

Spotlight on: Mastering Engineering

How can Mastering Engineering help students succeed?

How can Mastering Engineering engage students and improve learning?

At [University of Texas El Paso](#), the Statics instructor was assigning paper-and-pencil homework and redesigned the course to include more in-class active learning. He implemented Mastering™ to administer homework with hints and automatic feedback to better prepare students outside of class and saw success rates increase (figure 1). <https://bit.ly/2lyJRWg>

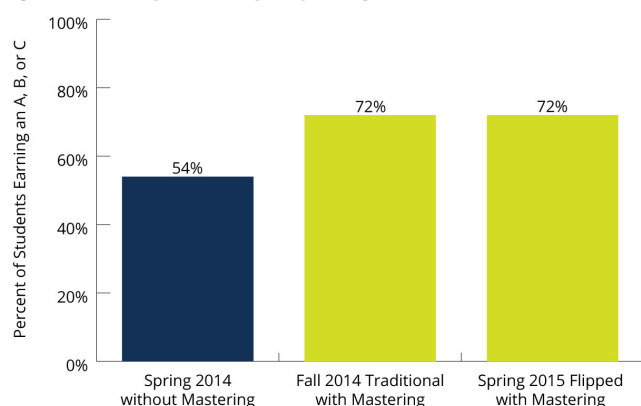


Figure 1. Success Rates, Spring 2014 (n=109); Fall 2014 (n=105); Spring 2015 (n=133)

Feedback from students at University of Texas El Paso:

"The ability to receive feedback after inputting an answer was probably what I liked the most about Mastering Engineering. This would allow me to go back to review the process I was doing."

"[Mastering Engineering] explains theory and problem solutions with hints. Also, you could go back anytime and check the homework."

"It allows multiple tries in case you mess up and need to revise your calculations to get a better understanding."

For more information, visit:

www.MasteringEngineering.com
www.pearsonmastering.com/results
 or [contact your Pearson rep.](#)

How can instructors mitigate cheating on Mastering Engineering homework?

At [Texas Tech University](#), the Mechanics of Solids instructor adopted Mastering Engineering. During the first semester, she felt that a number of students were cheating rather than working the homework problems. After analyzing results, the following best practices were implemented to address the issue, and exam scores improved. <https://bit.ly/2GGyExi>

- Early in the term, talk to students about cheating and emphasize how it can hurt them on exams.
- Include Mastering tutorial homework problems which are designed to help with problem solving.
- Use the [recommended Mastering settings](#) designed to minimize cheating.
- Focus on Mastering as a tool for learning and preparing for exams rather than as a primary way to earn course credit.
- Analyze course results to understand any trends or issues.

How can Mastering Engineering tutorials help students learn?

Tutorial problems are designed to help students develop problem-solving skills needed in engineering by breaking down steps and providing hints. At [Vanderbilt University](#), the Statics instructor added tutorial pre-lecture homework to prepare students for in-class problem-solving activities, and exam averages increased (figure 2). <https://bit.ly/2qarw1L>

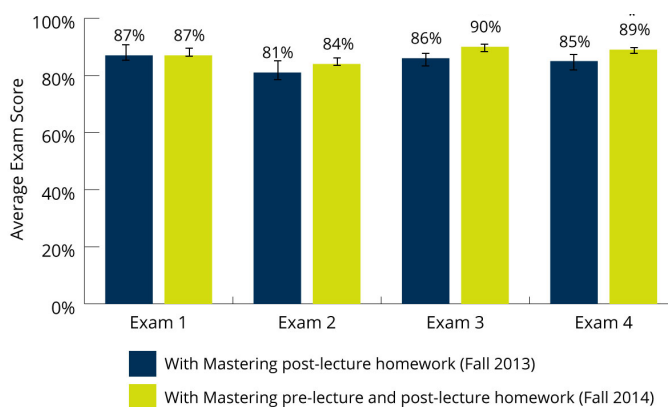


Figure 2. Average Exam Scores, Fall 2013 (n=50) and Fall 2014 (n=88)