

By Kim Fisch
Villager Correspondent

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[Print Page](#)

Students excel at bridge competition

COVINGTON TWP. — Three seniors from North Pocono High School were the top engineers for the Annual Bridge Building Contest held at the high school in January, sponsored by Mr. Mike Hricko and Dr. John Croom as part of the Principles of Engineering course offered at the high school.

These structures were built by Chris LaRosa, Paul Mellen, and Zach Guse, with Chris engineering the top bridge that held nearly 1000 times its own weight.

As part of the International promotes Bridge Building Competition with its purpose to identify which builder has designed, constructed and tested the most efficient bridge within the specifications, fundamental principles in physics are studied and applied.

These contest specifications change each year, allowing students to develop a different design.

According to Co-Advisor Dr. John Croom, “the students build the bridges as part of the Principles of Engineering course offered at North Pocono, which is designed to give students real-world hands-on applications to science while following the engineering design process.

The construction and testing of model bridges promotes the study and application of fundamental principles of physics and material science as well as helping students develop computer aided design skills and hands-on craftsmanship skills throughout the construction phase.”

The bridge engineers also learned about forces, torques and wood material design.

From the January competition against schools from 18 counties in the region, Chris, Paul, and Zach represented North Pocono at the regional competition held at the Viewmont Mall in Dickson City on February 13th in this academically oriented extracurricular activity.

With the excellent design of their bridges all constructed from 3/32” square basswood sticks, Zach Guse placed nineteenth with his bridge holding 334 times its own weight., Paul Mellen placed fifteenth; his bridge held 386 times its own weight. The champion, Chris LaRosa, placed first overall which moves Chris on to the 38th International Bridge Competition at the Illinois Institute of Technology in Chicago in May. This makes Christ the eleventh North Pocono student since 1997 to travel to the national tournament.

According to the 2016 International Bridge Building Contest Rules, “model bridges are intended to be simplified versions of real-world bridges, which are designed to accept a load in any position and permit the load to travel across the entire bridge.

In order to simplify the model bridge design process, the number of loading positions is reduced to three, and to allow the contest to proceed in a reasonable amount of time, only one loading position is actually tested.”

Chris LaRosa said, “My favorite part about the contest was the hands on building that occurred.” He plans to build and test more bridges to improve his design between now and May. Chris is also an ATV Tour Guide who likes to restore and repair quads with plans to major in engineering technology at Penn State where he was accepted.

Accepted at the University of Colorado, Zach Guse will be studying Environmental Engineering and Paul Mellen will be majoring in Civil Engineering at Penn State in the fall.

Advisors, Mike Hricko and John Croom have been involved with this contest for six years to “give students a tangible way to learn and demonstrate their understanding of Science and Technology.

“This event gives students hands-on experience that directly related to real life situations. Students become more engaged in their learning when there is a hands-on component.”



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[Print Page](#)