**ISLO 5 Quantitative Literacy:**

**Students will demonstrate quantitative literacy.**

**Definition**

**Quantitative literacy comprises the ability to appropriately extract, interpret, evaluate, construct, communicate, and apply quantitative information and methods to solve problems, evaluate claims, and support decisions in students’ everyday professional, civic, and personal lives.**

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| **Performance**  **Criteria** | **High Proficiency (4)**  **The work meets listed requirements for this criterion; little to no development needed** | **Proficiency (3)**  **The work meets most requirements; minor development would improve the work** | **Some Proficiency (2)**  **The work needs moderate development in multiple requirements** | **Limited Proficiency (1)**  **The work does not meet this criterion; it needs substantial development in most requirements** |
| **Calculate** | Perform challenging computations and sequences of computations, knowing the tools needed. | Perform longer and more complicated computations, or solve problems involving sequences of linked computations selecting from a list of possible tools. | Correctly perform short single computations with tools provided. | Unable to correctly perform computations even when tools are provided. |
| **Interpret** | Give holistic interpretations of methods, tools used, and results, with little to no instructor prompting or guidance. | In response to broad instructor prompting, interpret equations or expressions in a general sense, interpret overall patterns and trends in graphical information. When appropriate, interpret differences in computational results. | When prompted, identify specific parts of equations or expressions, interpret specific data points on graphs, interpret results of computations literally. | Unable to correctly interpret results of computations, equations, expressions or graphs. |
| **Construct Representations** | Construct appropriate, complex, and clearly labeled analytical and/or graphical models with little to no instructor prompting or guidance. | Construct analytical and/or graphical models of mathematical relationships in response to broad instructor prompting. | Construct graphical models of information in response to specific instructor prompting. | Unable to correctly construct graphical models of information in response to specific instructor prompting. |
| **Apply in Context** | Solve relevant complex, multifaceted problems, with little to no instructor prompting, or guidance. Acknowledge and justify assumptions used in solving problem(s). | Choose correct formulas, set up correct equations (or systems of equations), and/or choose correct frameworks to solve problems in response to broad instructor prompting. Acknowledge assumptions used in solving problem(s). | Can set up and solve applied problems (i.e. word problems) when provided specific formulas or frameworks. | Unable to apply given formulas or frameworks to set up or solve applied problems. |
| **Communicate** | Accurately integrate quantitative evidence into complex arguments with little to no prompting or guidance. Quantitative evidence is conveyed and explained in such a way that a competent non-expert reader can follow along. | Accurately integrate quantitative evidence into an extended argument in response to a broad prompt. While instructor provides guidance, student uses quantitative evidence to identify, explain, and/or solve a problem. Quantitative evidence is conveyed and explained in such a way that a competent non-expert reader can follow along. | Accurately integrate quantitative evidence into basic arguments in response to specific prompts. Quantitative evidence is conveyed and explained in such a way that a competent non-expert reader can follow along. | Unable to explain quantitative evidence so that a competent non-expert reader can follow along, and/or unable to accurately include quantitative evidence in writing in response to specific prompts. |