

## Student Learning Outcomes for MATH 212

*College Math Preparation Level 2: Beginning Algebra*

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### Team Members:

**Team Leader:**

[Barbara Illowsky](#) (8211) in MATH

**Other members:**

1. [Diane Mathios](#) (x864-5664) MATH

**Additional team members/notes about team:**

Nina Danilova, Janice Hector, Diane Mathios, Jefferson Shirley, Kathy Plum

**Additional Notes:**

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### Outcomes:

**Outcome 1 Phase I: Statement**

Evaluate real-world situations and distinguish between and apply linear and quadratic function models appropriately.

**Outcome 1 Phase II: Assessment Strategy Used:**

Assessment Quarter: Winter 2010

Assessors: Barbara Illowsky Kathy Plum

Assessment Tools: ••

**Outcome 1 Phase III: Reflect & Enhance**

**Number of people involved in Phase III:** 2

**Changes:**

The last time we used exams and quizzes to assess this outcome. This time, we developed a project and grading rubric to assess it. We used the lab and rubric over two quarters. We modified both tools after the first quarter. The lab included analyzing and applying linear and quadratic models to HIV testing data.

**Methods:**

We developed (& then modified) a lab and a grading rubric. The lab involved developing models to fit data. Then, the students tried to determine which models actually fit the data better. They explained their decision making process, along with their models.

**Findings and Conclusions:**

Students had difficulty in determining why one model might be more appropriate than another model. They had challenges in applying the theory to the real world applications. The result was that we spend more time on such applications. Students met our "expectations of student proficiency or student success?"

**Enhancement (Planned Actions)****Part I:**

We analyzed the assessment tool and where students had challenges. We then modified the tool for the next term's use. The second time we used the tool, student learning seemed improved based upon the question responses. Students seemed to be able to explain their decision making process more thoroughly.

**Part II:**

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**Outcome 2 Phase I: Statement**

Analyze, interpret, and communicate results of linear and quadratic models in a logical manner from four points of view - visual, formula, numerical, and written.

**Outcome 2 Phase II: Assessment Strategy Used:**

Assessment Quarter: Winter 2011

Assessors: Barbara Illowsky Kathy Plum

Assessment Tools: •

**Outcome 2 Phase III: Reflect & Enhance**

**Number of people involved in Phase III: 2**

**Changes:**

Similar to the description of assessing Outcome #1, in previous quarters we used exams and quizzes to assess this outcome. This time, we developed a project and grading rubric to assess it. We used the lab and rubric over two quarters. We modified both tools after the first quarter.

**Methods:**

We developed (& then modified) a lab and a grading rubric. The lab involved developing models to fit data. First the students generated the data. Then, the students analyzed, interpreted, and communicated results of linear and quadratic models in a logical manner from four points of view - visual, formula, numerical, and written.

**Findings and Conclusions:**

Students performance was strongest in using formulas and analyzed numerical information. They needed more practice in visualizing and writing their findings. Students met our "expectations of student proficiency or student success."

**Enhancement (Planned Actions)****Part I:**

We modified our instruction and student activities to enhance and improve student learning. We have incorporated these changes into permanent teaching methods. We need to be able to mentor adjunct faculty as they are not as involved in on-campus professional development.

**Part II:**

Stipends for adjunct professional development are needed for all enhancements.

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**Outcome 3 Phase I: Statement**

Demonstrate an appreciation and awareness of applications in their daily lives.

**Outcome 3 Phase II: Assessment Strategy Used:**

Assessment Quarter: Spring 2010

Assessors: Barbara Illowsky Kathy Plum

Assessment Tools: •

**Outcome 3 Phase III: Reflect & Enhance**

**Number of people involved in Phase III: 2**

**Changes:**

We had not previously assessed "appreciation" so that this assessment is new. Even "awareness of applications" was not fully assessed before.

**Methods:**

We developed a 4-question tool for students to work on in groups. This tool is a modification of another classroom assessment tool we had previously used. The questions involved asking students about their appreciation and awareness. Students discussed the questions and then recorded their answers. The results were discussed in class.

**Findings and Conclusions:**

At first, students had difficulties expressing both their awareness and their appreciation of applications in their daily lives. Once they spent a few minutes thinking about it, however, they seemed to come up with an extensive list of examples of demonstrating both their appreciation and their awareness. Students met our "expectations of student proficiency or student success?"

**Enhancement (Planned Actions)****Part I:**

This activity made us realize that we need to insert more extensive examples into our teaching. We need to have students spend more time reflecting on how to integrate the course content beyond the classroom.

**Part II:**

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SLO Created: 02/16/2010 Last Modified: 05/24/2011