

University of Maryland students mentor high schoolers in STEM fields

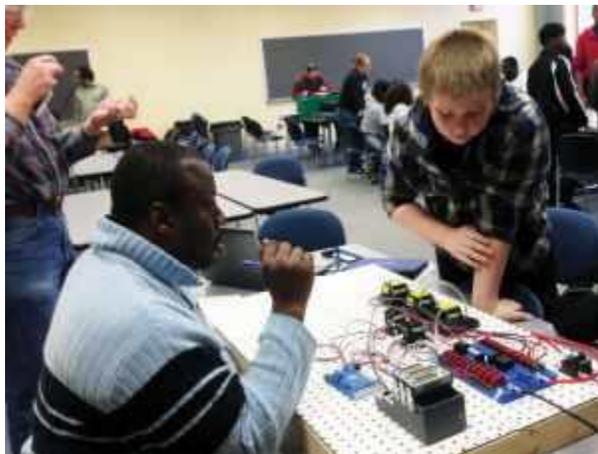


Photo courtesy of Dawn Buckley

Team Illusion

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by [Madeleine List](#)

Building a Frisbee-playing robot was hardly the end of the learning process for Team Illusion, a group of Prince George's County high schoolers, and its mentors from this university.

More than half of the high school students are home-schooled, and their mentors hope to get them interested in science and technology as part of the organization FIRST, For Inspiration and Recognition of Science and Technology, which sponsors mentor-based robotics programs for elementary through high school-aged students. FIRST hosts an annual competition, and after Team Illusion won the "Rookie All-star Award" in the Washington regional competition, it will move on to the championships in St. Louis later this semester.

The program spans across 50 states and 50 countries, said Bill Duncan, the university FIRST chapter's regional director.

"They learn not only about technology, but they learn a whole bunch of life skills that we hope will help them toward future careers," he said.

Students at this university who are part of a new on-campus group, called Mentors Advancing STEM Education, have been working with the high schoolers since October to help them excel. The student-mentors spent 24 to 30 hours per week training the high schoolers, many of whom

were new to engineering and programming, said Kanay Patel, freshman mechanical engineering major and vice president of MASE.

The competition is centered around a different sports theme each year, so once team members found out on Jan. 5 this year's robot would have to relate to ultimate Frisbee, the team had six weeks to build it.

Even though it was sometimes grueling, the hard work paid off when the team earned a spot in the championships. Team Illusion member Joe Buckley, 16, said the experience was worth the immense time commitment because it taught him teamwork, improved his problem-solving skills and helped him hone his interests.

"I've always enjoyed the idea of being able to design things and work with different machines," he said. "It's always been fascinating to me how these different machines work. I've learned a lot about it this year. It's been a really fun experience getting to meet all these people."

And the university student mentors, many of whom went through FIRST programs in high school, were able to provide "expert knowledge," Buckley said. The relationship between the mentors and high schoolers is mutually beneficial, said Betsy Mendelsohn, university Science, Technology and Society director and the club's adviser.

"The high school students benefit by having almost one-on-one contact with college students who are basically living the life," Mendelsohn said. "It helps college students because for freshman and sophomore engineers, the coursework can be a little dry. When they work with young people, they get an affirmation that they know stuff. It keeps the young college students engaged in engineering because that's something they miss."

The work between students and Team Illusion helps foster a connection between Prince George's County high schoolers and this university, so Vijay Kowtha, Naval Research Laboratory researcher, helped get funding for the team to keep the program going.

"They considered themselves as friends," he said. "It was such a joy to see them working together. The life learning skills that you don't learn in school, the mentors were able to provide."

Kowtha got about \$7,000 from the Department of Defense's National Education Defense Program, which paid for registration with FIRST and parts for the robot. The team raised extra funds through bake sales, grants and donations from companies, Buckley said.

Kowtha said he hopes the team will have a place to work closer to the university next year. Meetings were held in the Sri Siva Vishnu Temple in Lanham, and transportation was an issue, he said.

Programs like FIRST are instrumental in recruiting students into STEM fields, especially for demographics that are still underrepresented, Duncan said, including women, African-Americans and Latinos. By reaching out to students in underrepresented areas, such as Prince George's

County, and combining competition with a sports theme, FIRST helps students enjoy engineering and envision future careers.

Many of Team Illusion's members will walk away with a better sense of what they want to do later in life, Patel said.

"A lot of these kids didn't know what they were going to do after high school," he said. "They were confused about their futures and this gives them some hope."