

**Faculty of Computers and Information Technology**

**Data Mining**

**Information :**

**Course Code :** ISY 443

**Level :** Undergraduate

**Course Hours :** 3.00- Hours

**Department :** Department of Information Systems

**Instructor Information :**

Title	Name	Office hours
Associate Professor	Khaled Tawfic Hassan Wassif	
Associate Professor	Khaled Tawfic Hassan Wassif	
Teaching Assistant	Maha Farghaly Ali Ahmed	
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**Area Of Study :**

This Data Mining course aims to extract knowledge in large data sets that is always needed for future predictions. Data mining has important and growing significance in many applications like security, banking, bioinformatics, medicine, social networks, optimization, and web page design and analysis.

**Course Goals:**

- Understand data mining as a set of analyzing concepts and techniques within different applications.
- Build the required knowledge in many recent areas like fuzzy algorithms, rough sets, genetic algorithms, and neural networks.
- Implement and elaborate different mining algorithms to get the required skills.
- Be an effective member of teamwork through the assigned projects and assignments

**Description :**

Knowledge discovery in databases, Data mining process, Data cleaning and preparation, Mining association rules, Classification, Prediction, Clustering, Web mining, Applications of data mining, Mining advanced databases. The course focuses on two subjects the essential data mining and knowledge representation techniques used to extract intelligence from data and expense and common problems from the fields of finance marketing, and operations/ service that demonstrate the use of the various techniques and the tradeoffs involved in choosing form among them. The area explicitly covered in the course is OLAP, Neural networks, Genetic algorithms, rule induction, fuzzy logic, Case- based reasoning, and rule- bases systems. Recent correlated software packages should be used thrush labs.

**Course outcomes :**

**a.Knowledge and Understanding: :**

1 -	Describe the data mining process as a KDD
2 -	Explain the need and scope of technical indicators for data mining
3 -	Demonstrate Machine Learning techniques
4 -	Identify Data mining tools in different context

**b. Intellectual Skills: :**

1 -	Analyze large data sets
2 -	Integrate Data Mining techniques for supporting user decision
3 -	Select suitable Data mining techniques regarding the context

**c. Professional and Practical Skills: :**

1 -	Handle large data sets using suitable tools
2 -	Design and develop knowledge extraction approach based on Data Mining techniques
3 -	Evaluate performance of Data Mining techniques in different context

**d. General and Transferable Skills: :**

1 -	Work in a team
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**Course Topic And Contents :**

Topic	No. of hours	Lecture	Tutorial / Practical
What is Data Mining? What Motivated Data Mining?	3	2	2
Data processing	3	2	2
Decision Making Systems, Modeling and Support	3	2	2
Decision Support Systems: An overview	3	2	2
Data Warehousing, Access, Analysis, etc	3	2	2
Modeling and Analysis	3	2	2
Decision Support Systems Development	3	2	2
Collaborative Computing Technologies	3	2	2

**Teaching And Learning Methodologies :**

• Lectures
• Exercises
• Lab Work
• Cases

**Course Assessment :**

Methods of assessment	Relative weight %	Week No	Assess What
Assignments	15.00	2	
Class Discussion and Presentation	15.00	3	
Final-term Examination	40.00	15	
Midterm 1	15.00	6	
Midterm 2	15.00	12	

