

## FAU students build complicated machines for easy chores

By [KIMBERLY MILLER](#)

Palm Beach Post Staff Writer

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The task was simple enough. Quarter an apple, serve it on a plate.

But engineering students at Florida Atlantic University on Thursday didn't get points for keeping it simple. In fact, just the opposite.

Their job was to build complicated machines that involved a series of mechanical, computer and electrical engineering components to perform an easy chore.

Pumping water triggered golf balls to roll down ramps into buttons that would release arrows to set off doo-hickeys that would guillotine the apple and ding a bell to signify the finish.

"The idea is to use as many steps as possible to achieve a simple goal," said engineering professor Oren Masory. "They have to use their imaginations. They have to work together."

Meant to hone team skills and increase students' ability to use different engineering properties, the project was FAU's first Rube Goldberg design challenge.

Goldberg was an engineer and early 1900's cartoonist who was famous for his drawings of comical contraptions that perform simple tasks in indirect ways.

Nine teams participated in Thursday's challenge, which is part of a senior engineering class. The students had about five weeks to work on their machines and needed to engineer each contraption with a minimum of 16 steps.

The projects were assembled in the lobby of FAU's engineering building on the Boca Raton campus.

Luis Fernandez, 27, began setting up his Rube Goldberg machine at 7 a.m. — four-and-a-half hours before the challenge began.

"We gathered every day until 1 a.m. working on this," said Fernandez. "Instead of saying 'You do this, and you do that,' we worked together."

Grading for the projects was based on whether the task was performed, and how innovative each step was. The machines had to complete the task in six minutes.

There were some spits and sputters. A water pump ran too slow, marbles flew off a track instead of falling into a cup, and a golf ball wasn't quite heavy enough to punch a button and trigger the next step, but overall Masory seemed pleased with the projects.

"I've never seen the students so excited," Masory said. "They were here at 7:30 this morning. In the summer. I've never seen that."