



KINGDOM OF SAUDI ARABIA
IMAM MOHAMMAD IBN SAUD ISLAMIC UNIVERSITY
COLLEGE OF COMPUTER AND INFORMATION SCIENCES
INFORMATION SYSTEMS DEPARTMENT
MASTER OF SCIENCE IN INFORMATION SYSTEMS

المملكة العربية السعودية
جامعة الإمام محمد بن سعود الإسلامية
كلية علوم الحاسب والمعلومات
قسم نظم المعلومات
ماجستير العلوم في نظم المعلومات

SYLLABUS

Course Code: IS6226

Course Name: Data Mining and Information Warehouse

CREDIT HOURS	4
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PREREQUISITE	None
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Instructor:
Contact information and office hours
Office No: To be announced (TBA)
Office Hours: TBA
E-mail: _____@imamu.edu.sa

COURSE DESCRIPTION
Data mining is considered as a process of extracting data from large data sets, whereas a Data warehouse is the process of pooling all the relevant data together. The course introduces students to the concepts and techniques used in discovering patterns and relationships within large sets of data, as well as the management and organization of such data. It covers a wide range of topics, including data preprocessing, data visualization, classification, and clustering techniques amongst others. Students will also learn about data warehousing, which involves the design and implementation of databases for the storage and management of large volumes of data.



COURSE LEARNING OUTCOMES (CLOs)		Aligned SOs
1	Knowledge and Understanding	
1.1	Understand the fundamental concepts of data mining and data warehousing.	K1
1.2	Review state of art researches to comprehend popular tools for data mining.	K3
2	Skills :	
2.1	Perform research to identify gaps in existing and standard systems in the field of data warehousing.	S1
2.2	Utilize the appropriate technology to meet the organizational needs of data mining and data warehouses.	S4
3	Values:	
3.1	Write course project reports abiding all ethical standards using leadership and management talents.	V2
3.2	Function effectively individually as well as on teams to accomplish a common goal	V3

TEACHING Strategies
Class lectures, Assignment, Project explanation session.

No	List of Topics	Contact Hours	Self-Learning
1	Introduction to data mining and warehousing	4	
2	Data preprocessing, data integration, data reduction, and data discretization	4	
3	Data visualization Techniques	4	
4	Association rule mining, Classification, Clustering and Decision tree analysis	4	
5	Data warehousing Technology	4	
6	Data modeling, schema design, and database implementation	4	
7	ETL Processes in Data Warehousing	4	
8	OLAP and data cubes	4	
9	Business Intelligence and Data Warehousing	4	
10	Data mining applications in the industry	2	
11	Project Presentations	2	
Total		40	



TEXT BOOK

Data Mining For Business: Everything You Need To Know About Data Mining And Data-Analytic;
Learn The Machine Learning To Increase Your Sense Of Artificial Intelligence
by Cameron Zak

REFERENCES

- Data Warehousing and Mining: Concepts, Methodologies, Tools, and Applications
by Mehdi Khosrow-Pour
- Data Warehousing Fundamentals: A Comprehensive Guide for IT Professionals
by Paulraj Ponniah

Course Assessment Methods			
No	Assessment Method	Due Week	% of Total Assessment
1	Quizzes	3	10
2	Assignments	5	10
3	Midterm	8	20
4	Project	10	20
5	Final Exam	11	40