This course introduces the principles of data mining including database systems, artificial intelligence, data retrieval and statistics. It also covers the necessary tools for knowledge exploration and data storage.

Course Contents:
1. Principles and structures of data warehousing, methods of analysis process (OLTP) and direct (OLAP).
2. Extraction and representation, cleaning and delivery of data.
3. Digging and cutting, data management and data warehouse architecture.
4. Patterns of data warehouses (star - SnowFlake - tower).
5. Ways to represent data warehouses (ROLAP - MOLAP - HOLAP).
6. Performance Optimization and compilation of data warehouses.
7. The importance of clean data in data mining techniques and basic statistics.
8. Techniques for exploring data (tree resolution - neural networks - a market basket analysis).
9. Application areas such as cross-selling - customer retention - detect fraud - pricing - the allocation of sources.
10. Use of software ready to explore the data.

Course Outcomes:
1. To identify the foundations and techniques for integrating and cleaning of data.
2. To know the role of OLAP techniques and explore data to troubleshoot business information problems.
3. To design and establish data warehouses to troubleshoot the problems of different kinds of information.
4. To learn about the benefits and techniques of accessing data stores through the Web.
5. To know assessment techniques to support exploration and prospecting data (KDD).
6. To apply data mining tools on actual situations.

Textbook:

Extra Reference: