

Faculty of Fundamental Problems of Technology						
COURSE CARD						
Name in polish	:	<b>Bazy Danych</b>				
Name in english	:	<b>Databases</b>				
Field of study	:	Computer Science				
Specialty (if applicable)	:					
Undergraduate degree and form of	:	masters, stationary				
Type of course	:	optional				
Course code	:	E2_W13				
Group rate	:	Yes				
		Lectures	Exercides	Laboratory	Project	Seminar
Number of classes held in schools (ZZU)		15	15	30		
The total number of hours of student work-load (CNPS)		30	30	120		
Assesment		pass				
For a group of courses final course mark		X				
Number of ECTS credits		1	2	3		
including the number of points corresponding to the classes of practical (P)			2	3		
including the number of points corresponding occupations requiring direct contact (BK)		1	2	3		
<b>PREREQUISITES FOR KNOWLEDGE, SKILLS AND OTHER POWERS</b>						
It is required to pass the following module: Databases and Information Management						
<b>COURSE OBJECTIVES</b>						
<b>C1</b> Presentation of the techniques related to the designing of database applications, data warehouses and research directions						
<b>C2</b> Discussing of the problems related to the designing of database applications and data warehouses						
<b>C3</b> Creating of the database application and data warehouse						

### COURSE LEARNING OUTCOMES

The scope of the student's knowledge:

**W1** Knows the basic rules and procedures of creating database applications

**W2** Knows the basic rules and procedures of creating data warehouse

**W3** Knows different databases models

**W4** Knows the current trends of databases development

The student skills:

**U1** Can create database applications

**U2** Can create data warehouses

**U3** Can use languages and tools needed for using non-relational databases

The student's social competence:

**K1** Can work in a project group creating the advanced database applications

### COURSE CONTENT

#### Type of classes - lectures

Wy1	Creating Database Application	4h
Wy2	Data Warehouses	4h
Wy3	MDX- the language supporting OLAP cubes	2h
Wy4	XML Databases	2h
Wy5	The new trends in databases	3h

#### Type of classes - exercises

Ćw1	The Basic Aspects of Databases	3h
Ćw2	Designing Database Applications	4h
Ćw3	Designing Data Warehouse	4h
Ćw4	OLAP Cubes	h
Ćw5	XML Databases	h

#### Type of classes - laboratory

Lab1	The Project Teams and the Application Scope	2h
Lab2	The Project of Database Application	4h
Lab3	The Implementation of the Database Application	8h
Lab4	The Presentation of the Database Application	4h
Lab5	The Data Warehouse Project	4h
Lab6	The Implementation of the Data Warehouse	4h
Lab7	The Presentation of Data Warehouse	h

Applied learning tools		
<ol style="list-style-type: none"> <li>1. Traditional lecture</li> <li>2. Multimedia lecture</li> <li>3. Self-study students</li> </ol>		
EVALUATION OF THE EFFECTS OF EDUCATION ACHIEVEMENTS		
Value	Number of training effect	Way to evaluate the effect of education
F1	W1-W4, K1-K1	
F2	U1-U3, K1-K1	
F3	U1-U3, K1-K1	
$P = \%*F1 + \%*F2 + \%*F3$		
BASIC AND ADDITIONAL READING		
<ol style="list-style-type: none"> <li>1. R. Muller, Database design for Smarties. Using UML for Data Modelling, Morgan Kaufmann Publishing 1999</li> <li>2. R. Kimball, The Data Warehouse Toolkit: The Complete Guide to Dimensional Modeling, John Wiley and Sons, 2002</li> <li>3. WWW papers</li> </ol>		
SUPERVISOR OF COURSE		
dr Wojciech Macyna		

RELATIONSHIP MATRIX EFFECTS OF EDUCATION FOR THE COURSE  
Databases

WITH EFFECTS OF EDUCATION ON THE DIRECTION OF COMPUTER SCIENCE

Course training effect	Reference to the effect of the learning outcomes defined for the field of study and specialization (if applicable)	Objectives of the course**	The contents of the course**	Number of teaching tools**
W1	K2_W06 K2_W07	C1	Wy1-Wy5	1 2 3
W2	K2_W01 K2_W06	C1	Wy1-Wy5	1 2 3
W3	K2_W04 K2_W07	C1	Wy1-Wy5	1 2 3
W4	K2_W01 K2_W05	C1	Wy1-Wy5	1 2 3
U1	K2_U17 K2_U22	C2 C3	Ćw1-Ćw5 Lab1-Lab7	3
U2	K2_U22	C2 C3	Ćw1-Ćw5 Lab1-Lab7	3
U3	K2_U01 K2_U15	C2 C3	Ćw1-Ćw5 Lab1-Lab7	3
K1	K2_K01 K2_K06 K2_K07	C1 C2 C3	Wy1-Wy5 Ćw1-Ćw5 Lab1-Lab7	1 2 3