

## MyEconLab

School Name	University of Georgia, Athens, GA
Course Name	Principles of Microeconomics
Course Format	Lecture, required ebook, online testing only

**Key Results** Students earning higher than average MyEconLab homework grades also earned higher average exam and final course grades. In addition, students who use MyEconLab Practice Exams for exam preparation earned exam scores an average of five percentage points higher than students who did not prepare with Practice Exams.

**Submitted by**  
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**Course materials**  
MyEconLab, *Microeconomics* (ebook), Parkin

### Setting

University of Georgia, a public, four-year institution with three college-town campuses, is both Georgia's flagship university and the oldest public university in the country. The school serves more than 35,000 undergraduate and graduate students averaging 22 years of age; 24 percent are low income.

Principles of Microeconomics is a one-semester, three-credit course required of all business, journalism, and sports management majors. It enrolls more than 250 students per semester, from freshmen to seniors. Course content includes the study of how people and firms make choices in response to constraints and incentives; the market system of independent producers and consumers (how it operates, what it does well, and what it doesn't do well); and how government involvement affects the economy.

### Challenges and Goals

In fall 2010, Katherine McClain, lecturer, was asked to teach Principles of Microeconomics. Previous experience with an online homework and assessment program had already convinced her that regular practice was a requirement for course success. She sought a platform that included both content and assessment, and chose MyEconLab for its variety of content delivery methods, plus homework, quiz, and test capabilities.

### Implementation

Students must complete weekly, required MyEconLab homework by 11:59 p.m. on the date due after lecture. Home-

work assignments have approximately 25 questions each, including multiple choice for concept understanding and problems and graphing to address practice and repetition. McClain promotes homework as practice, not assessment. As such, learning aids are turned on and students have three attempts to arrive at their final answers. Students appreciated the ability to work problems more than once. In an end-of-semester survey, 86 percent of students said the multiple attempts helped them recognize mistakes and learn course concepts more completely.

Students may turn in late homework, but are assessed a five-percent penalty for every day it is late. Because McClain drops the lowest homework score, she is not compelled to extend deadlines. And instead of limiting herself to the publisher's preloaded assignments, she creates each assignment based on exercise topics that have been covered in lecture.

To prepare for exams, McClain recommends that students take advantage of MyEconLab's optional study features, including the Practice Exam, the Dynamic Study Modules, and the Knewton Adaptive Study Plan. Students who came to office hours expressing frustration with homework or test prep were directed to the Adaptive Study Plan to help them identify problem areas and specifically remediate those topics. Students who used the Adaptive Study Plan quickly identified its benefits. "If I pass this class, it will be because of the Study Plan. It saved my grade," reported one student.

Digital Interactives, a series of Pearson components slated for wide distribution in fall 2015, was beta tested by a select group of instructors, including McClain. These progressive-level, active-learning activities are built around core learning outcomes. To better help her students understand fundamental economic principles, McClain used the Digital Interactive on Competitive Advantage as a lecture tool—and it worked. In an end-of-semester survey, 84 percent of students indicated that the active learning aspect of Digital Interactive helped them understand chapter material more completely.

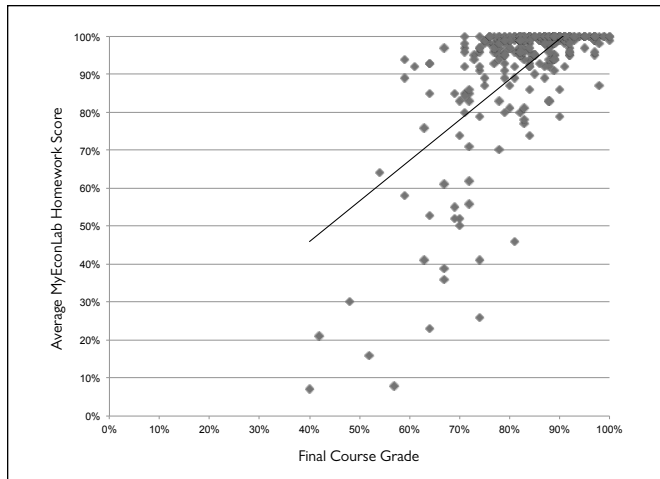


Figure 1. Correlation between Average MyEconLab Homework Scores and Final Course Grades, Spring 2014 ( $n = 284$ )

Students take exams online. Exams include 50 multiple-choice questions, are open book/open note, and have a 75-minute time limit to prevent students from being able to look up every answer. In addition, exams are open for 48 hours so students can take them when and where it is most convenient.

McClain believes in online testing for the following reasons:

- For instructors, grading is challenging in large lectures of 300+ students; online testing is immediately graded and scored.
- Students benefit from the immediate feedback and instant grading.
- It alleviates the need to maintain and store paper tests
- It helps curtail cheating without requiring that instructors write new exams every semester. Unlike paper exams, online exams are not available to subsequent semesters of students.

