

Concept of the BA Lecture: 'Data Warehouse & Data Mining (DWH & DM)'

Planned for WS 2002 (Oct.-Dec.) & SS 2003 (Feb.-May)

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Requirements / Rough Concept:

WS 2002: hold the lecture in German language for PMBV course
SS 2003 : hold the lecture in German language for PMAV course
WS 2003 : hold the lecture in English language for IT course

Each Semester has 36 hours (27 hours lecture, 9 hours exercises)
Time: each Friday, 14.00 – 16:15 o'clock

WS 2002- starting: Fri., 4.10.2002, ending: Fri., 20.12.2002
10 lessons, 1 examination 20.12.2002 (last Friday)
(i.e.: 14:00 –15:30 lecture, 15:30-16:15 exercises)

SS 2003- starting: Fri., 21.02.2003, ending: Fri., 09.05.2003
10 lessons, 1 examination 09.05.2003 (last Friday)
(i.e.: 14:00 –15:30 lecture, 15:30-16:15 exercises)

WS 2003- starting: Fri., 10.10.2003, ending: Fri., 19.12.2003
10 lessons, 1 examination 19.12.2003 (last Friday), Language=English
(i.e.: 14:00 –15:30 lecture, 15:30-16:15 exercises)

Agenda:

1. Introduction to Data Warehousing (DWH) & Business Intelligence (BI)
2. DWH Architecture (Virtual,1-Tier,2-Tier), Advantages & Disadvantages
3. Overview about DBMS (i.e. Relational Databases)
4. Introduction to Basics of SQL & Examples

5. *Multidimensional Data Modeling (MDDM), OLAP examples in DWH*
6. *ETL – Reference Architecture (Introduction), Tool examples*
7. *ETL – Data Population Techniques, Examples*
8. *Analysis (OLAP) & Reporting Concepts, Examples*
9. *Data Mining Business concepts, Examples*
10. *Data Mining Techniques, Tool example -IBM Intelligent Miner*
11. *Examination*

Literature:

➤ **General DWH:**

- *Barry Devlin 'Data Warehouse....'*, Addison-Wesley, ISBN: 0-201-96425-2
- *R. Kimball 'The Data Warehouse Toolkit.'*, John Wiley & Sons, NY 1996, ISBN: 0-471-15337-0
- *R. Kimball,.... 'The Data Warehouse Lifecycle Toolkit.'*, John Wiley & Sons, NY 1998, ISBN: 0-471-25547-5

➤ **DWH & Business Intelligence (BI)**

- *Stefan Eckrich, 'From Multiplatform Operational Data to Data Warehousing and Business Intelligence'*, IBM Redbook, SG24-5174-00, ISBN: 0-7384-0032-7
- *V. Anavi-Chaput, 'Business Intelligence Architecture on S/390 –Presentation Guide'*, IBM Redbook, SG24-5641-00, ISBN: 0-7384-1752-1

➤ **Metadata**

- *David Marco 'Building & Managing the Meta Data Repository'*, , John Wiley & Sons 2000, ISBN: 0-471-35523-2

➤ **ETL, OLAP & DB2 OLAP Server:**

- *Thomas Groh, ... 'BI Services -Technology Enablement Data Warehouse -Perform Guide'* IBM Redbook, ZZ91-0487-00
- *Thomas Groh, ... 'Managing Multidimensional Data Marts with Visual Warehouse and DB2 OLAP Server'* IBM Redbook, SG24-5270-00, ISBN: 0-7384-1241-4
- *Corinne Baragoin , 'DB2 OLAP Server Theory and Practices'*, IBM Redbook, SG624-6138-00, ISBN: 0-7384-1968-0

➤ **Databases (i.e. IBM DB2 UDB; Very Large DB):**

- *Don Chamberlin 'A Complete Guide to DB2 Universal Database'*, Morgan Kaufmann Publ. Inc., ISBN: 1-55860-482-0
- *J. Cook, .. 'Managing VLDB Using DB2 UDB EEE'*, IBM Redbook, SG24-5105-00

➤ **Data Modeling (Historical Models):**

- *C. Ballard, D. Herreman ,.... 'Data Modeling Techniques for Data Warehousing'*, IBM Redbook, SG24-2238-00

➤ **Data Mining:**

- *Peter Cabena 'Discovering Data Mining,'*, Prentice Hall PTR, ISBN: 0-13-743980-6
- *P. Cabena ... 'Intelligent Miner for Data – Applications Guide'*, IBM Redbook, SG24-5252-00, ISBN: 0-7384-1276-7
- *C. Baragoin 'Mining your Own Business in Telecoms'*, IBM Redbook, SG24-6273-00, ISBN: 0-7384-2296-7