

Essential Student Learning Outcome Rubric – Quantitative Literacy

ESLO 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.

Performance Criteria	Foundational (instructions given in detail)	Practicing (general instructions given)	Capstone (little to no instruction)
Calculate	Perform fair short single computations with tools provided.	Perform longer and more complicated computations, or solve problems involving sequences of linked computations selecting from a list of possible tools.	Perform challenging computations and sequences of computations, knowing the tools needed.
Interpret	When prompted, identify specific parts of equations or expressions, interpret specific data points on graphs, interpret results of computations literally.	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.	Give holistic interpretations of methods, tools used, and results, with little to no instructor prompting or guidance.
Construct Representations	Construct graphical models of statistical information in response to specific instructor prompting.	Construct analytical (equation) or graphical models of mathematical relationships in response to broad instructor prompting.	Construct appropriate, complex, and clearly labeled analytical and/or graphical models with little to no instructor prompting or guidance.
Apply in Context	Solve problems using given formulas or frameworks.	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).	Solve relevant complex, multifaceted problems, with little to no instructor prompting, or guidance. Acknowledge and justify assumptions used in solving problem(s).
Communicate	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.	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 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.