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Public Power District Partners with Central Community College to Promote STEM Education

The Nebraska Public Power District (NPPD) and the Central Community College (CCC), Hastings Campus, have harnessed the power of competitive robotics to engage students and promote interest in science, technology, engineering, and mathematics (STEM) education in a partnership to ensure a skilled workforce for Nebraska.

For several years, NPPD has supported teachers and schools in Nebraska through its STEM Outreach program by providing robotics kits and teacher workshops to develop interest in STEM careers. The partnership with CCC expands the reach of the program by bringing competitions to the mid-western Nebraska region. This eliminates the need for schools to travel to compete, enabling more schools to participate.

Kim Liebig, outreach programs specialist for the NPPD, says, "We are an advocate of Nebraska's community college system and support the education of tomorrow's youth by sponsoring programs that attract and retain a highly capable workforce reflecting the nature of the electric utility industry."

NPPD sponsors competitions, provides mentors to teams, hosts training sessions to help teachers use the equipment and curriculum, and helps manage competition participation. As part of the program, schools receive a custom VEX Robotics Kit, bundled with intelitek's Introduction to Competitive Robotics web-based curriculum.

The program has helped the NPPD and CCC partnership recognize the added value of robotics curriculum in the long-term success of STEM programs in Nebraska Schools.

"The robotics program for middle and high school students has em-

phasized the importance of science, technology, engineering, and math in the utility's business," says Liebig. "It has also helped NPPD build partnerships with schools throughout the state and establish relationships with members of its future workforce."

STEM skills are emphasized as student teams build and program robots, using a combination of online curriculum and hands-on activities.

Kim recognizes the effectiveness of robotics as an educational tool. "Hands-on activities are an excellent way to engage students and introduce engineering and utility concepts," she says.

"Robotics competitions give students the teamwork skills that are needed to be successful in today's workforce," adds Becky Utter, project coordinator with Midwest Center for Plastic & Design at Central Community College, Hastings. Becky also notes that the choice of curriculum fits well with the goals of the partnership, to "reach out to youth in Nebraska to promote STEM by utilizing the VEX Robotics platform."

Millard School District in Omaha, a recent recipient of the robotics kit and teacher training, went on to implement a full engineering program in three high schools, outfitted with intelitek's Robotics Engineering Curriculum, a scaled up version of the curriculum used with NPPD's robotics kit.

"intelitek's Robotics Engineering Curriculum is specifically designed to be used with the VEX Robotic platform," Becky notes, "and is a great tool for middle and high school classrooms."

The growth and adoption of the program throughout Nebraska is evidence of its effectiveness. NPPD and Central Community College are realizing the goals of their partnership, which bodes well for the future workforce in the state.

"This program is expected to en-

courage student interest in the STEM areas and foster engineering and technical skills," says Kim. "This will be to the benefit of NPPD's potential future workforce."

2012 RASC-AL Competition


NASA and the National Institute of Aerospace announce the 2012 Revolutionary Aerospace Systems Concepts Academic Linkage Competition. RASC-AL is a design project competition aimed at university-level engineering students. The RASC-AL contest challenges participants to design projects based on real NASA projects. Participants can choose from four different themes. These design projects potentially could be implemented by NASA.

Interested teams are requested to submit a notice of intent as soon as practical, and teams must submit an abstract for their proposed project by January 20, 2012. The RASC-AL Steering Committee of NASA and industry experts will evaluate the proposals and select as many as ten undergraduate and five graduate teams to compete against each other at a forum in June 2012 in Florida.

The RASC-AL competition is open to full-time undergraduate or graduate students majoring in engineering or science at an accredited university. University design teams must include one faculty or industry advisor with a university affiliation and two or more undergraduate or graduate students. A group of universities may also work in collaboration on a design project entry. Multidisciplinary teams are encouraged.

For more information about this competition, visit www.nianet.org/rascal/index.html. Questions should be sent to Shelley.Spears@nianet.org.

Calendar

Mar. 15-17. Annual Conference, International Technology and Engineering Educators Association, Long Beach, CA. www.iteaconnect.org/Conference/conferenceguide.htm 

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