



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						
Business Process Analysis and Optimization 2022 - Moodle ID: 20981 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=20981							
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	<p>LECTURE:</p> <ol style="list-style-type: none"> 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. <p>LAB:</p> <ol style="list-style-type: none"> 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	<table border="1"> <thead> <tr> <th data-bbox="453 1749 794 1778">Subject passing criteria</th> <th data-bbox="799 1749 1141 1778">Passing threshold</th> <th data-bbox="1145 1749 1485 1778">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="453 1785 794 1814">Project</td> <td data-bbox="799 1785 1141 1814">56.0%</td> <td data-bbox="1145 1785 1485 1814">49.5%</td> </tr> <tr> <td data-bbox="453 1821 794 1850">Exercices classes</td> <td data-bbox="799 1821 1141 1850">56.0%</td> <td data-bbox="1145 1821 1485 1850">16.5%</td> </tr> <tr> <td data-bbox="453 1856 794 1886">Final test</td> <td data-bbox="799 1856 1141 1886">56.0%</td> <td data-bbox="1145 1856 1485 1886">34.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Project	56.0%	49.5%	Exercices classes	56.0%	16.5%	Final test	56.0%	34.0%
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Recommended reading	Basic literature	<p>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</p>													

	Supplementary literature	<p>Drejewicz Sz., Zrozumieć BPMN. Modelowanie procesów biznesowych, Wydawnictwo Helion, Gliwice 2012.</p> <p>Piotrowski M., Procesy biznesowe w praktyce. Projektowanie, testowanie i optymalizacja, Wydawnictwo Helion, Gliwice 2013.</p> <p>Gawin B., Marcinkowski B., Symulacja procesów biznesowych. Standardy BPMS i BPMN w praktyce , Wydawnictwo Helion, Gliwice 2014.</p> <p>Gawin B., Systemy informatyczne w zarządzaniu procesami Workflow, Wydawnictwo Naukowe PWN, Warszawa 2015.</p> <p>Research and theory papers</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed	<p>1) Indicate the areas of application of business process analysis.</p> <p>2) Indicate ways to improve the business process. Give examples</p> <p>3) Discuss the use of a manager cockpit for business process analysis</p>	
Work placement	Not applicable	