

Product Used **MyMathLab**  
 Course Name **Fundamentals of Calculus with Applications**  
 Credit Hours **Three**



## KEY TAKE-AWAY

By requiring MyMathLab homework assignments and steadily increasing course rigor, faculty at University of Houston–Downtown encourage students to practice math skills until mastery. Students earn consistently high homework scores, final exam scores, and final course grades.

## Textbook in Use

*College Mathematics*, 11e, Raymond A. Barnett, Karl E. Byleen, Michael R. Ziegler

## Course Implementation

### Course Design

Students meet twice a week in a traditional classroom for 75 minutes of lecture each class period. MyMathLab is required for homework; students are also required to complete additional activities that supplement the lectures and otherwise enhance the learning environment. Students may complete MyMathLab homework on campus in the math lab, library, or any other computer lab; or at home.

### Assessments

5 percent	Classwork activities/participation
25 percent	Homework <i>Completed in MyMathLab</i>
45 percent	Three in-class exams <i>15 percent each exam</i>
25 percent	Comprehensive final exam

Students are assigned MyMathLab homework for each textbook section covered in class. They can make an unlimited number of attempts for each MyMathLab exercise in an assignment until the due date for that assignment. All MyMathLab homework assignments are due by the day of the exam on which that material is covered.

If a student's MyMathLab homework average is 80 percent or higher at the end of the semester, the lowest in-class exam grade may be replaced by the final exam grade, if doing so increases that student's course average.

### Use of MyMathLab

MyMathLab is used for homework. Students are encouraged to see the appropriate section of the eText before beginning homework assignments.

Use of MyMathLab contributes 25 percent to a student's final course grade.

## Results and Data

Timothy Redl, assistant professor, is confident that MyMathLab has contributed to student success in his course. "Students seem to enjoy MyMathLab online homework more than traditional paper-and-pencil homework," he says, "and good performance on homework generally translates into improved success."

To further challenge his students to access all of the MyMathLab resources at their fingertips, Redl has incrementally increased over time the rigor and demands of the course. Changes include increasing the amount of homework assigned and being more strict regarding due dates.

As illustrated in Table 1, since implementation of MyMathLab in fall 2007, Redl's classes have enjoyed consistently high homework and exam scores.

- An average ABC rate of 78.2 percent
- An average mean homework score of 85.5
- An average mean final exam score of 73.5
- An average mean course grade of 71.2

Term	Enrollment	Grade Distribution						Mean Homework Score	Mean Final Exam Score	Mean Course Grade
		A	B	C	D	F	W			
Fall 2007	40	15	12	5	2	2	4	91.0	75.0	82.5
Spring 2008	40	19	16	4	0	0	1	94.6	83.6	88.5
Fall 2008 (Section 1)	40	20	6	8	1	2	3	94.1	82.1	86.3
Fall 2008 (Section 2)	41	13	11	6	4	6	1	83.8	69.8	76.3
Spring 2009	38	17	11	3	6	0	1	91.3	77.8	85.8
Fall 2009 (Section 1)	39	10	12	11	1	3	2	88.8	73.7	80.8
Fall 2009 (Section 2)	39	10	12	5	4	4	4	87.4	68.8	78.5
Spring 2010 (Section 1)	39	9	11	9	4	6	0	81.4	66.1	73.1
Spring 2010 (Section 2)*	39	9	6	5	8	4	6	86.9	64.8	75.6

Table 1. Comparison of Fundamentals of Calculus Grade Distribution, Homework Scores, Final Exam Scores, and Course Grades, Fall 2007–Spring 2010 ( $n=355$ )

\*Plus one grade of Incomplete.

## The Student Experience

Some of Redl's students also take advantage of other online resources available in MyMathLab, including the Video Tutor and Student Solutions Manual.

Student survey responses indicate that students appreciate the immediate feedback that they receive upon completing an exercise, as well as the help offered via the Help Me Solve This and View an Example features.

Following is a sample of student responses to the survey questions: Did you find using MyMathLab helpful in learning the material? Why or why not?

- “Yes. It helped me continue working on the skills I learned in class.”
- “Yes, I did. It helped to have step-by-step examples.”

- “Yes, I did find MyMathLab very helpful, because there is a lot of help. There are examples and similar exercises, and I could practice and then see how I was doing.”
- “Yes. The software allowed me to review the exercises and pointed out errors, and the digital textbook allowed faster navigation and contained hyperlinks to videos and animations.”
- “Yes, because like with anything else, the more I practice, the better I get!”
- “Yes, I did find it very helpful because of the instant feedback. The examples were also helpful.”

## Conclusions

Redl elected to implement MyMathLab in Fundamentals of Calculus with Applications after experiencing firsthand the program's success in his courses. “I strongly believe that better results on MyMathLab homework assignments have led to better overall performance in the course and better understanding of the material taught,” says Redl.

Redl's future plans include increasing the number of exercises in each MyMathLab assignment—so as to further emphasize the importance of homework in learning mathematics—and possibly standardizing course delivery over sections by instituting use of the coordinator course feature.

*Submitted by Timothy Redl, Ph.D., Assistant Professor  
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