DESCRIPTION OF THE COURSE OF STUDY

Course code	**0719-2ID-F43-SBD**	
Name of the course in	Polish	***Systemy baz danych***
	English	***Databases systems***

1. **LOCATION OF THE COURSE OF STUDY** within the system of studies

1.1. Field of study	**Data engineering**
1.2. Mode of study	**FULL-TIME**
1.3. Level of study	**FIRST-CYCLE DEGREE, ENGINEERING**
1.4. Profile of study*	**GENERAL ACADEMIC**
1.5. Person/s preparing the course description	**Dr hab. Grzegorz Stefanek**
1.6. Contact	**Grzegorz.stefanek@ujk.edu.pl**

2. **GENERAL CHARACTERISTICS OF THE** course of study

2.1. Language of instruction	**english**
2.2. Prerequisites*	**Databases**

3. **DETAILED CHARACTERISTICS OF THE COURSE OF STUDY**

3.1. **Form of classes**		**Lectures, classes**
3.2. **Place of classes**		**Didactic rooms UJK**
3.3. **Form of assessment**		**Lecture – exam, Classes – pass with grade.**
3.4. **Teaching methods**		**Lecture, Classes-laboratory**
3.5. **Bibliography**	**Required reading**	Ullman J.D., Widom J., A first course in database systems, Pearson, 2007. S.Skudaev, Learn SQL by examples, CreateSpace Independent Publishing Platform, 2012. A.DeBarros, Practical SQL, No Starch Press, 2022. A.W.West, S.Prettyman, PHP7, MySQL8 and MariaDB Website Databases ,APress, 2018
	Further reading	1. Elmasri R., Navathe S., Database systems, Addison Wesley, 2015.

4. **OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES**

4.1. **Course objectives** ***(including form of classes)***

Lecture:

C1. Learning the basic concepts of database systems**.**

C2. Learning advanced methods of working with a database in SQL.

C3.Learning the basics of administration and operating an online database.

Classes-laboratory:.

C1. Practical ability to build a simple relational database.

C2. Practical skills in using a database via the Internet.

4.2. **Detailed syllabus** ***(including form of classes)***

Lecture:

Basic concepts of databases and database systems.

Database models, database management system functions, and data formats.

Methods for accessing the database, client programs for operating databases.

Relational database model and relational database design.

Complex mechanisms for handling relational databases (joins, retrieving data from multiple tables, aggregate functions, subqueries, views, transactions).

Basics of a scripting database management language (for example, PHP).

Managing an online database using forms and scripts in a selected language (for example, PHP).

Classes-laboratory*:*

Interactive work with a database in MySQL.

Working with the database using graphical tools (for example, PHPMyAdmin).

Creating simple relational databases.

Preparing scripts to operate an online database.

4.3 Intended learning outcomes

Code	A student, who passed the course	Relation to learning outcomes
within the scope of **KNOWLEDGE:**		
W01	Knows the basic concepts of database systems.	ID1A_W09 ID1A_W10
W02	Knows the mechanisms of operation of relational databases.	ID1A_W09 ID1A_W10
W03	Knows the basics of accessing an online database.	ID1A_W09 ID1A_W10
within the scope of **ABILITIES:**		
U01	Can design and build a relational database.	ID1A_U06 ID1A_U13
U02	Can prepare a script with access to and operation of an online database.	ID1A_U06 ID1A_U13
within the scope of **SOCIAL COMPETENCE:**		
K01	Understands the need and knows the opportunities for continuous training and improvement of professional, personal, and social competencies.	ID1A_K01 ID1A_K04
K02	Demonstrates responsibility for the solutions to problems he or she proposes and understands their significance for the individual as well as their social dimension.	ID1A_K03 ID1A_K04

4.4. **Methods of assessment of the intended learning outcomes**

Teaching outcomes *(code)*	Method of assessment (+/-)																				
	Exam oral/written*			Test*			Project*			Effort in class*			Self-study*			Group work*			Others* e.g. standardized test used in e-learning		
	Form of classes			*Form of classes*			*Form of classes*			*Form of classes*			*Form of classes*			*Form of classes*			*Form of classes*		
	L	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*
W01	+																				
W02	+																				
W03	+																				
U01									+		+			+							
U02									+		+			+							
K01											+			+							
K02											+			+							

**delete as appropriate*

4.5. **Criteria of assessment of the intended learning outcomes**

Form of classes	Grade	Criterion of assessment
lecture (L) (including e-learning)	**3**	Achievement of <50 - 60) % of the requirements applied in the assessment methods
	3,5	Achievement of <60 - 70) % of the requirements applied in the assessment methods
	4	Achievement of <70 - 80) % of the requirements applied in the assessment methods
	4,5	Achievement of <80 - 90) % of the requirements applied in the assessment methods
	5	Achievement of <90 - 100) % of the requirements applied in the assessment methods
classes (C)* (including e-learning)	**3**	Achievement of <50 - 60) % of the requirements applied in the assessment methods
	3,5	Achievement of <60 - 70) % of the requirements applied in the assessment methods
	4	Achievement of <70 - 80) % of the requirements applied in the assessment methods
	4,5	Achievement of <80 - 90) % of the requirements applied in the assessment methods
	5	Achievement of <90 - 100) % of the requirements applied in the assessment methods
	3	Achievement of <50 - 60) % of the requirements applied in the assessment methods
	3,5	Achievement of <60 - 70) % of the requirements applied in the assessment methods

Project (P)*	**4**	Achievement of <70 - 80) % of the requirements applied in the assessment methods
	4,5	Achievement of <80 - 90) % of the requirements applied in the assessment methods
	5	Achievement of <90 - 100) % of the requirements applied in the assessment methods

5. BALANCE OF ECTS CREDITS – STUDENT'S WORK INPUT

Category	Student's workload	
	Full-time studies	**Extramural studies**
NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/	***90***	
*Participation in lectures**	30	
*Participation in classes, seminars, laboratories**	30	
Project	30	
INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/	***60***	
*Preparation for the lecture**	10	
*Preparation for the classes, seminars, laboratories**	*20*	
*Preparation for the exam/test**	20	
Project	***10***	
TOTAL NUMBER OF HOURS	***150***	
ECTS credits for the course of study	***6***	

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Accepted for execution *(date and legible signatures of the teachers running the course in the given academic year)*

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