



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 2023	Academic year of realisation of subject			2024/2025			
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							
	Adresy na platformie eNauczenie:							
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	Introduction of the data base rationale. Description of data base characteristics. Introduction to programming in SQL and writing SQL queries. Data Manipulation Language. Data Definition Language. Data Query Language.							
Learning outcomes	Course outcome	Subject outcome			Method of verification			
	K7_U10	The student is able to create a database using for this an appropriate / specialized IT tools			[SU1] Assessment of task fulfilment			
	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			[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation			
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, <i>Database in Depth</i> (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							

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