

ANALYTICS (BNA)

BNA 2003 Principles of Business Analytics (2-2-3)

This course will introduce students to the decision-making tools and activities carried out by managers using data-driven applications on a daily basis. The course exposes students to the basic functionality of the mainstream Spreadsheet and Data driven software applications. Students will work to develop knowledge and understanding of the functionality of the software. They will apply those skills in solving basic problems and make decision using the software tools.

BNA 2103 Business System Analysis (2-2-3)

The course covers the principles and practices of Business System Analysis by providing a comprehensive understanding of the methods, techniques, and tools employed in improving and developing business information systems. It covers the system development life cycle, planning methods for information systems, and how to apply analytical skills in business. Through practical projects, students get hands-on experience with tools and techniques for analyzing, designing, and implementing effective business systems.

BNA 3003 Business Analytics Application (2-2-3)

Introduces business application development and covers fundamentals of object-oriented program development using top-down design; structured programming; debugging, testing and implementation; and elementary data structures. An Object oriented programming language is used as the software tool to learn about the fundamentals of object oriented programming for business applications with link to a front end.

Prerequisites: STS 2003

BNA 3103 Business Intelligence and Knowledge Management (2-2-3)

Focuses on knowledge and value building for the organisation using business intelligence and analytics. As an introductory course it covers a broad range of technologies, applications, and processes for gathering, storing, accessing, and analysing data to help users make new analytical models outside traditional frameworks. Specifically, it covers, knowledge fundamentals and management, business performance management, new models generation as support for decisions and value creation, and others. Hands-on experience is provided through projects that use several technologies and software.

Prerequisites: STS 2003

BNA 3133 Data Management (2-2-3)

Provides a foundation of knowledge needed to work with database management systems and create applications utilizing current development strategies. Examine various types of database techniques with emphasis on relational designs. Design and implement solutions to business-related problems. Facilitates an in-depth study of database design to underpin decision support systems and related knowledge-based technologies. Additional focus is on organizational decision-making and its data, information, and knowledge-based support systems.

Prerequisites: BNA 2103 or BIS 3003

BNA 4023 Big-Data and Advanced Data Mining (2-2-3)

Develop an understanding and skill set towards the handling of big data, data mining and its analysis to infer insights from data pre-processing, clustering, classification, regression, visualisation, feature selection for descriptive and predictive analysis through the use of contemporary software and tools that extend to machine learning for artificial intelligence.

Prerequisites: BNA 3133

BNA 4033 Data Visualisation Techniques and Tools (2-2-3)

Covers advanced techniques for communicating complex business analytics information, as a key element of modern data engineering. Visual, perceptive and cognitive issues relating to the use of data visualisation systems is discussed. Additionally, the influence of visualisation channel and messaging properties such as entropy, information rate and channel capacity is investigated. Frameworks for optimal selection and structured design of visualisation pipeline elements are treated, as well as the design aspects of visualisation schemes for supporting high-end business analytics.

Prerequisites: CIS 2103 or BNA 2003

BNA 4103 Advanced Business Analytics (2-2-3)

Advances students' understanding of how manage and analyse business data to gain competitive advantage. Focus is on expanding student learning to ensure expansion of student experience to cover: i) a wider breadth of analytical software packages ii) the interpretation of outputs, and iii) resulting improvements in decision-making. It includes case studies, projects, and real-world business problems to present students with opportunities to apply business analytics skills and to use business analytics software applications.

Prerequisites: BNA 2103

BNA 4113 Applied Data Analytics and Reporting (2-2-3)

This course covers the fundamentals of data analytics and its applications in business. Students will learn to develop solutions to real-world business problems using data and databases, including unstructured data. They will also develop data modeling skills to solve complex business problems and create data visualizations to communicate insights. The course emphasizes identifying analytics solutions that can be used across the organization. Students will gain the necessary skills to analyze and interpret data, make data-driven decisions, and communicate insights effectively.

Prerequisites: STS 2003, MRK 1103

BNA 4123 Ethics and Security in Analytics (2-2-3)

Provides an in-depth understanding of diverse topics related to Security, Privacy and Ethics in business analytics. The key tools and frameworks available to analysts to examine security infrastructure in a business analytics project and identify the potential ethical issues that may arise. It also includes a range of functions and measures the analyst needs to ensure the security and privacy of proprietary data and the measures necessary for de-identification and privacy safeguards. In addition, strategic issues and concerns pertaining to analytic solutions and data sources are examined

Prerequisites: MGT 3003

BNA 4133 ERP Systems (2-2-3)

This course focuses on the use of Enterprise Resource Planning (ERP) systems in the field of business analytics. Students will analyze the impact of automation on business processes, integrate financial and human capital data, assess the impact of purchase to pay and plan to produce processes, and create effective materials management and order to cash processes within an ERP system. The course will also cover the integration of supply chain management, enterprise asset management, and the automation of business processes for optimized business analytics.

Prerequisites: BIS 3003

BNA 4203 Business Analytics Research Project (2-2-3)

Demonstrating mastery of the program learning outcomes, this capstone final semester course requires the application of in-depth knowledge and research skills gained across the Business Analytics Program to be evidenced in the industry-based project and report. The purpose is to integrate previously taught stand-alone courses in order to identify opportunities for the application and critical review of theory and practice in a business environment.

Prerequisites: STS 3113