Metailearn

American Certified Business Analyst

BUSINESS ANALYTICS FUNDAMENTALS AND PRACTICAL APPLICATIONS

SYLLABUS & CONTENTS

COURSE DURATION: 4-6 MONTHS (16-24 WEEKS)

Certified and Approved by American Board of Education

This course aims to provide participants with a comprehensive understanding of business analytics concepts, tools, and techniques, along with hands-on experience in real-world scenarios. Students will learn how to extract insights from data, make data-driven decisions, and communicate their findings effectively to support business growth and innovation.

- •Understand the fundamental concepts of business analytics and its role in decision-making.

- •Utilize various data analysis techniques to extract meaningful insights from raw data.

- • Apply statistical methods to interpret and validate data patterns.

- • Create data visualizations to effectively communicate analytical results.

- • Apply predictive and prescriptive analytics to make informed business decisions.

- • Develop proficiency in using popular business analytics tools and software.

- • Work on real-world business cases to gain practical experience in analytics.

Module 1: Introduction to Business Analytics

- Understanding the role of business analytics in modern business
- Types of analytics: Descriptive, Predictive, Prescriptive
- Data-driven decision-making process
- Ethical considerations in business analytics

Module 2: Data Collection and Preparation

- Data sources and data types
- Data collection methods and challenges
- Data cleaning, transformation, and preprocessing
- Introduction to databases and SQL for data manipulation

Module 3: Exploratory Data Analysis (EDA)

- Descriptive statistics and data summarization
- Data visualization using tools like matplotlib, seaborn, and Tableau
- Identifying data outliers and anomalies
- Hypothesis testing and A/B testing basics

Module 4: Statistical Analysis and Modeling

- Probability distributions and sampling
- Correlation and regression analysis
- Time series analysis for forecasting
- Introduction to machine learning algorithms (classification, regression, clustering)

Module 5: Predictive Analytics and Machine Learning

- Advanced machine learning techniques
(ensemble methods, dimensionality reduction)
- Model evaluation and validation
- Feature engineering for improved model performance
- Introduction to natural language processing (NLP) and text analytics

Module 6: Prescriptive Analytics and Decision Optimization

- Optimization techniques for decision-making
- Linear and nonlinear programming
- Decision trees and decision analysis
- Application of analytics in supply chain, operations, and resource allocation

Module 7: Data Visualization and Communication

- Principles of effective data visualization
- Creating dashboards using tools like Power BI or Tableau
- Storytelling with data: Communicating insights to non-technical stakeholders

Module 8: Real-world Business Cases and Projects

- Working on industry-relevant business cases
- Applying analytics concepts to solve practical challenges
- Group and individual projects to analyze and present findings

Module 9: Business Ethics and Data Privacy

- Ethical considerations in data handling and analysis
- GDPR and data protection regulations
- Ensuring fairness and transparency in analytics processes

Module 10: Advanced Tools and Emerging Trends

- Introduction to big data analytics
- Utilizing cloud platforms for scalable analytics
- Exploring AI-powered analytics and automation

Practical Sessions with Metailearn:
Throughout the course, participants will have access to Metailearn, an interactive platform that provides real-world datasets and simulations. These sessions will involve hands-on exercises, case studies, and projects that allow students to apply the concepts learned in the course to practical scenarios. Metailearn will provide a virtual environment for experimentation, helping participants build practical skills and confidence in using business analytics tools.
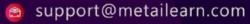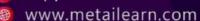
Assessment

- Regular quizzes and assignments to reinforce theoretical concepts.
- Practical projects and case studies to apply analytics techniques.
- Mid-term and final exams to assess comprehensive understanding.

Note: The course syllabus is adaptable and can be customized based on the participants' prior knowledge and specific learning goals. Additionally, guest lectures by industry professionals and networking events can be included to provide real-world insights and networking opportunities for the participants.

100% Placement Support and Interview Grooming

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