# CSUB Quantitative Reasoning Reinforcement Rubric

| | Exceeds Expectations | Meets Expectations | Approaching Expectations | Below Expectations |
|---|---|---|---|---|
| **Calculation/Estimation** | Calculations and estimations attempted are essentially all successful and sufficiently comprehensive to solve the problem. Calculations are also presented elegantly (clearly, concisely, etc.) | Calculations and estimations attempted are essentially all successful and sufficiently comprehensive to solve the problem. | Calculations and estimations attempted are either unsuccessful or represent only a portion of the calculations required to comprehensively solve the problem. | Calculations and estimations are attempted but are both unsuccessful and are not comprehensive. |
| **Representation**<br>*Ability to convert relevant information into various mathematical forms (e.g., equations, graphs, diagrams, tables, words)* | Skillfully converts relevant information into an insightful mathematical portrayal in a way that contributes to a further or deeper understanding. | Competently converts relevant information into an appropriate and desired mathematical portrayal. | Completes conversion of information but resulting mathematical portrayal is only partially appropriate or accurate. | Completes conversion of information but resulting mathematical portrayal is inappropriate or inaccurate. |
| **Interpretation**<br>*Ability to explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words)* | Provides accurate explanations of information presented in mathematical forms. Makes appropriate inferences based on that information. *For example, accurately explains the trend data shown in a graph and makes reasonable predictions regarding what the data suggest about future events.* | Provides accurate explanations of information presented in mathematical forms. *For instance, accurately explains the trend data shown in a graph.* | Provides somewhat accurate explanations of information presented in mathematical forms, but occasionally makes minor errors related to computations or units. *For instance, accurately explains trend data shown in a graph, but may miscalculate the slope of the trend line.* | Attempts to explain information presented in mathematical forms, but draws incorrect conclusions about what the information means. *For example, attempts to explain the trend data shown in a graph, but will frequently misinterpret the nature of that trend, perhaps by confusing positive and negative trends.* |
| **Application / Analysis**<br>*Ability to make judgments and draw appropriate conclusions based on the quantitative analysis of data, while recognizing the limits of this analysis* | Uses the quantitative analysis of data as the basis for deep and thoughtful judgments, drawing insightful, carefully qualified conclusions from this work. | Uses the quantitative analysis of data as the basis for competent judgments, drawing reasonable and appropriately qualified conclusions from this work. | Uses the quantitative analysis of data as the basis for workmanlike (without inspiration or nuance, ordinary) judgments, drawing plausible conclusions from this work. | Uses the quantitative analysis of data as the basis for tentative, basic judgments, although is hesitant or uncertain about drawing conclusions from this work. |

This rubric adapts portions of the QUANTITATIVE LITERACY VALUE RUBRIC of the AACU to match the student learning outcomes of quantitative reasoning reinforcement in the AIMS program at CSUB.