg New York Dordrecht London vom Brocke J., Rosemann M. (eds.) (2015): Handbook on Business Process Management 2, Springer- Heidelberg New York Dordrecht London

	Supplementary literature	Drejewicz Sz., Zrozumieć BPMN. Modelowanie procesów biznesowych, Wydawnictwo Helion, Gliwice 2012. Piotrowski M., Procesy biznesowe w praktyce. Projektowanie, testowanie i optymalizacja, Wydawnictwo Helion, Gliwice 2013. Gawin B., Marcinkowski B., Symulacja procesów biznesowych. Standardy BPMS i BPMN w praktyce , Wydawnictwo Helion, Gliwice 2014. Gawin B., Systemy informatyczne w zarządzaniu procesami Workflow, Wydawnictwo Naukowe PWN, Warszawa 2015. Research and theory papers
	eResources addresses	Adresy na platformie eNauczanie: Business Process Analysis and Optimization 2022 - Moodle ID: 20981 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=20981
Example issues/ example questions/ tasks being completed	1) Indicate the areas of application of business process analysis. 2) Indicate ways to improve the business process. Give examples 3) Discuss the use of a manager cockpit for business process analysis	
Work placement	Not applicable	