



MODULE DESCRIPTION

Module code	
Module name	Nowoczesne Systemy Przetwarzania Danych
Module name in English	Modern Data Processing Systems
Valid from academic year	2012/2013

MODULE PLACEMENT IN THE SYLLABUS

Subject	Computer Science
Level of education	1st degree <i>(1st degree / 2nd degree)</i>
Studies profile	General <i>(general / practical)</i>
Form and method of conducting classes	Full-time <i>(full-time / part-time)</i>
Specialisation	
Unit conducting the module	The Department of Control and Management Systems
Module co-ordinator	Paweł Sitek, PhD, Eng.
Approved by:	

MODULE OVERVIEW

Type of subject/group of subjects	Basic <i>(basic / major / specialist subject / conjoint / other HES)</i>
Module status	Non-compulsory <i>(compulsory / non-compulsory)</i>
Language of conducting classes	Polish
Module placement in the syllabus - semester	7th semester
Subject realisation in the academic year	Winter semester <i>(winter / summer)</i>
Initial requirements	Databases 1, Databases 2 <i>(module codes / module names)</i>
Examination	No <i>(yes / no)</i>
Number of ECTS credit points	7

Method of conducting classes	Lecture	Classes	Laboratory	Project	Other
Per semester	30		15	30	



TEACHING RESULTS AND THE METHODS OF ASSESSING TEACHING RESULTS

Module target	The aim of the subject is to present basic design and implementation issues which concern advanced databases; another aim is to familiarise students with basic notions, methods, and technology algorithms of data exploration.
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Effect symbol	Teaching results	Teaching methods (l/c/l/p/other)	Reference to subject effects	Reference to effects of a field of study
W_01	A student is acquainted with basic notions and models concerning multimedia databases as well as data warehouses (ROLAP and MOLAP) together with the methods, active databases, and algorithms of data exploration.	l	K_W03 K_U01	T1A_W01 T1A_W02 T1A_U01
W_02	A student has knowledge as regards basic modelling and designing principles of multimedia databases and data warehouses.	l	K_W14 K_W15	T1A_W03 T1A_W04 T1A_U09
W_03	A student has knowledge concerning advanced data exploration models.	l	K_W02	T1A_W01 T1A_W03 T1A_U09
U_01	A student can design and implement a multimedia database and a data warehouse; a student is also able to prepare data for exploration.	l/p	K_U20 K_U21 K_U03 K_U02	T1A_U02 T1A_U03 T1A_U09 T1A_U07 T1A_U16
U_02	A student can utilise data exploration tools and build data exploration models.	p	K_U20 K_U10	T1A_U09 T1A_U07 T1A_U10
U_03	A student is able to make analyses and draw conclusions connected with data exploration.	p	K_U09	T1A_U09 T1A_U16
K_01	A student is able to determine activity priorities.	p	K_K03	T1A_K04
K_02	A student is capable of teamwork and solving tasks collectively.	p	K_K03	T1A_K03

Teaching contents:

Teaching contents as regards lectures

Lecture number	Teaching contents	Reference to teaching results for a module
1	Introduction to advanced databases.	W_01
3,4	Multimedia databases.	W_01
5,6	Standard SQL/MM.	W_01
7	Introduction to data exploration – databases. Data warehouses. Data exploration.	W_01 W_02
8	Data warehouses – data preparation and environments for data exploration.	W_01 W_03
9,10	Discovering associations.	W_03
11,12	Sample exploration models, their implementation, and analyses with the use of data exploration tools (Data Miner).	W_03 U_01
13	Active databases – functionality, the model of ECA rules.	W_01



14	Active databases – defining active rules.	W_01
15	Obtaining a credit for the lectures.	K_01

Teaching contents as regards laboratory classes

Laboratory classes are conducted in teams of two

Laboratory class number	Teaching contents	Reference to teaching results for a module
1	Implementing the scheme of a warehouse which is the basis for building experimental models.	U_01
2	Preparing a data set and importing data to data warehouses.	U_01 K_02
3	Familiarising students with a data exploration tools – attaching to data warehouses as an exploration source.	U_02 K_02
4	A project of a multimedia database.	U_01 U_02 K_02
5,6	Filling in the database with sample data, creating queries for a multimedia database with SQL/MM.	U_02 K_02
7	Obtaining a credit for laboratory classes.	K_01

Teaching contents as regards project classes

Project classes are conducted in teams of two

Project class number	Teaching contents	Reference to teaching results for a module
1	Drawing the subject of a project, discussing basic assumptions and requirements.	K_01
2,3	A design of a data warehouse which is the basis for building exploration models.	U_01 K_02
4,5	Preparing data warehouses for data exploration – data feeds, creating perspectives, shutters, triggers, etc.	U_02 K_02
6,7,8	Building association discovery models.	U_02 K_02
9,10	Analyses and conclusions concerning data exploration.	U_02 U_03 K_02
11,12	Result visualisation and export of models.	U_02 U_03 K_02
13,14	Preparing a report from the project.	U_02 U_03 K_02
15	Project defence.	K_01 K_02

The methods of assessing teaching results

Effect symbol	Methods of assessing teaching results <i>(assessment method, including skills – reference to a particular project, laboratory assignments, etc.)</i>



W_01	A final test on the lectures
W_02	A final test on the lectures, project defence
W_03	A final test on the lectures, project defence
U_01	A final test on the lectures, project defence, a report on laboratory classes No 1-6
U_02	Project defence
U_03	Project defence
K_01	Project defence
K_02	Project defence

STUDENT'S INPUT

ECTS credit points		
	Type of student's activity	Student's workload
1	Participation in lectures	30
2	Participation in classes	
3	Participation in laboratories	15
4	Participation in tutorials (2-3 times per semester)	2
5	Participation in project classes	30
6	Project tutorials	3
7	Participation in an examination	
8		
9	Number of hours requiring a lecturer's assistance	80 <i>(sum)</i>
10	Number of ECTS credit points which are allocated for assisted work <i>(1 ECTS credit point=25-30 hours)</i>	3.2
11	Unassisted study of lecture subjects	15
12	Unassisted preparation for classes	
13	Unassisted preparation for tests	
14	Unassisted preparation for laboratories	15
15	Preparing reports	15
16	Preparing for a final laboratory test	5
17	Preparing a project or documentation	35
18	Preparing for an examination	10
19	Preparing questionnaires	
20	Number of hours of a student's unassisted work	95 <i>(sum)</i>
21	Number of ECTS credit points which a student receives for unassisted work <i>(1 ECTS credit point=25-30 hours)</i>	3.8
22	Total number of hours of a student's work	175
23	ECTS credit points per module <i>1 ECTS credit point=25-30 hours</i>	7
24	Work input connected with practical classes <i>Total number of hours connected with practical classes</i>	75
25	Number of ECTS credit points which a student receives for practical classes <i>(1 ECTS credit point=25-30 hours)</i>	3