Faculty of Fundamental Problems of Technology
COURSE CARD

Name in polish	:	**Eksploracja Danych**
Name in english	:	**Data Mining**
Field of study	:	Computer Science
Specialty (if applicable)	:	
Undergraduate degree and form of	:	masters, stationary
Type of course	:	optional
Course code	:	E2_W14
Group rate	:	Yes

	Lectures	Exercides	Laboratory	Project	Seminar
Number of classes held in schools (ZZU)	30	15	15		
The total number of hours of student work-load (CNPS)	70	55	55		
Assesment	pass				
For a group of courses final course mark	X				
Number of ECTS credits	2	2	2		
including the number of points corresponding to the classes of practical (P)		2	2		
including the number of points corresponding occupations requiring direct contact (BK)	2	2	2		

PREREQUISITES FOR KNOWLEDGE, SKILLS AND OTHER POWERS

It is required to pass the following modules: Introduction to the Computer Science and Programming, Data Bases and Information Managements, Logic and Formal Structures, Probabilistic Methods and Statistic.

COURSE OBJECTIVES

C1 Presentation of the methods and algorithms of data mining

C2 Profound understanding of the presented data mining methods

C3 Creating of the complete data minig solution

COURSE LEARNING OUTCOMES

The scope of the student's knowledge:

W1 Knows the data mining algorithms

W2 Knows the applicatinon of the data mining algorithms

The student skills:

U1 Can use the data mining algorithms in practice

U2 Can use the data mining algorithms implemented in the database systems

The student's social competence:

K1 Has the ability to cooperate with other experts specialized in data mining algorithms

COURSE CONTENT		
Type of classes - lectures		
Wy1	Introduction to the Data Mining	2h
Wy2	The Discovery of the Association	6h
Wy3	The Sequence Patterns	4h
Wy4	The Classification	8h
Wy5	The Clustering	4h
Wy6	Text Mining	4h
Wy7	Web Mining	2h
Type of classes - exercises		
Ćw1	Introduction to the Data Mining	1h
Ćw2	Logic	2h
Ćw3	Probability and statistics	4h
Ćw4	Sequence patterns	2h
Ćw5	Classification methods	3h
Ćw6	Clustering methods	3h
Type of classes - laboratory		
Lab1	Preparing Data for Mining	1h
Lab2	Prediciton of Discrete Attributes	4h
Lab3	Prediction of Continuous Attributes	4h
Lab4	The Sequence Prediction	2h
Lab5	The Search for the Groups of Common Elements in Transactions	2h
Lab6	The Search for the Groups of Common Elements	2h

Applied learning tools

1. Traditional lecture

2. Multimedia lecture

3. Self-study students

EVALUATION OF THE EFFECTS OF EDUCATION ACHIEVEMENTS		
Value	Number of training effect	Way to evaluate the effect of education
F1	W1-W2, K1-K1	
F2	U1-U2, K1-K1	
F3	U1-U2, K1-K1	
P=%*F1+%*F2+%*F3		

BASIC AND ADDITIONAL READING

1. Data Mining: Concepts and Techniques, J. Han, M. Kamber, Morgan Kaufman, 2000

2. Data Mining: Practical Machine Learning Tools and Techniques with Java Implementations, I. H. Witten, E. Frank, Morgan Kaufman, 2000

3. Pricinciples of Data Mining, J. Hand, H. Mannila, P. Smyth, MIT Press, 2001

4.

SUPERVISOR OF COURSE
dr Wojciech Macyna

RELATIONSHIP MATRIX EFFECTS OF EDUCATION FOR THE COURSE
Data Mining
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_W01 K2_W02	C1	Wy1-Wy7	1 2 3
W2	K2_W02	C1	Wy1-Wy7	1 2 3
U1	K2_U09	C2 C3	Ćw1-Ćw6 Lab1-Lab6	3
U2	K2_U01 K2_U09	C2 C3	Ćw1-Ćw6 Lab1-Lab6	3
K1	K2_K14	C1 C2 C3	Wy1-Wy7 Ćw1-Ćw6 Lab1-Lab6	1 2 3