



## Annual Assessment Report 2022-2023

### MS Business Analytics Technology & Operations Management College of Business

#### CONTACT

Name of Program Assessment Lead Jae Min Jung

Name of Person Completing Report Jae Min Jung

#### DISCIPLINARY ACCREDITATION No

#### DEVELOPMENT AND DOCUMENTATION OF STUDENT LEARNING OUTCOMES

How were the program's SLOs developed? (select all that apply)

- We do not have disciplinary accreditation but drew from our disciplinary/professional organizations, and developed our SLOs as a program/department.
- We developed them as a program/department using our own knowledge and expertise of the field.

Other than the [CPP Catalog](#) and the [Office of Assessment and Program Review website](#), where else are your SLOs published? Select all that apply.

- Not currently published

#### ASSESSMENT ACTIVITIES IN 2022-2023

This section provides the opportunity for programs to share and discuss assessment activities conducted in **AY 2022-2023**. This includes data collection, rubric development, data analysis, discussion of findings, development or implementation of closing the loop improvement strategies, update of your assessment plan and/or curriculum matrix, etc.

How many total SLOs does your program assess according to your assessment plan?

- 7

**How many SLOs did your program assess this past year in 2022-2023?**

- My program assessed SLOs in AY 2022-2023 (e.g., artifact collection, scoring, closing the loop, etc.). May also have engaged in assessment planning activities unrelated to specific SLOs (e.g., modified curriculum matrix, assessment plan, etc.).

**Please list the SLOs examined**

- SLO #1: SLO 2a: Students will be able to use different business analytics methodologies and tools to evaluate business problems.
- SLO #2: SLO 2b: Students will be able to select the appropriate business analytics methodologies and tools for the problem at hand.
- SLO #3: Students will be able to evaluate business analytics solutions for various business functional areas' needs.
- SLO #4: SLO 4a: Students will be able to develop change management strategies.
- SLO #5: SLO 4b: Students will be able to demonstrate leadership knowledge and skills in business analytics projects.

**Student Learning Outcome (SLO): SLO 2a: Students will be able to use different business analytics methodologies and tools to evaluate business problems.**

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
<ul style="list-style-type: none"> <li>Created/modified/discussed assessment procedures (e.g., SLOs, curriculum matrix, mechanism to collect student work, rubric, survey, etc.)</li> </ul>		
<ul style="list-style-type: none"> <li>Collected direct evidence (e.g., student work, exam items, etc.)</li> <li>Scored direct evidence of student learning</li> <li>Interpreted and made meaning of findings for direct evidence</li> </ul>	<ul style="list-style-type: none"> <li>Thesis or dissertation (graduate-level only)</li> </ul>	<ul style="list-style-type: none"> <li>Used rubric or scoring guide</li> </ul>

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
<p>A total of 10 projects written report was used to assess SLO 2a, which is composed of three dimensions: (1) Wrangling and Visualization of data, (2) use of Descriptive Analytics, and (3) Use of Predictive Analytics (if applicable for the project).</p>	<p>75% of the students should receive at least 3 (Satisfactory) on a 1 (unacceptable) to 5 (Excellent)-point scale.</p>	<p>Yes, all project reports (n = 10) have received at least 3.0 on a 1 to 5-point scale with an overall mean of 4.0 across three dimensions and evaluators.</p>	<p>Students did a relatively good job in data wrangling and visualization as well as descriptive statistics compared with predictive analytics. While most projects used at least one or two machine learning techniques, the description of the process, interpretation of the outcomes, and use of the insights in determining the next step in the machine learning process are relatively sparse compared with other methods.</p>

**Student Learning Outcome (SLO): SLO 2b: Students will be able to select the appropriate business analytics methodologies and tools for the problem at hand.**

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
<ul style="list-style-type: none"> <li>Created/modified/discussed assessment procedures (e.g., SLOs, curriculum matrix, mechanism to collect student work, rubric, survey, etc.)</li> </ul>		
<ul style="list-style-type: none"> <li>Collected direct evidence (e.g., student work, exam items, etc.)</li> <li>Scored direct evidence of student learning</li> <li>Interpreted and made meaning of findings for direct evidence</li> </ul>	<ul style="list-style-type: none"> <li>Thesis or dissertation (graduate-level only)</li> </ul>	<ul style="list-style-type: none"> <li>Used rubric or scoring guide</li> </ul>

