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 2022	Academic year of realisation of subject	2024/2025
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	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: 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	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_U06] Independently solves complex engineering tasks using literature, materials and devices, prepares extensive documentation of the developed solution using appropriate description techniques.		
[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		
[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) Business models and processes. Principles and objectives of business process modeling. Modeling business processes in selected methodologies. 2) Management of the organization through the management of its processes 3) Business processes and their functions. Definition and identification of business functions. The definition of business processes and sub-processes. Objects in business processes. Areas of responsibility. 4) i 5) Modeling business processes. Characteristics of practical notation used for modeling business processes. Standards BPMN , BPMS and UML 6) Scheduling business processes. Classification tasks. Methods of planning (CPM , PERT) 7) Optimization and audit in business processes. Estimating the time and cost of business processes 8) Kolokwium LAB: 1) Business process modeling using selected notation 2) The analysis of strategic business processes in the enterprise 3) Audit of the business process and methods of process optimization 4) Methods for scheduling business processes 5) Business Process Management
Prerequisites and co-requisites	Business process modeling
Assessment methods and criteria	

Subject passing criteria	Passing threshold	Percentage of the final grade
Final test	60.0%	40.0%
Excercises classes	60.0%	20.0%
Project	60.0%	40.0%

Recommended reading	Basic 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.

	Supplementary literature	Fowler M., Scott K. UML w kropelce. Oficyna wydawnicza LPT, Warszawa 2002. Wrycza S., Marcinkowski B., Wyrzykowski K., Język UML 2.0 w modelowaniu systemów informatycznych, Wydawnictwo Helion, Gliwice 2005.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	1) Select the application areas of business modeling 2) Point to ways of modeling the business process logic used in BPMN . Give examples 3) Explain the concept of a business rule , replace and discuss the key categories of business rules and give examples	
Work placement	Not applicable	