UNIVERSITY OF DETROIT MERCY

Core Curriculum Outcomes Assessment Summary Form

This form is to be completed by a representative from the Core Curriculum Assessment Sub-Committee. The information provided in this form will be used by University of Detroit Mercy to inform stakeholder groups about Detroit Mercy's commitment to the intellectual, spiritual, moral and social development of all undergraduate students as they navigate through the Core Curriculum. A PDF version of this completed form will be posted to the Academic Affairs Assessment website.

1. CORE OUTCOMES INFORMATION

Core Curriculum Area *

- (●) Knowledge Area
- ( ) Integrating Theme

2. Enter the Knowledge Area or Integrating Theme of the Outcomes Assessed:
For example, KA-A1. Oral Communication or Integrating Theme 1 - Reading, Writing, & Research Across The University *

B2. Statistical and Probabilistic Reasoning

3. Form Completion Date: *

4/3/2025

4. Assessment Overview:

Briefly share how the outcome identified above was assessed. Include semester and year, how student artifacts were collected, who performed the assessment, and what assessment tool was used.

The core curriculum B2 Statistical and Probabilistic Reasoning area includes seven learning outcomes consisting of the following: B2.1 Sampling and Estimation, B2.2 Statistical Analyses, B2.3 Graphical and Symbolic Representation, B2.4 Application, B2.5 Evaluate, B2.6 Limitations, and B2.7 Communication. In January 2025, student artifacts were solicited from the 12 full-time and adjunct faculty who taught core approved courses for B2 Statistical and Probabilistic Reasoning in the Fall 2024 academic term. The courses included BIO 2900 (two sections), BUS 3300 (one section), CHM 3870 (one section), MTH 4270 (one section), NUR 4226 (five sections), and STA 2250 (five sections). Faculty members submitted a total of 39 artifacts. Ten faculty (inclusive of the lead facilitator who also submitted artifacts for a course under evaluation) attended a norming and scoring session held in February 2025 to help calibrate/standardize the use of the Core Curriculum Student Learning Outcomes Scoring Rubric for B2 Statistical and Probabilistic Reasoning and to ensure satisfactory inter-rater reliability of scores. Following this session, faculty were paired up to

assess sets of student artifacts and record the rubric scores in the B2 Statistical and Probabilistic Reasoning Excel Scoring Spreadsheet. Eight faculty (inclusive of the lead facilitator) attended a post-scoring follow-up meeting in March 2025 to review all scores on the Excel Scoring Spreadsheet and to (a) discuss the meaning of the scores, (b) identify student strengths and weaknesses as reflected in the mean scores for each outcome dimension across all courses, and (c) brainstorm ways of improving courses and the course evaluation process. The rubric contains the seven aforementioned dimensions that reflect the core outcomes for B2 Statistical and Probabilistic Reasoning. A four-point rating scale was used (1=benchmark, 2 and 3= milestone, 4=capstone) that also included NA for Not Applicable (used when a specific outcome dimension did not apply to the scoring of an artifact) and zero for No Evidence (used when evidence of student attainment of a specific learning outcome was not present in an artifact). Mean rubric scores falling at or near the upper milestone level (i.e., mean rubric score of 3.0) were expected for all dimension areas across all courses evaluated.

5. Results, Planned Actions, and/or Actions Taken

Briefly summarize the assessment results and how they are being used. Include a summary of faculty discourse captured during the norming session, the rubric score and scale, an interpretation of the score, and plans to enhance student learning.

The quantitative results of the scoring can be summarized as follows:

●Overall grand mean score for all seven dimensions and all courses combined = 1.8

●Overall mean scores for each of the seven dimensions for all courses combined--

B2.1 Sampling and Estimation = 1.6
B2.2 Statistical Analyses = 2.4
B2.3 Graphical and Symbolic Representation = 1.7
B2.4 Application = 1.9
B2.5 Evaluate = 2.1
B2.6 Limitations = 1.5
B2.7 Communication = 2.0

●Examination of course level scores revealed that only a couple of courses approached or attained a mean rubric score of 3.0 across all seven outcome dimensions.

It was generally agreed by faculty participants involved in the March 2025 meeting that the quantitative scores fall below expectation and may be seen as reflecting marginal attainment of all seven learning outcomes.

