



650 W. State Street • Room 307 • Boise, ID • 83702
 P.O. Box 83720 • Boise, ID • 83720-0037

Mathematical Ways of Knowing General Education Skill Competency and Knowledge Objectives

Definition:

Coursework in this area is intended to develop an understanding of mathematical reasoning processes and the ability to utilize these processes to solve college-level mathematical problems.

Competency and Knowledge Objectives:

To meet the mathematics requirement of the general education core, courses must cover the competency/knowledge objectives below.

1. Read, interpret, and communicate mathematical concepts.
2. Represent and interpret information/data.
3. Select, execute and explain appropriate strategies/procedures when solving mathematical problems.
4. Apply quantitative reasoning to draw appropriate conclusions and support them.

	Exceeds End-of-Course Expectations	Meets End-of-Course Expectations	Entry-Level Expectations
Read, interpret, and communicate mathematical concepts.	<ul style="list-style-type: none"> • Demonstrates ability to extend course concepts to new contexts. • Demonstrates the ability to interpret and apply 	<ul style="list-style-type: none"> • Demonstrates ability to read, interpret, and communicate the course concepts. • Understands the use of abstractions related to course 	<ul style="list-style-type: none"> • Demonstrates understanding of concepts relating to appropriate pre-requisite material.

	<p>abstractions.</p> <ul style="list-style-type: none"> • Understands and correctly utilizes appropriate mathematical language in new contexts. 	<p>material.</p> <ul style="list-style-type: none"> • Understands and correctly utilizes appropriate mathematical language. 	
Represent and interpret information/data.	<ul style="list-style-type: none"> • Appropriately represents data or information graphically and/or functionally. • Draw valid conclusions from analysis. • Predict consequences, trends, or patterns. 	<ul style="list-style-type: none"> • Appropriately represents data or information graphically and/or functionally. • Draw valid conclusions from analysis. 	<ul style="list-style-type: none"> • Demonstrates a general understanding of graphs and/or tables.
Select, execute and explain appropriate strategies/procedures when solving mathematical problems.	<ul style="list-style-type: none"> • Student can select the appropriate strategy in a generalized problem. • Process is internalized. • Student can justify why the process is used. 	<ul style="list-style-type: none"> • Student can select appropriate strategy. • Process is performed correctly without assistance. • Student can write down steps. 	<ul style="list-style-type: none"> • Student can follow an argument as to which strategy is chosen. • Process is performed correctly with assistance. • Student can follow steps.
Apply quantitative reasoning to draw appropriate conclusions and support them.	<ul style="list-style-type: none"> • Uses appropriate methods to check the solution and recognize that it is reasonable. • Demonstrates that the conclusion correctly addresses the initial problem. • Explains the problem, process and conclusions to others. • Recognize the limitations of the methods and the conclusions. • Recognize patterns within a problem that can be applied to other situations. 	<ul style="list-style-type: none"> • Uses appropriate methods to check the solution and recognize that it is reasonable. • Demonstrates that the conclusion correctly addresses the initial problem. • Explains the problem, process and conclusions to others. 	<ul style="list-style-type: none"> • Uses appropriate methods to check the solution and recognize that it is reasonable.