

## Course Description

### Master of Business Analytics

### Academic Year 2022/2023

<b>36710</b>	<b>Business Data Engineering</b>	<b>Credit Hours: 3</b>
	<p>The course aims to examine the modern data ecosystem and how it relates to running a smart and efficient data hub. It then shows the student how to perform the principal tasks involved in managing, extracting, transforming, and loading (ETL) data. This course will explain the data life cycle in a data science project. In addition, it will cover types of data, such as structured, semi-structured, and unstructured, and the different data formats and techniques used in the ETL process. Also covered are the elementary visualization aspects needed to understand the data. It also takes the student through staging, profiling, cleansing, and migrating data.</p>	
<b>36720</b>	<b>Data Mining for Business Applications</b>	<b>Credit Hours: 3</b>
	<p>The course aims to examine the knowledge of the challenges and techniques in data mining will be investigated for— example, large datasets to find patterns, relations, and other interesting pieces of information. Data mining techniques that will be covered include: (1) Exploring the past by conducting data exploration and analysis and (2) Predicting the future by designing prediction models, namely, Classification, Clustering, and Association Rules. The course will give students the basic ideas and intuition behind modern data mining methods and an increased formal understanding of how, why, and when they work, in addition to the data mining trends and research frontiers.</p>	
<b>36723</b>	<b>Big Data Analytics</b>	<b>Credit Hours: 3</b>
	<p>The course aims to begin with an overview of the Big Data phenomena before concentrating on extracting value from it using predictive analytics approaches. After completing this course, students should be able to understand the Big Data phenomenon, understand the main Big Data tools, the potential use of Big Data in a corporate environment, and the use of predictive analytics on Big Data.</p>	
<b>36731</b>	<b>Digital Business Innovation</b>	<b>Credit Hours: 3</b>
	<p>This course aims to equip students with variant skills in innovation, and it will explore the role of recent technologies in business innovation. This course will focus on the strategic role of digital technologies, digital transformation, digital entrepreneurship and creation of new business models, challenges of digital business innovation, and management and organizational aspects in digital business innovation.</p>	
<b>36733</b>	<b>People Analytics</b>	<b>Credit Hours: 3</b>
	<p>This course aims to show a data-driven approach to people-related decisions and is designed for managers at all levels. More than simply understanding statistical analyses, it is about leveraging data to make better decisions about hiring, managing, and developing the people in organizations. A solid understanding of HR analytics, such as systematic data collection, analysis, and interpretation, is required to improve decision-making for people and organizations. This course introduces the fundamentals and strategic concepts of HR analytics, which uses data-driven metrics and models to measure and improve decisions to attract, manage, and retain employees. It also covers quantitative decision-making techniques such as data-driven recruitment, employee engagement, turnover, reward mechanisms, educational evaluation, and performance management.</p>	

<b>36732</b>	<b>Advanced Topics in Business Analytics</b>	<b>Credit Hours: 3</b>
	This course aims to show the new trends in the business analytics field to keep the students familiar with the recent trends and market demand.	
<b>36721</b>	<b>Business Analytics Applications</b>	<b>Credit Hours: 3</b>
	This course aims to put into consideration one of the essential processes in any organization, regardless of size or industry, to achieve a competitive advantage, survival, and success. This course aims to implement analytics techniques in diverse real-world problems through case studies and applied analytics research projects, covering a comprehensive spectrum of business functions and industries. A data-modeling platform is used for modeling and analysis within the course.	
<b>36701</b>	<b>Foundations of Business Analytics</b>	<b>Credit Hours: 3</b>
	This course aims to introduce Business Analytics (BA). It explains the levels of BA with a focus on descriptive, predictive, and prescriptive analytics. Main concepts such as Business Intelligence (BI), data mining, and data warehousing are discussed during the course, which also introduces some key terms in the field such as dimensional data models, data warehouse architecture and infrastructure, techniques for data integration, online analytical processing (OLAP), data visualization, analytical reporting, and managerial issues of data warehouse implementation. In addition, the course introduces the concept of Big Data and how it can be used to support business decisions.	
<b>36740</b>	<b>Capstone Project</b>	<b>Credit Hours: 3</b>
	This course aims to provide students with a practical experience by drawing on the breadth and depth of the program curriculum. Students are expected to demonstrate an application of integrative knowledge to address an industry-relevant decision-making problem and analyze it. The study plan requires that the student complete this course under the direction and guidance of the instructor, who may enroll the services of an industry expert for advice. Depending on the size and complexity of the problem, one or more students may be assigned to the project. The course's deliverable is a detailed project report describing the analysis of the problem, data collection, model building, results, and conclusion. The project is also presented in front of the discussion committee.	
<b>36722</b>	<b>Process Mining</b>	<b>Credit Hours: 3</b>
	The course aims to introduce the concept of business process mining and explains its major role in improving organizational performance. During the course, students study the data recorded in log files and how they are generated. The course discusses the three main sub-fields of process mining: process discovery, conformance checking, and process enhancement. The course focuses on both theories and practices of process mining in organizations. Using process-mining techniques, students are expected to describe how the business processes are executed and to tell if they are conducted by the compliance requirement. In addition, they are expected to give recommendations regarding business process re-engineering and enhancement.	

