

COLLEGE *of* CHARLESTON

General Education Assessment Mathematics or Logic Requirement: Student Learning Outcomes

Outcome 1: Students model phenomena in mathematical terms.

Evidence: Students presented with a phenomenon such as a physical situation or English statement must effectively model the problem using mathematical objects taught in the course. (Questions will be embedded on the final exam).

Standard At least 70% of students score 3 or 4 on each dimension of this SLO on rubric.

Outcome 2: When given a question, students apply models and establish conclusions.

Evidence: Students given a mathematical model of a phenomenon must use the methodology and tools of the course to establish conclusions related to the phenomenon. (Questions will be embedded on the final exam).

Standard At least 70% of students score 3 or 4 on this SLO on rubric.

Outcome 3: Students demonstrate an understanding of the supporting theory apart from any particular application.

Evidence: Students answer theoretical questions in ways that reflect understanding of the relevant theory.

Standard At least 70% of students score 3 or 4 on this SLO on rubric.

Rubric for Math/Logic

<i>SLO1: Students model phenomena in mathematical terms.</i>					
Dimensions	Not Applicable 0	<i>Does not meet Expectations (1)</i>	<i>Approaches Expectations (2)</i>	<i>Meets Expectations (3)</i>	<i>Exceeds Expectations(4)</i>
Modeling the phenomena	The description of the signature assignment does not provide data to assess this component.	Manifestly incorrect model	Major flaws in model	Minor flaws in model	Correctly models
Appropriate use of variables	The description of the signature assignment does not provide data to assess this component.	Manifestly inappropriate/incorrect use of variables	Major errors	Minor errors	Correct and appropriate use of variables
<i>SLO2: When given a question, students apply models and establish conclusions.</i>					
Applying mathematical methodology and reaching conclusion (s)	The description of the signature assignment does not provide data to assess this component.	No coherent application	Major errors or incomplete application	A few errors or omitted steps	Complete and correct application
Accuracy of the process and conclusion (s)	The description of the signature assignment does not provide data to assess this component.	Wrong conclusion and wrong process	Major errors in process or conclusion	Minor errors in process or conclusion	Correct conclusion properly deduced
<i>SLO3: Students demonstrate an understanding of the supporting theory apart from any particular application.</i>					
Understanding the theory (s)	The description of the signature assignment does not provide data to assess this component.	Fails to interpret or incorrectly interprets mathematical statements, and thus fails to correctly answer questions about their theoretical relationships. Or correctly answers less than 50% of a series of theoretical multiple choice questions	Generally incorrectly interprets mathematical statements or generally incorrectly answers questions about their theoretical relationships. Or correctly answers at least 60% of a series of theoretical multiple choice questions	Generally correctly interprets mathematical statements and generally correctly answers questions about their theoretical relationships. Or correctly answers at least 70% of a series of theoretical multiple choice questions	Correctly interprets mathematical statements, and correctly answers questions about their theoretical relationships, clearly showing steps taken. Or correctly answers at least 80% of a series of theoretical multiple choice questions