Discussion around the meaning of the scores identified several reasons for the appearance of marginal attainment of outcomes. First, there were problems with many of the submitted artifacts. These problems included (a) a course for which only coversheets but no student work was submitted, (b) courses for which only two artifacts were submitted when three were required, (c) the quality and completeness of some submitted artifacts was difficult to score due to text being cut-off, and (d) for some courses, submitted artifacts did not consist of the same assignments and examinations for all three students. Even for the remaining artifacts that did not demonstrate these problems, it was generally agreed that the initial instructions regarding the types of artifacts to submit to ensure

adequate coverage of all seven learning outcomes were unclear and resulted in considerable confusion for most faculty involved in the evaluation process, thereby contributing to the submission of less-than-representative materials. Second, the mode of delivery of a course (i.e., in-person versus online) was seen has creating some difficulties in the type of artifacts that could be submitted which adequately reflect each of the learning outcomes (e.g., examinations given through online platforms such as Blackboard tend to be restricted in their content because of limitation of the platforms). Third, discipline-specific differences in the content, delivery, and/or assessment of student learning in B2 approved courses were seen contributing to difficulties for faculty scorers being able to fairly and accurately evaluate artifacts from courses outside of their own discipline. Fourth, even though the scoring and norming session was seen as useful in familiarizing scorers with the rubric scoring system, several faculty scorers expressed confusion around the differences between scores of 2 and 3 as both are labelled as "milestone" on the rubric. Fifth and lastly, some faculty indicated that the expectation of a mean score of 3.0 may not be realistic or suitable for B2 core approved courses as these courses are known to present challenges to students due to the difficulty of the subject matter. Consequently, it was reasoned that it may be more appropriate to use a lower mean score threshold (e.g., mean of 2.0) to assess student attainment of learning outcomes. When reflecting upon all of these reasons for the appearance of marginal mean outcome scores, it was generally agreed that neither the scores nor the artifacts themselves can be seen as a sufficient basis on which to make any reliable and accurate inferences about the quality of instruction in any B2 course that was evaluated.

When reviewing the mean outcome dimension scores with the intention of identifying strengths and weaknesses, it was agreed that using an adjusted mean benchmark score of 2.0 would be more suitable because, as noted earlier, B2 courses are generally known to be more difficult for students. With this in mind, the following dimensions were seen as areas of relative strength: B2.2 Statistical Analyses (mean = 2.4), B2.5 Evaluate (mean = 2.1), and B2.7 Communication (mean = 2.0). After some discussion, it was agreed that B2.4 Application (mean = 1.9) could also be considered a relative, though borderline, strength as it closely approached the 2.0 benchmark. In terms of weaknesses, the following dimensions were identified as areas in need of improvement: B2.1 Sampling and Estimation (mean = 1.6), B2.3 Graphical and Symbolic Representation (mean = 1.7), and B2.6 Limitations (mean = 1.5).

Due to the lack in confidence in the artifacts and the validity of the scores, faculty did not agree upon any strategies for how to improve pedagogy to address areas in need of improvement. When considering assessment, it was generally acknowledged that many of the core learning outcomes place emphasis on performative demonstrations of learning (i.e., to provide clear evidence of attainment of a learning outcome, the student needs to actually complete activities where they show the knowledge and skills learned). As such, it was agreed that student assignments and examinations in any B2 approved course should employ a variety of assessment modalities and not just rely on one approach (such as the exclusive use of multiple choice tests). Alternatively, the use of a single summative assignment that intentionally covers all seven learning outcomes in a manner that permits students to demonstrate their learning was seen as an acceptable approach to evaluation.

When discussing the course evaluation process as a whole, there was broad agreement that faculty teaching B2 courses would benefit from greater information, guidance, and support so as to ensure that (a) they are able to submit scorable artifacts that best represent student learning across all seven outcome dimensions, and (b) the scoring rubric is better understood and more effectively utilized to accurately and fairly capture the level of student learning across the outcome dimensions. It was suggested by some faculty that holding a pre-evaluation forum at the beginning of the academic term during which they will be delivering the course that is to be the focus of evaluation may be a useful way of addressing problems with artifact selection and scoring. A related but more general suggestion

is to create a consultative and mentoring support resource for instructors of B2 courses. Named something like the B2 Teaching, Assessment, and Mentoring Support (TAMS) group, this resource could be housed/hosted by the Center for Excellence in Teaching and Learning (CETL) and be populated with all faculty teaching B2 approved courses. The B2 TAMS group could meet on a predictable basis in the fall and winter terms to share ideas on teaching and assessment and provide collegial support for faculty (particularly adjuncts and faculty new to teaching a B2 approved course) to facilitate high quality instruction and evaluation that satisfies both the core learning outcomes as well as any discipline-specific outcomes.