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| **Assurance of Student Learning Report****2021-2022** |
| Gordon Ford College of Business | Analytics & Information Systems |
| Graduate Data Analytics Certificate 1753# |
| Assessment Coordinator: Ray Blankenship |

***Is this an online program***? [x]  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:**Students will be able to model and computationally analyze business-oriented data |
| **Instrument 1** | **In-class examinations and projects** |
| **Instrument 2** |  |
| **Instrument 3** |  |
| **Based on your results, check whether the program met the goal Student Learning Outcome 1.** | **[x]  Met** | **[ ]  Not Met** |
| **Student Learning Outcome 2:** Students will be able to critically identify appropriate data structures to solve business problems |
| **Instrument 1** | **In-class examinations and projects** |
| **Instrument 2** |  |
| **Instrument 3** |  |
| **Based on your results, check whether the program met the goal of Student Learning Outcome 2.** | **[x]  Met** | **[ ]  Not Met** |
| **Student Learning Outcome 3:**Students will understand how to present and communicate graphical information related to various data analytic models |
| **Instrument 1** | **In-class examinations and projects** |
| **Instrument 2** |  |
| **Instrument 3** |  |
| **Based on your results, check whether the program met the goal Student Learning Outcome 3.** | **[x]  Met** | **[ ]  Not Met** |
| **Program Summary (Briefly summarize the action and follow up items from your detailed responses on subsequent pages.)**  |
| More labs were incorporated into BDAN 519 so students could get more lab experience with Tableau visualization software. |

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| **Student Learning Outcome 1** |
| **Student Learning Outcome**  | Students will be able to model and computationally analyze business-oriented data |
| **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 data sets to analyze and to produce graphical results in the following courses:BDAN 513BDAN 517BDAN 519 |
| **Measurement Instrument 2** |  |
| **Criteria for Student Success** |  |
| **Program Success Target for this Measurement** |  | **Percent of Program Achieving Target** |  |
| **Methods** |  |
| **Measurement Instrument 3** |  |
| **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.** | **[x]  Met** | **[ ]  Not Met** |
| **Actions** (Describe the decision-making process and actions for program improvement. The actions should include a timeline.) |
| More practice labs were incorporated into BDAN 519 so students could get more lab experience with Tableau visualization software. |
| **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 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) |
| BDAN 519 and BDAN 513 will be evaluated in spring 2023. |

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| **Student Learning Outcome 2** |
| **Student Learning Outcome**  | Students will be able to critically identify appropriate data structures 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 be able to use data analytic visualization tools to communicate results from data analysis.  |
| **Program Success Target for this Measurement** | 90%  | **Percent of Program Achieving Target** | **95%** |
| **Methods**  |  Class assignments in BDAN 515 |
| **Measurement Instrument 2** |  |
| **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** |  |
| **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.** | **[x]  Met** | **[ ]  Not Met** |
| **Actions** (Describe the decision-making process and actions planned for program improvement. The actions should include a timeline.) |
| Based on student feedback new teaching material will be developed for BDAN 515. More emphasis will be placed on current NoSQL databases.  |
| **Follow-Up** (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.) |
| The updated material will be used in the second bi-term in fall 2022. |
| **Next Assessment Cycle Plan** (Please describe your assessment plan timetable for this outcome) |
| BDAN 515 will be revauated in spring 2023 |

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| **Student Learning Outcome 3** |
| **Student Learning Outcome**  | Students will understand how to present and communicate graphical information related to various data analytic models |
| **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**  |  In class assignments in BDAN 515 |
| **Measurement Instrument 2** |  |
| **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** |  |
| **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.** | **[x]  Met** | **[ ]  Not Met** |
| **Actions** (Describe the decision-making process and actions planned for program improvement. The actions should include a timeline.) |
| More practice labs were incorporated into BDAN 519 so students could get more lab experience with Tableau visualization software. |
| **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 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) |
| BDAN 519 will be revauated in spring 2023 |

**\*\*\* Please include Curriculum Map (below/next page) as part of this document**

***ANALYTICS & INFORMATION SYSTEMS DEPARTMENT ASSURANCE OF LEARNING***

Program: **Graduate Data Analytics Certificate**

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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 to solve business problems* | *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/ BA 513: Contemporary Business Analytics**

 **BDAN 515: Data Management**

 **BDAN 517: Predictive Analytics**

 **BDAN 519: Visualization and Decision Making**

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|  | **BDAN /BA 513** | **BDAN****515** | **BDAN****517** | **BDAN****519** |
| ***PLO 1:****Students will demonstrate the ability to computationally analyze business-oriented data.* | *I,D* |  |  |  |
| ***PLO 2:*** *Students will demonstrate the ability to critically identify appropriate data structures in a business context.* | *I* | *I,D* | *I,D* |  |
| ***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.*

**Project Updates from BDAN 519**

The first project will receive full credit assuming that the work meets reasonable graduate standards as determined by your professor. Notes may be provided as to how deductions may have been made to assist with future projects.

Use this rubric in guiding your project work for Projects 2 & 3. Additional requirements may be added to the Final Project (4).

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| Colors, easy/difficult to see/understand | -5 |
| Labeling; too many labels, insufficient grouping causing difficulty in understanding | -5 |
| Narratives : weak or incomplete | -10 |
| Charts; requirements not met; use of charts not suited to purpose | -10 |
| Overall project task not achieved (range of deductions depending upon on severity) | -5 to -15 |
| Late post to discussion board area (not posted by 5PM CT Monday after due date) | -10 per day |
| Work doesn't meet minimum graduate-level standards (defined by professor - only used in extreme cases) | -25 |
| Effective story being told | -15 |