Data Management Systems (530011)
Dr. mont. Basem Almadani (mbasem@kfupm.edu.sa)
Winter semester 2007/2008

No.	Title	Details
1	Course overview	1- Why logistics engineers need to study data management systems 2- How data management knowledge enhance decision making in logistics. 3- The main parts of this course: • Data Acquisition • Data Distribution • Data Warehousing
2	Object oriented programming and modeling	1- Introduction to object oriented programming 2- Modeling techniques 3- Modeling tools
3	Relational database management systems (1)	1- Data and information storages 2- Relational database 3- Object oriented databases 4- Database objects 5- Database design issues 6- Entity relationship diagrams (ERD)
4	Relational database management systems (2)	1- Connections to databases 2- Introduction to SQL 3- PL/SQL packages 4- Embedded SQL
5	Design exercise	Order management 1- Order entry and validation 2- Order modification 3- Production orders 4- Capacity reservation 5- Order confirmation 6- Returned orders
6	Data distribution	1- Introduction to computer networks 2- Transport protocols 3- Computer networks in logistics systems
7	Distributed systems Real-Time systems	1- Introduction 2- Middleware software 3- Middleware functions 4- Middleware types 5- Middleware design issues 6- Testing and performance evaluation
8	Structures of Distribution Logistics systems	1- Enterprise resource planning systems (ERP systems) 2- Warehouse management systems 3- Warehouse control systems

		4- Subsystems
9	Commissioning systems Exercise (1)	1- Requirements analysis 2- Fully & Semi-Automated commissioning 3- Commissioning machines 4- Commissioning modes 5- Conveyor systems 6- Commissioning devices
10	Commissioning systems Exercise (2)	Commissioning systems 1- Object design 2- Data design 3- Functional design
11	Data management for production planning systems ()	Production planning and control functions: 1- Master data 2- Order management 3- Resources and capacity calculation 4- Production planning
12	Data management for production planning systems (2)	1- Production scheduling 2- Production rules 3- Transportation management 4- Quality assurance
13	Data management for production planning systems (3)	1- Production reporting 2- User management 3- Production sub-systems
14	Review	
15	Exam	