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Mentoring program celebrates milestone by hiring alumna

Middletown High School graduate began working for Bechtel in December

by Tripp Laino | Staff Writer

While some people use popsicle sticks and glue for creative craft projects, students involved with the Frederick chapter of the Architecture, Construction and Engineering Mentor Program (ACE) use them to create weight-bearing bridges in friendly competition.

The ACE program teaches high school students about various aspects of architecture, construction management and engineering fields – from the planning and design of structures to the best ways to present projects.

Although there have been students who returned to Bechtel and other mentor businesses for internships, according to chairman Bryan Jay Burke, they had never come full circle and hired an alumnus from the program, until December.

Tom Fedor/The Gazette

Kyra Davis is the first ACE graduate to be hired by a participating company. ACE is a mentor program for students interested in architecture and engineering. Bechtel is a local sponsor.

Kyra Davis, who graduated from the University of Pittsburgh in 2009 with a degree in civil and environmental engineering with a certificate in nuclear engineering, is the first program alumna to begin working for Bechtel in the engineering field. She participated in the inaugural year of the ACE program in 2005-06, her senior year at Middletown High School.

Burke said the program is designed to encourage students who might not be considering entering the field.

"We're not trying to reach somebody that already has a clear path into engineering, the goal is more the student in the middle of the class, somebody that just hasn't found the direction they need" he said. "[We're] not looking for the straight-A student."

First-year students are presented with engineering puzzles, such as how to create a piping system to divert water into two buckets, with a specified portion going into the first bucket, and the remaining into the second, or the aforementioned popsicle stick bridges.

Burke said these activities were some of the most popular among first-year students. Second-year students compete in a national ACE competition, designing and planning a building, such as a firehouse or school or a structure such as a pedestrian bridge.

During her year in the program, Davis and her teammates designed a coffee shop to fill a vacant business space. Under the supervision of their mentor, the group visited the site to take measurements, drafted building plans using a computer program and worked on building design, such as heating and air-conditioning options.

Burke said he enjoys watching the current students tackle design issues.

"It really kind of cheers you up," he said. "What inspires me is their approach to things, their enthusiasm; they obviously look at things differently."

The students design both the plans for the structure and the construction, creating materials and equipment lists, and a timeline for construction. Students then present their projects, explaining the merits of their solution, as well as the predicted costs of the project. And while it's important for students to come up with a working design, Burke said learning the engineering process is vital.

"What's important is not what they do but how they approach it, what they learn, the effort and thought they put into it," he said.

Davis credits the program with helping her develop contacts with people in the engineering industry. Her network of contacts provided support while she was in college, as well as helped her find internships in the engineering field.

While Davis said she was nervous during the job application process, she ultimately received the good news she was hoping for. "Once I got the phone call I was ecstatic," she said.

Now that she's working at Bechtel, she's been volunteering time to help the newest ACE class, sitting in on college panels and attending meetings, as well as helping to review final projects. She said she was impressed by the current students' projects. "The students know basically what they're doing," she said.

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