Q-Core Assessment Report

Course: M 151, Precalculus

Semester: Spring 2019

Assessment done by: Jocelyn Short and Jack Dockery

Number of students in course that took the final exam: 169

Description of questions used in the assessment: We evaluated three questions from our spring 2019 final exam assessing the three q-core learning outcomes. Each question was assessed based on the given rubric and scored as an acceptable (A) or unacceptable level (NA).

Leaning Outcome 1: Students were asked to interpret the parameters of a cosine function from the given graph. Students were asked to write the function using the form $y = a\cos\big(k(x - b)\big) + d$.

Learning Outcome 2: Students were given a word problem involving pole lengths. Students were asked to create a sketch of the scenario and calculate the exact length of a pole using any method.

Learning Outcome 3: Students were given a non-right triangle and asked to find a missing angle using geometric and trigonometric concepts.

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Total of 24 students were chosen randomly from four sections.

Learning Outcome 1: Interpret and draw inferences from mathematical or statistical models represented as formulas, graphs, or tables.

- Total number of assignments assessed: 24
- Number of student assignments demonstrating the learning outcome at an acceptable level as defined in the Q-Core Rational and Assessment Plan: 20
- Percent of assignments rated at "acceptable": 83.3%
- Is this over the threshold of 2/3? Yes
- Comments and ideas for better aligning the course or the assignments with the Q-core rational: None.
- Comments and ideas for improving the process of assessment: Although the outcome was over the threshold it would be a better alignment if students were given the option to verbally interpret each parameter.

Learning Outcome 2: Represent mathematical or statistical information numerically and visually.

- Total number of assignments assessed: 24
- Number of student assignments demonstrating the learning outcome at an acceptable level as defined in the Q-Core Rational and Assessment Plan: 45.8%
- Is this over the threshold of 2/3? No
- Comments and ideas for better aligning the course or the assignments with the Q-core rational: This problem is an extension of Learning Outcomes Number 2 and aligns more with our overall

course objectives. This problem is multi-step and requires students to create a visual, use trigonometry, and evaluate their results. Overall students did lower than expected on each aspect of the problem. We agree that content coverage aligns well with learning outcome 2 however we need to improve upon instruction and assessment to obtain higher student success.

- Comments and ideas for improving the process of assessment: Create a question that only assesses Learning Outcome Number 2.

Learning Outcome 3: Employ quantitative methods such as arithmetic, algebra, geometry, or statistical inference to solve problems.

- Total number of assignments assessed: 24
- Number of student assignments demonstrating the learning outcome at an acceptable level as defined in the Q-Core Rational and Assessment Plan: 66.7%
- Is this over the threshold of 2/3? Yes.
- Comments and ideas for better aligning the course or the assignments with the Q-core rational: None.
- Comments and ideas for improving the process of assessment: None.