



Subject card

Subject name and code	Databases, PG_00031221						
Field of study	Mathematics						
Date of commencement of studies	October 2023	Academic year of realisation of subject			2024/2025		
Education level	first-cycle studies	Subject group			Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish		
Semester of study	4	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Probability Theory and Biomathematics -> Faculty of Applied Physics and Mathematics						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Magda Dettlaff					
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	30.0	0.0	0.0	60
	E-learning hours included: 0.0						
	Adresy na platformie eNauczanie:						
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	60	5.0		35.0		100
Subject objectives	Knowledge of SQL. Ability of designing non complicated data bases.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K6_W08	The student uses basic SQL statements and data types in relational databases. Uses SQL language mechanisms that allow to increase the level of data integrity stored in the database.			[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation		
	K6_U10	The student uses basic SQL statements and data types in relational databases. Is aware of the requirements for database systems. He independently designs and implements simple database systems. Work environment: ORACLE, SAS.			[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task		
Subject contents	Lectures and laboratories: Introduction to data bases and relational data model. SQL language: querying and manipulating data. Row and aggregate functions. Joining tables. Subqueries. Data Manipulating Language (DML). Data Definition Language (DDL). Ensuring data integrity. Introduction to modelling and designing computers systems. Normalization of logical schema, functional dependency, normal forms. Using transactions in data base system. Designing and implementing of simple data base systems. PL/SQL language. Cursors, exceptions and triggers.						
Prerequisites and co-requisites	Knowledge of Introduction to logic and set theory.						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Laboratory	45.0%			80.0%		
	Tests	45.0%			20.0%		

Recommended reading	Basic literature	<p>Michael J. Hernandez, Bazy danych dla zwykłych śmiertelników, Mikom, Warszawa, 2004. Rick Greenwald, Robert Stackowiak, Jonathan Stern, Oracle Database 11g. To, co najważniejsze, Wydawnictwo Naukowe PWN, Warszawa 2009.</p> <p>Michael McLaughlin, Oracle Database 11g. Programowanie w języku PL/SQL, Helion, Gliwice</p>
	Supplementary literature	<p>Jason Price, Oracle Database 12c i SQL. Programowanie, Helion, Gliwice 2015</p> <p>Michael McLaughlin, Oracle Database 12c. Programowanie w języku PL/SQL, Helion, Gliwice 2015</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed	Make project and implementation of table for storing the data of students.	
Work placement	Not applicable	