UNIVERSITI TEKNOLOGI MARA

ASM654: FUNDAMENTALS OF DATA WAREHOUSING

Course Name (English)	FUNDAMENTALS OF DATA WAREHOUSING APPROVED
Course Code	ASM654
MQF Credit	4
Course Description	This course is designed to provide an overview of data warehousing to support business service. Students will be taught to conduct a system needs analysis, design the data model conceptually and logically. The physical and technological aspects of a data warehouse will also be covered.
Transferable Skills	1. Explain the fundamental of data warehousing in business environment. 2. Build the conceptual and logical data model in data warehouse development. 3. Display the information retrieval and management skills in relation to data warehouse business issues and problems in the organization
Teaching Methodologies	Lectures, Lab Work, Case Study, Tutorial
CLO	CLO1 1. Explain the fundamental of data warehousing in business environment. (PLO6 C5) CLO2 2. Build the conceptual and logical data model in data warehouse development. (PLO2) (P3) CLO3 3. Display the information retrieval and management skills in relation to data warehouse business issues and problems in the organization (PLO7, A3)
Pre-Requisite Courses	No course recommendations

Topics
1. 1. Introduction and Trends in Data Warehousing 1.1) 1.1. The need for data warehousing 1.2) 1.2. Data Warehousing: The Building Blocks 1.3) 1.3. Trends in Data Warehouse
2. 2. Data Warehousing Planning and Project Management 2.1) 2.1 Data Warehouse Project 2.2) 2.2 Project Team
3. 3. Defining Business Requirements 3.1) 3.1 Information Package 3.2) 3.2 Requirement Gathering Methods 3.3) 3.3 Requirement Definition
4. 4. Data Design and Data Preparation 4.1) 4.1 Data Design 4.2) 4.2 Star Schema
5. 5. Data Extraction, Transformation and Loading 5.1) 5.1 Data Extraction 5.2) 5.2 Data Transformation 5.3) 5.3 Data Loading
6. 6. Online Analytical Processing in Data Warehouse 6.1) 6.1 Demand for Online Analytical Processing 6.2) 6.2 OLAP Major Features and Functions 6.3) 6.3 OLAP Models

7. 7. Data Mining Basics 7.1) 7.1 Data Mining Definition 7.2) 7.2 Data Mining Techniques 7.3) 7.3 Data Mining Applications 7.4) 7.4 Data Mining vs OLAP
8. 8. Data Warehousing Growth and Maintenance 8.1) 8.1 Monitoring the Data Warehouse 8.2) 8.2 User Training and Support 8.3) 8.3 Managing the Data Warehouse
9. Project 9.1) N/A
10. EXAM 10.1) N/A

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Assignment	Individual Assignment	20%	CLO1
Case Study	Group Reflective Case Study	20%	CLO2
Group Project	Group Project - WEKA	20%	CLO3

Reading List

Recommended Text

- **Paulraj Ponniah 2012, *Data Warehousing Fundamentals: A Comprehensive Guide for IT Professionals***

Article/Paper List

This Course does not have any article/paper resources

Other References

- **Book Vaisman, A. & Zimanyi', E. 2014, *Data Warehouse Systems: Design and Implementation* , Springer**
- **Book Connolly, T. & Begg C. 2015, *Database Systems. A Practical Approach to Design, Implementation and Management* , Pearson**
- **Book Ralph Kimball & Margy Ross, 2013, *The Data Warehouse Tool Kit*, Wiley's**
- **Book Rainer, R. K., Cegielski, C. G., Splettstoesser-Hogeterp, I., & Sanchez-Rodriguez, C. 2013, *Introduction to information systems*, John Wiley & Sons.**
- **Book O'Brien, J and Maracas, GM 2012, *Introduction to Information Systems*, McGraw Hill**