

SEMESTER-II

GANPAT UNIVERSITY									
FACULTY OF MANAGEMENT STUDIES									
Program	MBA		Branch/Spec.		MBA (Business Analytics)				
Semester	II				Version	1.0.0.0			
Effective from Academic Year			2025-26		Effective for the batch Admitted in			June 2025	
Subject code		IIA01AAB		Subject Name		Certificate Course on AI Applications in Business Intelligence and Decision Science			
Teaching scheme					Examination scheme (Marks)				
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	4	0	0		4	Theory			
Hours	4	0	0		4	Practical			
Objective: To equip students with a strategic framework to lead the integration of Artificial Intelligence into business intelligence and decision science, enabling them to translate complex data into actionable insights and drive competitive advantage.									
Course Outcome: CO 1: The students will be able to analyze the strategic landscape of AI and business analytics, explaining the evolution from traditional BI to AI-driven decision science. CO 2: The students will be able to evaluate the application of predictive analytics across core business functions to improve forecasting, understand customer behavior, and mitigate risk. CO 3: The students will be able to analyze how AI can be leveraged for business process automation, operational optimization, and creating personalized customer experiences. CO 4: The students will be able to apply modern BI and AI tools to analyze a business problem, visualize insights in a dashboard, build a conceptual predictive model, and communicate strategic recommendations.									
Theory syllabus									
Unit	Content								Hrs
1	Foundations of AI-Driven Business Intelligence, The Evolution from BI to AI: From Hindsight to Foresight, The Analytics Maturity Curve: Descriptive, Diagnostic, Predictive, Prescriptive, AI & Machine Learning: A Managerial Overview, The Modern Data Ecosystem: Warehouses, Lakes & Lakehouses (Conceptual), The Strategic Imperative: Why AI is a Boardroom Conversation, Data Storytelling: The Foundation of Decision Science, Building the Business Case for AI & Analytics Investments, Case Study: A Company's Journey up the Analytics Maturity Curve								12
2	Predictive Analytics for Business Functions, Customer Analytics:> - Churn Prediction & Customer Lifetime Value (CLV) Forecasting, Marketing & Sales Analytics:> - Lead Scoring, Market Basket Analysis, Campaign Effectiveness, Financial Analytics:> - Fraud Detection & Algorithmic Credit Scoring (Conceptual), Operations & Supply Chain Analytics:> - Demand Forecasting & Predictive Maintenance, HR Analytics:> - Employee Attrition Prediction & Talent Analytics, Model Validation: The Business Leader's Role in "Trusting the Model", Interpreting Predictive Outputs for Strategic Action, Case Study: Implementing a Churn Prediction Model to Improve Retention								12

3	AI for Automation, Optimization, and Future Growth, AI Technologies for Managers: NLP & Computer Vision (Conceptual), Applications of NLP: Sentiment Analysis, Chatbots, Document Summarization, Prescriptive Analytics & Optimization: Dynamic Pricing & Resource Allocation, Personalization at Scale: Recommendation Engines (e.g., Netflix), Robotic Process Automation (RPA) for Business Efficiency, AI in Strategic Planning: Competitive Intelligence, M&A Screening, Future Trends: Generative AI, Digital Twins, Autonomous Systems, Case Study: Using a Recommendation Engine to Increase Cross-Sales	12
4	Hands-On Workshop: Business Intelligence & Data Storytelling, Framing the Business Question for a Dashboard, Data Preparation Best Practices in Spreadsheets, Introduction to Looker Studio: - Connecting Data Sources (Google Sheets, etc.) - Building Core Visualizations: Bar, Line, Pie, Scorecards, Dashboard Design Principles: Layout, Color, Clarity, Creating Interactive Dashboards with Filters & Controls, The Art of Data Storytelling: From Data Points to Narrative, Capstone Project: Build a Sales or Marketing Performance Dashboard	12
5	Hands-On Workshop: Applied AI & Predictive Modeling Concepts, Introduction to Orange Data Mining: A Visual Workflow Approach, Building a Simple Predictive Model (e.g., for Churn or Loan Default): - Loading & Exploring Data - Building a Visual Workflow (e.g., Logistic Regression, Decision Tree) - Interpreting Model Outputs: The Confusion Matrix (Conceptual), Introduction to Generative AI Tools (ChatGPT, Gemini): - The Art of Prompt Engineering for Business Use Cases - Using GenAI for Market Research Summaries, Report Drafting, Marketing Copy, Build & interpret a simple model; use GenAI to draft a summary report	12

Practical content

Reference Books

1.	Provost, F., & Fawcett, T. Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking. O'Reilly Media, 2013.
2.	Davenport, T. H. The AI Advantage: How to Put the Artificial Intelligence Revolution to Work. MIT Press, 2019.
3.	Lee, K. AI Superpowers: China, Silicon Valley, and the New World Order. Houghton Mifflin Harcourt, 2018.
4.	Silver, N. The Signal and the Noise: Why So Many Predictions Fail-but Some Don't. Penguin Books, 2012.
5.	Daugherty, P. R., & Wilson, H. J. Human + Machine: Reimagining Work in the Age of AI. Harvard Business Review Press, 2018.
6.	Berinato, S. Good Charts: The HBR Guide to Making Smarter, More Persuasive Data Visualizations. Harvard Business Review Press, 2016.
7.	Tetlock, P. E., & Gardner, D. Superforecasting: The Art and Science of Prediction. Crown, 2015.
8.	Hammond, J. S., et al. Smart Choices: A Practical Guide to Making Better Decisions. Harvard Business Review Press, 2015.
9.	LaValle, S., et al. Analytics: The New Path to Value. MIT Sloan Management Review, 2010.
10.	Shron, Y. Thinking with Data: How to Turn Information into Insights. O'Reilly Media, 2016.
11.	Grant, A. Think Again: The Power of Knowing What You Don't Know. Viking, 2021.