
University of South Carolina
General Education Assessment Criteria—Math
<http://ipr.sc.edu/effectiveness/assessment/criteria/math.htm>

Goal

Students will perform basic mathematical manipulations, display facility with the use of mathematics in framing concepts for mathematical analysis and interpret data intelligently.

Objective A. Students will demonstrate their understanding of the role of quantitative reasoning and its application.

4 OUTSTANDING

Regards quantitative reasoning as essential in understanding both multiple academic areas and domains beyond the academic and career related; can articulate and advocate appropriate applications of quantitative reasoning in various settings.

3 EFFECTIVE

Regards quantitative reasoning as very useful and important to domains beyond the academic; demonstrates and articulates an understanding of its uses and can choose appropriate applications.

2 ADEQUATE

Regards quantitative reasoning as useful and important although primarily academic; recognizes appropriate applications and understands explanations.

1 INEFFECTIVE

Regards quantitative reasoning as irrelevant beyond academic applications.

Objective B. Students will demonstrate an understanding of the language of mathematics and basic mathematical concepts and operations.

4 OUTSTANDING

Demonstrates superior knowledge of the language of mathematics and basic mathematical concepts and operations. Has the ability to teach and explain basic mathematical concepts and operations to others.

3 EFFECTIVE

Demonstrates the appropriate use of the language of mathematics and basic mathematical concepts and operations. Can initiate or contribute to discussions about mathematical concepts and operations.

2 ADEQUATE

Understands the basic language of mathematics and basic mathematical concepts. Can participate in discussions about mathematical concepts and operations and can demonstrate adequate knowledge.

1 INEFFECTIVE

Cannot demonstrate knowledge of the language of mathematics and basic mathematical concepts. Avoids participation in discussions about mathematical concepts and operations.

Objective C. Students will demonstrate the ability to apply basic mathematical operations to problem solving in one's personal and working life. This criterion demonstrates ability

to apply basic mathematical concepts and operations to situations which will be encountered beyond the university and in the "real world".

4 OUTSTANDING

Understands the quantitative frameworks of broad scope, real-world problems; recognizes advantages and disadvantages of several quantitative approaches to a problem and chooses appropriate concepts to describe the problem, accurately performs needed mathematical operations, and articulates the meaning of the solution in terms of the original problem.

3 EFFECTIVE

Once the quantitative framework of real-world problems are clarified, chooses appropriate concepts to describe the problem and accurately performs needed mathematical operations and articulates the meanings of the solution in terms of the original problem.

2 ADEQUATE

Recognizes, -the quantitative framework of real-world problems of limited scope, and independently chooses appropriate concepts to describe the problem; accurately performs basic mathematical operations on problems of personal or work life and applies the solution to the original problem.

1 INEFFECTIVE

Does not see problems in a quantitative framework unassisted; inability to choose appropriate concepts and/or to perform basic mathematical operations on problems in personal or work life limits options to developing solutions..

Objective D. Students will accurately comprehend and draw appropriate Inferences from numeric data assembled in a variety of forms (e.g., graphs, charts, summary statistics, etc.) and in other disciplines.

4 OUTSTANDING

Comprehends complex and sophisticated displays of data and makes inferences consistent with the data. Can construct data displays from a set of data; explains clearly in everyday language the meaning of the data, and relates it to appropriate context.

3 EFFECTIVE

Comprehends some complex and sophisticated displays of data and makes inferences consistent with simple displays of data; explains the meaning of the data in everyday language; relates to appropriate context.

2 ADEQUATE

Comprehends simple displays of data, makes inferences consistent with the displays of data, and explains the inferences within a limited context.

1 INEFFECTIVE

Inconsistently comprehends some simple displays of data; makes inferences inconsistent with simple displays of data or with its context.