Aligning Your Assignment Instructions to ILO Quantitative Reasoning Categories

An assignment in your course section is being used to assess undergraduate student work as part of university-wide Institutional Learning Outcomes (ILO) assessment of upper division quantitative reasoning (QR). The use of your assignment for institutional assessment is a valuable contribution to the University's ongoing commitment to continuously improve how we help students improve their quantitative reasoning skills.

The quantitative ILO assessment will use the rubric included below. The rubric was developed, piloted, adopted, implemented, assessed, and revised by CSUEB faculty across disciplines. You may refine your assignment instructions to align to rubric categories for assessment.

Translation of the disciplinary/real-world problem with quantitative data/information into a QR context.

Depiction of quantitative information such as visual and non-visual

: Use of analytical methods.

Description of the meaning of the results obtained from the quantitative analysis in the context of the original problem formulation.

	Example 1: Calculate the mean, median, mode and standard deviation for your dataset. *Example 2: Build a (multi variable) regression model that predicts the variable of interest.*
	Example 1: Interpret the coefficients in your regression analysis in the context of your problem statement. *Example 2: What does the p-value suggest about the relationship between the variables being tested?*
	Example 1: What are some conclusions and implications of your final output to the stakeholder? *Example 2: Based on your chart (or analysis), discuss potential implications of this knowledge to the chosen discipline (or field or department, as appropriate).*
	Example 1: What are the limitations of your analytical approach that could affect the generalizability of your conclusions? *Example 2: What potential limitations should you consider when interpreting these findings?*

CSU East Bay Revised ILO Quantitative Reasoning Rubric *Senate approved 11-17-22 /President approved 2-21-23*

Description: Quantitative Reasoning (QR) is competency in working with numerical data to reason about and/or solve quantitative problems. It involves understanding and applying mathematics/statistics to analyze and interpret real-world quantitative information in a disciplinary context and the ability to clearly communicate them.

	4	**3**	**2**	**1**
Problem Formulation Translation of the disciplinary/real-world problem with quantitative data/information into a QR context (e.g., writing a hypothesis, a math model, quantitative instrumentation).	Formulation of the problem is comprehensive and placed in an appropriate quantitative context.	Formulation of the problem is adequate and placed in an appropriate quantitative context.		

Quantitative Analysis Use of analytical methods (e.g., data analysis, solution technique).	Appropriate and accurate use of analytical methods.	Mostly appropriate and accurate use of analytical methods.	Somewhat appropriate and/or somewhat accurate use of analytical methods.	Inappropriate and inaccurate use of analytical methods.
Interpretation Description of the meaning of the results obtained from the quantitative analysis in the context of the original problem formulation	Appropriate and comprehensive explanation of the results and context.	Mostly appropriate explanation of the		