**General Education Curriculum: Natural Science Inquiry (NSI) Rubric**

The Natural Science Inquiry (NSI) rubric was developed through faculty and student consultation and members of the General Education Oversight Committee at Wayne State University (WSU). The rubric was modeled after VALUE rubrics created by the Association of American Colleges and Universities (AAC&U). The rubric articulates fundamental criteria for each learning outcome required for NSI under the General Education program. It contains performance descriptors demonstrating progressively higher levels of learnedness. The rubric is intended for institutional-level use in evaluating and discussing student learning within the General Education curriculum, not for grading.

NSI is a Group Requirement (Inquiry Courses) of the General Education program at WSU. The overall goal of the inquiry courses is “to help introduce students to the different perspective, methodologies, and questions that shape the production of knowledge” (see [Academic Bulletin](http://bulletins.wayne.edu/undergraduate/general-information/general-education/group-requirements/)).

NSI has [four program learning outcomes](http://bulletins.wayne.edu/undergraduate/general-information/general-education/group-requirements/). After successful completion of the NSI requirement, students will be able to demonstrate their ability to:

1. Explain natural phenomena using scientific concepts, theories, and/or principles.
2. Describe the process of scientific inquiry.
3. Analyze historical or contemporary societal subjects using scientific concepts and principles.
4. (Lab courses only) Apply the scientific method to evaluate data.

**Glossary for Terms and Concepts Used in the Rubric**

***The definitions that follow were developed to clarify terms and concepts used in this rubric only.***

* Natural phenomena: Something that is observed to occur, exist, and/or manifest without human input.
* Contemporary scientific concepts/theories/principles: Scientific concepts, theories, or ideas that conform to modern or current ideas in a specific scientific discipline.
* Scientific inquiry: The pursuit of coherent, mechanistic accounts of natural phenomena. Scientific inquiry may or may not follow the strict steps of the scientific method.
* Societal subject: Issues and/or events that affect or occur within or among human populations.

**How to Use the Rubric**

* Faculty teaching NSI courses select one or more assignments that elicit the NSI learning outcomes.
* Faculty use the rubric to score their students’ work on the 4-point rubric scale.
  + Details for reporting the results for your course(s) are provided on the GEOC website.
* The rubric scale is implicational: A “moderate” score indicates that the student has met the criteria for “low” AND “moderate”. A “high” score indicates that the student has met the criteria for “low”, “moderate” AND “high”.

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| --- | --- | --- | --- | --- |
| **Learning Outcome** | **(High)**  **Articulate/explain** | **(Moderate)**  **Describe/define** | **(Low)**  **Identify** | **(No)**  **Limited Evidence** |
| LO1: Explain natural phenomena using contemporary scientific concepts, theories, and/or principles. | Applies contemporary scientific concepts, theories, and/or principles that explain causal relationships of natural phenomena. | Explains natural phenomena using contemporary scientific concepts, theories, and/or principles, | Identifies some natural phenomena. | Unable to identify natural phenomena. |
| LO2: Describe the process of scientific inquiry. | Articulates the process of scientific inquiry and articulates patterns, relationships or themes across concepts and methods in scientific inquiry. | Describes basic concepts and methods of scientific inquiry. | Identifies basic concepts or methods of scientific inquiry. | Unable to identify or define basic concepts of scientific inquiry. |
| LO3: Analyze historical or contemporary societal subjects using scientific concepts and principles. | Applies scientific perspectives to evaluate historical or contemporary societal subjects, including assessing the subjects and their underlying causes and potential solutions. | Explains scientific concepts and principles germane to a historical or contemporary societal subject. | Identifies a historical or contemporary societal subject related to scientific concepts and principles | Unable to identify or describe historical or contemporary societal subjects related to scientific concepts or principles. |
| LO4: Apply the scientific method to evaluate data. | Interprets the meaning of data collected via the scientific method and articulates its relevance to stated hypotheses. | Describes data collected via the scientific method using scientific theory, concepts, or principles. | Identifies data collected via the scientific method. | Demonstrates little to no ability to recognize data collected with the scientific method. |

Source: Appropriated and modified from the VALUE rubrics developed by the Association of American Colleges and Universities (AAC&U).   
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