Module 1: Assignment

Requirement Category	Specific Requirement	Justification
Course Objective	I. Establish a robust foundation in statistical principles and master data visualisation techniques to enhance your analytical skills and make informed decisions (Power BI and Tableau) II. Gain hands-on experience with popular data analysis tools (e.g., Python, R, SQL). III. Master the data analysis lifecycle, encompassing essential steps from data cleaning and preparation to impactful model building and insightful interpretation. By understanding this process, you'll unlock your data's full potential. IV. Learn to apply data analysis techniques to resolve real-world business problems.	To guarantee the course effectively addresses industry demands and equips students with essential practical skills.
Target Audience	I. College students pursuing data science or want to shift to business data analytics fields. II. Working professionals looking to upskill or transition into data analytics roles.	To tailor the course content and delivery to specific needs and backgrounds.
Content of Course	I. Module 1: Introduction to Data Analytics - Understanding Data Analytics: Definition and Importance - Types of Data Analytics: Descriptive, Diagnostic, Predictive, and Prescriptive - Overview of the Data Analytics Process - Tools and Technologies in Data Analytics II. Module 2: Data Collection and Data Preparation - Sources of Data: Primary vs Secondary Data - Data Collection Methods: Surveys, Interviews, and Web Scraping - Data Cleaning Techniques: Handling Missing Values, Outliers, and Duplicates - Introduction to Data Wrangling and Transformation III. Module 3: Data Exploration and Visualization - Exploring Data with Basic Statistics: Mean, Median, Mode, Variance - Data Visualization Principles: Importance and Best Practices - Tools for Data Visualization: Tableau, Power BI, and Matplotlib - Creating Effective Charts and Graphs IV. Module 4: Statistical Analysis - Introduction to Statistical Concepts: Probability, Distributions, and Hypothesis Testing - Key Statistical Tests: T-tests, Chi-square tests, ANOVA - Regression Analysis: Linear and Logistic Regression - Understanding Correlation vs. Causation V. Module 5: Predictive Analytics - Fundamentals of Predictive Analytics - Machine Learning Basics: Supervised vs. Unsupervised Learning - Popular Algorithms: Decision Trees, Random Forests, k-Nearest Neighbors - Model Evaluation Metrics: Accuracy, Precision, Recall, F1 Score VI. Module 6: Data-Driven Decision Making - The Role of Data in Business Decision Making - Case Studies on Successful Data-Driven Strategies - Ethical Considerations in Data Analytics - Communicating Results: Storytelling with Data VII. Module 7: Advanced Topics in Data Analytics - Big Data Technologies: Hadoop, Spark - Introduction to Data Mining Techniques - Text Analytics and Natural Language Processing - Real-Time Data Analytics with Streaming Technologies VIII. Module 8: Capstone Project - Defining a Data Analytics Problem - Conducting Data Analysis: From Data Collection to Visualization - Presentation of Findings and Insights - Peer Review and Feedback.	We aim to develop a comprehensive curriculum that effectively covers critical concepts in data analysis, ensuring students gain the skills they need to succeed.
Course Delivery	I. Self-paced online learning modules and Live instructor-led sessions II. Hands-on exercises and projects III. Mentorship and all support from industry experts.	To effectively meet diverse learning styles and deliver a dynamic and adaptable learning experience.

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Technical Aspects	I. Access to a reliable internet connection II. Basic computer literacy and familiarity with programming concepts.	To empower learners to fully engage with the course materials and tools, enhancing their overall learning experience.
Assessment and Certification	I. Quizzes and assignments to assess understanding II. Final project to demonstrate practical skills. III. Certification upon successful completion of the course.	We aim to effectively evaluate learner's knowledge and skills while granting them a valuable and recognised credential.
Platform and Tools	I. User-friendly learning management system (LMS) II. Cloud-based data analysis tools. III. Video conferencing software (e.g., Cisco Webex, Zoom, Microsoft Teams)	To enable effortless learning and foster productive collaboration.
Marketing and Promotion	I. Social media promotions II. Email marketing and Content marketing (blog posts, webinars) III. Partnerships with universities and industry organisations.	To reach the target audience and generate interest in the course.