

COURSE DESCRIPTIONS OF DEPARTMENTAL SPECIALIZATION COURSES (BBA)

BUSINESS ANALYTICS (BA)

BA 4001: Analytics for Business Professionals

Pre-requisite: BBA 2117

This business analytics course is designated as STEM. This program aims to enhance the quantitative skills and knowledge required to progress in analytics. Information has emerged as a crucial asset in contemporary society, elevating the significance of professionals specializing in business analytics, rendering it one of the most coveted vocations. The acquisition of skills in data analysis enables students to effectively derive insights, spearhead data-oriented initiatives, and generate significant outcomes in corporate settings. Students can use five distinct tracks to enhance their expertise in a particular field: big data, cloud computing and technology consulting, financial technology, marketing analytics, and supply chain analytics.

BA 4002: Technology Adoption Theories and Models

Pre-requisite: BBA 2117

With the increasingly complex and ubiquitous data available through modern technology, Information Science continues to be profoundly influenced by various theories and perspectives developed in the pre-digital age, which focused on how individuals identify their information needs and meet them. This course will explore Technology adoption models (Such as TAM, TPB, TTF, TOE, UTAUT, Diffusion of Innovation) relevant to information systems and information technology studies on the latest technologies such as ERP, AI, Blockchain, RFID, 3D printing, Augmented Reality, Virtual Reality, cloud computing, and other systems implemented in business organizations. The study could assist in analyzing the acceptance and utilization of new technologies. Students of this course will also contribute to improving such models and theories in adopting new technologies.

BA 4003: Visualization and Communication of Business Data

Pre-requisite: BBA 2117

The utilization of business analytics has the potential to reveal concealed insights within data, thereby providing organizations with a strategic edge over their competitors. Numerous enterprises possess substantial amounts of data about their clientele and business activities, necessitating the expertise of proficient analysts to reveal valuable insights and formulate well-informed prognostications. The present module employs the technique of data visualization to investigate and scrutinize data sets of varying magnitudes. Additionally, it acquaints the learner with specific business analytic models that facilitate the process of interpretation and prediction. The course will provide an adequate software platform for data visualization and analytics, encompassing visualization and analysis methods for both categorical and numerical variables. The visualization techniques that will be addressed include Box-and-whisker plots, Mosaics, Rotatable 3D scatter plots, Heat maps, Motion charts, cluster and association charts. The models that will be discussed comprise linear regression models, classification and regression trees, and random forests. The discourse will encompass an examination of techniques utilized in appraising the efficacy of models. Illustrative instances from marketing, finance, economics, and their associated domains shall be incorporated.

BA 4004: Analytics for Sports Management

Pre-requisite: BBA 2117

The course will engage in an academic discourse on the theoretical underpinnings, evolutionary trajectory, and practical implementation of analytics in sports. The curriculum will cover the implementation of analytics in sports concerning various aspects such as in-game tactics, player proficiency, team administration, sports logistics, and fantasy contests, among other areas. The course will comprise didactic sessions and presentations by distinguished speakers from the sports industry and academic circles and culminate in a collaborative project undertaken by the class.

BA 4005: Legal and Ethical Issues in Data Management

Pre-requisite: BBA 2117

This study delves into the legal and ethical frameworks that govern the practice of counseling and psychotherapy, focusing on the regulations and principles that apply to professional counseling. It scrutinizes the contents of these codes and the fundamental values that underpin them.

BA 4006: Analyzing Exploratory Data in Business

Pre-requisite: BBA 2117

The curriculum of this course encompasses fundamental exploratory methodologies aimed at providing a concise representation of data. Preceding the initiation of formal modeling, these methods are commonly employed and can provide valuable insights for constructing intricate statistical models. Using exploratory techniques holds significance in refining or eliminating potential hypotheses concerning the world that can be effectively analyzed through the data. The course will provide a comprehensive overview of the plotting systems in R, along with fundamental principles pertaining to the construction of data graphics. The lectures will overview prevalent multivariate statistical methods employed for data visualization with high dimensionality.

