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2017 Crab Boat Engineering Challenge

Tuesday, May 9, 2017

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Blue skies and unseasonably warm temperatures for late April provided ideal conditions for high school students putting their Chesapeake deadrise crab boat models through the test in the 2017 Eastern Shore Crab Boat Engineering Challenge sponsored by the University of Maryland Eastern Shore.

For **Jeremy Novak**, the 16-year-old Stephen Decatur High School team captain, the project touched on his woodworking hobby and his background living on the water operating boats.

“My favorite part of making ‘Miss Decatur’ was working with local boat builder, Mr. Joey Miller,” Novak said. “He is a salt-of-the-earth kind of guy and provided the wisdom, foresight, ideas and the humor needed to make ‘Miss Decatur’ look as realistic as it does. We built a beautiful boat and although it took a lot of time to build (and mistakes along the way, he added), the end result was well worth it.”

The proof – Team Decatur took home the award for “Best Design” at the second annual competition.

It was the culmination of the academic year’s work – one that had the aspiring engineers putting in “beyond the bell” time, according to **Larry Ryan**, faculty adviser for Team Decatur.

Participating teams were tasked with working through the engineering process like professionals do to design and operate “sea-worthy and functionally sound” remote-controlled watercraft, said Dr. **Tyler Love**, UMES’ coordinator for the event and an assistant professor of [technology and engineering education](#).

During the April 28 competition, the vessels raced in a boat ramp at the University of Maryland Center for Environmental Sciences in Cambridge to collect the most miniature crab baskets in an allotted time-frame.

“Students applied their knowledge of STEM concepts such as environmental impacts of crabbing, the history and design of the deadrise (a wooden-hulled work boat characterized by a small cabin, open cockpit and a large open work area aft), buoyancy, stability, manufacturing processes, electronics and transportation technologies,” Love said.

Teams made their boats from scratch using computer software to design them to scale and guided by an online workshop UMES provided that discussed various materials teams could consider using, Love said. “Some used plywood, some used foam, some used sheet metal. That was the beauty of this activity, seeing the creativity and innovation of the students’ designs.”

The event grew from last year, Love said, with eight teams and some 50 students participating in the 2017 event; some traveling from Maryland’s western shore and Virginia’s Tidewater area.

“The event aligns with the university’s outreach mission, providing valuable learning experiences for area high school students and teachers while serving as a recruitment tool for the university,” Love said.

Teams were judged on their boat design and performance, a written report showing their mathematical calculations and addressing the environmental impacts of crabbing, and responses to questions, Love said.

Old Mill High School in Millersville, Md. came in first place with Virginia Beach City Public School’s Advanced Technology Center taking the number two spot and sportsmanship award.

UMES organizers collaborated with Kelvin® Educational, which donated the model boat motors, University of Maryland Extension 4-H STEM agents who judged entries and UMES faculty. Technology and engineering education students at UMES helped facilitate the event, and manufactured the award plaques and souvenir 3-D printed key chains.



Jeremy Novak preps ‘Miss Decatur’ for launch

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