

Students put mettle to the pedal to build bike-powered charging station

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Students can power up their small electronic devices by plugging in and pedaling away on a new bike-powered charging station. Credit: Christina Woodward

People power has become a new form of alternative energy at Northern Arizona University.

After nearly a year of planning and construction, a small group of dedicated NAU students has discovered a hands-on, interactive way to charge small [electronic devices](#) and educate peers about electricity—by pedaling a bicycle at a bike-powered charging station.

To use the station, students plug in their small electronic devices, get on the bike and pedal.

"The station will be really helpful for students who need to charge something during the day," said Marilla Lamb, a 2012 environmental engineering graduate.

The station has a built-in USB outlet for cell phones and iPods.

"This is a device where people can actually feel what power is and where it is coming from," said Matt Petney, an engineering senior and Honors student. "This station will give students a physical idea of the energy they use."

The bike-powered charging station initially will be placed on the second floor of the engineering building but will be moved to different buildings around campus throughout the year—with the goal of reaching as many students as possible.

A cross-section of NAU students contributed to the project and built each bike component. [Engineering students](#), computer science students and students from NAU's triathlon and cycling teams all played a role in the charging station's development.

"We worked with the [electrical engineering](#) students and computer science students directly to create every piece from scratch," Petney said.

The students built the stand, placed glass around the battery, mounted the handlebars and created the small computer [touchscreen](#) that displays the amount of energy being produced. The Yellow Bike Program at NAU donated the bike, and the Green Fund granted \$2,900 to pay for [building materials](#) and supplies.

"The objective is to make students aware of the amount of electricity they use," Lamb said. "We tend to plug things into outlets without any thought."

In addition to raising student awareness about their energy consumption, the creators of the bike-powered [charging station](#) hope to inspire additional ideas and encourage other students to get involved.

"If students take the initiative, the opportunities are endless," Petney said. "College is not all about what you learn from textbooks."

Provided by Northern Arizona University

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