GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Business Proces Management, PG_00067380		
Field of study	Engineering Management		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2027/2028
Education level	first-cycle 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	3	Language of instruction	Polish
Semester of study	5	ECTS credits	6.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department Of Management -> Faculty Of Management And Economics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor		
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	45.0	0.0	0.0	75

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	75	5.0	70.0	150

Subject objectives

Analyzes organization processes using the simulation modeling methodology, creating models and using simulation results to improve processes

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K03] is prepared to critically assess the knowledge they possess, which is necessary for solving cognitive and practical problems, and to supplement any gaps with opinions from external experts.	critically reviews the assumptions and outcomes of simulation models and, when necessary, seeks expert input or external knowledge to refine problem-solving approaches	[SK2] Assessment of progress of work [SK5] Assessment of ability to solve problems that arise in practice
[K6_W05] possesses advanced knowledge in integrating data from various sources and in the methods that enable a comprehensive analysis of contemporary management issues.	is familiar with approaches and techniques for integrating diverse data types to model and understand complex phenomena in organizational and decision-making processes	[SW3] Assessment of knowledge contained in written work and projects
[K6_U01] is able to analyze and evaluate complex processes in terms of their improvement, using various methods, including analytical and simulation techniques.	is able to develop models reflecting real-world processes and use them to identify areas for improvement, applying suitable analytical and simulation tools.	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools

<table>
<tr><td>Subject contents</td><td>Introduction to the subject
Defining basic concepts, queuing systems, models
General characteristics of the process approach in the organization
Simulation model structure (static and dynamic)
Principles of building a process map
Introduction to iGrafx
Structure: department, activity, resources, costs, transaction generator, schedules
Rules for assigning properties to activities: inputs, outputs, task, resources, attributes
Task definition (task type, duration, schedule, capacity)
Defining inputs to activities (starting point, collecting transactions at input)
Transaction generators, types and ways of defining
Resources, definition (classification, costs, schedule, overtime, costs, availability, attributes), assignment to tasks (type, origin, assignment method, constraint, waiting options, affinity)
Tasks, types (work, delay, subprocess, concurrent process), costs (value class), overtime performance
Attributes, defining (location, type, value, name), determining the value
Defining decision-making activities
Defining the simulation environment
Scenario building rules
Running a simulation experiment
Analysis of the results. Implementation based on the model description of a simple queuing system
Implementation of an individual project of a complex queuing system</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Practical exercises</td><td>50.0%</td><td>50.0%</td></tr>
<tr><td>Exam</td><td>50.0%</td><td>50.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>Filipowicz B.: Modele stochastyczne w badaniach operacyjnych. WNT, Warszawa 1996
Grajewski P.: Organizacja procesowa, PWE, Warszawa 2007
Mielczarek B.: Modelowanie symulacyjne w zarządzaniu. Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2009
Dokumentacja programu iGrafx Process 2013, dostępna w Internecie</td></tr>
<tr><td>Supplementary literature</td><td>Adair C.B., Murray B.A.: Radykalna reorganizacja firmy. Wydawnictwo Naukowe PWN, Warszawa 2002
Champy J.: X-engineering przedsiębiorstwa. Wydawnictwo Placet, Warszawa 2003
Hammer M.: Reinżynieria i jej następstwa. Wydawnictwo Naukowe PWN, Warszawa 1999
Tyszer J., Symulacja cyfrowa, WNT, Warszawa 1978</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>Build a simulation model of the selected proces
Carry out a simulation experiment
Interpret the results and make improvements to the proces</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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