

| DEREE COLLEGE SYLLABUS FOR: CS 4252 VISUALIZATION AND REPORTING |   |   |  |            |  |  |   |     |   |                                   |     |   |
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| (New course Spring 2022)  |   | US CREDITS: 3/0/3   |  |            |  |  |   |     |   |                                   |     |   |
| PREREQUISITES:  | CS 3051 Business Driven Technology<br>or<br>CS 1070 Introduction to Information Systems<br>or<br>ITC 1070 Information Technology Fundamentals<br><br>CS 2179 Business Information Systems   |   |  |            |  |  |   |     |   |                                   |     |   |
| CATALOGUE DESCRIPTION:  | Data exploitation for decision making purposes: Business Intelligence, Business Analytics, Data Visualization, Reporting.   |   |  |            |  |  |   |     |   |                                   |     |   |
| RATIONALE:  | This course focuses on the two main areas of Business Intelligence i.e. Visualization and Reporting which are taught through business case studies. Upon successful completion, students will be able to transform data into intelligence. More specifically, students will use software tools to modify data for analysis, perform data discovery and analysis, and create visual, interactive reports.  |   |  |            |  |  |   |     |   |                                   |     |   |
| LEARNING OUTCOMES:  | As a result of taking this course, the student should be able to:<br><br>1. Demonstrate ability to visualize and report data using appropriate software tools<br>2. Explore data through creation of interactive dashboards, and retrieve insights in support to data interpretation<br>3. Evaluate and explore big data to find patterns, trends and associations.   |   |  |            |  |  |   |     |   |                                   |     |   |
| METHOD OF TEACHING AND LEARNING:                                | In congruence with the learning and teaching strategy of the College, the following tools/activities are used:<br><br>➤ Lectures and class discussions. Laboratory practical sessions and problem solving.<br>➤ Office hours held by the instructor to provide further assistance to students.<br>➤ Use of the Blackboard Learning platform to further support communication, by posting lecture notes, assignment instruction, timely announcements, and online submission of assignments. |   |  |            |  |  |   |     |   |                                   |     |   |
| ASSESSMENT:   | <table><tr><td colspan="3">Summative:</td></tr><tr><td>First Assessment: Midterm Project – Lab Examination</td><td>40%</td><td>Explore and Visualize real world data and answer business questions</td></tr><tr><td>Final Assessment: Lab Examination</td><td>60%</td><td>Explore, visualize and report of real word data and answer business questions</td></tr></table>   |   |  | Summative: |  |  | First Assessment: Midterm Project – Lab Examination | 40% | Explore and Visualize real world data and answer business questions | Final Assessment: Lab Examination | 60% | Explore, visualize and report of real word data and answer business questions |
| Summative:  |   |   |  |            |  |  |   |     |   |                                   |     |   |
| First Assessment: Midterm Project – Lab Examination             | 40%   | Explore and Visualize real world data and answer business questions           |  |            |  |  |   |     |   |                                   |     |   |
| Final Assessment: Lab Examination                               | 60%   | Explore, visualize and report of real word data and answer business questions |  |            |  |  |   |     |   |                                   |     |   |

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|   | <p><b>Formative:</b></p> <table border="1" data-bbox="461 222 1510 262"> <tr> <td data-bbox="461 222 1260 262">Business case problems – team work</td><td data-bbox="1260 222 1510 262"><b>0%</b></td></tr> </table> <p>The First Assessment tests Learning Outcomes 1 and 3.<br/>The Final Assessment tests Learning Outcomes 1, 2 and 3.</p> <p>The final grade for this module will be determined by averaging all summative assessment grades, based on the predetermined weights for each assessment. If students pass the comprehensive assessment that tests all Learning Outcomes for this module and the average grade for the module is 40 or higher, students are not required to resit any failed assessments.</p> <p>(Guidelines and assessment rubrics are distributed on the first day of classes along with the course outline).</p> | Business case problems – team work | <b>0%</b> |
| Business case problems – team work  | <b>0%</b>  |                                    |           |
| <p><b>INDICATIVE READING:</b></p>   | <p><b>REQUIRED READING:</b></p> <p>Ball, Nocole (2020). SAS® Visual Analytics 1 for SAS® Viya®: Basics, SAS Institute Inc.</p> <p>Ball, Nicole (2020). SAS® Visual Analytics 2 for SAS® Viya®: Advanced, SAS Institute Inc.</p> <p>Course notes provided by the instructor.</p> <p><b>RECOMMENDED READING:</b></p> <p>D. Donohoe, E. Costello (2020). Data visualisation literacy in higher education: An exploratory study of understanding of a learning dashboard tool. iJet</p>  |                                    |           |
| <p><b>INDICATIVE MATERIAL:</b><br/>(e.g. audiovisual, digital material, etc.)</p> | <p><b>REQUIRED MATERIAL:</b> N/A</p> <p><b>RECOMMENDED MATERIAL:</b> N/A</p>   |                                    |           |
| <p><b>COMMUNICATION REQUIREMENTS:</b></p>   | <p>Use of appropriate academic conventions as applicable in oral and written communications.</p>   |                                    |           |
| <p><b>SOFTWARE REQUIREMENTS:</b></p>  | <p>SAS Viya for Learners (Cloud based)</p>   |                                    |           |
| <p><b>WWW RESOURCES:</b></p>  | <p><a href="https://www.sas.com/en_us/learn/academic-programs/students.html">https://www.sas.com/en_us/learn/academic-programs/students.html</a></p> <p><a href="https://www.sas.com/en_us/learn/academic-programs/resources/free-sas-e-learning.html">https://www.sas.com/en_us/learn/academic-programs/resources/free-sas-e-learning.html</a></p> <p><a href="http://support.sas.com/documentation/onlinedoc/va/index.html">http://support.sas.com/documentation/onlinedoc/va/index.html</a></p>   |                                    |           |

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| <b>INDICATIVE<br/>CONTENT:</b> | <ol style="list-style-type: none"> <li>1. <b>SAS Visual Analytics 1</b> <ol style="list-style-type: none"> <li>1.1. Preparing Data using SAS Studio</li> <li>1.2. Analysing Data using SAS Visual Analytics</li> <li>1.3. Designing Reports using SAS Visual Analytics</li> </ol> </li> <li>2. <b>SAS Visual Analytics 2</b> <ol style="list-style-type: none"> <li>2.1. Restructuring Data for Geographic Mapping &amp; Forecasting</li> <li>2.2. Restructuring Data for Forecasting</li> <li>2.3. Performing Network Analysis</li> <li>2.4. Performing Path Analysis</li> <li>2.5. Performing Text Analytics</li> <li>2.6. Creating Advanced Data Items</li> <li>2.7. Creating Advanced Filters</li> <li>2.8. Using Parameters to create Advanced Reports</li> </ol> </li> </ol> |
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