

MC222 DATA WAREHOUSING AND MINING LAB**Objective of the Course:**

The objective of this lab course is to use data mining techniques to identify customer segments and understand their buying behavior and to use standard databases available for understanding DM processes using WEKA (or any other DM tool)

1. Gain insight for running pre- defined decision trees and explore results using MS OLAP Analytics.
2. Using IBM OLAP Miner – Understand the use of data mining for evaluating the content of multidimensional cubes.
3. Using Teradata Warehouse Miner – Create mining models that are executed in SQL. (BI Portal Lab: The objective of the lab exercises is to integrate pre-built reports into a portal application)
4. Gain insight for running pre- defined decision trees and explore results using MS OLAP Analytics.
5. Using IBM OLAP Miner – Understand the use of data mining for evaluating the content of multidimensional cubes
6. Using Teradata Warehouse Miner – Create mining models that are executed in SQL. (BI Portal Lab: The objective of the lab exercises is to integrate pre-built reports into a portal application)
7. Publish cognos cubes to a business intelligence portal. Metadata & ETL Lab: The objective of the lab exercises is to implement metadata import agents to pull metadata from leading business intelligence tools and populate a metadata repository. To understand ETL processes
8. Import metadata from specific business intelligence tools and populate a meta data repository. 6. Publish metadata stored in the repository.
9. Load data from heterogenous sources including text files into a pre-defined warehouse schema. Case study
10. Design a data mart from scratch to store the credit history of customers of a bank. Use this credit profiling to process future loan applications.
11. Design and build a Data Warehouse using bottom up approach titled 'Citizen Information System'. This should be able to serve the analytical needs of the various government departments and also provide a global integrated view.

Text Books:

1. Data Mining Concepts & Techniques – Jiawei Han Micheline Kamber – Morgan Kaufmann Publishers.
2. Data Mining, Practical Machine Learning Tools and Techniques, 2nd Edition. Ian H. Witten, Eibe Frank, Morgan Publisher

References Books:

1. Usama M.Fayyad, Gregory Piatetsky Shapiro, Padhrai Smyth, RamasamyUthurusamy, "Advances in Knowledge Discover and Data Mining", The M.I.T. Press, 1996.
2. Ralph Kimball, Margy Ross, "The Data Warehouse Toolkit", John Wiley and Sons Inc., 2002.
3. Alex Berson, Stephen Smith, Kurt Thearling, "Building Data Mining Applications for CRM", Tata McGraw Hill, 2000.
4. Margaret Dunham, "Data Mining: Introductory and Advanced Topics", Prentice Hall, 2002.