

WASHTENAW COMMUNITY COLLEGE GENERAL EDUCATION ASSESSMENT PLANNING FORM

General Education Strand Assessed (check one).

- ☐ **Writing:** Develop, organize, and express thoughts in writing using Standard English.
- ☐ **Speech:** Speak in an organized and effective manner and listen critically and with comprehension.
- ☒ **Mathematics:** Understand the applications and perform computations using the concepts of college-level mathematics.
- ☐ **Natural Sciences:** Understand principles and applications of modern science.
- ☐ **Social and Behavioral Science:** Understand principles and applications of social and behavioral science in exploring the dynamics of human behavior.
- ☐ **Arts and Humanities:** Understand and apply information related to the nature and variety of the human experience through personal and cultural enrichment.
- ☐ **Critical Thinking:** Demonstrate skill in analyzing, synthesizing and evaluating.
- ☐ **Computer and Information Literacy:** Demonstrate the skill to use computer information systems including using software and the ability to locate, retrieve, and evaluate networked information.

Descriptions of strands from WCC Board Policy #3045. <http://www.wccnet.edu/trustees/policies/index.php?policy=3045>

Assessment plan:

Learning outcomes to be assessed	Assessment tool	When assessment will take place (Semester/Year and cycle of 1-3 years)	Describe population to be assessed (e.g. completing General Education course)	Number of students to be assessed (may be a number or percentage)
1. Demonstrate the ability to interpret and draw inferences from mathematical models such as formulas, graphs, tables and/or schematics.	Portfolio	Fall 2007		50-100
2. Demonstrate the ability to represent mathematical information symbolically, visually, numerically and/or verbally.	Portfolio	Fall 2007		50-100
3. Demonstrate the ability to employ quantitative methods such as arithmetic, algebra, geometry or statistics to solve problems.	Portfolio	Fall 2007		50-100
4. Demonstrate the ability to estimate and check mathematical results for reasonableness.	Portfolio	Fall 2007		50-100

Scoring and analysis of assessment:

- Indicate how each of the above outcome(s) will be scored and evaluated (e.g. departmentally developed rubric, external evaluation, answer sheet, other). Attach the rubric/scoring guide.
- Indicate the standard of success to be used for this assessment.
75% of students' work demonstrates at least a "Generally Correct" level (see attached scoring guide).

3. Indicate who will score and analyze the data (data must be blind-scored).
Members of the mathematics department will blind-score the portfolios.
4. Explain the process for using assessment data to improve the general education strand.

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The 3 faculty who were charged with the task of creating outcomes and an assessment plan for the Mathematics General Education strand faced several challenges.

- 1) The committee faced a challenge defining the phrase "college-level mathematics". Prior to 2006, only certain courses at the 100-level were designed as "college-level". Currently, any course that is above the 100-level is considered "college-level".
- 2) The department had been using the CAAP test to assess the skills of students who were meeting the general education requirements, as defined by the college. This tool is not appropriate for students in MTH 125, 148, 149, 157, 160, 165, 167 or 169.

In order to solve the dilemmas presented above, the committee found it necessary to create new outcomes to help further define the mathematics strand definition and identify a new method of assessment to test the outcomes.

New General Education Outcomes for Mathematics:

*These outcomes were modeled after ones created at Binghamton University, SUNY – permission

Mathematics: Understand the applications and perform computations using the concepts of college-level mathematics.	1. Demonstrate the ability to interpret and draw inferences from mathematical models such as formulas, graphs, tables, and/or schematics. 2. Demonstrate the ability to represent mathematical information symbolically, visually, numerically and/or verbally. 3. Demonstrate the ability to employ quantitative methods such as arithmetic, algebra, geometry or statistics to solve problems. 4. Demonstrate the ability to estimate and check mathematical results for reasonableness.
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has been granted to use their ideas and wording for the outcomes as well as the scoring guide.

Assessment Plan:

The above outcomes will be assessed using a portfolio. Each course that meets the general education definition (any course about 100-level) will have a portfolio component. During the assessment semester (it has been every other year during the winter semester), each instructor will be required to have students complete four different tasks – each task will allow students to demonstrate competency in the above four outcomes (it might be possible that individual instructors will use one or two items that will demonstrate competency in multiple outcomes). These items will be combined to create a portfolio. Members of the mathematics department will randomly select 50-100 portfolios from all of the portfolios that are collected and will blind-score the items using a departmentally created scoring guide (see attached). The department will conclude the assessment is successful if at least 75% of the students' work demonstrates at least a "Generally Correct" level (see scoring guide for clarification) of competency.

Future Work:

The committee will work with the course mentor for each course above the 100-level to create meaningful tasks that will allow students to demonstrate competency in the four stated outcomes in each respective course. This work will begin this semester, but will not be finished until the end of the Winter 2007 semester. Our goal is to conduct the assessment of the general education mathematics strand during the Fall 2007 semester.