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
<p>A total of 10 projects written report was used to assess SLO 2b, which is composed of two dimensions: (1) Appropriateness of Proposed Method for the Analytics Objectives in hand and (2) Ability to compare and contrast various methods under consideration</p>	<p>75% of the students should receive at least 3 (Satisfactory) on a 1 (unacceptable) to 5 (Excellent)-point scale.</p>	<p>Yes, all project reports (n = 10) have received at least 3.0 with an overall mean of 3.8 across the two dimensions and evaluators.</p>	<p>While overall student performance on this SLO was very good (grand mean = 3.8), there seems to be a significant discrepancy between student performance on the two dimensions, presenting room for improvement. While “Appropriateness of Proposed Methods” received 4.4, “Ability to compare and contrast various methods under consideration” received 3.3. the majority of the group (7 out of 10) received only a 3 (Satisfactory) score.</p>

**Student Learning Outcome (SLO): SLO 3: Students will be able to evaluate business analytics solutions for various business functional areas' needs.**

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
<ul style="list-style-type: none"> <li>Created/modified/discussed assessment procedures (e.g., SLOs, curriculum matrix, mechanism to collect student work, rubric, survey, etc.)</li> </ul>		
<ul style="list-style-type: none"> <li>Collected direct evidence (e.g., student work, exam items, etc.)</li> <li>Scored direct evidence of student learning</li> <li>Interpreted and made meaning of findings for direct evidence</li> </ul>	<ul style="list-style-type: none"> <li>Thesis or dissertation (graduate-level only)</li> </ul>	<ul style="list-style-type: none"> <li>Used rubric or scoring guide</li> </ul>

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
<p>A total of 10 projects written report was used to assess SLO 3, which is composed of a single dimension: Ability to evaluate the appropriateness of analytics solutions in addressing business problems. The dimension was operationalized with (1) interpretation and description of outputs, generated from the analytics methods, (2) discussion of the meaning of output with respect to the business problems the project was intended to address, and (3) accuracy.</p>	<p>75% of the students should receive at least 3 (Satisfactory) on a 1 (unacceptable) to 5 (Excellent)-point scale.</p>	<p>Yes, all project reports (n = 10) have received at least 3.0 with an overall mean of 4.4 across the two evaluators.</p>	<p>The vast majority of the group (9 out of 10) received 4 (Very Good) or 5 (Excellent).</p>

**Student Learning Outcome (SLO): SLO 4a: Students will be able to develop change management strategies.**

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
<ul style="list-style-type: none"> <li>Created/modified/discussed assessment procedures (e.g., SLOs, curriculum matrix, mechanism to collect student work, rubric, survey, etc.)</li> </ul>		
<ul style="list-style-type: none"> <li>Collected direct evidence (e.g., student work, exam items, etc.)</li> <li>Scored direct evidence of student learning</li> <li>Interpreted and made meaning of findings for direct evidence</li> </ul>	<ul style="list-style-type: none"> <li>Thesis or dissertation (graduate-level only)</li> </ul>	<ul style="list-style-type: none"> <li>Used rubric or scoring guide</li> </ul>

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
<p>A total of 10 projects written report was used to assess SLO 4a, which is composed of a single dimension: Ability to develop a change management strategies. The dimension was operationalized with (1) the degree to which students identify important stakeholders in the organization in implementing the said recommendations and (2) the degree to which students discuss how the various stakeholders need to collaborate/coordinate their activities and what resources, responsibilities, and authorities should be given to which stakeholders.</p>	<p>75% of the students should receive at least 3 (Satisfactory) on a 1 (unacceptable) to 5 (Excellent)-point scale.</p>	<p>Yes, all project reports (n = 10) have received at least 3.0 with an overall mean of 3.6 across the two evaluators.</p>	<p>None of the groups received a rating greater than 4.5. The majority of the group (7 out of 10) received 3 (20% of the total) or 3.5 (50% of the total). This suggests room for improvement.</p>

**Student Learning Outcome (SLO): SLO 4b: Students will be able to demonstrate leadership knowledge and skills in business analytics projects.**

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
<ul style="list-style-type: none"> <li>Created/modified/discussed assessment procedures (e.g., SLOs, curriculum matrix, mechanism to collect student work, rubric, survey, etc.)</li> </ul>		
<ul style="list-style-type: none"> <li>Collected direct evidence (e.g., student work, exam items, etc.)</li> <li>Scored direct evidence of student learning</li> <li>Interpreted and made meaning of findings for direct evidence</li> </ul>	<ul style="list-style-type: none"> <li>Thesis or dissertation (graduate-level only)</li> </ul>	<ul style="list-style-type: none"> <li>Used rubric or scoring guide</li> </ul>

