University of Gdańsk

Subject card

Subject name and code	IT Tools and Techniques in Business Process Management, PG_00156529						
Field of study	Information Science and Econometrics						
Date of commencement of studies	October 2024		Academic year of realisation of subject	2025/2026			
Education level	postgraduate studies		Subject group	Obligatory subject group in the field of study 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	2		Language of instruction	English english			
Semester of study	3		ECTS credits	6.0			
Learning profile	academic		Assessment form				
Conducting unit	Katedra Informatyki Ekonomicznej -> Faculty of Management						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Bartłomiej Gawin				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	45.0	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		20.0	70.0	150	
Subject objectives	Mastering the skills of multidimensional modeling, parameterization, simulation and analysis of business processes in dedicated IT tools.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[IiEMU2_K03] The student is able to communicate freely with the public inside and outside the workplace, transfer his knowledge and share his skills through various media.	Is able to communicate freely with the environment in and outside the workplace, convey knowledge and share skills using various media.	[SK2] presentation/project/paper/ report
	[IiEMU2_K01] The student understands the need for continuous completion and deepening of acquired knowledge. The student inspires and organizes others' learning processes.	Understands the need to continually supplement and deepen acquired knowledge of multidimensional modeling, parameterization, simulation and analysis of business processes in dedicated IT tools; inspires and organizes the learning process of others.	[SK2] presentation/project/paper/ report
	[IiEMU2_W05] The student has an in-depth knowledge of socio-economic data sources, their databases and how to create them.	Has in-depth knowledge of socio-economic data sources, their databases and how they are created and used to model and simulate business processes.	[SW2] presentation/project/paper/ report
	[IiEMU2_W04] The student has an in-depth knowledge of advanced mathematical, statistical, econometric and IT methods that enable the acquisition, processing and analysis of data reflecting the functioning and growth of the national economy and its components, as well as the phenomena and processes occurring in their environment.	Has in-depth knowledge of advanced mathematical, statistical, econometric and IT methods enabling the acquisition, processing and analysis of data for modelling and simulation of business processes.	[SW2] presentation/project/paper/ report
	[IiEMU2_K05] The student can think and act in an entrepreneurial manner and flexibly adapt to changing environmental conditions. Thinks creatively and can go beyond the usual patterns.	Is able to think and act in an entrepreneurial and process-oriented manner and flexibly adapt to changing environmental conditions.	[SK2] presentation/project/paper/ report
	[IiEMU2_K04] The student can work in a team, co-create it, effectively manage and supervise it; efficiently adapts his behavior and conduct to his role in it; is ready to take responsibility for the team and bear the consequences; understands the necessity of systematicity and consistency in action; is open to other team members and critical of himself.	Able to work in an IT analytical team, co-create it, effectively manage it and supervise it; efficiently adapts his/her behaviour and manner of conduct to the role played in it; is ready to take responsibility for the team and bear the consequences; understands the need for systematicity and consistency in action; is open to other team members and critical of himself/ herself.	[SK2] presentation/project/paper/ report
	[IiEMU2_U07] The student is able to build advanced formal models of complex economic phenomena and processes, estimate them, carry out their verification and apply them to modeling, forecasting and optimization of resources of economic institutions of varying degrees of complexity, their structure and the course of processes in them.	Can build advanced business process models in dedicated IT tools, parameterize and estimate them, verify them and use them for modeling, forecasting and resource optimization.	[SU2] presentation/project/paper/ report
	[IiEMU2_K02] The student can communicate freely with the public on specialised topics in the field of computer science and econometrics in and outside the workplace, communicate his knowledge and share his skills through various media. Culturally participates in discussions, is not afraid to ask questions and knows how to give constructive criticism.	Is able to communicate freely with the environment on specialist topics in the field of computer science and econometrics in the workplace and outside it, convey his/her knowledge and share his/ her skills using various media.	[SK2] presentation/project/paper/ report

	Course outcome	Subject outcome	Method of verification
	[IiEMU2_U02] The student is able to proficiently acquire detailed information about economic processes and phenomena through direct observation, planned experimentation or database queries, as well as collect and process it using modern information technology tools.	Is able to efficiently obtain detailed information about economic processes and phenomena through direct observation, planned experiment or database query, and collect and process it for modeling, parameterization, simulation and analysis of business processes.	[SU2] presentation/project/paper/ report

Subject contents

A. Lecture topics

Discussion of the basics of business process management

Discussion of design notations for modeling business processes and decision rules

Discussion of tools for designing, simulating, and analyzing business processes

Discussion of tools for designing, simulating, and analyzing decision rules in business processes

B. Exercise topics

Practical presentation and application of the Adonis tool in exercises

Practical presentation and application of the Signavio tool in exercises

Prerequisites and co-requisites

Prerequisites: Economic informatics, databases

Additional requirements: Basic knowledge of organizational management

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
project work	50.0%	100.0%

Recommended reading

Basic literature	• Gawin B., Systemy informatyczne w zarządzaniu procesami workflow, PWN 2015 • Gawin B., Marcinkowski B.: Symulacje procesów biznesowych. Standardy BPMS i BPMN w praktyce, Helion 2013
Supplementary literature	• BOC: ADONIS User Manual • Signavio: Signavio User Manual • Mathias Weske, Business Process Management: Concepts, Languages, Architectures, Springer 2012
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed

Design a multidimensional business process model in the ADONIS system, parameterize it, and perform path simulation and load analysis.

Work placement

Not applicable

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