Students appreciate the online exams, as well. In an end-of-semester survey, one student reported, “I enjoyed the flexibility of online homework/exams. It allowed me to prepare more and reduced my stress while taking the exam.” What’s more, 76 percent of McClain’s students said they used their notes and textbook during the exam, but generally studied for the exam as if it were not open book/open notes.

#### Assessments

- 54 percent MyEconLab midterm exams (three)
- 25 percent MyEconLab final exam
- 21 percent MyEconLab homework and quizzes

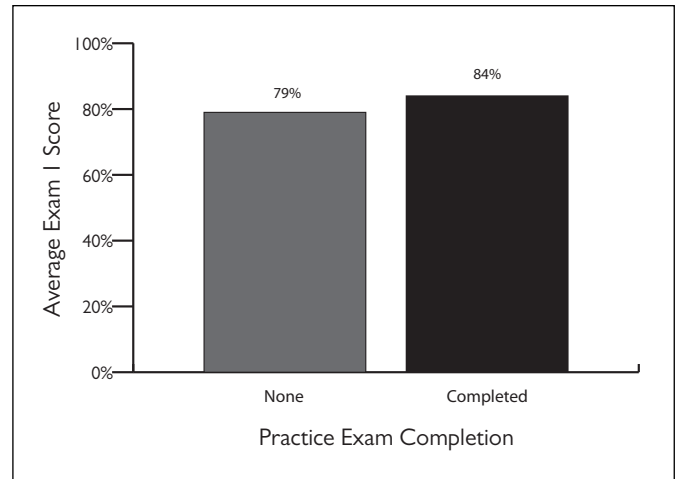


Figure 2. Average Exam I Score by Practice Exam Completion, Spring 2014 (None  $n = 187$ , Completed  $n = 95$ )

## Results and Data

Figure 1 shows the correlation between MyEconLab homework scores and final course grades (for students who completed the course earning a letter grade, where  $r = .65$  and  $p$  value  $< .001$ ), and indicates a strong positive relationship between them. MyEconLab homework scores help students identify where they stand in terms of successfully completing the course; it appears that performance on MyEconLab homework is a leading indicator<sup>1</sup> of overall course success. For instructors, MyEconLab homework scores may help identify students who are struggling or at risk.

In addition, the correlation between the MyEconLab homework grade to average exam grade identifies a moderately positive correlation at  $r = .36$  where  $p$  value  $< .001$  (not depicted here).

- Students earning final course grades of A earned average MyEconLab homework scores of 98 percent.
- Students earning final course grades of D or F earned average MyEconLab homework scores of 46 percent.

McClain strongly suggests, but does not require, that students complete a Practice Exam prior to taking the midterm. Figure 2 shows the grade distribution when students are grouped according to completion of the Practice Exam. Students who took the Practice Exam for midterm I scored an average of five percentage points higher on the midterm—the difference between a C+ and a B.

**30%** of students who completed the Practice Exam earned an A on midterm I.

<sup>1</sup><http://annenberginstitute.org/pdf/LeadingIndicators.pdf>

## MyEconLab homework scores help students identify where they stand in terms of successfully completing the course

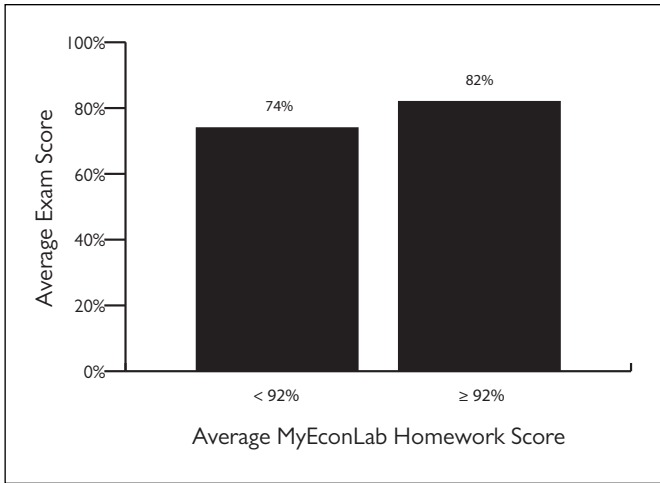


Figure 3. Average Exam Score by MyEconLab Homework Score, Spring 2014 (< 92% n = 61, ≥ 92% n = 223)

- 22%** of students who did not complete the Practice Exam earned an A on midterm I.
- 7.5%** of students who completed the Practice Exam failed midterm I.
- 16%** of students who did not complete the Practice Exam failed midterm I.

