



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	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_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. Chris Date, <i>Database in Depth</i> (O'Reilly) 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