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Quantitative Reasoning, Critical Thinking, and Information Literacy Integrated Rubric

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Quantitative Reasoning, Critical Thinking, and Information Literacy Integrated Rubric

California State University, Monterey Bay

CSUMB's Integrated Intellectual Skills Rubrics and Assignment Guides were created to help teachers design activities and assignments that better help students demonstrate their learning. It is not expected that a given activity or assignment address all components of the rubric. Rather, teachers should select the most relevant components and language. See link at bottom for guidance on how to use this rubric. Abbreviations: QR = quantitative reasoning, CT = critical thinking, IL = information literacy.

	4 - Advanced	3 - Proficient	2 - Developing	1 - Beginner
	Expectations for some students at or near graduation.	Expectations for all students at or near graduation.	Expectations for all students at a specified point in curriculum.	Expectations for most students entering college (i.e. before receiving college-level instruction)
Issue/problem (CT)	Clearly states, comprehensively describes, and fully clarifies the issue/problem to be considered: defines key terms, explores ambiguities, determines boundaries. Delivers all relevant information needed for full understanding.	Clearly states, describes, and clarifies the issue/problem to be considered: defines key terms, explores ambiguities, determines boundaries. Delivers relevant information necessary for understanding (understanding is not seriously impeded by omissions).	States and describes issue/problem to be considered, leaving some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown. Delivers information needed for basic understanding (more information needed for full understanding).	States issue/problem to be considered generally. Delivers information needed for minimal understanding (more information needed for basic understanding).
Supporting materials (IL)	Uses data from a variety of information sources appropriate to the scope and discipline of the research question. Selects sources after considering the importance of multiple criteria, including relevance to the research question, currency, authority, audience, and point of view or bias.	Uses data from a variety of information sources appropriate to the scope and discipline of the research question. Selects sources using multiple criteria, including relevance to the research question, currency, and authority.	Uses data from a variety of information sources. Selects sources using basic criteria, including relevance to the research question and currency. Sources are mixed with regard to authority.	Uses data from too few information sources. Selects sources using limited criteria, such as relevance to the research question. Authority of sources is questionable.
Methodology (QR)	Explicitly describes assumptions, theory, or bias associated with creation, development, or analysis of quantitative forms and applications and provides compelling rationale for why each assumption is appropriate. Evaluates the creation, development, or analysis of quantitative forms and	Explicitly describes assumptions, theory, or bias associated with creation, development, or analysis of quantitative forms and applications and provides complete and correct rationale for why each assumption is appropriate.	Explicitly describes assumptions, theory, or creation, development, or analysis of quantitative forms and applications that are partially complete/necessary or partially correct.	Attempts to describe assumptions, theory, or bias associated with creation, development, or analysis of quantitative forms and applications, but rationale may be incomplete, inaccurate, or missing.

	applications based on the limitations of the assumptions.			
Calculation (QR)	Calculations are successful and sufficiently comprehensive to solve the problem. Shows all work and includes units when appropriate and work is presented in logical fashion.	Calculations are essentially all successful and sufficiently comprehensive to solve the problem. Shows all work and includes units when appropriate.	Calculations are only partially correct and/or partially complete. Intermediate steps and/or units are missing.	Calculations are inaccurate or unnecessary.
Visual Representation (QR)	Converts relevant information into an insightful, complete, appropriate, and accurate visual quantitative portrayal in a way that demonstrates a deep understanding of the information presented in the quantitative form.	Converts relevant information into a complete, appropriate, and accurate visual quantitative portrayal.	Converts information but resulting visual quantitative portrayal is only partially appropriate, accurate, or complete.	Converts information but resulting visual quantitative portrayal is inappropriate, incomplete, or inaccurate.
Interpretation (QR)	Provides accurate identification and a precise description of information presented in quantitative forms.	Provides accurate identification and a general description of information presented in quantitative forms.	Provides some accurate descriptions of information presented in quantitative forms, but makes minor errors in identification/description of information.	Attempts to identify and describe information presented in quantitative forms, but makes incorrect identifications or descriptions about what the information provided.
Evaluation (QR)	Uses the quantitative analysis of data as the basis for deep and thoughtful judgments, drawing insightful, carefully qualified conclusions.	Uses the quantitative analysis of data as the basis for competent (and comprehensive) judgments, drawing convincing/reasonable and appropriately qualified conclusions.	Uses the quantitative analysis of data as the basis for basic and simple judgments, drawing plausible conclusions.	Uses the quantitative analysis of data as the basis for incomplete or inaccurate conclusions.
Reasonableness (QR)	Identifies solution or inference as sensible or not sensible in context and justifies the assessment of sensibility. Explains the limitations of solutions or inferences, including any sources of error.	Identifies solution or inference as sensible or not sensible in context and justifies the assessment of sensibility.	Identifies solution or inference as sensible or not sensible in context	Incorrectly identifies a solution or inference as sensible or not sensible in context.
Coherence/Purpose (formerly Communication) (QR)	Organizes and synthesizes judgements and conclusions based on quantitative information to fully achieve a specific, intended purpose with clarity and depth.	Organizes and synthesizes judgements and conclusions based on quantitative information to achieve an intended purpose.	Organizes judgements and conclusions based on quantitative information.	Provides judgements and conclusions based on quantitative information.

<p>Academic integrity (IL)</p>	<p>Does all of the following consistently and correctly:</p> <ul style="list-style-type: none"> • attributes information to sources • appropriately chooses to paraphrase, summarize, or quote • uses information in ways that are true to original context • distinguishes between common knowledge and ideas requiring attribution • acquires information ethically and legally 	<p>Does all of the following consistently, though some errors are present:</p> <ul style="list-style-type: none"> • attributes information to sources • appropriately chooses to paraphrase, summarize, or quote • uses information in ways that are true to original context • distinguishes between common knowledge and ideas requiring attribution • acquires information ethically and legally 	<p>Does the following inconsistently, with some errors:</p> <ul style="list-style-type: none"> • attributes information to sources • appropriately chooses to paraphrase, summarize, or quote • uses information in ways that are true to original context • distinguishes between common knowledge and ideas requiring attribution • acquires information ethically and legally 	<p>Use the following practices incorrectly or incompletely:</p> <ul style="list-style-type: none"> • attributes information to sources • appropriately chooses to paraphrase, summarize, or quote • uses information in ways that are true to original context • distinguishes between common knowledge and ideas requiring attribution • acquires information ethically and legally
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