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| **Assurance of Student Learning Report**  **2021-2022** | |
| Gordon Ford College of Business | Analytics & Information Systems |
| Business Data Analytics 504# | |
| Assessment Coordinator: Ray Blankenship | |

***Is this an online program***?  Yes  No

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| ***Use this page to list learning outcomes, measurements, and summarize results for your program. Detailed information must be completed in the subsequent pages.*** | | | |
| **Student Learning Outcome 1: Model and computationally analyze business-oriented data** | | | |
| **Instrument 1** | **In-class examinations and projects** | | |
| **Instrument 2** | **Analysis of Capstone Projects / Poster presentations** | | |
| **Instrument 3** |  | | |
| **Based on your results, check whether the program met the goal Student Learning Outcome 1.** | | **Met** | **Not Met** |
| **Student Learning Outcome 2:: Critically identify appropriate data structures to solve business problems** | | | |
| **Instrument 1** | **In-class examinations and projects** | | |
| **Instrument 2** | **Analysis of Capstone Projects / Poster presentations** | | |
| **Instrument 3** |  | | |
| **Based on your results, check whether the program met the goal of Student Learning Outcome 2.** | | **Met** | **Not Met** |
| **Student Learning Outcome 3 Understand how to present and communicate graphical information related to various data analytic models** | | | |
| **Instrument 1** | **In-class examinations and projects** | | |
| **Instrument 2** | **Analysis of Capstone Projects / Poster presentations** | | |
| **Instrument 3** |  | | |
| **Based on your results, check whether the program met the goal Student Learning Outcome 3.** | | **Met** | **Not Met** |
| **Program Summary (Briefly summarize the action and follow up items from your detailed responses on subsequent pages.)** | | | |
| The department met with Ms. Wanda Faulkner in December 2021. Ms. Faulkner has an MA in Business Education and is pursuing a second degree in data analytics. She met with the faculty to discuss the data analytics curriculum and how it could be improved from a student’s perspective. One of the significant points she brought to the department was that there was a lack of coordination between the courses. The department incorporated this feedback when the college began redesigning the entire core curriculum.  A new course was developed for the data analytics program this year which specifically addresses learning outcome one,  **Model and computationally analyze business-oriented data.** The department met twice a month in the spring to redesign the curriculum for every course in the Business Data Analytics program. | | | |

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| **Student Learning Outcome 1** | | | | | | | |
| **Student Learning Outcome** | Describe what specific skills and knowledge graduates of your program are expected to master. | | | | | | |
| **Measurement Instrument 1** | **NOTE: Each student learning outcome should have at least one direct measure of student learning. Indirect measures are not required.**  Be specific and include how the measurement aligns with your learning outcome.  Consider the following list of example sources for DIRECT measures of student learning: written work, presentations, licensure/national board exams, juried performances, oral exams/presentations, capstone course artifact, portfolios, senior exam results, nationally-normed exams or boards, graduate written exams, thesis defense, simulations, e-portfolios, ratings of students by faculty field-experience supervisors. **Please attach any/all rubrics used.**  Consider the following list of example sources for INDIRECT measures of student learning: student surveys, alumni surveys, employer surveys, graduate school placement and success rates, employer internship performance appraisals, written surveys and questionnaires, external examiner, external advisory boards, focus groups, exit interviews. Again, these are not required. | | | | | | |
| **Criteria for Student Success** | Students at the end of the program should be able to create an analytical model to solve a current business problem. | | | | | | |
| **Program Success Target for this Measurement** | | | 90% of the students will be proficient in their ability to analyze data | | **Percent of Program Achieving Target** | 95% | |
| **Methods** | Students were given projects to analyze in the following courses:  CIS 243 Principles of Management Information Systems  BDAN 310 - Business Data Analytics  BDAN 330 - Structured Data Analysis  BDAN 410 - Decision Support Systems Analysis and Design  BDAN 420 - Data Mining  BDAN 430 - Data Visualization and Digital Dashboards  Projects were evaluated by the faculty in BDAN 420. | | | | | | |
| **Measurement Instrument 2** | **Analysis of Capstone Projects / Poster presentations** | | | | | | |
| **Criteria for Student Success** | **Students will develop practical presentations to demonstrate the selection of adequate solutions to specific business problems.** | | | | | | |
| **Program Success Target for this Measurement** | | 90% of the students will be proficient in their ability to present their data analytic findings | | **Percent of Program Achieving Target** | | **95%** | |
| **Methods** | Students presented the analysis of their projects in the following courses:  BDAN 420 - Data Mining  BDAN 430 - Data Visualization and Digital Dashboards  Those summary presentations for BDAN 420 are attached. | | | | | | |
| **Measurement Instrument 3** | Do you have other measures of assessment for SLO 1? If so, please add that here along with all the information below. If not, you may delete this section and move on to **“… whether the program met the goal Student Learning Outcome 1.”** | | | | | | |
| **Criteria for Student Success** |  | | | | | | |
| **Program Success Target for this Measurement** | |  | | **Percent of Program Achieving Target** | |  | |
| **Methods** |  | | | | | | |
| **Based on your results, highlight whether the program met the goal Student Learning Outcome 1.** | | | | | | **Met** | **Not Met** |
| **Actions** (Describe the decision-making process and actions for program improvement. The actions should include a timeline.) | | | | | | | |
| Due to the revision of the core curriculum for the college of business, a new introductory core course was developed for the college and our major. Implementation will be Fall 2022. Each course in the program underwent a revision to incorporate the latest analytic technologies and to integrate the curriculum more tightly. | | | | | | | |
| **Follow-Up** (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.) | | | | | | | |
| The department evaluates all the major and service courses each year for student and market relevance. Examples of changes brought about by these discussions are listed in the “Actions” section. | | | | | | | |
| **Next Assessment Cycle Plan** (Please describe your assessment plan timetable for this outcome) | | | | | | | |
| The college revised its core courses for all majors. The new core course for our department will be evaluated in Fall 2022. The department also created two one hour courses which will be used to evaluate junior and senior level courses.  BDAN 399 Career Readiness in Business Data Analytics will be used to gather feedback from students pertaining to the 200-300 level courses.  BDAN 499 Senior Assessment in Business Data Analytics will be used to assess the 400 level courses and the program. | | | | | | | |

