Arab Academy for Science and Technology and Maritime Transport

Information Systems Curriculum

Course Syllabus

Course Code:	**Course Title:**	**Classification:**	**Coordinator's Name:**	**Credit:**
IS465	Data Mining	**E**	Dr. Mohamed Magdy	3
Pre-requisites:	**Co-requisites:** None	**Schedule:** Lecture 2 hrs. Tutorial/Lab 2/2 hrs.		

Office Hours: (Room 305)
Sunday 12:30 a.m. -2:30 p.m.
Monday 12:30 a.m. -2:30 p.m

Course Description:

Data mining is a rapidly growing field that is concerned with developing techniques to assist managers to make intelligent use of these repositories. A number of successful applications have been reported in areas such as credit rating, fraud detection, database marketing, and customer relationship management. The field of data mining has evolved from the disciplines of statistics and artificial intelligence. This course will examine methods that have emerged from both fields and proven to be of value in recognizing patterns and making predictions from an applications perspective. We will survey applications and provide an opportunity for hands-on experimentation with algorithms for data mining using easy-to- use software and cases.

Textbook:

Jiawei Han, Micheline Kamber, and Jian Pei, Data Mining: Concepts and Techniques, Morgan Kaufmann.

References:

Ramesh Sharda , Dursun Delen, Efraim Turban, Business Intelligence: A Managerial Perspective on Analytics., Prentice Hall.

Course Objective:	
1. Understand data mining basic concepts, applications and techniques.	(SO1)
2. Acquire hands-on experience with key components of data mining 3. Use recent data mining software to create business intelligence solutions to meet real world needs.	(SO2)

Contribution to Program Student Outcomes:

Outcome 1: Analyse a complex computing problem and to apply principles of computing and other relevant

disciplines to identify solutions.

Outcome 2: Design, implement and evaluate a computing-based solution to meet a given set of computing requirements in the context of program's discipline

Course Outline:

1. Introduction
2. What is Data Mining
3. What is Data
4. Data Preprocessing-1
5. Data Preprocessing-2
6. Mining Frequent Patterns, Associations, and Correlations
7. **7th Exam**
8. Classification: Basic Methods
9. Classification: Advanced Methods
10. Cluster Analysis: Basic Concepts and Methods
11. Advanced Cluster Analysis
12. **12th Exam**
13. Text Mining
14. Web Mining
15. Revision
16. **Final Exam**

Grade Distribution:

7th Week Assessment (30%):
Exam (20%) + Assignments 10%

12th Week Assessment (20%):
Exam (15%) + Assignments 5%

Year Work (10%):
Project (10%)

Final Exam (40%)

Policies:

Attendance:
AASTMT Education and Study Regulations (available at aast.edu)

Academic Honesty:
AASTMT Education and Study Regulations (available at aast.edu)

Late Submission:
Late submissions are graded out of 75% (1 week late)