

Lone Star College–Montgomery

Course Names Pre-Algebra, Introductory Algebra, Intermediate Algebra, College Algebra

Credit Hours Three

Semesters Covered Fall 2004–Spring 2007

Types of Data Reported Success Rates, Subsequent Success, Retention

Type of Implementation Lab-Based



Textbooks in Use with MyMathLab

Basic Mathematics, 10e, 2007, Bittinger; *Introductory Algebra*, 10e, 2007, Bittinger; *Intermediate Algebra*:

Concepts and Applications, 7e, 2006, Bittinger, Ellenbogen; *College Algebra*, 9e, 2005, Lial, Hornsby, Schneider

MyMathLab Course Structure

Course Design

Faculty at the Learning Outcome Assessment Lab (LOAL) at Lone Star College–Montgomery use MyMathLab and a flexible schedule to help students better retain course material by testing outcomes individually throughout the course versus at the end of the semester.

Students participate in class lectures and weekly review sessions and follow a weekly syllabus—all under the supervision and appropriate intervention of chair and faculty who stay current on student progress via weekly grade updates and weekly news and procedure updates.

Assessments

The LOAL uses MyMathLab to deliver assessments based on desired course outcomes. Lab hours range from early morning to late at night Monday through Thursday, with morning and afternoon hours on Friday and Saturday. Students may take the assessments at any time the lab is open, may make as many as seven attempts at any one assessment, and are required to pass all outcomes lab assessments in order to pass the course. LOAL assessments count for 20 percent of the final grade. Students do not pass the course without at least 60 percent on each outcome and a minimum 70 percent overall average.

MyMathLab's Gradebook enables instructors to track student participation and progress and to intervene if necessary via tutoring or other support services.

Courses typically require 8 to 10 concept-based assessments. Regular assessment empowers students to take charge of their learning. By continually evaluating their strengths and weaknesses via the immediate feedback provided by MyMathLab, students know exactly where they need further study and are less likely to fall behind early in the semester, when it is hardest to rebound.

MyMathLab Implementation

Students utilize MyMathLab for testing and homework, which contributes 20 to 30 percent of their final course grade. The LOAL's emphasis on continual assessment and early intervention directly benefits from MyMathLab's core qualities of proactivity, time efficiency, flexibility, immediate feedback, security, and student accountability. The commitment of all faculty members to training in the software and in workshops on pedagogy further ensures program success.

Some instructors import grades into MyMathLab from other sources.

MyMathLab Course Results

Tables 1 through 5 show more-than-statistically-significant differences in retention, pass rates, and subsequent success between students who have completed the MyMathLab outcomes assessment program and those who have not.

In spring 2006 alone, retention rates among those students employing the LOAL/MyMathLab program in Introductory Algebra, Intermediate Algebra, or College Algebra were all above 90 percent. In the case of College Algebra, the 98 percent retention rate reflects a 75 percent gain

	Without MyMathLab	With MyMathLab	Percent Increase
Introductory Algebra	65%	97%	49%
Intermediate Algebra	71%	92%	30%
College Algebra	56%	98%	75%

Table 1. Retention Rates, Spring 2006*

**Data reflect unduplicated student enrollment.*

The way MyMathLab has enabled us to integrate outcomes assessments into our courses and then standardize them across the department—it's revolutionized our whole program.

—Maureen Loiacano
Lone Star College–Montgomery

over the 56 percent retention rate among those students who didn't employ LOAL and MyMathLab. See Table 1.

Pass rates from fall 2004 to spring 2007 comparing students who had completed the MyMathLab regular outcomes assessment program in the previous course and students who had not show the unequivocal benefit of regular outcomes assessment and early intervention. Col-

	Without MyMathLab in Pre-Algebra	With MyMathLab in Pre-Algebra	Percent Increase
Spring 2005	45%	54%	20%
Fall 2005	57%	59%	4%
Spring 2006	54%	59%	9%
Fall 2006	54%	62%	15%

Table 2. Subsequent Success: Pass Rates in Introductory Algebra, Spring 2005–Fall 2006*

*Data reflect unduplicated student enrollment.

	Without MyMathLab in Intro Algebra	With MyMathLab in Intro Algebra	Percent Increase
Spring 2005	36%	46%	28%
Fall 2005	50%	55%	10%
Spring 2006	50%	60%	20%
Fall 2006	51%	65%	27%

Table 3. Subsequent Success: Pass Rates in Intermediate Algebra, Spring 2005–Fall 2006*

*Data reflect unduplicated student enrollment.

lege Algebra, the first college-level class students typically take after completing the developmental math sequence, saw the most significant pass rate difference: an average of 79 percent for those who had worked in the MyMathLab-powered Learning Outcome Assessment Lab in their previous course work versus an average of 64.5 percent for those who had not. Tables 2 to 4 detail subsequent success comparisons from spring 2005 to fall 2006 for Introductory Algebra, Intermediate Algebra, and College Algebra.

Course enrollments are also increasing across all levels. Table 5 shows percent enrollment increases—most marked in Calculus, where spring enrollment increased by 30 percent.

	Without MyMathLab in Inter Algebra	With MyMathLab in Inter Algebra	Percent Increase
Spring 2005	55%	73%	33%
Fall 2005	76%	84%	11%
Spring 2006	72%	80%	11%
Fall 2006	55%	79%	44%

Table 4. Subsequent Success: Pass Rates in College Algebra, Spring 2005–Fall 2006*

*Data reflect unduplicated student enrollment.

	Spring 2005 to Spring 2006	Fall 2005 to Fall 2006
Developmental	4%	5%
College Level	13%	11%
Calculus	30%	10%

Table 5. Percent Increase in Course Enrollments

Conclusions

The faculty at Lone Star College–Montgomery continue to build upon the winning combination of MyMathLab and continual outcomes assessment in a mandated mathematics lab. By employing the following set of proven components, faculty find consistent, replicable success.

- Faculty and students with joint ownership of the math curriculum
- A technology-based outcomes assessment program with superior training and communication

- Understanding that outcomes achievement or not finishing lessons defines course completion
- Giving students the tools to assess their own progress, which leads to improved success rates
- Supportive faculty who are willing to offer their time, energy, and ideas

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