GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Branch: Information Technology

Course / Subject Code: MB02096011

Course / Subject Name: Business Analytics

w. e. f. Academic Year:	2024-2025
Semester:	2
Category of the Course:	Core Course (CC)

Prerequisite:	Undergraduate Level to be cleared, Prior knowledge of SQL, Statistical languages like R, Python and statistical software would be an added advantage.
Rationale:	In recent years, the use of business analytics has become widespread as more and more companies recognize the benefits of leveraging their data. The importance of business analytics in driving growth has led companies across a variety of industries to invest in analytics. Understanding and appreciating the impact data analytics can have on a business is vital. It can help build a strong argument to help move the business forward while encouraging collaboration across each business area, from HR to marketing, management to operations.

Course Outcome:

After Completion of the Course, the Student will able to:

No	Course Outcomes	RBT Level
01	Identify and describe complex business problems in terms of analytical models.	N
02	Apply appropriate analytical methods to find solutions to business problems that achieve stated objectives.	E
03	Translate results of business analytic projects into effective courses of action.	A
04	Communicate technical information to technical and non-technical audiences in speech, writing, and graphics.	C
05	Demonstrate ethical decision-making in structured or unstructured and ambiguous situations thereby exhibiting effective collaborative and leadership skills	U

**Revised Bloom's Taxonomy (RBT)*

Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
				Theory		Tutorial / Practical		
L	T	PR	C	ESE (E)	PA / CA (M)	PA/CA (I)	ESE (V)	
3	1	0	4	70	30	50	0	150

Course Content:

Unit No.	Content	No. of Hours	% of Weightage

1.	**Business Analytics:**
	• Introduction to Business Analytics (BA) – Need.
	• Components (Business Context, Technology, Data Science).
	• Types (Descriptive, Predictive, and Prescriptive).
	• Business Intelligence versus Business Analytics.
	• Transaction Processing v/s Analytic Processing
	  ○ OLTP v/s OLAP
	  ○ OLAP Operations
	Business Intelligence:
	• Definitions and Examples in Business Intelligence
	• Need, Features, and Use of Business Intelligence (BI)
	• BI Components
	  ○ Data Warehouse
	  ○ Business Analytics
	  ○ Business Performance Management
	  ○ User Interface
		10	16%

2.	**Types of Digital Data:** ○ Definition, Sources, Storage, and Characteristics of Structured, Unstructured, and Semi-Structured Data **Data lake:** **Business Reporting, Visual Analytics:** ○ Definition, concepts ○ Different types of charts and graphs ○ Emergence of data visualization and visual analytics	15	22%
3.	**Data Mining:** ○ Concepts and applications ○ Data mining process **Text & Web Analytics:** ○ Text analytics and text mining overview ○ Text mining applications ○ Web mining overview ○ Social media analytics ○ Sentiment analysis overview **Big Data Analytics:** ○ Definition and characteristics of big data	10	17%

	○ Fundamentals of big data analytics		
4.	**Business Performance Management:** ○ Business performance management cycle ○ KPI, Dashboard **Analytics in Business Support Functions:** ○ Sales & Marketing Analytics ○ HR Analytics ○ Financial Analytics ○ Production and operations analytics **Analytics in Industries:** ○ Telecom, Retail, Healthcare, Financial Services	10	17%
5.	**Practical:** Students should select Small & Medium Enterprise and perform an exercise to apply the concepts learned under the domain of Business Analytics. The student has to prepare a report and give a presentation in the class.	15	30%
	Total		**100**

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks (in %)					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
20	15	15	15	15	20

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

References/Suggested Learning Resources:

(a) Books:

1. Ramesh Sharda, Dursun, Delen, Efraim Turban - Business Intelligence: A Managerial Perspective on Analytics Pearson 3rd Edition
2. R.N. Prasad and Seema Acharya - Fundamentals of Business Analytics Wiley 2016
3. U. Dinesh Kumar Business Analytics – The Science of Data-Driven Decision Making, Wiley 2017
4. James R. Evans, Cengage Business Analytics, Pearson, Latest Edition

(b) Open-source software and website:

1. International Journal of Business Analytics
2. International Journal of Business Analytics and Intelligence

3. International Journal on Consumer and Business Analytics
4. Analytics India – Magazine

Suggested Activities/ Project List, if any:

- Students can analyze the customer data of a local business in Gujarat and segment them based on demographic and behavioral factors. They can use basic analytics tools to create customer personas and suggest ways to target each segment effectively.
- Students can create a social media marketing plan for a hobby-related business. They can use basic analytics tools to analyze the target audience, identify popular social media platforms, and create content that resonates with the audience.

CO- PO Mapping:

Semester 2	**Course Name: Business Analytics**				
	POs				
Course Outcomes	PO1	PO2	PO3	PO4	PO5
CO1	3	3	-	-	-
CO2	3	3	2	2	2
CO3	2	3	2	2	3
CO4	1	3	3	3	3
CO5					

*Legend: '**3**' for high, '**2**' for medium, '**1**' for low, and '**-**' for no correlation of each CO with PO.*

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