Program Learning Goal #5: Demonstrate the ability to analyze* complex, unstructured qualitative and quantitative problems using appropriate tools and technology.

Program Learning Outcome #5 – Quantitative: At lest 95% of graduates will be able to correctly identify the approach to take in solving any of a variety of analytical problems typically encountered in business (e.g., scheduling, quality control, production optimization) and then apply the relevant tools and techniques to produce an acceptable solution.

UH Hilo CoBE Complex Quantitative Problem-Solving Rubric

OBJECTIVES	Below Standard	Meets Standard	Exceeds Standard
Descriptions: **Assess descriptions of both raw and derived quantitative data**	Can generally define and differentiate between raw and derived data; still unable to determine appropriateness of descriptions related to different data types and scales.	Competently defines and differentiates between raw and derived data, and adequately assesses the appropriateness of descriptions that pertain to different types or scales of data.	Expertly recognizes and differentiates between raw and derived data, and expertly appraises the appropriateness of descriptions pertaining to different types or scales of data.
Models: **Select and apply the appropriate mathematical, statistical, or graphical model**	Limited ability to recognize, select, and apply appropriate mathematical, statistical, or graphical models for the situation at hand, and limited knowledge and understanding of the range of models available.	Competently selects and applies appropriate mathematical, statistical, or graphical models for the situation at hand, though still becoming familiar with the range of models available.	Expertly and accurately recognizes, selects, and applies appropriate mathematical, statistical, or graphical models for the situation at hand. Quite familiar with models available.
Data Manipulations: **Perform data manipulations, and then organize data graphically, numerically, or functionally (e.g. linearly)**	Limited ability to perform data manipulations and to organize data into graphic, numeric, or functional forms as necessary for the task. Struggles to identify and distinguish between the range of data organization formats available.	Competently performs data manipulations and can generally organize data into graphic, numeric, or functional forms as necessary for the task. Generally can identify and understand the range of data organization formats available.	Expertly performs data manipulations and organizes data into graphic, numeric, or functional forms as necessary for the task. Excels at identifying and understanding the range of data organization formats available.
Interpretation: **Interpret the results of models, including margins of error from statistical data**	Limited ability to interpret quantitative measures and the results of models, including margins of error from statistical data, statistical significance, and descriptive statistics (e.g. mean, median, mode)	Competently interprets quantitative measures and the results of models, including margins of error from statistical data, statistical significance, and descriptive statistics (e.g. mean, median, mode).	Expertly interprets quantitative measures and the results of models, including margins of error from statistical data, statistical significance, and descriptive statistics (e.g. mean, median, mode)

OBJECTIVES	Below Standard	Meets Standard	Exceeds Standard
Problem Solving: **Use graphs to solve problems such as scheduling, organizing information or finding optimal strategies**	Limited ability to identify and apply appropriate graphical formats to solve problems such as scheduling, organizing information, or finding optimal strategies.	Competently identifies and applies appropriate graphical formats to solve problems such as scheduling, organizing information, or finding optimal strategies.	Always identifies and applies the best, most appropriate graphical format to solve problems such as scheduling, organizing information, or finding optimal strategies.
Results: **Describe and explain the processes and results applying quantitative literacy skills.**	Limited ability to describe and explain the processes and results applying quantitative literacy skills; stronger with description rather than explanation.	Competently describes and explains the processes and results applying quantitative literacy skills.	Can expertly describe and explain the processes and results applying quantitative literacy skills.