

**RUBRIC: QUANTITATIVE LITERACY<sup>1</sup>**

<b>Learning Outcome:</b> Students will be able to reliably perform mathematical operations at the college level; understand and evaluate quantitative information; Students will be able to apply mathematical concepts and techniques in practical situations, to solve problems.				
<b>Competencies</b>	<b>Advanced 4</b>	<b>Proficient 3</b>	<b>Developing 2</b>	<b>Beginning 1</b>
<b>Interpretation</b> <i>Ability to explain information presented in mathematical form (e.g. equations, graphs, diagrams)</i>	Skillfully explains information presented in mathematical form (e.g. equations, graphs, diagrams, tables). Consistently provides clear explanation with no errors.	Competently explains information presented in mathematical form (e.g. equations, graphs, diagrams).	Developing the ability to explain information presented in mathematical form (e.g. equations, graphs, diagrams). Sometimes makes errors or gives unclear explanation.	Attempts to explain information in mathematical form (e.g. equations, graphs, diagrams), but has trouble doing so correctly. Frequently makes errors or gives unclear explanation.
<b>Representation</b> <i>Ability to convert relevant information into various mathematical forms (e.g. equations, graphs, or diagrams)</i>	Consistently demonstrates fluency in converting relevant information into mathematical forms (e.g. equations, graphs or diagrams, tables). Reliably chooses the best form for the problem at hand.	Generally able to convert relevant information into various mathematical forms (e.g. equations, graphs, diagrams)	Developing the ability to convert relevant information into mathematical form (e.g. equations, graphs, diagrams). Sometimes makes errors or uses forms that are not the best for the problem at hand.	Attempts to identify relevant information, but has difficulty converting it into mathematical form (e.g. equations, graphs, diagrams). Frequently makes errors or uses forms that are not the best for the problem at hand

<sup>1</sup> Based on AAC&U Value Rubrics

Learning Assessment & Evaluation

Calculation	Successfully complete all calculations for the task at hand with consistency.	Successfully complete most calculations for the task at hand.	Ability to complete successfully calculations for the task at hand is limited. Perhaps the students can do a few of these calculations very well, but others are inconsistently completed and still others cannot be completed at all.	Attempts to complete calculations for the task at hand are rarely and inconsistently successful.
Application/Analysis <i>Ability to make judgment based on quantitative analysis of data</i>	Makes informed judgment based on quantitative analysis data. Consistently draws appropriate conclusions from the data and recognizes the limits of analysis used.	Makes informed judgments base on quantitative analysis of data.	Makes judgments based on quantitative analysis of data. Sometimes makes errors or draws unwarranted conclusions.	Attempts to make judgments based on quantitative analysis or data. Frequently makes errors or draws unwarranted conclusion.
Estimation/reasonableness checks <i>Reality check</i>	Consistently checks calculated answers for reasonableness; makes good assumptions for estimation problems that involve unknown quantities; performs reality checks on numbers reported by others, as appropriate	Often checks calculated answers for reasonableness; Makes good assumptions for estimation problems that involve unknown quantities; performs reality checks on numbers reported by others as appropriate.	Sometimes checks calculated answers for reasonableness; confident about making estimates that require assumptions about unknown quantities; performs reality checks on numbers reported by others, as appropriate.	Rarely checks answers for reasonableness, confident in making estimates that require assumptions about unknown quantities, performs reality checks on numbers reported by others, as appropriate

Learning Assessment & Evaluation

<p>Communication <i>Expressing a solution so that an audience understands what the solution means</i></p>	<p>Clearly communicate quantitative information shaping it into an argument, solution, or conclusion as appropriate, using a well chosen, effective format and placing values in context</p>	<p>Clearly communicates quantitative information, although information may not cohere as argument, solution or conclusion, may not be in the most effective format or with necessary context</p>	<p>Communicates quantitative information, but does not constitute a clear or coherent point, chosen format is neither most effective nor in the context.</p>	<p>Attempts to communicate quantitative information, but is unsuccessful in making argument, selecting an appropriate format, or placing in context.</p>
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