

1.	Field of study	Computer Science
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2024/2025 (winter term)
4.	Level of qualifications/degree	first-cycle studies (in engineering)
5.	Degree profile	general academic
6.	Mode of study	part-time

7.	General information about the module	
Module name		Databases 2
Module code		W4-IN-N1-24-6-BD2
Number of the ECTS credits		3
Language of instruction		Polish
Purpose and description of the content of education		The objective of the course is to familiarize students with the principles of programming in PL-SQL and the guidelines for creating non-relational NoSQL databases. Students will acquire the knowledge and skills necessary for efficient data processing using SQL and will learn to design data structures and operate on data according to NoSQL principles.
List of modules that must be completed before starting this module (if necessary)		not applicable

8.	Learning outcomes of the module			
Code	Description	Learning outcomes of the programme	Level of competenc (scale 1-5)	
K01	The student understands the need to constantly enrich his knowledge and develop his skills in working with modern technologies and database management systems.	IN_K03 IN_K04	3 3	
K02	The student is aware of the need for data analysis, processing, and storage and the role of database systems due to digital and social transformation.	IN_K01 IN_K02 IN_K04	2 2 3	
K03	The student can determine the application of the appropriate type of database systems in specific domains.	IN_K01 IN_K03 IN_K04	3 3 3	
U01	The student can create, modify and manage databases using the query language appropriate for a given database.	IN_U04 IN_U05	3 2	
U02	The student can design and implement a data model for a given problem. Can also identify alternative solutions and their properties.	IN_U01 IN_U02 IN_U03 IN_U04	2 2 2 2	

U03	The student is able to analyze the problem and determine the appropriate type and structure of the database.	IN_U01 IN_U03 IN_U04	2 3 3
W01	The student knows and understands different types of databases, basic concepts in the area of databases, and relationships among data.	IN_W01 IN_W02 IN_W04 IN_W05	2 3 2 3
W02	The student knows the principles of designing different types of databases according to the application's specific requirements.	IN_W02 IN_W03 IN_W04 IN_W05	3 3 3 2
W03	The student knows the principles of performing CRUD operations (Create, Read, Update, Delete) in various databases and understands the discrepancies in implementing requests sent to the DBMS.	IN_W03 IN_W04 IN_W05	4 3 2

9. Methods of conducting classes		
Code	Category	Name (description)
b07	Problem-solving methods	Activating methods: a case study <i>a comprehensive description of a phenomenon connected with the selected discipline; reflecting the reality, presenting the 'what', 'where' and 'how' of the phenomenon, i.e., all of its key aspects to be discussed in class; used as a reproduction, presentation, discussion or diagnosis of factors that shape the phenomenon or interact with it; an in-depth qualitative analysis and evaluation of a selected phenomenon</i>
b08	Problem-solving methods	Activating method – peer learning <i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>
c02	Demonstration methods	Video show <i>reproducing a film or video material in its entirety or in fragments in order to illustrate the content taught in class, to submit it to analysis and evaluation or to use it as an exercise in image perception; a film/video can be a work of art, an illustration (also technical illustration) of a content/phenomenon/object, a private record of an action, a media image, etc.</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>
c07	Demonstration methods	Screen presentation <i>a presentation of synthetic image content using computer graphics, e.g., a series of slides or other multimedia forms, usually accompanied by a commentary; typical components of a screen presentation include text organized into bulleted points, charts, images and animations, sometimes sound effects or music; a multimedia illustration of course content presented in the form of a projected image</i>
d01	Programmed learning methods	Working with a computer

		e.g., Webquest; implementation of educational tasks using electronic and digital devices, computer programs and Internet applications; the academic teacher acts as a consultant; students' work is carried out step by step according to the plan laid own by the person teaching the course and following his instructions, and proceeds towards producing the indicated results within the set deadline
d03	Programmed learning methods	Working with another teaching tool e.g. using websites in any way or according to the rules set by the teacher; or making use of other subject-specific tools
e01	Practical methods	Laboratory exercise / experiment [also conducted as fieldwork] a method of practical application of knowledge; implemented in three stages: the recognition of a problem induced by the task content, the formulation of the problem and the attempt to solve it accompanied by the assessment of the effects; the goal is to acquire skills, abilities and habits, and to consolidate the acquired knowledge so that it becomes operational; the laboratory method assumes greater independence of learners than carrying out an experiment
e04	Practical methods	Project scheduling proceeding according to the steps proposed within a specific methodology for the completion of a task; e.g., identifying project objectives, determining the result, identifying strengths, limitations, opportunities and threats (SWOT), establishing a schedule of activities, assessing resources, establishing an implementation plan; the initial diagnosis; the reassessment of assumptions; the process of preparing the practical implementation of a project
e08	Practical methods	Practice-as-research also conducted as fieldwork; an activity aimed at confronting the acquired theory with practice through its practical application; students situate themselves in the reality they observe, study and transform through the prism of the theory; the method of practical classes is dominated by the application of knowledge to solving practical tasks
f01	Methods of self-learning	Self-education a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study
f02	Methods of self-learning	Individual work with a text searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue
f03	Methods of self-learning	Conceptual work a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work

10. Forms of teaching

Code	Name	Number of hours	Assessment of the learning outcomes of the module	Learning outcomes of the module	Methods of conducting classes
01	laboratory classes	20	course work	K01, K02, K03, U01, U02, U03, W01, W02, W03	b07, b08, c02, c06, c07, d01, d03, e01, e04, e08, f01, f02, f03

11. The student's work, apart from participation in classes, includes in particular:

Code	Category	Name (description)	Is it part of the BUNA?
a01	Preparation for classes	Search for materials and review activities necessary for class participation reviewing literature, documentation, tools and materials as well as the specifics of the syllabus and the range of activities indicated in it as required for full participation in classes	No

a02	Preparation for classes	Literature reading / analysis of source materials <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>	No
a03	Preparation for classes	Developing practical skills <i>activities involving the repetition, refinement and consolidation of practical skills, including those developed during previous classes or new skills necessary for the implementation of subsequent elements of the curriculum (as preparation for class participation)</i>	Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>developing, preparing and assessing the usefulness of tools and materials (e.g. aids, scenarios, research tools, equipment, etc.) to be employed in class or as an aid when preparing for classes</i>	No
b01	Consulting the curriculum and the organization of classes	Getting acquainted with the syllabus content <i>reading through the syllabus and getting acquainted with its content</i>	Yes
c01	Preparation for verification of learning outcomes	Determining the stages of task implementation contributing to the verification of learning outcomes <i>devising a task implementation strategy embracing the division of content, the range of activities, implementation time and/or the method(s) of obtaining the necessary materials and tools, etc.</i>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>a set of activities aimed at performing an assigned task, to be executed out of class, as an obligatory phase/element of the verification of the learning outcomes assigned to the course</i>	No
e02	Activities complementary to the classes	Publication of a work/presentation of an activity, also beyond the walls of the University <i>a set of activities carried out to disseminate (out of class) the effects of scholarly research, artistic, creative, project, construction, experimental work, etc., in the form of a classic presentation, exhibition, concert, projection, poster presentation, media mediated publication, in the digital form and as part of other activities; dissemination using various forms and tools</i>	Yes

Information on the details of the module implementation in a given academic year can be found in the syllabus available in the USOS system: <https://usosweb.us.edu.pl>.