35722	<b>Digital and Social Media Analytics</b>	<b>Credit Hours: 3</b>
	<p>The course aims to equip students with knowledge, tools, and methods to maximize the business value of social media data. It covers identifying the correct unstructured data, analyzing it, and interpreting and acting on the gained knowledge. This module further provides students the opportunity to become familiar with contemporary research techniques for data analytics, such as web traffic analysis tools, social network analysis, social media harvesting, and search engine optimization.</p>	
33712	<b>Supply Chain Management Analysis</b>	<b>Credit Hours: 3</b>
	<p>This course aims to provide insight into the role of Supply Chain Management Analysis (SCMA) in linking the functions and business entities responsible for exchanging goods, services, and information to complete the business transaction from supplier's supplier to customer's customer. The course focuses on managing the flow of materials, goods, services, information, and cash via the processes, technologies, and facilities that link primary suppliers to ultimate customers. Attention is given to such managerial concepts as forecasting, production planning, materials planning, purchasing, production, transportation, inventory management, warehousing, packaging, materials handling, and customer service.</p>	
36734	<b>Health Analytics</b>	<b>Credit Hours: 3</b>
	<p>This course aims to define Health analytics as the analysis of healthcare data to get insights and reveal useful patterns in healthcare organizations. In this course, students will apply business analytics techniques to make better decisions in healthcare organizations and simplify the complexity of their business models.</p>	
36712	<b>Advanced Data Analytics using Programming</b>	<b>Credit Hours: 3</b>
	<p>This course aims to prepare students for a role working in data analytics and mining. This course provides students with the underlying principles required to discover and analyze patterns and relationships in structured and unstructured data. Explore, analyze, and leverage data and turn it into valuable, actionable information for analysis. The course will go through some of the foundational math and statistics used in data analysis and workflows for efficient and effective data analytics. It also covers a wide variety of topics that are critical for working in data analytics. Topics include data exploration, classification, hypothesis testing, data cleaning, data visualization, regression methods, prediction approaches, association rules, and clustering analysis. Students will learn how to solve real-life analytics problems using high-level programming languages.</p>	
36711	<b>Advanced Statistical Analysis</b>	<b>Credit Hours: 3</b>
	<p>This course aims to explore visualizing, statistical modeling, and data analysis techniques for aiding managerial decision-making. Topics include introduction to descriptive statistics, sampling methods and sampling distribution, confidence interval estimation, one sample hypothesis tests, one-way and two-way analysis of variance, simple and multiple linear and nonlinear regressions, time series forecasting, and data visualization techniques that detect patterns, trends, and correlations. Finally, an introduction is given to some famous machine learning algorithms, including regression and classification trees. Selected software packages are used to apply the learned theory in practical business cases.</p>	



33774	Research Methodology	Credit Hours: 3
	<p>This course aims to equip the students with the skills to conduct scientific research by introducing them to scientific research methods and providing the basic skills to write scientific research. This includes defining the problem of study and its variables, the research significance, and objectives, the research model and its variables based on the literature review, how to determine the population and sample of the study, data collection and hypotheses writing and testing methods in addition to their analysis and interpretation using statistical methods, writing the conclusions and recommendations and linking them to the literature review, and introducing the students to various documentation methods.</p>	