

Criteria	Excellent ( 5 )	Good ( 4 )	Average (3)	Marginal (2)	Poor ( 1)+	NP
Identification – The	The purpose,	The purpose,	The purpose,	The purpose,	The purpose,	Outcome
extent to which the	components, and	components, and	components, and	components, and	components, and	not
understanding of the	variables of the	variables of the	variables of the	variables of the	variables of the	present
nature of the inquiry	investigation/project are	investigation/project are	investigation/project are	investigation/project are	investigation/project are	in
and the desired	clearly identified.	identified.	mostly identified.	somewhat identified.	not identified.	artifact.
outcome(s) of analysis is						
indicated. Identification						
clearly pinpoints what						
information is being						
sought and what kind of						
analysis is required.						
(Does the student						
understand the problem						
and what is being						
asked?)						
Assimilation – The	The information that is	The information that is	The information that is	The information that is	The information that is	Outcome
extent to which the	required for an analysis	required for an analysis	required for an analysis	required for an analysis	required for an analysis	not
information required for	of all investigative	of all investigative	of all investigative	of all investigative	of all investigative	present
analysis is assimilated	components is clearly	components is evident.	components <b>is mostly</b>	components is	components is <b>not</b>	in
and identified.	evident. If applicable,	If applicable, most	evident. If applicable,	somewhat evident. If	evident. If applicable,	artifact.
Assimilation reflects	values are correctly	values are correctly	some values are	applicable, values are	values are incorrectly	
whether all necessary	translated into variables	translated into variables	correctly translated into	incorrectly translated	translated into variables	
information is presented	and all necessary	and <b>necessary</b> formulas	variables and <b>most</b>	into variables and <b>some</b>	and <b>no necessary</b>	
and used, whether the	formulas are present.	are present.	necessary formulas are	necessary formulas are	formulas are present.	
organization is logical,			present.	present.		
and whether any outside						
information should be						
integrated into the						
current assignment.						
(Does the student set-up						
the problem						
accurately?)						
Analysis – The relevance	All investigative or	All investigative or	All investigative or	Some investigative or	Most investigative or	Outcome
of the steps taken	quantitative	quantitative	quantitative	quantitative	quantitative	not
toward achieving the	components are	components are	components are	components are	components are <b>not</b>	present
desired outcomes, the	methodically	scrutinized. The steps	somewhat scrutinized.	scrutinized. Some steps	scrutinized. The steps	in
logic and clarity within	scrutinized. The steps	followed are logical and	The steps followed are	followed are somewhat	followed are illogical	artifact.

## Fall 2015

Adapted from Amarillo College, "General Education Competency Information and Rubrics"



**Empirical & Quantitative Reasoning Skills Outcome:** Palo Alto College students apply scientific and mathematical concepts to analyze and solve problems.

Criteria	Excellent ( 5 )	Good ( 4 )	Average (3)	Marginal (2)	Poor ( 1)+	NP
the presented methods,	followed are logical and	relevant to the desired	mostly logical and	logical and relevant to	and/or irrelevant to the	
and the consistency and	relevant to the desired	result. The proper	relevant to the desired	the desired result. The	desired result. The	
accuracy of the	result. The proper	tools/technology were	result. The proper	proper tools/technology	proper tools/technology	
presented information.	tools/technology were	used and <b>mostly</b>	tools/technology were	were <b>somewhat used,</b>	were <b>not used</b> and/or	
(Are the steps	used and well	integrated into the final	mostly used and	but <b>not</b> integrated into	integrated into the final	
(process)/properties	integrated into the final	product. Any notation is	somewhat integrated	the final product. Any	product. Any notation is	
accurately being used?)	product. Any notation is	consistent and well	into the final product.	notation is somewhat	not consistent and not	
	consistent and well	defined.	Any notation is <b>mostly</b>	consistent but <b>not</b>	defined.	
	defined.		consistent and well	defined .		
			defined.			
Presentation – The	A concise summary of	A <b>good</b> summary of the	A summary of the	A partial summary of	A summary of the	Outcome
point at which a clear	the analysis is	analysis is presented.	analysis is presented.	the analysis is	analysis is either	not
conclusion and/or	presented. The	The presented	The presented	presented. The	inadequately presented	present
supplemental materials	presented information is	information is correct, of	information is <b>mostly</b>	presented information is	or <b>not presented</b> at all.	in
(e.g. graphs, pictures,	correct, of high quality,	good quality, and the	correct, of good quality,	somewhat correct, of	The presented	artifact.
etc.) are presented. (Is	and the	terminology/figures are	and the	adequate quality, and	information is <b>mostly</b>	
the process well	terminology/figures are	accurate and easy to	terminology/figures are	the terminology/figures	incorrect, and/or of	
organized, logical (easy	accurate and easy to	understand. Most visual	mostly accurate and	are <b>somewhat accurate</b>	poor quality, and/or	
to follow) and in good	understand. All visual	representations of	easy to understand.	and relatively easy to	the terminology/figures	
detail?)	representations of	evidence are <b>well-scaled</b>	Most visual	understand. Some	are <b>inaccurate</b> and/or	
	evidence are well-scaled	and/or well represent	representations of	visual representations	hard to understand.	
	and <b>well represent</b> the	the analysis findings.	evidence are acceptably	of evidence are	Few or no visual	
	analysis findings.		scaled and represent the	acceptably scaled and	representations of	
			analysis findings.	represent the analysis	evidence are acceptably	
				findings.	scaled or represent the	
					analysis findings.	
Application – The extent	The coherent	The coherent	The coherent integration	The integration of <b>most</b>	The integration <b>does</b>	Outcome
to which the results of	integration of <b>all steps</b>	integration of <b>all steps</b>	of <b>most steps</b> of the	steps of the	<b>not</b> include all steps of	not
analysis are applied to	of the investigation lead	of the investigation lead	investigation lead to an	investigation lead to a	the investigation and	present
answer or address the	to an accurate,	to an accurate, <b>mostly</b>	accurate, <b>mostly</b>	somewhat accurate,	does not lead to an	in
hypothesis or problem.	complete, relevant	complete, relevant	complete, acceptable	partially complete	accurate, nor complete	artifact.
(Is the answer correct?	conclusion that is	conclusion that is	conclusion that is	conclusion that is	conclusion that relates	
Does it make sense? Is it	relative to the initial	relative to the initial	relative to the initial	relative to the initial	to the initial	
a reasonable solution?)	investigative statement.	investigative statement.	investigative statement.	investigative statement.	investigative argument.	