According to Tammy Muhs, mathematics coordinator, MyMathLab and MyMathLabPlus contribute to the increased quality of the course and to improved learning outcomes. “Prior to redesign, students were passively listening instead of being actively engaged and the course suffered from course drift due to a lack of coordinated content among instructors.”

Results of the redesign include:

- **Improved test averages.** Summer 2009 redesigned course mean final exam scores were 9.2 percent higher than that semester’s traditional course mean final exam scores. Fall 2009 redesigned course final exam scores were 2.8 percent higher than that semester’s traditional course final exam scores. See Table 1.

- **Improved pass rates.** Summer 2009 redesigned course pass rates were 21 percent higher than that semester’s traditional course pass rates. Fall 2009 redesigned course pass rates were 8.3 percent higher than that semester’s traditional course pass rates. See Table 2.
The MyMathLab and MyMathLabPlus programs are effective tools for increasing active learning. Requiring that students be active learners—that they spend more time doing math instead of watching math—has contributed to increased course quality and improved learning outcomes.

—Tammy Muhs
Mathematics Coordinator, General Education Program

### The Student Experience

- The course redesign enables members of a diverse student population to choose 1) when they access course materials, and 2) which instructional resources to use based on their schedules and academic needs.
- Built-in progress monitoring and access to instructors enables students and instructors to stay informed and accountable.
- Student-to-student collaboration via the course discussion board complements in-class group activities and, combined with a classroom response system, encourages active participation.
- According to a fall 2010 student survey, 61 percent of students replied that the redesigned course offered “considerably more instructional interaction” compared to other courses.

### Conclusions

“College Algebra was restructured to provide our largest course enrollment with a small-within-large environment,” says Muhs. “Students receive the benefits of an interactive and individualized online learning program plus one-on-one instruction from faculty that is focused, trained, and committed to providing consistent, coordinated instruction.”

Institutional benefits include the ability to serve more students, a reduction in repeated course attempts, coordination of sections, and the prevention of course drift.

Based on the success of the College Algebra redesign, UCF has redesigned Intermediate Algebra, Precalculus, and Trigonometry using the modified emporium model.

Submitted by Tammy Muhs
Mathematics Coordinator, General Education Program