GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Modern Database Systems, PG_00038333		
Field of study	Automation, Robotics and Control Systems		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2023/2024
Education level	second-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	2	Language of instruction	Polish
Semester of study	3	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Faculty of Electrical and Control Engineering		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Grzegorz Redlarski	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	10.0	0.0	10.0	0.0	0.0	20

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	20	8.0	47.0	75

Subject objectives

Intruduction of the data base rationale. Description of data base characteristics.
Introduction to programing in SQL and writing SQL sueries. Data Manipulation Language. Data Definition Language. Data Query Language.

Learning outcomes

Course outcome	Subject outcome	Method of verification
K7_W02	The student is able to design and create a database, and present its documentation in the form of a multimedia presentation and / or text	[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects
K7_U10	The student is able to create a database using for this an appropriate / specialized IT tools	[SU1] Assessment of task fulfilment

Subject contents

Databases rationale. Database characteristics.
Relational data model. Indexing in relational databases.
Programming in SQL Queries, projection, expressions, aliases. WHERE clause and logical conditions. HAVING, GROUP BY clauses and aggregating functions. Relation joins. Sub-queries. Adding and modifying records. Creating tables.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Final test	60.0%	50.0%
Introductory tests	60.0%	25.0%
homeworks	60.0%	25.0%

Recommended reading

Basic literature	1. Chrisa Date, *Database in Depth* (OReilly) 2. MySQL Manual (http://dev.mysql.com/doc) 3. PostgreSQL Manual (http://www.postgresql.org/docs)
Supplementary literature	1. Wiesław Dudek, 'Bazy danych SQL, Teoria i praktyka' 2. Michael J. Hernandez., "Bazy danych dla zwykłych śmiertelników" 3. Lynn Beighley, Head First SQL: Your Brain on SQL -- A Learner's Guide
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed	List database features Give an example of database application in automatic control or robotics For a given set of relations, write a query using projections, expressions and aliases. For a given set of relations, write a query using join. For a given set of relations, write a query using subquery.
Work placement	Not applicable