

Branch Name:	Computer Engineering (Software Engineering)
Program Code:	ET203
Course Title:	Data Mining & Data Warehousing
Course Code:	2ET2030206T
Pre-requisite Course:	Fundamentals of DBMS and Computer Programming

Course Objectives: This Course is intended to explore the knowledge gathering from raw data. This course will provide various methodologies and approaches for the same. This course aims to provide various business intelligence and mining tools for the knowledge gathering.

Teaching and Examination Scheme:

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								Total (Marks)
					Theory (Marks)				Practical (Marks)				
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
3	3	-	-	3	24	60	16	40	-	-	-	-	100

Course Contents:

Unit No	Topics	Total Hours	Weightage (%)
1	Introduction to Data Mining: Motivation, what is Data Mining? Data Mining Tasks, Issues in Data Mining, Applications	02	8
2	Data Preprocessing: Types of data, Data Quality, Data preprocessing, Similarity and Dissimilarity Measures	02	8
3	Data Exploration: Data Set & its Statistics, Visualization, OLAP & Multidimensional Data Analysis	04	16
4	Classification: Introduction, Applications, Decision Tree based Algorithms, Model Over-fitting, Performance Evaluation of a Classifier, Comparing Classifiers	04	16
5	Classification: Alternative Techniques: Rule Based Classifier, Nearest Neighbor Classifier, Bayesian Classification, Support Vector Machine	03	13
6	Association Rule Mining: Introduction, Applications, Market-Basket Analysis, Frequent Item sets, Apriori Algorithm, Alternative Methods. Generalized Association Rules, Multilevel Association Rules, Multidimensional Association Rules, Temporal Association Rules, Infrequent Patterns, Constrained Based Association Rules	05	23
7	Clustering: Introduction, Applications, Partitioning Algorithms, Hierarchical Algorithms, Density based Algorithms, Cluster Evaluation	04	16

Text Books / Reference Books :

1. Tan, Pang-Ning and other “Introduction to Data Mining” Pearson Education, 2006.
2. Han J & Kamber M, “Data Mining: Concepts and Techniques”, Elsevier, Second Edition, 2006
3. Dunhum M.H. & Sridhar S. “Data Mining-Introductory and Advanced Topics”, Pearson Education, 2006.

List of Open-Source Software/learning website:

□ . <http://www.cs.waikato.ac.nz/ml/weka/>

Course Learning Outcomes (CLO):

Course Outcomes	Description	Bloom's Taxonomy Level
COL1	Learn data mining tasks like constructing decision trees, finding association rules, classification, and Clustering.	Understanding (2) Applying (3)
COL2	Learn and design the data mining algorithm	Applying (3)
COL3	Provide a holistic view of data mining.	Applying (3)
COL4	Have knowledge of database, statistical, algorithmic and application perspectives of data mining.	Applying (3)

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes(PSOs)			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CLO1	H	M	M		M											
CLO2	H	M			M							L				
CLO3	H	M	M		M											
CLO4	M	M	M		M							L				
CLO5	M	M										L				

H: High, M: Medium, L: Low