BA 4007: Analytics for Healthcare and Medical Industries

Pre-requisite: BBA 2117

The course has been specifically tailored to cater to the needs of students who aspire to comprehensively understand the methodology involved in analyzing patient data, genomic databases, and electronic health records (EHR). The primary objective of this course is to enhance patient care and optimize the functioning of public and private healthcare systems. This course delves into the notion of clinical intelligence and the significance of analytics in facilitating a knowledge-based healthcare system that relies on data. The objective is to shift the attention from mere data gathering to examining existing data and transforming it into practical insights. The primary subjects of discussion encompass the healthcare system that is driven by value, the evaluation of health system performance, the currently available frameworks for measuring quality and performance (such as HEDIS), the Analytics maturity model (DELTA), the comparison of healthcare delivery, the characteristics of healthcare systems that perform exceptionally well, and the necessary IT infrastructure and human resources required to utilize analytics for the betterment of health. In addition, an examination of open-source and web-based warehousing tools will be conducted to facilitate the practical application of healthcare analytics.

BA 4008: Data and Web Analytics

Pre-requisite: BBA 2117

Web analytics is a crucial component of online marketing that involves examining data to gain insights into user behavior on a website or multiple web pages. This encompasses the processes of monitoring, evaluating, and documenting information to quantify the extent of online engagement. Website analytics enables the monitoring of website traffic, encompassing metrics such as the volume of visitors, duration of their stay, the quantity of pages accessed, and the origin of their arrival, whether through direct access or via a hyperlink. Advanced web analytics are being utilized by businesses to establish a benchmark for their website's performance. Web analytics data can monitor performance indicators such as purchase conversion rates. Web analytics is a valuable tool for conducting market and business research to enhance the effectiveness of business websites and comprehending and quantifying web traffic volume. Web analytics enables businesses to enhance website traffic, customer retention, and revenue per customer.

BA 4009: Financial Analytics

Pre-requisite: BBA 2117

This course is focused on practical application, emphasizing utilizing real-time data for most exercises. The course will review fundamental principles in computational finance, followed by practical application of these concepts utilizing current data. This course aims to provide a comprehensive introduction to the diverse capabilities of the R environment and its computational routines for finance.

BA 4010: Retail Analytics

Pre-requisite: BBA 2117

This course will give students an overview of the diverse research methodologies utilized in consumer, apparel, and retailing. The approach prioritizes the identification and formulation of research inquiries, the establishment of research frameworks, and the implementation of analytical methodologies to tackle said research inquiries. It should be noted that the extent of this course's coverage does not encompass comprehensive statistical analysis methods.

BA 4011: Analytics for Talent Management

Pre-requisite: BBA 2117

Information is gathered throughout the entire talent lifecycle, encompassing various systems such as applicant tracking systems, human resource information systems, learning management platforms, and performance evaluations. What is the reason behind the failure of HR practitioners to effectively utilize and implement this information?

The course will tackle the challenge by providing a two-day, interactive training program. This program equips HR professionals with the terminology, skills, and knowledge to navigate data and analytics proficiently. Students will learn to think analytically, comprehend fundamental statistical techniques, and establish a correlation between talent management initiatives and the consequential business impact.

BA 4012: Seminar (Business Analytics)

Pre-requisite: BBA 2117

The seminar has been specifically tailored to cater to students with a robust understanding of fundamental Business analytics principles and methodologies. The seminar covers various topics, including predictive analytics, prescriptive analytics, data mining, machine learning, and optimization. The seminar's focus may vary depending on the instructor's expertise and research interests. As the final project for the semester, students are mandated to organize a seminar wherein they will extend invitations to industry experts to participate as guest speakers. These experts will be expected to share their experiences and offer valuable perspectives on the latest trends in their respective fields. The academic requirements for students entail reading and analyzing scholarly articles, research papers, and case studies about data analytics. Additionally, students are expected to produce a research article on business analytics to be presented at a conference.