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| **Student Learning Outcome 2** | | | | | | | |
| **Student Learning Outcome** | **Critically identify appropriate data models to solve business problems** | | | | | | |
| **Measurement Instrument 1** | **NOTE: Each student learning outcome should have at least one direct measure of student learning . Indirect measures are not required.** Students were given a final and written project that required them to synthesize their work in the program’s core courses. | | | | | | |
| **Criteria for Student Success** | Students will convert data modeling results into insights that are useful in making decisions. | | | | | | |
| **Program Success Target for this Measurement** | | | 90% | | **Percent of Program Achieving Target** | **95%** | |
| **Methods** | Students were given projects to analyze in the following courses:  CIS 243 Principles of Management Information Systems  BDAN 310 - Business Data Analytics  BDAN 330 - Structured Data Analysis  BDAN 410 - Decision Support Systems Analysis and Design  BDAN 420 - Data Mining  BDAN 430 - Data Visualization and Digital Dashboards  Those summary presentations for BDAN 420 are attached. | | | | | | |
| **Measurement Instrument 2** | Analysis of Capstone Projects / Poster presentations | | | | | | |
| **Criteria for Student Success** | Students will be able to explain their data modeling results and give insights about the interpretation of the data. | | | | | | |
| **Program Success Target for this Measurement** | | **90%** | | **Percent of Program Achieving Target** | | **95%** | |
| **Methods** | Students presented the analysis of their projects in the following courses:  BDAN 420 - Data Mining  Those summary presentations for BDAN 420 are attached. | | | | | | |
| **Measurement Instrument 3** |  | | | | | | |
| **Criteria for Student Success** |  | | | | | | |
| **Program Success Target for this Measurement** | |  | | **Percent of Program Achieving Target** | |  | |
| **Methods** |  | | | | | | |
| **Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2.** | | | | | | **Met** | **Not Met** |
| **Actions** (Describe the decision-making process and actions planned for program improvement. The actions should include a timeline.) | | | | | | | |
| Due to the revision of the core curriculum for the college of business, a new introductory core course was developed for the college and our major (BDAN 250). Implementation will be Fall 2022. Each course in the program underwent a revision to incorporate the latest analytic technologies and to integrate the curriculum more tightly.  Also, BDAN 350, Data Management which had been a course that was only offered occasionally was placed into the curriculum and offered on a regular basis since the topics in this course were deemed more appropriate than BDAN 320, Web Analysis. The BDAN 320 course will no longer be offered on a regular basis and will be offered as a special topics course. | | | | | | | |
| **Follow-Up** (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.) | | | | | | | |
| The department evaluates all the major and service courses each year for student and market relevance. Examples of changes brought about by these discussions are listed in the “Actions” section. | | | | | | | |
| **Next Assessment Cycle Plan** (Please describe your assessment plan timetable for this outcome) | | | | | | | |
| The college revised its core courses for all majors. The new core course for our department will be evaluated in Fall 2022. The department also created two one hour courses which will be used to evaluate junior and senior level courses.  BDAN 399 Career Readiness in Business Data Analytics will be used to gather feedback from students pertaining to the 200-300 level courses.  BDAN 499 Senior Assessment in Business Data Analytics will be used to assess the 400 level courses and the program. | | | | | | | |

