

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

**Number of hours per semester**

<b>Lecture</b>	<b>Seminar</b>	<b>Classes</b>	<b>Laboratory</b>	<b>Project</b>
			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 science.
2. Ability to work independently and in a group.
3. Ability to use literature sources and internet resources.

## COURSE CONTENT

### LABORATORY

- › **Lab1, Lab2** Database 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. Pękała, 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
<b>Total number of hours/ ECTS points for the course</b>	<b>75</b>	<b>3,0</b>

### ADDITIONAL INFORMATION

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

### 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 databases.

**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.