Mechanical Engineering Students Win Big in Las Vegas | College of Engineering

Matt Jensen

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News Release – LOGAN, UTAH, April 12, 2017 – Mechanical engineering students from Utah State University competed against 23 other teams and won 2nd place overall in the 2017 Human Powered Vehicle Challenge.

The USU team also placed 1st in the women’s speed event, 3rd in the men’s speed event, and 2nd in the endurance event.

The team designed and manufactured a ‘tadpole style’ full carbon fiber recumbent trike. Tadpole style trikes are designed with two wheels in front and one in the rear.

The majority of the frame was constructed from circular tubes that were custom-wound by the team to make a very stiff but lightweight frame. Each tube was then linked together using lugs made from a 3D printed mold, an innovative manufacturing method that is rarely used in the cycling industry.

Coupling their frame design with strategic component selection allowed the team to garner in excess of a 35 percent weight reduction over last year’s vehicle.
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“The low center of gravity and wide wheelbase of their design was particularly well suited to the head-to-head speed event that led to nearly a dozen rollovers by other competitors in the tighter corners of the course,” said Jackson Graham, faculty advisor for the USU team and a professional practice instructor of mechanical and aerospace engineering.

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HPVC events are organized around the world through the American Society of Mechanical Engineers. ASME says the purpose of the event is to create future leaders in alternative transportation engineering.

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