

# On the road or in the kitchen: Novel storage solutions top engineering design competition

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The Pendler is a durable, lightweight all-in-one commuter bicycling product that combines a carrying rack, light, fender and waterproof storage.

With a bicycle accessory that integrates several currently separate components, two University of Wisconsin-Madison mechanical engineering seniors won first place and \$2,500 in the [2012 EMA/ME Design Competition](#), held December 12 on the UW-Madison engineering campus.

Joseph Maloney and Alex Cross developed The Pendler, a durable, lightweight all-in-one commuter bicycling product that combines a carrying rack, light, fender and waterproof storage.

Engineering mechanics and astronautics seniors Jennifer Hull, Aaron Riedel, Alex Schwartz, Kelly Scott and Peter Sweeney earned second place and \$1,000 in the competition for the RotoRak, a customizable storage cabinet with rotating shelves that allow users easy access to items otherwise stored too high to reach. EMA seniors Ben Butler, Brent Kocken, Matt Mannebach, Matt Dhennin and Steve Wishau received the people's choice award of \$500 for the Truck Trolley, a device that enables people to lift and load heavy objects easily into or out of a truck bed.



RotoRak is a customizable storage cabinet with rotating shelves that allow users easy access to items otherwise stored too high to reach.

The students were among seven teams of students enrolled in the *engineering mechanics senior design* (EMA 469) and *mechanical engineering senior design* (ME 349) courses who showcased products they designed and built throughout the fall 2012 semester.

The competition, which also was broadcast live online, is intended to motivate high-quality, original design and reward students for hard work. In September 2012, each team chose an idea and spent the next three months developing, refining and building its solution.

UW-Madison engineering alumni Kathryn Clouse, Dustin Kaap and Ed Giske judged the teams on the novelty of their idea, quality of their oral presentation, completeness of the design, market research, safety and compliance with codes or standards, drawings, written report and design notebooks, and prototype construction.

In addition to the winning entries, groups of students also presented the AutoShot, a soccer goalie practice device; the EvacuPac, a hiking backpack that converts into a stretcher; ReguFlate, a bicycle tire inflator that allows users to control the tire pressure; and Silver Sorter, a device for commercial kitchens that can sort large volumes of cutlery.

Mechanical Engineering and Engineering Physics Adjunct Professor Fred Elder coordinates the competition and says the senior [design](#) course is an important milestone in the students' academic careers. "Each team worked hard and made good progress in that very important transition from student to engineering professional," he says.

Provided by University of Wisconsin-Madison

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