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| **Student Learning Outcome 3** | | | | | | | |
| **Student Learning Outcome** | Understand how to present and communicate graphical information related to various data analytic models | | | | | | |
| **Measurement Instrument 1** | Understand how to present and communicate graphical information related to various data analytic models | | | | | | |
| **Criteria for Student Success** | Students will be able to present and explain their results using various analytical tools. | | | | | | |
| **Program Success Target for this Measurement** | | | 90% | | **Percent of Program Achieving Target** | 95% | |
| **Methods** | Students were required to present their research findings in a poster presentation in BDAN 420, Data Mining, and develop data visualization results in BDAN 430, Data Visualization and Digital Dashboards  Attached are the poster presentation topics the students presented in BDAN 420 | | | | | | |
| **Measurement Instrument 2** | Analysis of Capstone Projects / Poster presentations | | | | | | |
| **Criteria for Student Success** | Students will be able to present and explain their model results in a research forum. | | | | | | |
| **Program Success Target for this Measurement** | | **90%** | | **Percent of Program Achieving Target** | | **95%** | |
| **Methods** | Students were required to present their research findings in a poster presentation in BDAN 420, Data Mining and develop data visualization results in BDAN 430, Data Visualization and Digital Dashboards | | | | | | |
| **Measurement Instrument 3** |  | | | | | | |
| **Criteria for Student Success** |  | | | | | | |
| **Program Success Target for this Measurement** | |  | | **Percent of Program Achieving Target** | |  | |
| **Methods** |  | | | | | | |
| **Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 3.** | | | | | | **Met** | **Not Met** |
| **Actions** (Describe the decision-making process and actions for program improvement. The actions should include a timeline.) | | | | | | | |
| Due to the revision of the core curriculum for the college of business, a new introductory core course was developed for the college and our major. Implementation will be Fall 2022. Each course in the program underwent a revision to incorporate the latest analytic technologies and to integrate the curriculum more tightly. | | | | | | | |
| **Follow-Up** (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.) | | | | | | | |
| The department evaluates all the major and service courses each year for student and market relevance. Examples of changes brought about by these discussions are listed in the “Actions” section. | | | | | | | |
| **Next Assessment Cycle Plan** (Please describe your assessment plan timetable for this outcome) | | | | | | | |
| The college revised its core courses for all majors. The new core course for our department will be evaluated in Fall 2022. The department also created two one hour courses which will be used to evaluate junior and senior level courses.  BDAN 399 Career Readiness in Business Data Analytics will be used to gather feedback from students pertaining to the 200-300 level courses.  BDAN 499 Senior Assessment in Business Data Analytics will be used to assess the 400 level courses and the program. | | | | | | | |

**\*\*\* Please include Curriculum Map (below/next page) as part of this document  
*ANALYTICS & INFORMATION SYSTEMS DEPARTMENT ASSURANCE OF LEARNING***

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|  | ***Department Outcome/Goal:*** | ***College Outcome/Goal:*** |
| ***PLO 1:***  *Students will demonstrate the ability to computationally analyze business-oriented data.* | *Upon graduation students will be able to computationally analyze business-oriented data.* | *Upon graduation students will have the business data analytics skills to computationally analyze data for success and leadership in the business community.* |
| ***PLO 2:***  *Students will demonstrate the ability to critically identify appropriate data structures in a business context.* | *Upon graduation students will be able to identify data structures relevant for business opportunities.* | *Upon graduation students will be able to explain how the structure of data impacts business opportunities.* |
| ***PLO 3:***  *Students will demonstrate the ability to interpret graphical information related to various data analytics.* | *Upon graduation students will have the ability to interpret graphical information related to various data analytics.* | *Upon graduation students will be effective at using and understanding visualizations of data for success and leadership in the business community.* |

***Curriculum Map Matrix***

*(Where are PLOs Introduced, Developed, and Mastered)?*

**BDAN 250: Introduction to Analytics (fall 2022)**

**BDAN 305: Principles of MIS with Spreadsheet**

**BDAN 310: Business Data Analytics**

**BDAN 320: Web Analytics   
 BDAN 350: Data Management (fall 2022)**

**BDAN 330: Structured Data Analysis**

**BDAN 410: DSS Analysis and Design**

**BDAN 420: Data Mining**

**BDAN 430: Data Visualization**

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|  | **BDAN  250** | **BDAN**  **305** | **BDAN**  **310** | **BDAN**  **320** | **BDAN**  **330** | **BDAN  350** | **BDAN**  **410** | **BDAN**  **420** | **BDAN**  **430** |
| ***PLO 1:***  *Students will demonstrate the ability to computationally analyze business-oriented data.* | *I,D* | *I,D* | *D* |  |  |  |  | *M* |  |
| ***PLO 2:***  *Students will demonstrate the ability to critically identify appropriate data structures in a business context.* |  |  |  | *I,D* | *I,D* | *I,D* | *M* |  |  |
| ***PLO 3:***  *Students will demonstrate the ability to interpret graphical information related to various data analytics.* | *I* |  | *I,D* |  |  |  |  | *D* | *M* |

*Place an I, D, or M in each cell above to indicate where the program content related to each SLO is introduced (I), developed (D), and/or mastered (M). SLO content may be delivered in more than just six courses as indicated in the above table.*