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
<p>A total of 10 projects written report was used to assess SLO 4b, which is composed of two dimensions: (1) Leadership Knowledge and Skills in recommended business solutions and (2) Leadership Knowledge and Skills in recommended change management. The first dimension was operationalized with the degree to which students describe and justify the said recommendations for the business problems, drawing on the analytics outputs and solutions. On the other hand, the second dimension was operationalized with the degree to which students describe and justify the recommended change management strategies.</p>	<p>75% of the students should receive at least 3 (Satisfactory) on a 1 (unacceptable) to 5 (Excellent)-point scale.</p>	<p>Yes, all project reports (n = 10) have received at least 3.0 with an overall mean of 3.8 across the two dimensions and two evaluators.</p>	<p>Overall, students seem to have greater leadership knowledge and skills for business solutions (Mean = 4.2) than for change management (Mean = 3.5).</p>

## IMPROVING THROUGH ASSESSMENT

**Overall, what best describes how the program used the results in 2022-2023? Select all that apply.**

- Assessment procedure changes (SLOs, curriculum matrix, rubrics, evidence collected, sampling, communications with faculty, etc.)
- Course-level changes (e.g., syllabus, content, pedagogy)
- Program curricular changes (e.g., course sequencing, changes to required curriculum, added or deleted courses)

**Ideas to improve student learning can come from different constituents. With whom did the program discuss assessment planning and/or share results during AY 2021-2022? Select all that apply.**

- Program/department faculty as whole
- Program/department assessment committee

**The past academic year posed both challenges and opportunities. Please share any assessment discoveries (e.g., insights about assessment procedures, great achievements, etc.) regarding program assessment in 2022-2023 so that others may learn from your experiences.**

To close the gap identified in the previous year, the program initiated a number of changes. First, we allowed both professor-led and student-led projects wherein the latter was allowed only for highly motivated and mature students. Second, we created an MSBA Project Guideline to stipulate responsibilities and deliverables for instructors, students, and faculty project leads throughout the three-semester sequence – GBA 6761, GBA 6762, and GBA 6951. Third, we revised ECOs for all three courses to better align the course contents with the requirements of the project progress. Notably, we increased credit hours from one to two units to GBA 6761 to help students jump-start their projects. We also increased GBA 6762's credit units from two to three and cut GBA 6951 from 3 units to 2 units. The unit changes would not be possible until fall 2023 due to the university approval process. Notwithstanding the unit changes, we decided to go ahead to adopt the planned changes to all related courses as supporting student learning outcomes is paramount. The effort has paid off as the evidence presented suggests 100% of all the articles showed at least 3.0 (satisfactory). However, the data also suggests room for improvement in the following areas: (1) Ability to compare and contrast various methods under consideration, (2) Ability to develop change management strategies, and (3) Leadership knowledge and Skills in recommended change management strategies.

**Please share how the program triangulates various data sources to determine student success. Consider assessment findings, [CPP's GI2025 markers](#), [CSU Dashboard](#), [CPP's Student Success Dashboard on Tableau](#), course evaluations, etc.**

AY 2022-2023 is the second time the program is assessing SLO's. The focus of the assessment was on the rest of the SLO's that were not assessed in the previous year. Thus, this was the first time the program assessed SLO 2a, SLO 2b, SLO3, SLO4a, and SLO4b. All of these SLO's were measured with students' final written report of the culminating projects that started in the fall of 2022 and continued through the spring of 2023 and ended in the summer of 2023. As reported in the previous year's annual assessment report, the program undertook significant structural changes to the culminating experience projects. We expect that AY2023-2024 will be much smoother as the unit changes have been made, allowing instructors of GBA 6761 and GBA 6762 to spend more time.

**Does the program offer a certificate or credential (e.g., teaching credential)?**

- No



The most current assessment plan and curriculum matrix we have on file for your program may be found [here](#). To ensure we have the most updated assessment plan and curriculum matrix for your program, and for posting on our website, please upload the following documents:

**Assessment Plan** - Yes

**Curriculum Matrix** - Yes

If you would like us to review other assessment documents such as your evidence (e.g., assignment, survey, interview questions etc.) or scoring rubric, please upload/provide them. (Select all that apply)

- Evidence
- Rubric