Master of Business Intelligence and Analytics

Course Description

603 BIA Scientific Research Methodology and Data Analysis (3 credit hours)

This course aims to introduce the student to the scientific research methodology including defining the research problem, formulating research questions, determining research variables, collecting data, analyzing data using statistical programs, and verifying the validity and reliability of studies and research

design, technical writing, research ethics and presentation. Emphasis is also placed on the basics of quantitative, qualitative, and design research.

630 BIA Business Intelligence (3 credit hours)

This course aims to provide students with a comprehensive and advanced understanding of business intelligence and analysis technology with a focus on the important role these systems play in today's businesses. This course includes the following topics: Levels of analysis and decision-making in organizations, statistical modeling, data visualization and visual analysis, data warehouses, data mining and analysis, textual data mining and analysis, web data mining and analysis, and data analysis

The course includes the following topics: The main concepts of knowledge management in institutions, knowledge sources and networks and social intelligence, the importance and role of knowledge management in achieving competitive advantage by creating, collecting and disseminating the knowledge required for employees to perform their job duties effectively. The course focuses on the effective role of

knowledge management and its impact on the management of the institution and the management of information systems to demonstrate the role and mechanisms of obtaining implicit and explicit knowledge and ways to use it to achieve the strategic goals of institutions. 650BIA Data Visualization for Decision Making (3 credit hours)

This course aims to introduce students to the fundamentals of data visualization and exploration, the art and science of transforming data into visual representations for exploring, understanding, and sharing data with others for decision making. This course covers the following topics: The process of visualizing data, including basic statistical graphs; common representations such as mark clouds, tree maps, and parallel coordinates; pixel-based representations, avatars, charts, and maps. Students will also learn the basic design principles to create effective data visualizations, dashboards, and data stories using popular commercial data visualization platforms, such as Microsoft Power BI and Tableau.

660BIA Data Management and Warehousing for Business Applications (3 credit hours)

This course aims to enable students to apply data management and warehousing in practice. This course covers the following topics:

A practical application using extraction techniques Transformation and Loading (ETL) to integrate business data from different sources (internal and external) into a unified data warehouse suitable for processing and analyzing data and reaching results that are used to improve business decision-making. This course also includes the use of a wide range of databases and transformation programs to process and analyze structured and semi-structured data. 662BIA Information Systems Security and Risk Management (3 credit hours)

This course aims to introduce students to how to deal with information security risks in advanced information structures such as cloud

computing and social networking information security. This course includes the following topics: information security concepts, methods and techniques, encryption basics, managing access rights to systems, risk management, computer network security, database security, and physical security. This course also includes the different types of cyber attacks and malware, the process of identifying tools and programs that can be used to protect information systems and discover and resolve security vulnerabilities, familiarity with the techniques used to hack databases to steal user records, and knowledge of the techniques used to prevent these breaches.

663BIA Business Analytics Programming (3 credit hours)

This course aims to learn how to deal with data, which comes in different shapes and sizes, from the data collection stage to the final data analysis. This course includes The following topics: Introduction to commonly used programming languages such as R or Python, tools for dealing with structured data, crawling web programs, data visualization, data analysis, and text analysis.

BIA 665 Social Media Analytics (3 credit hours)

This course aims to introduce students to the concepts and methods used in social media data mining. The course focuses on providing students with the necessary skills related to how to collect and analyze social media data as well as extract texts from social media platforms, mine these texts, and understand them in order to make effective decisions. This course includes the following topics: methods of collecting social media data, sentiment analysis, topic modeling, social network analysis, and data interpretation.

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670BIA Digital Marketing Analytics (3 credit hours)

This course aims to provide the foundation for applying data analytics to the real-world challenges that marketers face every day. This course provides a detailed and applied perspective on the theory and practice of digital marketing analytics. This course covers the following topics: concepts such as the difference between owned and paid media, predictive modeling for ad targeting and customer relationship management, product penetration measurement and management, product design, native advertising, and channel experience engagement