BA 4013: Capstone Project (Business Analytics)

Pre-requisite: BBA 2117

The capstone project module provides an opportunity for students to showcase their acquired knowledge and competencies from preceding modules through the execution of a medium-scale research and development initiative. The students are required to perform various tasks, including identifying project-specific problems, justifying, and outlining the necessary activities to address the identified problems, developing a software-intensive solution, communicating the outcomes to different project stakeholders, and identifying additional required investigations. The outcomes of the conducted investigation ought to possess the characteristics that enable them to serve as the foundation for a scholarly article.

MIS 4002: Database Analysis and Design

Pre-requisite: BBA 3129

The contemporary economy is heavily reliant on digital data. Data plays a crucial role in facilitating transactions, informing managerial decisions, and guiding the development of organizational strategies. Databases are a fundamental mechanism for creating, storing, organizing, and disseminating data. This module provides the essential principles required for proficiently designing and utilizing databases. This course aims to elucidate the concept of data and present modern methodologies and technologies for data storage, retrieval, utilization, and visualization. The focus is on comprehending data modeling and design methodologies and the emerging possibilities of big data, social media, data analytics, and unstructured data. The attention of both commercial and open-source database management tools is centered on the same objective.

MIS 4003: Object Oriented Programming

Pre-requisite: BBA 3129

The course introduces object-oriented programming for individuals possessing a procedural paradigm background. The course commences with a concise overview of statements, flow control, and data types, emphasizing pointers, array processing, and structured data types. The subsequent section of the material presents the paradigm of object-oriented programming, emphasizing the concepts of encapsulation, inheritance, polymorphism, and abstraction. Additionally, the section provides a gradual introduction to the fundamental principles of object-oriented analysis and design. Additional subject matters encompass the development of two-dimensional games utilizing object-oriented programming techniques, a comprehensive survey of programming language principles, and the management of memory.

MIS 4005: Data Warehouse and Data Mining

Pre-requisite: BBA 3129

The course provides an overview of the techniques and principals involved in constructing data warehouses and performing data analysis through data mining, data quality, and the methods and techniques utilized for preprocessing data, conceptualization and construction of data warehouses, study and implementation of algorithms utilized in classification, clustering, and association rule analysis and also the pragmatic application of software in the context of data analysis.

MKT 4003: Social Media and Digital Marketing

Pre-requisite: BBA 3127

The course's primary objective is to give students a comprehensive comprehension of how digital technologies and the emergence of social media are transforming marketing strategies and tactics in diverse industries. The curriculum encompasses acquiring knowledge about marketing principles that hold significance in the digital realm, evaluating exemplary instances of effective marketing strategies, and honing proficiencies in creating, disseminating, and articulating value through using digital marketing instruments and social media channels. The course has supplementary objectives encompassing students' comprehension of contemporary digital marketing and social media patterns and instructing them on integrating digital and traditional marketing strategies. This course expands upon conventional marketing courses and explores digital strategies and tactics through the lens of brand management. The course will comprehensively analyze the digital marketing and social media phenomena, particularly emphasizing critical aspects essential to harnessing social media's potential. These include content management, establishing a strong social media presence, mobile marketing, and viral marketing. The present discourse examines the power shift from brands to consumers, elucidates strategies for engaging consumers via social media, and explores the interrelationship between social media and other digital marketing endeavors.

OSCM 4007: Supply Chain Analytics

Pre-requisite: BBA 3128

Analytics is the science of examining data to develop market insights and draw reasonable business decisions. In the past few years, the use of analytics has become increasingly important in business in general, as well as in supply chain management. This course addresses various concerns in three broad segments: First, the theoretical foundation to build forecasting models that incorporate both the power of predictive analytics and the trends and autocorrelation patterns identified from historical data. Second, using these models on point-of-sale information to build demand forecasts as an aggregation of models across the enterprise. Third, this course discusses using predictive dynamic models for aggregate supply chain planning, local distribution decision-making, and influencing and shaping demand.