Students were also grouped according to MyEconLab homework scores (Figure 3). With 92 percent established as the average score, an analysis of the data indicate that students who scored at or above the average score earned average exam grades that were 11 percent higher than students who's homework scores were below the class average.

To further understand the impact of MyEconLab homework on exam scores, McClain evaluated exam performance using average exam I scores as a baseline. Students were divided into two groups: Low Exam with students who scored at or below the median of 83 percent on exam I; and High Exam with students who scored above the median. She evaluated the exam score trajectories, based on a 92 percent average MyEconLab homework score, by further dividing the Low and High Exam groups into Low Homework (HW) and High HW groups. The following findings were observed (Figure 4):

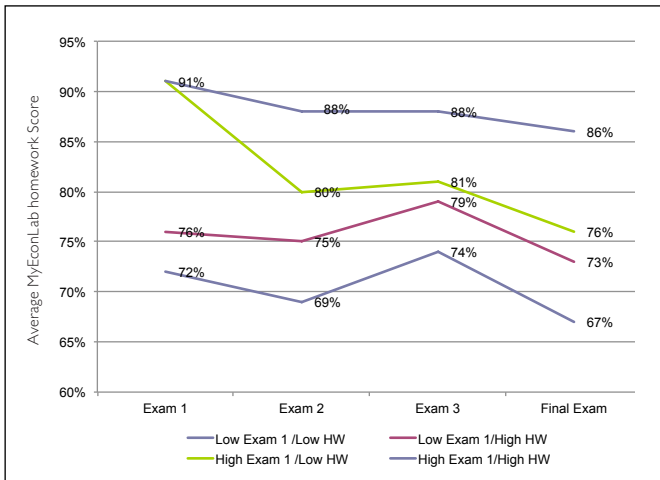


Figure 4. Comparison of Exam Performance by Exam and Average MyEconLab Homework Scores, Spring 2014 (n = 284)

- High Exam group. The High HW group starts statistically equivalent to the Low HW group at baseline, but is statistically significantly higher than the Low HW group on exam 2, exam 3, and the final exam. This gap generally increases as the semester progresses.
- Low Exam group. The High HW group begins with higher Exam Grades than the Low HW Group, and remains 5–6 percentages points higher on exam 2, exam 3, and the final exam. (The final exam was two percentage points higher than baseline for the High HW group.)
- Low Exam/High HW and High Exam/Low HW groups. By exam 2, the Low Exam/High HW Group is statistically equivalent to the High Exam/Low HW Group. This continues through exam 3 and the final exam.

These findings indicate a trend toward higher average exam scores, despite initial performance on exam I, for students who earn higher MyEconLab homework grades.

## The Student Experience

Responses from a spring 2014 student survey indicate that students make the connection between use of MyEconLab and increased course performance.

**94%** Agree or strongly agree that their understanding of the course material increased as a result of using MyEconLab.

**90%** Agree or strongly agree that the use of MyEconLab positively impacted their quiz and exam scores.

On the same survey, when asked what they liked best about MyEconLab, student answers included the following:

*“The program is user friendly. It was crucial to my success in the class.”*

*“The assignments on MyEconLab not only gave reasons as to why answers were right, it gave reasons as to why answers were wrong. This aspect of [the program] allowed me to learn from my mistakes.”*

*“I liked the unlimited amount of resources that MyEconLab had. It was definitely worth the money.”*

*“The Help me Solve This and See an Example features in particular, because they helped me learn concepts I was having trouble with.”*

*“I liked that each Chapter Study Plan came with so many practice problems grouped by concept. This helped me focus on weaknesses.”*

*“The program is easy to use and to understand. One of my favorite aspects was being able to click on the etext when I needed help with a question and having it take me straight to the correct section in the book.”*

## Conclusion

“The only way to learn economics is to practice it,” says McClain. “Homework is necessary.” But in lecture sections of 300 or more students, the time it would take to hand grade that amount of homework without teaching assistants prohibits even assigning it. MyEconLab enables McClain to assign her students the amount of practice that the course content requires, while also providing students with help and hints in the moments that they need them.

McClain uses the full breadth of MyEconLab features and functions, required and optional. “The tool is at its most powerful when you use all of it,” she says. According to their student survey comments, her students agree. They report that even optional features, like the Dynamic Study Modules and the Knewton Adaptive Study Plan are critical to course success.

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MyEconLab offers McClain and her students a one-stop shop—a communication platform that helps students remain organized by housing homework, grades, announcements, and other necessary information in one location. McClain reports that students frequently comment on the effectiveness of using MyEconLab as a repository for all their course needs.

Future plans include possibly making required some of MyEconLab’s optional resources, such as the Dynamic Study Modules, to assess how their use impacts exam and final course grades.