

DEREE COLLEGE SYLLABUS FOR: BAN 4950 CAPSTONE PROJECT IN BUSINESS ANALYTICS	
(New course, Fall 2025)	
<b>UK Level: 6</b> <b>UK Credits: 15</b> <b>US CREDITS: 3/0/3</b>	
<b>PREREQUISITES:</b>	CS 1070 Introduction to Information Systems <b>or</b> ITC 1070 Information Technology Fundamentals CS 2179 Business Information Systems <b>or</b> CS 3051 Business Driven Technology MA 2130 Calculus I MA 2021 Applied Statistics MA 2027 Linear Algebra BAN 1023 Introduction to Data Science CS 4252 Visualization and Reporting CS 4267 Applied Business Analytics BAN 4848 Advanced Business Analytics
<b>CATALOG DESCRIPTION:</b>	A culminating experience for Business Analytics majors involving a substantive project that demonstrates a synthesis of learning accumulated in the program, including comprehensive knowledge of the discipline and its methodologies and practices.
<b>RATIONALE:</b>	<p>This is the capstone project of the Business Analytics program, representing the culmination of students' academic journey in the major. The Business Analytics program equips students with a comprehensive skill set that encompasses statistical analysis, data mining, predictive modeling, and business intelligence. Throughout the program, students have gained proficiency in utilizing cutting-edge tools and technologies to extract valuable insights from complex datasets, enabling informed decision-making in diverse business environments.</p> <p>In this capstone project, students will synthesize the knowledge and skills acquired during their coursework, bridging the gap between theory and practical application. The project will serve as a platform for students to demonstrate their proficiency in integrating statistical methodologies, machine learning techniques, and business acumen to address real-world challenges faced by organizations. This integration involves leveraging their understanding of coding, data management, mathematics, and business concepts to formulate innovative solutions that drive business success.</p> <p>The capstone project encourages students to engage in analytical thinking, fostering the development of strategic solutions to complex business problems. By addressing practical issues encountered in the realm of business analytics, students will refine their problem-solving skills and showcase their ability to navigate the dynamic intersection of technology and business. The emphasis on designing IT-enabled business solutions ensures that students not only comprehend the technical aspects of analytics but also appreciate its strategic implications for organizations.</p> <p>Moreover, the capstone project encourages students to propose IT projects, reflecting their capacity to conceptualize and implement solutions that align with organizational objectives. This practical application of knowledge extends beyond theoretical understanding, allowing students to gain hands-on experience in project management and execution. The proposed IT projects will emphasize innovation, efficiency, and the creation of tangible value for businesses.</p>

	<p>In parallel, the capstone project serves as a platform for students to enhance their research methods, promoting originality in thinking and problem-solving. Engaging in independent research activities fosters a deeper understanding of the complexities inherent in the field of business analytics and prepares students for the demands of the rapidly evolving business landscape. This research-oriented approach is not only vital for aspiring business analytics professionals but also for those considering postgraduate studies in the field.</p> <p>The capstone project in Business Analytics is a vital component of the program, serving as a comprehensive assessment of students' analytical, strategic, and research capabilities. Through this culminating experience, students will demonstrate their readiness to contribute meaningfully to the evolving field of business analytics and make informed, data-driven decisions that impact organizational success.</p>										
LEARNING OUTCOME	<p>As a result of taking this module, the student should be able to:</p> <ol style="list-style-type: none"><li>1. Understand the data life cycle</li><li>2. Apply frameworks and methodologies for harnessing data to create value</li><li>3. Evaluate business analytics solutions to measure organizational performance and facilitate decision-making</li><li>4. Present data insights and recommendations to stakeholders</li><li>5. Compose models in support of business strategy.</li></ol>										
METHOD OF TEACHING AND LEARNING:	<p>In congruence with the teaching and learning strategy of the college, the following tools are used:</p> <ul style="list-style-type: none"><li>- Students are assigned an individual supervisor in order to do independent research.</li><li>- Students are expected to manage their time and resources and arrange to meet with their supervisor five (5) times during the term.</li><li>- Office hours: Students are encouraged to make full use of the office hours of their supervisor, where they can discuss their thesis material.</li><li>- Use of Blackboard Learning platform, where supervisors can post research paper instructions, timely announcements, and additional resources.</li><li>- Use of library facilities: Students are encouraged to make use of the library facilities for their research project.</li></ul>										
ASSESSMENT:	<p><b>Summative:</b></p> <table><tr><td>First Assessment - Presentation</td><td>10%</td><td>Individual presentation of the Research Project</td></tr><tr><td>Final Assessment – Research Project</td><td>90%</td><td>Comprehensive research project*</td></tr></table> <p><b>Formative:</b></p> <table><tr><td>Essay-type assignments</td><td>0%</td></tr><tr><td>Coding assignments</td><td>0%</td></tr></table> <p>The formative assessment(s) aims to prepare students for the summative ones. The First Assessment tests Learning Outcomes 1, 2. The Final Assessment tests all Learning Outcomes.</p>	First Assessment - Presentation	10%	Individual presentation of the Research Project	Final Assessment – Research Project	90%	Comprehensive research project*	Essay-type assignments	0%	Coding assignments	0%
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	<p>The Final Assessment tests all learning outcomes of this module, therefore students pass the module if the average module grade is 40% or higher.</p> <p>(Guidelines and assessment rubrics are distributed on the first day of classes along with the course outline)</p>
<b>RECOMMENDED MATERIAL:</b>	Given the independent nature of this module which involves the writing of a research project, no prescribed readings can be given. The reading list is determined by the chosen topic of each student. Secondary literature relevant to the research topic chosen.
<b>COMMUNICATION REQUIREMENTS:</b>	Use of appropriate academic conventions as applicable in oral and written communications.
<b>SOFTWARE REQUIREMENTS:</b>	MS-Office 365 applications, Python 3, MS-SQL, SAS Viya, Qualtrics, MS -Visio.
<b>WWW RESOURCES:</b>	<a href="https://www.tandfonline.com/doi/full/10.1080/10618600.2017.1384734">https://www.tandfonline.com/doi/full/10.1080/10618600.2017.1384734</a> <a href="https://towardsdatascience.com/">https://towardsdatascience.com/</a> <a href="https://www.python.org/">https://www.python.org/</a>
<b>INDICATIVE CONTENT:</b>	As this module is centred on independent learning, the content covered during the project work will depend on the topic chosen by the student.

#### \* Description of the Research Project

The Final Assessment-Research Project in the Business Analytics Major program is a comprehensive endeavor designed to showcase students' proficiency in applying advanced analytical techniques to real-world business challenges. This capstone project provides students with the opportunity to integrate and demonstrate their knowledge and skills acquired throughout the program in a research-driven, practical context.

It includes critical components such as a literature review, methodology, and interpretation of findings, ensuring a holistic approach to problem-solving and decision-making.

Students will be encouraged to choose a research topic in consultation with academic staff.

Depending on the nature of the problem addressed and upon approval of the supervisor, the written component of the Final Assessment-Research Project is expected to be between 4,000 and 5,000 words. This threshold should provide students with the necessary space to conduct a thorough investigation and present their findings clearly and concisely. Throughout the project, students will be challenged to apply their coding skills, statistical knowledge, and business acumen to address a specific business problem or question.