

## Northwestern Lehigh team wins top prize in 48-Hour Challenge

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A team from Northwestern-Lehigh High School in New Tripoli, PA, won the \$5,000 first prize in Alfred University's 48-Hour Challenge, a math-science-engineering competition for high school students. To win, the team had to complete a series of lab experiments that tested their ability to solve problems in physics, chemistry, biology and math. For the second part of the challenge, they had to use the answers from the lab experiments to decode a poem that led them to the final part of the competition - building a clock that would measure an hour, with an alarm that sounded on the half-hour. Northwestern-Lehigh finished the competition 10 points ahead of the other 19 teams, said Dr. G. David Toot, professor of physics at Alfred University who headed the team of faculty "masterminds" who devised the challenge. Over the past six months, students had been fed clues through the website, but it wasn't until they arrived on campus that they learned the actual challenges ahead of them. They had a total of 48 hours to complete the labs, decode the clues, build their clocks and then test them. Each of the five members of the first place team will receive \$500 and the high school will receive \$2,500. The Northwestern-Lehigh team members, advised by David Moyer, are: Laura Dietrich, 16, daughter of Curt Dietrich and Brenda Druckenmiller, both of Orefield, PA. Elizabeth Vaughn, 16, daughter of Dr. Robert Vaughan and Dr. Lisa Baker-Vaughn of New Tripoli, PA. Adam Hardy, 16, son of Charles and Supaporn Hardy of Schneckville, PA. Greg Bringhurst, 17, son of Andrew and Kimberly Bringhurst of New Tripoli, PA. Andrew Zoghby, 17, son of David and Pamela Zoghby of New Tripoli, PA. Second place in the competition went to Notre Dame High School in Batavia, NY. Each of the team members will receive \$250, and the school will receive \$1,250 for a total prize of \$2,500. Advisor for the Notre Dame team is Dan Ankrom. Members are: Marc Cohen, 17, son of Howard and Lori Cohen of Batavia, NY. Jacquie Klotzbach, 17, son of Mike Klotzbach of Batavia and Michele Smith of Hilton, NY. Joshua Lieberman, 16, son of Linda Lee Lieberman of Batavia, NY, and the late Howard Lieberman. Andrew Tracz, 16, son of Tim and Judith Tracz of Batavia, NY. Felicia Hackett, 16, daughter of Paul Hackett and Fely Hackett, both of Batavia, NY. Third place, which carries a \$1,500 total prize, went to Midlakes High School in Phelps, NY. Each team member will receive \$100 and the school will receive \$1,000. Advisors are Jan Fellenz and Ron Flye. Members are: Peter Fellenz, 15, son of Andrew and Jan Fellenz of Phelps, NY. Andrew Flye, 15, son of Ron and Christie Flye of Newark, NY. Adam Norsen, 16, son of Glenn and Linda Norsen of Phelps, NY. James Blythe, 16, son of Roger Blythe of Clifton Springs, NY, and Pamela Follett Stevenson of Phelps, NY. Jeannette Frederick, 17, daughter of John and Jan Frederick of Clifton Springs, NY. The competition was sponsored by Erick Laine, chairman of the board of Alcas Corporation in Olean, NY, and a member of the AU Board of Trustees, and by the Cutco Foundation. Alcas Corporation manufactures the Cutco line of knives. Laine, who is an engineer, wanted to stimulate high school students' interest in the fields of science, math and engineering. Laine said he sponsored the competition "to energize students, to get them interested in studying things they maybe hadn't thought about studying before." Alfred University's School of Engineering has top-rated programs in ceramic engineering and glass science engineering, as well as materials science, biomedical materials engineering science, electrical engineering and mechanical engineering, but few high school students are aware of what a ceramic engineer, glass scientist or materials scientist does. Through the competition, Laine said, he wanted to heighten students' awareness of those fields and the technology they've generated - everything from fiber optics and glass patches for broken bones, to computer chips and space shuttle tiles. Once teams - each comprised of five students and at least one advisor - had registered, they were given a password that would give them access to the special 48-Hour Challenge website. On-line clues were a mixture of basic tools, things related to time and time-keeping, and codes and decoding, Toot explained. When they arrived, they were told that a mysterious group called "O.R." was making its presence known, and was threatening to reveal a deep dark secret about King Alfred that would embarrass those who thought of him as great. "O.R." ordered that the teams be put through a day of rigorous training labs that covered topics related to time and also to a secret code. The labs were an hour long and each team completed 10 of them. On the second morning, the teams were given a very elaborate coded message to decode, which required the use of information gathered the day before. This code revealed what their major project was to be - to build a clock out of modern equivalents to materials that Alfred could have had. (Soda bottles instead of the stomachs of pigs, etc.) "O.R." indicated that Alfred's dark secret lay in something that he could have fixed had he only made a simple clock. The fact that Alfred later did, in fact, invent a simple clock, is alluded to. They had until 9:30 the next morning to finish it. On the final day, Alfred's "dark secret" was revealed: Alfred burned a cake he had been left in charge of while he was in hiding from the Vikings. Thus, the students were

asked to build clocks that could be used as cake timers. Each clock was to set off some kind of alarm after 30 minutes, but then continue to read time until the cake was done. Carillon bells sounded as the cake was started and stopped. For more information about Alfred University, visit [www.alfred.edu](http://www.alfred.edu).