

General Education Curriculum: Quantitative Experience (QE) Rubric

The Quantitative Experience (QE) rubric was developed through faculty and student consultation with 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 QE under the General Education program. It contains performance descriptors demonstrating progressively higher levels of learning. The rubric is intended for evaluating and discussing student learning within the General Education curriculum, not for grading and not for evaluation of instructors.

QE is a Competency requirement of the General Education program at WSU. The overall goal of the competency courses is to “ensure that students develop and demonstrate early in their academic careers fundamental skills in the following areas that underlie and make possible the acquisition of knowledge.” (see Academic Bulletin).

QE has [four program learning outcomes](#): *After successful completion of the QE requirement, students will be able to:*

1. Convert real-world information into appropriate mathematical form.
2. Perform mathematical or symbolic computations relevant to a multistep problem.
3. Draw reasonable conclusions based on quantitative evidence.
4. Communicate arguments or interpretations supported by quantitative evidence.

Glossary for Terms and Concepts Used in the Rubric

- **Communicate:** Express quantitative information through oral, written, or graphical form
- **Mathematical forms:** Modes of representing numerical and quantitative information (equations, graphs, diagrams, tables, words, etc.)
- **Mathematical or symbolic computation:** Process for calculating or determining the solution to a problem
- **Multistep problem:** A problem requiring the use of different operations in sequence
- **Quantitative evidence:** Numerical or quantitative information used to support conclusions
- **Real-world information:** Everyday situations which can be understood through mathematical or logical reasoning

How to Use the Rubric

- Faculty teaching QE courses select one or more assignments that elicit the QE learning outcomes at the moderate level or higher.
- Faculty use the rubric to score their students’ work on the 4-point rubric scale. The scores are separate from students’ course grades.
- Details for reporting the results for your course(s) are provided on the GEOC website.
- The rubric scale is implicational: A “Meets expectations” score indicates that the student has met the positive criteria for “Partially meets expectations” AND “Meets expectations”. An “Exceeds expectations” score indicates that the student has met the positive criteria for “Partially meets expectations”, “Meets expectations”, AND “Exceeds expectations”.
 - If a student did not submit part or all of the selected assignment(s), instructors should note "Student did not complete assignment" instead of one of the above scores for each relevant learning outcome.

Quantitative Experience Rubric

Learning Outcomes (The student...)	Exceeds expectations	Meets expectations	Partially meets expectations	Does not meet expectations
<i>LO1: Converts real-world information into appropriate mathematical form.</i>	Justifies the mathematical form chosen for representing real-world information.	Converts real-world information into appropriate mathematical form without errors.	Converts real-world information into appropriate mathematical form but with errors.	Does not convert real-world information into mathematical form.
<i>LO2: Performs mathematical or *symbolic computations *relevant to a multistep problem.</i>	Explains the reason(s) underlying particular mathematical or symbolic computations in a multistep problem.	Performs mathematical or symbolic computations relevant to a multistep problem without errors.	Performs mathematical or symbolic computations relevant to a multistep problem with some errors.	Does not perform mathematical or symbolic computations relevant to a multistep problem.
<i>LO3: Draws reasonable conclusions based on quantitative evidence.</i>	Draws reasonable conclusions based on multiple sources of quantitative evidence.	Draws reasonable conclusions based on quantitative evidence.	Draws incorrect conclusions based on quantitative evidence.	Does not draw conclusions based on quantitative evidence.
<i>LO4: Communicates arguments or interpretations supported by quantitative evidence.</i>	Communicates arguments or interpretations supported by a synthesis of quantitative evidence.	Communicates arguments or interpretations and provides supporting quantitative evidence.	Communicates arguments or interpretations and quantitative evidence but the evidence does not support them.	Does not communicate an argument or interpretation supported by quantitative evidence.

Source: Appropriated and modified from the VALUE rubrics developed by the Association of American Colleges and Universities (AAC&U) for “Interpretation”, “Representation”, “Calculation”, “Application/Analysis”, and “Communication”. Accepted by GEOC on 04/09/2019. Provisionally approved by GEOC 2/10/23.

*LO wording may change pending further feedback from instructors and GEOC.