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Ahoy Aggies! | College of Engineering

12/21/2017

USU Engineering Students Design and Race Model Sailboats

embed-responsive-item<https://www.youtube.com/embed/NHSG1gZ9XbM5603150>

Dec. 21, 2017 – In landlocked Utah, freshmen engineering students at Utah State University got a hands-on lesson in sailing the open seas.

Students in an introductory engineering course designed and built radio-controlled sailboats and raced them in a shallow indoor pool built specifically for this unique student experience.



USU students designed and raced radio-controlled sailboats for an intro to engineering course.

“The main goals of the sailboat project were to get students excited about engineering and provide them with experience completing a design project using an engineering design methodology,” said instructor Dr. Kathryn Graham.

Throughout the course, students performed various analyses using science and mathematics to ensure their designs would be seaworthy. A buoyancy analysis confirmed the vessels would float, and a mast material analysis was done to verify the material chosen for the mast could withstand the wind loads generated by an industrial-size fan.

Graham says the project was an important exercise to show students the connection between design and problem solving — a key aspect in today’s engineering professions.



Instructor Dr. Kathryn Graham says the project demonstrated the design and problem solving skills needed by today's engineers.

"In the first two years, our engineering students take basic science and mathematics courses, but they often have difficulty seeing how engineers apply science and math to solve problems," she said. "This project gave students an opportunity to evaluate the performance of their sailboat design and gave them experience working in teams. They also discovered the importance of documentation and time management in engineering."

At the end of the course, student teams competed in a sailing regatta across the 800-square-foot pool. The course also gave students the opportunity to explore the facilities and equipment available on campus including the IDEA Factory and the Student Prototyping Lab.

[Engineering 1010 Regatta Photo Gallery](#)

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