COURSE NAME:	Business Analytics with AI
TOTAL DURATION:	45 Hrs
MODE OF DELIVERY	PHYSICAL CLASSROOM TRAINING AT RESPECTIVE COLLEGES
TRAINER TO STUDENT RATIO:	1:50
TOTAL MARKS:	75

Table 1	
OVERALL COURSE OBJECTIVE:	1. Critique the roles of business analytics and artificial intelligence (AI) in optimizing data-driven decision-making processes across industries. 2. Evaluate statistical tools, data transformation methods, and AI-driven applications for enhancing productivity and operational efficiency. 3. Develop advanced data visualization dashboards and reports to support strategic decision-making for various stakeholders. 4. Construct AI and Generative AI solutions to automate repetitive business tasks and improve process efficiency. 5. Design industry-specific analytics tools to solve real-world problems, ensuring compliance with data accuracy and regulatory requirements.

LEARNING OUTCOME:	1. Analyze datasets by applying cleaning, transformation, and structuring techniques to prepare data for meaningful analysis. 2. Evaluate data trends, anomalies, and relationships to generate actionable insights and support data-driven decisions. 3. Design advanced visualizations and dashboards that effectively communicate key insights to stakeholders. 4. Construct evidence-based causal models to explain relationships within datasets and support strategic recommendations. 5. Develop compelling narratives and presentations to convey insights and influence decision-making processes.

TABLE 2: MODULE WISE COURSE CONTENT AND OUTCOME				
SL.	**MODULE**	**MODULE CONTENT**	**MODULE**	**DURA**

NO	NAME		LEARNING OUTCOME	TION (HRS)
1	Introduction to Data Analytics	- Comparison of data analysis and analytics - Lab setup for tools and software - Real-world datasets for practice	Differentiate data analysis from data analytics and set up a data lab environment.	6
2	Statistical Tools Using Excel	- Basic and advanced statistical functions - Interpretation of statistical outputs - Automation of reporting	Evaluate statistical tools for deriving actionable insights and automating reporting.	8
3	Data Transformation and Cleansing	- Data extraction methods - Transformation techniques for consistency - Cleansing processes to address inaccuracies	Construct data pipelines for accurate and reliable datasets.	8
4	AI and Generative AI Applications	- Identification of automation opportunities - Implementation of AI tools for task automation - Evaluating AI's impact on productivity	Design AI-powered solutions for improving work productivity and automating repetitive tasks.	10
5	Visualization and Dashboard Design	- Data visualization principles - Dashboard development - Best practices for visual storytelling	Develop interactive dashboards and visualizations to enhance decision-making.	8

TABLE 3: OVERALL COURSE LEARNING OUTCOME ASSESSMENT CRITERIA AND USE CASES

LEARNING OUTCOME	ASSESSMENT CRITERIA	Performance Criteria	USE CASES
Differentiate data analysis from data analytics.	Categorize the applications and methods of data analysis and analytics.	Demonstrates clarity in distinguishing between the two concepts with practical examples.	Use Case 1: Summarize retail sales data using analysis and analytics techniques.
Evaluate statistical tools for business decision-making.	Assess Excel-based statistical methods to derive actionable insights.	Demonstrates proficiency in statistical analysis and effectively applies findings to support decisions.	Use Case 2: Analyze hospital readmissions using statistical tools to determine trends and root causes.
Construct data transformation pipelines for accuracy.	Develop methods for data extraction, transformation, and cleansing to ensure reliability and consistency.	Produces error-free, structured datasets suitable for advanced analysis and reporting.	Use Case 3: Create a customer retention analysis tool to forecast churn risks and design targeted campaigns.
Design AI-powered productivity enhancements.	Propose and implement AI and Generative AI tools for automating repetitive tasks.	Creates innovative AI solutions to improve productivity, with measurable impacts on business operations.	Use Case 4: Build a patient health record dashboard for tracking outcomes across demographics.
Develop interactive dashboards and visualizations.	Create engaging dashboards that align with industry standards and best practices for data storytelling.	Produces visually compelling and actionable dashboards, tailored to stakeholder needs.	Use Case 5: Build an automotive fleet maintenance tracker to optimize schedules and minimize costs.

TABLE 4: LIST OF FINAL PROJECTS (PROJECTS THAT COMPREHENSIVELY COVER ALL THE LEARNING OUTCOME)	
SL.NO	**FINAL PROJECT**

1	A retail outlet has captured region wise, quarter wise, sales details of product for each customer segment. Based on the retail dataset, summarization tables and visualizations provided, list 20 interpretations related to retail sales data.
2	A Hospital in the downtown had recently observed spike in number of readmission of patients. So they approached Business Analytics team to identify the reason behind this. Help them to identify the reason with statistical proof.
3	Customer Retention Analysis Tool. Develop a tool to analyze customer behavior, forecast churn risk, and design targeted campaigns to enhance customer retention and lifetime value.
4	Patient Health Record Dashboard: Develop an interactive tool to manage patient health records, track treatment progress, and identify trends in patient outcomes across different demographics.
5	Automotive Fleet Maintenance Tracker Develop a tool to monitor and manage automotive fleet maintenance schedules, track costs, and optimize vehicle usage.

TABLE 5: COURSE ASSESSMENT RUBRICS (TOTAL MARKS: 75)

ASSESSMENT CRITERIA	Learning Outcome	Fair (1–5)	Good (6–10)	Excellent (11–15)	TOTAL MARKS
Data Analytics Concepts	Differentiate data analysis from data analytics.	Limited differentiation with minimal examples.	Demonstrates a clear understanding with practical applications.	Offers in-depth differentiation using real-world examples and aligns concepts to business use cases.	15
Proficiency in Statistical Tools	Evaluate statistical tools for business decision-	Basic application of tools with minimal actionable	Applies statistical tools effectively; generates	Demonstrates mastery of statistical tools;	15

	making.	insights.	actionable insights with moderate depth.	generates detailed, actionable insights for strategic decisions.	
Data Transformation and Cleansing Skills	Construct data transformation pipelines for accuracy.	Basic transformation techniques with some inaccuracies.	Demonstrates consistent and accurate transformation processes for clean datasets.	Produces highly reliable and optimized data pipelines with advanced transformation techniques.	15
Implementation of AI Solutions	Design AI-powered productivity enhancements.	Limited application of AI with minimal productivity gains.	Implements AI tools effectively, leading to measurable productivity improvements.	Designs innovative AI solutions that significantly enhance productivity and operational efficiency.	15
Dashboard and Visualization Development	Develop interactive dashboards and visualizations.	Basic dashboards with limited interactivity and unclear insights.	Creates functional dashboards with moderate interactivity; aligns insights to business goals.	Produces highly interactive dashboards with advanced visual storytelling, aligned to stakeholder needs.	15