Polish course name	**BAZY DANYCH I DATA MINING**
English course name	**DATABASES AND DATA MINING**
Course code	**WIP-MDL-D1-DADM-03**
Field of study	**Materials design and logistics**
Level of qualification	**First degree**
Form of study	**Full-time**
Semester	**3**
Number of ECTS points	**3**
Ways of assessment	**Test**

Number of hours per semester

Lecture	Seminar	Classes	Laboratory	Project
			30	

TEACHERS:

Dr hab. inż. Adam Cwudziński, prof. PCz.,
Dr inż. Szymon Berski,
Dr inż. Artur Hutny,
Dr hab. inż. Marek Warzecha, prof. PCz.

COURSE OBJECTIVES:

- **C1** Providing students with knowledge in the field of databases.
- **C2** Obtaining by the students the practical skills in the field of creating and application databases.

PRELIMINARY REQUIREMENTS FOR KNOWLEDGE, SKILLS AND OTHER COMPETENCES:

1. Basic knowledge of computer sicence.
2. Ability to work independently and in a group.
3. Ability to use literature sources and internet resources.

COURSE CONTENT

LABORATORY

- **Lab1, Lab2** Databese systems.
- **Lab3, Lab4, Lab5, Lab6** Object-oriented database model.
- **Lab7, Lab8, Lab9, Lab10** Relational database model.
- **Lab11, Lab12, Lab13, Lab14** Structured query language.
- **Lab15, Lab16, Lab17, Lab18** SQL complex instructions.
- **Lab19, Lab20, Lab21, Lab22** Database management system - MySQL.
- **Lab23, Lab24, Lab25, Lab26** Macros - application generators for database.
- **Lab27, Lab28, Lab29, Lab30** Introduction to Visual basic language.

BASIC REFERENCES

1. Viescas, J.: Podręcznik Microsoft Access 2000, Wyd. RM, Warszawa, 2000 r.
2. Jewtuszenko O., Trochimczuk R.: Praktyczne wprowadzenie do relacyjnych baz danych, Wyd. Politechniki Białostockiej, Białystok, 2010 r.
3. Pękala, B.: Bazy danych - teoria i praktyka, Wyd. Uniwersytetu Rzeszowskiego, Rzeszów, 2015 r.
4. Schamkant B. Navathe, Ramez Elmasri: Wprowadzenie do systemów baz danych, Helion 2005 r.
5. Whitehorn M., Marklyn B.: Relacyjne bazy danych. Helion, 2003 r.
6. Dudek W.: Bazy danych SQL. Teoria i praktyka, Helion, 2006 r.

SUPPLEMENTARY REFERENCE MATERIALS

1. Date C. J., Darwen H.: SQL. Omówienie standardu języka, WNT 2000 r.
2. Rojek-Mikołajczak I.: Bazy danych, kurs podstawowy dla inżynierów informatyków, Wyd. Akademii Bydgoskiej, Bydgoszcz, 2004 r.

LEARNING OUTCOMES

- **EU1** Student has knowledge in the field of relational and object-oriented database.
- **EU2** Student is able to project and perform database.

TEACHING TOOLS

- Laboratory with computer stations.

› Software.

WAYS OF ASSESSMENT (F – FORMATIVE, P – SUMMATIVE)

› **F1**. Assessment of self-preparation for the laboratory.

P1. Assessment of course content – test.

STUDENT WORKLOAD

Form of activity	Number of hours	ECTS
Contact hours with the teacher		
Lectures		
Seminar		
Classes		
Laboratory	30	1,2
Project		
Test	3	0,12
Exam		
Total contact hours	33	1,32
Student's own work		
Getting acquainted with the indicated literature		
Preparation for seminar		
Preparation for classes		
Preparation for lab	33	1,32
Project preparation		
Consultation	4	0,16
Preparation for the exam/test	5	0,2

Total student's own work	42	1,68
Total number of hours/ ECTS points for the course	**75**	**3,0**

ADDITIONAL INFORMATION

Timetable of classes	https://wip.pcz.pl/dla-studentow/plan-zajec/studia-stacjonarne
Information about the consultation (time + place)	https://wip.pcz.pl/dla-studentow/konsultacje-dla-studentow

MATRIX OF LEARNING OUTCOMES REALISATION

Learning outcome	**Reference of given outcome to outcomes defined for whole program**	**Course objectives**	**Course content**	**Ways of assessment**
EU 1	K_W03, K_U04, K_U05, K_K02,	C1	Lab1 - Lab30	P1, F1
EU 2	K_W03, K_U04, K_U05, K_K02,	C2	Lab1 - Lab30	P1, F1

FORM OF ASSESSMENT - DETAILS

EU1 The student has knowledge of relational and object - oriented databes.

- 2,0 The student has no knowledge of relational and object - oriented databes.
- 3,0 The student has partially knowledge of relational and object - oriented databes.
- 3,5 The student has almost knowledge of relational and object - oriented databes.
- 4,0 The student has good knowledge of relational and object - oriented databes.

- 4,5 The student has almost very good knowledge of relational and object - oriented databes.
- 5,0 The student has very good knowledge of relational and object - oriented databes.

EU2 Student is able to project and perform database.

- 2,0 Student is no able to project and perform database.
- 3,0 Student is able to partially project and perform database.
- 3,5 Student is able to almost project and perform database.
- 4,0 Student is able to good project and perform database.
- 4,5 Student is able to almost very good project and perform database.
- 5,0 Student is able to very good project and perform database.