**Scientific Reasoning Rubric Cheat Sheet**

**Complete first page and return to Martie Kaczmarek, OIRA at** [**mkaczmarek@ccsu.edu**](mailto:mkaczmarek@ccsu.edu)

**Faculty Name: Department:**

**Course Name & Number: Academic Year:**

**Number of Artifacts Submitted: Date Submitted:**

**Scientific Reasoning (Inquiry and Analysis): Does your assignment explicitly address each of the categories below? The categories listed below will be used to score student artifacts/assignments. Please confirm that your assignment instructions address each category.**

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| --- | --- | --- | --- | --- |
| **Category** | **Description** | **Yes** | **No** | **Partially** |
| **1. RESEARCH QUESTION(S)** | Identifies a creative, focused, and manageable research questions that addresses potentially significant yet previously less-explored aspects of the topic. |  |  |  |
| **2. LITERATURE REVIEW (Existing Knowledge, Research, and/or Views)** | Synthesizes in-depth information from relevant sources representing various points of view/approaches. |  |  |  |
| **3. METHODOLOGY (Design Process)** | All elements of the methodology or theoretical framework are skillfully developed. |  |  |  |
| Appropriate methodology may be synthesized from across disciplines or from relevant subdisciplines. |  |  |  |
| **4. DATA OR FINDINGS (Analysis)** | Organizes and synthesizes data to reveal insightful patterns, differences, or similarities related to focus. |  |  |  |
| **5. CONCLUSIONS** | States a conclusion that is a logical extrapolation from the data. |  |  |  |
| **6. LIMITATIONS AND IMPLICATIONS** | Insightfully discusses in detail relevant and supported limitations and implications. |  |  |  |

**Supporting Information:**

**Definition -** Inquiry is a systematic process of exploring issues/ objects/ works through the collection and analysis of evidence that result in informed conclusions/ judgments. Analysis is the process of breaking complex topics or issues into parts to gain a better understanding of them.

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|  | **Capstone -** 4 | **3 Milestones 2** | | **Benchmark -** 1 |
| **RESEARCH QUESTION(S)** | Identifies a creative, focused, and manageable research question(s)that addresses potentially significant yet previously less-explored aspects of the topic. | Identifies a focused and manageable/doable research question(s) that appropriately addresses relevant aspects of the topic. | Identifies research question(s) that while manageable/doable, is too narrowly focused and leaves out relevant aspects of the topic. | Identifies a research question(s) that is far too general and wide-ranging as to be manageable and doable. |
| **LITERATURE REVIEW (Existing Knowledge, Research, and/or Views)** | Synthesizes in-depth information from relevant sources representing various points of view/approaches. | Presents in-depth information from relevant sources representing various points of view/approaches. | Presents information from relevant sources representing limited points of view/approaches. | Presents information from irrelevant sources representing limited points of view/approaches. |
| **METHODOLOGY (Design Process)** | All elements of the methodology or theoretical framework are skillfully developed. Appropriate methodology may be synthesized from across disciplines or from relevant subdisciplines. | Critical elements of the methodology are appropriately developed, however, more subtle elements are ignored or unaccounted for. | Critical elements of the methodology are missing, incorrectly developed, or unfocused. | Methodology is entirely inappropriate to answer the research question. |
| **DATA OR FINDINGS (Analysis)** | Organizes and synthesizes data to reveal insightful patterns, differences, or similarities related to focus. | Organizes data to reveal important patterns, differences, or similarities related to focus. | Organizes data, but the organization is not effective in revealing important patterns, differences, or similarities. | Lists data, but it is not organized and/or is unrelated to focus. |
| **CONCLUSIONS** | States a conclusion that is a logical extrapolation from the data. | States a conclusion focused solely on the data. The conclusion arises specifically from and responds specifically to the data. | States a general conclusion that, because it is so general, also applies beyond the scope of the data. | States an ambiguous, illogical, or unsupportable conclusion from data. |
| **LIMITATIONS AND IMPLICATIONS** | Insightfully discusses in detail relevant and supported limitations and implications. | Discusses relevant and supported limitations and implications. | Presents relevant and supported limitations and implications. | Presents limitations and implications, but they are possibly irrelevant and unsupported. |