GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Systems Modelling and Analysis, PG_00047715		
Field of study	Informatics		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2025/2026
Education level	second-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	Part-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	1	ECTS credits	6.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department of Software Engineering -> Faculty of Electronics Telecommunications and Informatics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	Bartosz Marcinkowski	
	Teachers	Bartosz Marcinkowski	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	12.0	0.0	12.0	12.0	0.0	36

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	36	10.0	104.0	150

Subject objectives

The goal of the course is to prepare students for performing jobs of system analyst and business analyst.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_U08] while identifying and formulating engineering tasks specifications and solving these tasks, can: - apply analytical, simulation and experimental methods, - notice their systemic and non-technical aspects, - make a preliminary economic assessment of suggested solutions and engineering work	Student can apply UML in systems modeling.	[SU1] Assessment of task fulfilment
[K7_U01] can apply mathematical knowledge to formulate and solve complex and non-typical problems related to the field of study by: - appropriate selection of source information and its critical analysis, synthesis, creative interpretation and presentation, - application of appropriate methods and tools	Student can select proper techniques and tools for software modeling and business analysis	[SU2] Assessment of ability to analyse information

<table>
<tr><td>Subject contents</td><td>Introduction to modeling, UML
Use case diagram
Class diagram - elements and application of class diagrams in system analysis
Dynamic models in UML
Other structure diagrams
Application of UML models in software engineering

UML tools and their usability
Application of analysis patterns
Introduction to MDA/MDE
Domain specific modeling
Business modeling
Selection of proper modeling methods
Business analyst</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>No requirements</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>Lab</td><td>50.0%</td><td>33.0%</td></tr>
<tr><td>Project</td><td>50.0%</td><td>17.0%</td></tr>
<tr><td>Written exam</td><td>50.0%</td><td>50.0%</td></tr>
</table>
</td></tr>
<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>Booch G., Rumbaugh J., Jacobsen I.: UML przewodnik użytkownika. WNT, 2001

Business Process Modeling Notation (BPMN) www.bpmn.org

Fower M., Analysis Patterns: Reusable Object Models, Addison-Wesley, 1997

Kelly S., Tolvanen J-P.: Domain-Specific Modeling: Enabling Full Code Generation, John Wiley &Sons, 2008.

IBM Rational Unified Process Specification, www.ibm.com.

International Institute of Business Analysis - A Guide to Business Analysis Body of Knowledge (BABOK Guide), version 3.0, 2015.</td></tr>
<tr><td>Supplementary literature</td><td>n/a</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
</table>
</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>n/a</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
</table>

Document generated electronically. Does not require a seal or signature.