



Faculty	Business	Academic Department	Management Information Systems/Masters of Business Analytics	Number of the course plan (2021-2022)
Number of major requirement courses	18 credit hours	Date of plan approval	23/8/2021	

This form is just for the Major requirement courses

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0501700	3	Applied Statistical Modelling for Business	
<p>This is a postgraduate advanced course in applied statistical modelling designed to equip students with highly sought after employability skills in data analysis. The course will cover a wide range of statistical models including a revision of introductory statistics, linear regression, logistic regression, multinomial logistic regression, log-linear models, models for rates (Poisson regression), and ordinal logistic regression. Some theory behind the methods will be covered, although the emphasis is on the practical application of these methods using statistical software. In this respect, students will be introduced to the statistical software of their choice as: Stata, SPSS or R.</p>			

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0506711	3	Advanced Business Analytics	
<p>This course aims to provide students with a general introduction to the concepts and principles of data analytics and exploration. It also aims to teach students basic concepts to explore and analyze relationships and knowledge extracted from structured or unstructured data. Review the analysis, data and convert it into useful information to extract knowledge from it. The topics raised are methods of statistical regression analysis, data classification, forecasting methods, relationships between data, data collection, discovery of extreme values, and processing and managing data. Also, this course Introduce the basic concepts and modern technology in giant or big data management including organizing, managing, controlling huge amounts of organized and unstructured data. In addition, this course including storage systems (Hadoop), methods for processing large amounts of data (cartographic data reduction, data compression), database systems (relational database systems), integrating Hadoop with statistical programs such as SAS.</p>			

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0506712	3	Business Intelligence Systems	
<p>This course will examine Business Intelligence (BI) technologies that help a company to improve its business. It discusses BI topics from both managerial and technical perspectives. Managerial perspectives discuss how BI affects the organization's decision-making process, while technical perspectives discuss the foundation for an intelligent system. The course will discuss key issues starting from BI as a process and architecture, Warehousing, Online Analytical Processing, Data Mining, different data mining algorithms such as decision tress, KNN and K-means, Association rules and Neural Networks). Practical exercises and projects will be assigned to enhance students' experience in business intelligent systems.</p>			



Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0506713	3	Big Data for Business	
<p>This block course provides a basic introduction to big data and corresponding quantitative research methods. The objective of the course is to familiarize students with big data analysis as a tool for addressing substantive research questions. The course begins with a basic introduction to big data and discusses what the analysis of these data entails, as well as associated technical, conceptual and ethical challenges. Strength and limitations of big data research are discussed in depth using real-world examples. Students then engage in case study exercises in which small groups of students develop and present a big data concept for a specific real-world case. This includes practical exercises to familiarize students with the format of big data. It also provides a first hands-on experience in handling and analyzing large, complex data structures. The block course is designed as a primer for anyone interested in attaining a basic understanding of what big data analysis entails.</p>			

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0506721	3	Decision Analysis & Modeling	
<p>This course helps students learn to integrate personal judgment and intuition in realistic business situations with the most widely applicable methodologies of decision and risk analysis, probability and statistics, competitive analysis, and management science. Topics include an introduction to decision analysis and modelling; spreadsheet engineering and error reduction; framing decision analysis problems; framework for analyzing risk; data analysis; resource allocation with optimization models; multi-period deterministic models; multi-factor deterministic models; regression modelling; strategic interactive decisions; and interpreting models, data, and decisions.</p>			

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0506722	3	Data Mining for Business Applications	
<p>The course is an advanced course in data mining. The course provides knowledge to address various data science problems and datasets. Focus lies on advanced machine learning techniques for classification, regression, clustering, and anomaly detection, for example decision trees, random forests, neural networks, including Support Vector Machines and Deep Learning, Expectation Maximization (EM), Markov models, and Bayesian networks.</p>			

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0506727	3	Information Resources Management	
<p>This course reviews the theoretical background of Enterprise systems, their principles, tools, and modern practices in their application and use. The course includes the following axes: an introduction to Enterprise systems and their definition, the structure and architecture of these systems, the process of integrating multiple applications in enterprises and their integration in order to achieve the objectives of the enterprise, types of institutional systems or Enterprise systems, including enterprise resources planning systems, customer relationship management systems, supply chain management systems and other systems. The course also includes a review of the life cycle of these systems from development and implementation to use and evaluation.</p>			



Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0506724	3	Advanced Statistical Analysis for Business	
<p>The course presents basic quantitative methods; the main goal is to provide a basic foundation of statistical methods to students with different education backgrounds and work experiences. The sequence of the topics is slightly different than the one presented in standard textbooks; we put more emphasis on inference and regression. The course starts with a brief refresher of college-level calculus and the graphical and quantitative analysis of sample data. Basic probability theory and several models for random variables (discrete uniform, Bernoulli, binomial, and normal) are covered in depth. The sequence concludes with estimation and hypothesis testing, before introducing regression.</p>			

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0506728	3	Practical Project in Business Analysis	
<p>In this course, in line with the Project Management Body Of Knowledge guidelines issued by the Project Management Institute, we introduce the project management life cycle and we compare selected state-of-the-art life cycle models for effective project management, such as traditional, agile and extreme project management. Students will engage in a small sized project and develop hands-on experience of managing a project life cycle. In addition, they will develop team management and leadership skills. In this course, we introduce the project management life cycle and we compare selected state-of-the-art life cycle models for effective project management, such as traditional, agile and extreme project management; we also introduce selected state-of-the-art tools for effective project management, such as PERT and CPM. We also provide an overview of business analysis activities throughout the life of a project such as stakeholder analysis, requirement analysis, risk analysis, business process and data analysis, implementation, validation, deployment and assessment. For these, we introduce a toolbox of selected state-of-the-art business analysis tools such as mind maps, use case diagrams, business process diagrams etc.</p>			

Approved by department council	Dr. Enas Musa Allozi	Date of approval	
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