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| **Assurance of Student Learning Report****2020-2021** |
| Gordon Ford College of Business | Information Systems |
| Applied Data Analytics Certificate 1734# |
| Assessment Coordinator: Ray Blankenship |

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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.** | **[x]  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 Student Learning Outcome 2.** | **[x]  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.** | **[x]  Met** | **[ ]  Not Met** |
| **Program Summary (Briefly summarize the action and follow up items from your detailed responses on subsequent pages.)**  |
| Based on student performance on graded homework assignments and exams in BDAN 310, Drs Butterfield and Crews refined class assignments and expand class coverage of problematic topics.   This year students were given larger data sets to work with since In the past they did not do well when given larger data sets to work with on exams. Large data sets are defined by an increase in the number of columns or fields. In BDAN 330 the course was redesigned with fewer sandbox labs so students would get more exposure to MySQL Workbench. |

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| **Student Learning Outcome 1** |
| **Student Learning Outcome**  | **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.**Direct measures of student learning. Students were given a final and written project that required them to synthesize their work in the program’s core courses.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** | 90% |
| **Methods**  | Students were given projects to analyze in the following courses:CIS 243 Principles of Management Information SystemsBDAN 310 - Business Data AnalyticsBDAN 330 - Structured Data AnalysisBDAN 410 - Decision Support Systems Analysis and DesignBDAN 420 - Data MiningBDAN 430 - Data Visualization and Digital DashboardsDue to the pandemic, students were assessed via online presentations. Those summary presentations for BDAN 430 are attached. YouTube links are found in the summary presentations. |
| **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 MiningBDAN 430 - Data Visualization and Digital DashboardsDue to the pandemic, students were assessed via online presentations. Those summary presentations for BDAN 430 are attached. YouTube links are found in the summary presentations. |
| **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.** | **[x]  Met** | **[ ]  Not Met** |
| **Actions** (Describe the decision-making process and actions for program improvement. The actions should include a timeline.) |
| – Based on the observations BDAN 310 added a set of large business cases as class assignments. The cases examine a particular business scenario, include a large amount of data, and require the student to determine which data elements are relevant to the problem and how best to analyze them. Several class periods were allocated to working through these cases and learning how to use complex data (i.e., determine what is relevant, clean the data as needed, etc.). These cases were all completed prior to the final examination in the course. The final utilized the same complex data sets as were used in the 2019-2020 sectionsUpdates for BDAN 330 are a reduction in the number of labs in the SQL sandbox so students can transition faster to the MySQL workbench. Also, the final project will be revised for exam integrity and clarification of the steps involved for the project. This will take place during the Summer 2021 and Fall 2021 sessions. |
| **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 is currently revising the core courses for all majors. This will result in curriculum revision for CIS 141 and CIS 243. Revisions will take place in the Fall of 2021. |

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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 SystemsBDAN 310 - Business Data AnalyticsBDAN 330 - Structured Data AnalysisBDAN 410 - Decision Support Systems Analysis and DesignBDAN 420 - Data MiningBDAN 430 - Data Visualization and Digital DashboardsDue to the pandemic, students were assessed via online presentations. Those summary presentations for BDAN 430 are attached. YouTube links are found in the summary presentations. |
| **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 MiningBDAN 430 - Data Visualization and Digital DashboardsDue to the pandemic, students were assessed via online presentations. Those summary presentations for BDAN 430 are attached. YouTube links are found in the summary presentations. |
| **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 the observations BDAN 310 added a set of large business cases as class assignments. The cases examine a particular business scenario, include a large amount of data, and require the student to determine which data elements are relevant to the problem and how best to analyze them. Several class periods were allocated to working through these cases and learning how to use complex data (i.e., determine what is relevant, clean the data as needed, etc.). These cases were all completed prior to the final examination in the course. The final utilized the same complex data sets as were used in the 2019-2020 sections |
| **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) |
| This outcome will be measured again in the Spring of 2022. |