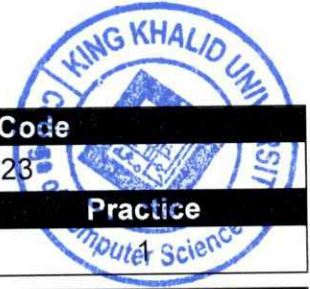


ISM 223



Course Name		Course Code	
Data Warehousing and Data Mining		ISM 223	
Prerequisite	Credit	Theory	Practice
ISM 222	3	2	

Course Description

This course consists of two main parts. The first part is an introduction to data warehousing and the foundations of understanding the issues involved in building and designing a successful data warehouse. The second part covers data mining, which refers to the discovery of interesting and useful knowledge from the data associated with the usage, content, and structure of different data resources. This part includes an overview of data mining and knowledge discovery, data mining pre-processes, and data mining tasks.

Course Topics and Duration in Weeks

Topics	Duration
Introduction to Data Warehousing	1
Data Warehouse and Operational System On-Line Analytical Processing OLAP On-Line Transaction Processing OLTP OLAP vs. OLTP	1
Data Warehouse Architecture and Models	1
Data Warehouse Logical Design Dimensional Modeling: Data Warehouse Bus Architecture Dimensional Model vs. Normalized Model (Pros and Cons) Data Warehouse Bus Matrix Method Special Types of Fact Table and Dimension Table Overview of Physical Design of Data Warehouse	3
Data Mining and Knowledge Discovery (KDD Processes)	1.5
Data Preparation for Knowledge Discovery Data Preprocessing	1.5
Web Mining Web Content Mining Web Structure Mining Web Usage Mining	1
Data Mining Tasks: Association Rules and Sequential Patterns: Association Rules Discovery and Market Basket Analysis (MBA)	1
Data Mining Tasks: Classification and Prediction	1
Data Mining Tasks: Clustering	1

Course Learning Outcomes (CLO)

By the end of successfully completing this course, students should be able to:

- Understand basic concepts and principles of data warehousing and data mining.
- Understand how to design the data warehouse logically by using a dimensional modeling approach.
- Apply the data mining tasks on real dataset and discover the hidden pattern and knowledge behind data using data mining software tool.
- Know state-of-art approaches and techniques in data mining.

Textbook

Modern Data Warehousing, Mining, and Visualization: Core Concepts, George M. Marakas' - ISBN: 0131014595 Prentice Hall; (2002)

References

The Data Warehouse Lifecycle Toolkit by Ralph Kimball et al. 2nd ed. ISBN-10: 0470149779
ISBN-13: 978-0470149775

Data Mining Techniques for Marketing, Sales, and Customer Relationship Management, Second Edition, by Michael Berry and Gordon Linoff, John Wiley, 2004

Data Warehousing Fundamentals: A Comprehensive Guide for IT Professionals' Paulraj Ponniah ,Wiley-Interscience (2001) - ISBN: 0471142546

Coordinator (s)

Mr. Yasser Al Mashhour
hasaan@kku.edu.sa



IS Department Approval

