

Aggies Sweep Awards At Regional Engineering Event

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April 22, 2022 — Near the glitzy Las Vegas Strip, a team of Utah State University students spent their weekend competing in a series of events designed to test their resolve as future engineers.

The American Society of Civil Engineers, or ASCE, regional symposium drew hundreds of undergraduate engineering students from across the Intermountain West. USU sent a delegation of 30 undergrads to compete in multiple events. The team brought home three first-place wins and a unique college experience they won't soon forget.

Concrete Canoe: Third Place in Men's Sprint



Engineering undergrads Emilie Hill, left, and Marianne Drollinger race USU's concrete canoe at Lake Mead on April 15.

Yes, they float! The annual concrete canoe competition challenges students to formulate unique blends of cement, aggregate and building materials to a form lightweight, seaworthy vessel. USU's canoe — dubbed "Phoenix" to emphasize a long-awaited return to the games after two years of COVID-related shutdowns — passed its swamp test and was a serious contender in the race lane. The team took third place in the men's sprint event and performed well in the presentation and display portions of the competition.

Surveying: First Place Overall

Contestants use surveying equipment to solve problems they might encounter on a real-world engineering project. This year's event required teams to accurately plot the location of building corners and other surveying tasks. After an unexpected problem with dead batteries in their

instruments, the team relied on more basic equipment and still managed to knock out the competition for a first-place win. The surveying team has been invited to attend the national competition at Louisiana Tech in June.

Concrete Bowling Ball: First Place Overall



Collins Stephenson, left, Trinda Hyde and Carly Jo Petersen placed first overall in the concrete bowling event with their Aggie "Bull" themed ball.

Students designed and built a concrete bowling ball and competed in a five-frame game against other schools. Balls are judged on three categories: cement mix design, durability, and aesthetics. This year's team took advantage of resources and used the same concrete mix used for the concrete canoe.

Environmental Design: First Place Overall

Students applied their classroom knowledge to a real-world engineering problem. USU's team created a low-cost, gravity-fed water filter designed to provide drinking water for firefighters in the backcountry. The student design took first place overall. The event included a technical writing and oral presentation component.

Steel Bridge: Best Performance in Weight, Deflection, and Time. Final Results Pending



Students showed off their structural engineering skills with a model bridge that withstands thousands of pounds of weight. Stakes are high at this timed event where dropping a tool or stepping out of bounds can result in penalties. Team members include Bronson Dean, Kaden Bodily, Bryan Beard, Preston Palmer and Jake Rowlan.

True to the realities of a real-world engineering project, minor details can sometimes have big effects on the final outcome. USU's steel bridge team excelled in Vegas,

blowing out the competition in categories of weight and construction time. However, the team was penalized due to a misinterpretation of contest rules. The team has appealed the judges' decision and, pending final results, may be invited to compete at the national competition in Virginia.

The event was organized by the University of Nevada, Las Vegas. Students took the opportunity to tour Hoover Dam and enjoy nightlife in the city. USU's Austin Ball, an assistant professor of practice in the Department of Civil and Environmental Engineering and an ASCE faculty advisor, said he was impressed with student turnout.

"USU performed incredibly well," he said. "Our technical performance was truly unmatched."

Associate professor and fellow ASCE advisor Andrew Sorensen was also in attendance to support and mentor students. ASCE student lead Jeffrey Huffman said he and fellow students were grateful for the funding and support that made the event possible.

"Engineers build dams, roads and buildings, which means students almost never get to experience the growth and satisfaction that comes from prototyping our projects," he said. "The ASCE competition was our chance to do that. I'm overjoyed at how well we did."

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