

ConnSCU GENERAL EDUCATION ASSESSMENT RUBRIC

Competency Area: Scientific Reasoning (2B)

Scale Outcomes	Highly Competent 4	Competent 3	Minimally Competent 2	Not Competent 1
A. Explain the methods of scientific inquiry that lead to the acquisition of knowledge. Such methods include observations, testable hypotheses, logical inferences, experimental design, data acquisition, interpretation, and reproducible outcomes.	<p>Student provided all required explanations.</p> <p>All explanations were clear, complete and related to the problem posed</p>	<p>Most explanations were clear, complete, and related to the problem posed.</p>	<p>Most explanations were: incomplete or not related to the problem posed or not provided.</p>	<p>Student did not provide: any explanations or understandable explanations or explanations related to the problem posed.</p>
B. Apply scientific methods to investigate real-world phenomena, and routine and novel problems. This includes data acquisition and evaluation, and prediction.	<p>Student successfully applied all required scientific methods to investigate both routine and novel problems.</p> <p>All applications were efficient, complete, correct and related to the problems posed.</p>	<p>Student successfully applied most required scientific methods to investigate both routine and novel problems.</p> <p>Most applications were complete, correct and related to the problems posed.</p>	<p>Student successfully applied some required scientific methods to investigate routine problems.</p> <p>Most applications were incomplete or incorrect or not related to the problems posed.</p>	<p>Student did not apply: any scientific methods or scientific methods correctly.</p>
C. Represent scientific data symbolically, graphically, numerically, and verbally.	<p>Student provided all required representations.</p> <p>All representations were clear, complete and related to the given scientific data.</p>	<p>Most representations were clear, complete, and related to the given scientific data.</p>	<p>Most representations were: incomplete or not related to the given scientific data or not provided.</p>	<p>Student did not provide any representations or understandable representations or representations that are related to the given scientific data.</p>
D. Interpret scientific information and draw logical inferences from representations such as formulas, equations, graphs, tables, and schematics.	<p>Student successfully interpreted all required representations of scientific information and drew appropriate logical inferences.</p>	<p>Student successfully interpreted most required representations of scientific information and drew some logical inferences.</p>	<p>Student successfully interpreted some required representations of scientific information but was unable to draw logical inferences.</p>	<p>Student did not successfully interpret any representations of scientific information.</p>
E. Evaluate the results obtained from scientific methods for accuracy and/or reasonableness.	<p>Student successfully evaluated the results obtained from scientific methods for accuracy and/or reasonableness, and where necessary, identified a cause of inaccuracy and/or unreasonableness.</p>	<p>Student successfully evaluated the results obtained from scientific methods for accuracy and/or reasonableness.</p>	<p>Student clearly attempted to evaluate the results for accuracy and/or reasonableness but was unsuccessful.</p>	<p>Student did not evaluate the results for accuracy and/or reasonableness.</p>