COURSE TITLE	**FUNDAMENTALS OF BUSINESS ANALYTICS**
COURSE CODE	**04MB1132**
COURSE CREDITS	**3**

Course Outcomes: After completion of this course, student will be able to:

1. Apply the concepts of business analytics to support data-driven decision making across organizational functions.
2. Analyze and interpret data using descriptive statistical techniques and data visualization tools to derive meaningful business insights
3. Develop predictive models using regression analysis, forecasting methods, and simulation techniques to anticipate future business trends.
4. Formulate and solve optimization problems using prescriptive analytics approaches for improved decision outcomes
5. Evaluate the applications of analytics across various domains such as finance, marketing, HR, supply chain, healthcare, and social media.

Pre-requisite of course: Basic knowledge of statistics, MS Excel, and business operations.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	0	0	30	20	50	0

Contents : Unit	Topics	Contact Hours
1	**Introduction to Business Analytics** Foundations of business analytics, role of analytics in decision making, types of analytics – descriptive, predictive, prescriptive, data-driven decision making, business problem identification, scope and relevance of analytics across industries.	9
2	**Descriptive Analytics and Data Visualization** Descriptive statistical measures – location, dispersion, shape, and association, data summarization techniques, use of tables and charts, advanced data visualization tools, building interactive dashboards, identifying patterns and trends in historical data.	9
3	**Predictive Analytics and Forecasting Techniques** Introduction to trend analysis, regression analysis and model building, forecasting methods – time series and causal models, introduction to spreadsheet modeling, Monte Carlo simulation – assumptions and applications, fundamentals of data mining and model evaluation.	9

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Contents : Unit	Topics	Contact Hours
4	**Prescriptive Analytics and Optimization Models** Business scenario planning, simulation model development and analysis, introduction to linear programming and optimization, applications of linear optimization in resource allocation, production planning, and decision analysis.	9
5	**Applications of Business Analytics** Domain-specific analytics applications in finance, marketing, human resource management, supply chain management, healthcare, social media analytics, case-based discussions on real-world analytics projects and best practices	9
Total Hours		**45**

Textbook :

1 Business Analytics- The Science of Data-Driven Decision Making, U Dinesh Kumar, Wiley, -

2 Fundamentals of Business Analytics, R.N.Prasad & Seema, Wiley, -

References:

1 Data Analytics, Data Analytics, Anil Maheshwari, McGraw Hill Education, -

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation

Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking / Creative
0.00	10.00	20.00	30.00	30.00	10.00

Instructional Method:

1 Lectures, case studies, tool-based demonstrations (Excel, Tableau/Python), and data-driven problem-solving exercises.

Supplementary Resources:

1 https://www.coursera.org/specializations/business-analytics

2 https://www.edx.org/professional-certificate/wharton-business-analytics

3 https://online-learning.harvard.edu/course/data-science-r-basics

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