



Detailed Assessment Report for 2008-2009 Developmental Math

Mission

The purpose of developmental mathematics is to create a positive learning environment in which students are equipped with the basic knowledge, study skills, critical thinking skills, and problem-solving techniques necessary to succeed in their chosen programs of study and to become more productive citizens in their communities.

Student Learning Outcomes, with Any Associations and Related Measures, Achievement Targets, Findings, and Action Plans

1: Choosing a mathematical model

The student will be able to use information to analyze problems and make logical decisions in fitting an appropriate mathematical model to a given situation.

Associations:

General Education or Core Curriculum:

- 2 Use critical thinking to analyze problems and make logical decisions.
- 4 Demonstrate quantitative competencies.

Institutional Priorities:

- 2 EDUCATIONAL PROGRAMS-To provide a comprehensive educational program committed to quality...

Strategic Plans:

Curriculum Programs- Gen Ed Competencies

- 2.1.1 Promote active learning to serve students from diverse populations. (Ongoing) NOTE: Click the link, Strategic Plan, for additional objectives and activities for Curriculum Programs 2.1.1.

Related Measures:

1: Embedded test questions in MAT 070

Why: Students who successfully complete MAT 070 are expected to be familiar with several basic mathematical models, be able to choose the correct model to apply in a given situation, and be able to adapt the basic model to the given situation.

What and When: The Math Assessment Team will distribute test questions to be embedded in the unit tests covering word problems that are traditionally given in MAT 070.

Who and How: A copy of each student's (ungraded) responses to these embedded questions will be submitted to the Assessment Team for evaluation. The Assessment Team will use a rubric to measure student progress toward identifying the correct model and adapting it to the particular problem presented. According to the rubric, student responses to each word problem will be classified into three major categories: Proficient, Acceptable, or Needs Improvement. Responses will be referenced by problem type and by student name. This will facilitate semester-end analysis by the Assessment Team, who will distinguish between results of students achieving a grade of

C or higher in the course and those who must repeat MAT 070.

Source of Evidence: Written Assign.

Document:

[Sample Outcome #1 Rubric](#)

Achievement Target:

At least 90% of students who successfully complete MAT 070 will attain an average rubric score classified as "Acceptable" on the embedded word problems; At least 70% of students who successfully complete these courses will attain an average score classified as "Proficient".

2: Applications of percents

The student will be able to use percents to solve applications involving sales tax, discounts, and simple interest.

Associations:

General Education or Core Curriculum:

- 2 Use critical thinking to analyze problems and make logical decisions.
- 4 Demonstrate quantitative competencies.

Institutional Priorities:

- 2 EDUCATIONAL PROGRAMS-To provide a comprehensive educational program committed to quality...

Strategic Plans:

Curriculum Programs- Gen Ed Competencies

2.1.1 Promote active learning to serve students from diverse populations. (Ongoing) NOTE: Click the link, Strategic Plan, for additional objectives and activities for Curriculum Programs 2.1.1.

Related Measures:

2: Embedded test questions in MAT 060

Why: Students who successfully complete MAT 060 are expected to be able to solve real-life application problems involving percent, whole, and part.

What and When: The Math Assessment Team will distribute test questions to be embedded in the unit test covering percents that is traditionally given in MAT 060.

Who and How: MAT 060 instructors will be asked to score these embedded test questions uniformly, according to predetermined criteria for full, partial, or no credit. Instructors will complete an item analysis for these questions and will turn in their results to the Math Assessment Team. At the end of the semester, the Math Assessment Team will divide the results into two categories: an item analysis for students passing the course with a C or higher and an analysis for students who must repeat the course.

Source of Evidence: Written Assign.

Achievement Target:

At least 90% of students who successfully complete MAT 060 will attain an average score of 75% on the embedded test questions.

3: Factoring polynomial equations

The student will be able to use factoring to solve polynomial equations.

Associations:

General Education or Core Curriculum:

- 2 Use critical thinking to analyze problems and make logical decisions.
- 4 Demonstrate quantitative competencies.

Institutional Priorities:

2 EDUCATIONAL PROGRAMS-To provide a comprehensive educational program committed to quality...

Strategic Plans:

Curriculum Programs- Gen Ed Competencies

2.1.1 Promote active learning to serve students from diverse populations. (Ongoing) NOTE: Click the link, Strategic Plan, for additional objectives and activities for Curriculum Programs 2.1.1.

Related Measures:

3: Embedded questions on MAT 080 midterm exam

Why: Students who successfully complete MAT 080 are expected to be able to factor a polynomial completely and use factoring to solve polynomial equations. This skill is needed to be successful in any Curriculum Math course that lists MAT 080 or its equivalent as a prerequisite.

What and When: The Math Assessment Team will designate specific questions on the common midterm exam for MAT 080 which require students to use factoring to solve a polynomial equation.

Who and How: MAT 080 instructors will be asked to score these exam questions uniformly, according to predetermined criteria for full, partial, or no credit. Instructors will complete an item analysis for these questions and will turn in their results to the Math Assessment Team. At the end of the semester, the Math Assessment Team will divide the results into two categories: an item analysis for students passing the course with a C or higher and an analysis for students who must repeat the course.

Source of Evidence: Written Assign.

Achievement Target:

At least 90% of students who successfully complete MAT 080 will attain an average score of 75% on the pre-selected final exam questions.