GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	DATABASE DESIGN, PG_00061866		
Field of study	Engineering Management		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2026/2027
Education level	first-cycle studies	Subject group	Optional subject group 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	3	Language of instruction	Polish
Semester of study	5	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department Of Informatics In Management -> Faculty Of Management And Economics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Bartosz Woliński	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	8.0	0.0	16.0	0.0	0.0	24

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	24	7.0	69.0	100

Subject objectives

Designs and implements databases in accordance with theoretical and practical principles

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W06] classifies the obtained information, evaluating its usefulness to solve the formulated problems	obtains information useful for designing databases according to specific requirements	[SW1] Assessment of factual knowledge
[K6_U07] applies information technology to improve critical analysis and evaluation of data and management processes	implements databases using appropriate models and IT techniques	[SU4] Assessment of ability to use methods and tools

Subject contents

Designing an information system
The place of design in the life cycle of the system
Design and modeling methodology
Designing databases as elements of management information systems
Requirements engineering
Identification of system processes and functions (functional analysis)
Logical process model
Modeling the flow of information
Data modeling
Logical data model based on a case study
Data model optimization
Physical data model
Interface modeling
Design stages
Use of CASE tools, database schema generation
RDBMS MS SQL Server use to create databases
Input and output design
Advanced SQL (Structured Query Language) used to create, modify databases, and put data into and retrieve data from databases

Prerequisites and co-requisites

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Pass test</td><td>75.0%</td><td>10.0%</td></tr>
<tr><td>Project</td><td>60.0%</td><td>60.0%</td></tr>
<tr><td>Practical exercises</td><td>80.0%</td><td>30.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Mendrala, D., Szeliga, M. (2008). Serwer SQL2005Express. Gliwice:Helion
Mendrala, D., Szeliga, M. (2012). Microsoft SQL Server Modelowanie i eksploracja danych. Gliwice:Helion
Johanson, E., Jones, J. (2009). Modelowanie danych w SQL Server 2005 I 2008. Gliwice:Helion
Ben-Gan, I. (2012). Microsoft SQL Server 2012.Podstawy Języka T_SQL, APN Promise
Petkovic ,D. (2012). Microsoft® SQL Server® 2012: A Beginners Guide. Fifth Edition McGraw-Hill</td></tr>
<tr><td>Supplementary literature</td><td>Yourdon, E. (1996). Współczesna analiza strukturalna, Warszawa; WNT</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">Design a simple information system
How are processes modeled and identified?
How is the data modeled?</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
</table>

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