

Branch Name:	Management (Business Analytics)
Program Code:	MS301
Course Name:	Data Science: Warehousing & Mining
Course Code:	2MS3010742T
Pre-requisite Course:	Basic of computer application

Course Objectives:

1. To know to derive meaning form huge volume of data and information
2. To work through all stages of a data mining methodology.
3. To enable students to effectively identify sources of data and process it for data mining
4. To make students well versed in all data mining algorithms, methods of evaluation
5. To develop competence in data mining applications

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
4	-	-	4	60	40	-	-	100

Subject Contents:

Sr No.	Topic	Total Hours	Weightage (%)
1	Introduction to Data Mining: Data mining, Text mining, Web mining, Spatial mining, Process mining, BI process- Private and Public intelligence, Strategic assessment of implementing	10	20
2	Data Warehousing: Data warehouse – characteristics and view - OLTP and OLAP - Design and development of data warehouse, Meta data models, Extract/ Transform / Load (ETL) design.	10	20
3	Data Mining Tools, Methods and Techniques: Regression and correlation; Classification- Decision trees; clustering –Neural networks; Market basket analysis- Association rules-Genetic algorithms and link analysis, Support Vector Machine, Ant Colony Optimization	10	20
4	Modern Information Technology & Its Business Opportunities: Business intelligence software, BI on web, Ethical and legal limits, Industrial espionage, modern techniques of crypto analysis, managing and organizing for an effective BI Team	10	20
5	BI and Data Mining Applications Applications in various sectors – Retailing, CRM, Banking, Stock Pricing, Production, Crime, Genetics, Medical, Pharmaceutical field	08	20

Text Books:

Sr. No.	Books
1	Anil Maheshwari, Data Analytics Made Accessible, Kindle edition, 2019
2	Foster Provost & Tom Fawcett, Data Science for Business: What You Need to Know Oreilly books, 2013.

Reference Books:

Sr. No.	Books
1	Jiawei Han, Micheline Kamber and Jian Pei, <i>Data Mining: Concepts and Techniques</i> , 3 rd ed., Morgan Kaufmann Publishers, 2012
2	Ian H.Witten, Eibe Frank and Mark A.Hall, <i>Data Mining: Practical Machine Learning Tools and Techniques</i> (3rd ed.). Morgan Kaufmann, 2011 (ISBN 978-0-12-374856-0)
3	Efraim Turban, Ramesh Sharda, Jay E. Aronson and David King, <i>Business Intelligence</i> , Pearson, 2008.

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Demonstrate an understanding of the importance of data mining and the principles of business intelligence	Apply
CLO2	Appreciate the merits and demerits of various data mining models, tools & techniques	Analyze
CLO3	Design and develop Data warehouses	Create
CLO4	Apply Data mining techniques to match business objectives and add value to the business	Apply
CLO5	Define and apply metrics to measure the performance of various data mining algorithms	Understand and Apply
CLO6	Apply BI to solve practical problems, interpret and visualize the results, and provide decision support	Apply

Mapping of CLOs with Pos & PSOs

Course Learning Outcomes	Program Outcomes (POs)								Program Specific Outcomes (PSOs)	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CLO1	H							M	H	
CLO2	H	H	M						M	
CLO3			H			H			M	H
CLO4		H	H			M			H	H
CLO5		H	H					H	M	
CLO6			M				H	H	M	H

H: High, M: Medium, L: Low
