

Data Warehouse - course description

General information	
Course name	Data Warehouse
Course ID	11.3-WK-MATD-HD-L-S14_pNadGenWVOWZ
Faculty	Faculty of Mathematics, Computer Science and Econometrics
Field of study	Mathematics
Education profile	academic
Level of studies	Second-cycle studies leading to MS degree
Beginning semester	winter term 2020/2021

Course information	
Semester	2
ECTS credits to win	5
Course type	optional
Teaching language	polish
Author of syllabus	<ul style="list-style-type: none">mgr inż. Andrzej Majczak

Classes forms					
The class form	Hours per semester (full-time)	Hours per week (full-time)	Hours per semester (part-time)	Hours per week (part-time)	Form of assignment
Laboratory	30	2	-	-	Credit with grade
Lecture	15	1	-	-	Credit with grade

Aim of the course

The aim of the course is present the theory in designing a data warehouse, knowledge tools for building queries and reports, and business intelligence.

Prerequisites

Information Technology, Database.

Scope

Lecture:

1. Evolution of Decision Support Systems (DSS).
2. Introduction to Data Warehousing (definitions and terminology).
3. Data Warehouse Architecture (conceptual model, logical and physical).
4. Data Warehouse Design (models multidimensional OLAP operations)
5. Data Modeling for Data Warehouse (modeling point).
6. Physical implementation of data warehouse (extraction and loading).
7. Data Warehouse Systems (overview of the typical solutions).

Laboratory:

1. Introduction to DB2 Web Query.
2. Create and edit synonyms.
3. Create a simple report (Report Assistant).
4. Creating graphs (Graph Assistant).
5. Metadata Tools (Converting Existing Query Reports)
6. Create and use active reports (Active Reports).
7. Using OLAP (Online Analytical Processing).

Teaching methods

Lecture: the traditional lecture.

Laboratory: individual work at the computer. Processed material according to instructions that every student gets at the beginning of class. Discussions leading to deepen knowledge and understanding of the processed material.

Learning outcomes and methods of theirs verification

Outcome description	Outcome symbols	Methods of verification	The class form
Student knows basic theory in the design of the data warehouse and the tools for business intelligence.		<ul style="list-style-type: none">• activity during the classes• an exam - oral, descriptive, test and other	<ul style="list-style-type: none">• Lecture• Laboratory

Outcome description	Outcome symbols	Methods of verification	The class form
Student can use an intuitive interface to build queries and reports; is able to build reports based on data stored in databases.		<ul style="list-style-type: none"> • activity during the classes • an exam - oral, descriptive, test and other 	<ul style="list-style-type: none"> • Lecture • Laboratory

Assignment conditions

1. Checking the degree of student preparation and their activities during the classes.
2. Getting good ratings from all the laboratory to be implemented under the laboratory.
3. Written colloquium at the end of the course.

Recommended reading

1. Chris Todman, Designing A Data Warehouse: Supporting Customer Relationship Management, Prentice Hall, 2001.
2. Ramez Elmasri, Shamkant B. Navathe. Wprowadzenie do systemów baz danych, Helion 2005.

Further reading

1. William Harvey Inmon, Building the Data Warehouse. 4th Edition, Wiley 2005.
2. Ralph Kimball, Margy Ross, The Data Warehouse Toolkit: The Complete Guide to Dimensional Modeling. 2nd Edition, Wiley 2002.
3. Adam Pelikant, Hurtownie danych. Od przetwarzania analitycznego do raportowania, Helion 2011.

Notes

Modified by dr Alina Szelecka (last modification: 18-09-2020 13:46)

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