Purdue helps teachers engineer fun science projects

For the second consecutive year, Purdue University is giving elementary teachers a crash course on putting engineering and design principals into practice in their classrooms.

More than 40 teachers from four school districts are on Purdue’s campus to take part in SLED, a program in which Purdue faculty train teachers on implementing design projects for elementary students.

Its name standing for Science Learning through Engineering Design, the program is in the second year of a five-year grant from the National Science Foundation.

“The thing that is awesome is this is all across campus,” said assistant professor Todd Kelley. “It’s representatives from the College of Science, the College of Engineering, the College of Technology. Purdue has benefited from this as much as the schools have.”

During the two-week program, teachers will work on projects ranging from designing a habitat for a reindeer at Colombian Park Zoo to using a solar tracker device to track the position of the sun.

In one exercise, the teachers broke into teams to create a windmill capable of lifting a weighted bucket.

“Our kids thrive on project-based learning, so anything hands-on they just excel in,” said Sunnyside Middle School teacher Elizabeth Hittle.

Hittle attended the workshop last year but it was her colleague, Brent Martin’s, first time. The two are partner teachers at Sunnyside, with Hittle teaching language arts and social studies and Martin teaching math and science.

Martin said he tries to get his students to realize that engineering is everywhere.

“We tell them to take a look at any building you walk into,” Martin said. A close-by example, Martin said, is Sunnyside building, which underwent a major remodel in 2010.

“Sunnyside is a new school and engineering is everywhere in our building,” Martin said.
“Everything from chairs to tables to smartboards, everything we have has engineering built into that.”

Participating teachers come from Lafayette, Tippecanoe, Taylor and Plymouth school corporations.

The program was piloted in 2011 at Lafayette Christian School and Sunnyside. Fifth- and sixth-grade teachers were invited this year and last. Next year and the year after that, the age range will change.

“All of the activities are hands on,” said associate professor Brenda Capobianco, co-director of the program. “They reinforce one or more science concepts that require the students — or in this case the teachers — to use design to solve the problem.”

Sunnyside teacher Jennie Dickensheets also attended last year. She said this year’s workshop is “just as exciting.”

“This is what the country’s going toward. This is a way to generate interest in science, and it also shows students how math and science are connected.”