

American Society of Civil Engineers (ASCE)

The Auburn University Student Chapter of the American Society of Civil Engineers (ASCE) competes each year at the Southeastern Regional Conference. The southeastern region includes 26 schools within Alabama, Georgia, Florida, Tennessee, and Puerto Rico. Regional competitions change each year, but usually align to specialty areas of civil engineering: geotechnical, transportation, structural, environmental, and hydraulics. There is also a surveying competition, visual display competition, t-shirt design competition, and a mystery competition. The mystery competition is not known until the day of the conference and typically requires no background engineering knowledge or preparation.

Successful preparation for the competition requires dedicated members. For instance, the steel bridge construction requires hours of work cutting the steel pieces, filing them down, and welding them together. Almost every weekend in the Spring is dedicated to constructing the bridge or the concrete canoe, another construction event.

The team is divided into small groups focused on specific tasks. For the steel bridge, there is a captain for the design, a captain for the fabrication, and a captain for the rules. For the concrete canoe, there is a team for the concrete mix design and for the design of the canoe itself. Other members are assigned to these subgroups, according to their interests.

The concrete canoe competition is sponsored by the National ASCE organization. The basic concept of the competition never changes, but there are certain criteria that the canoe must meet, and these change every year.

These criteria include the maximum dimensions of the canoe, the concrete mix, and the reinforcement of the concrete. Planning for the competition begins before the National ASCE releases the current year's criteria. Planning typically involves creating an ideal timeline for the testing and construction of the canoe, figuring out what method will be used for the mold for the canoe, and coming up with a theme for the canoe display. In order to choose the best design for the canoe and its concrete mix, the team seeks advice from professors and graduate students who specialize in materials. With this advice, the team mixes concrete samples with different ratios of concrete, water, and aggregates. After the samples are made, the team runs tests on the concretes to determine which mix is the best for the canoe.

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Although the canoe that ASCE took to the 2015 conference in Chattanooga performed well, it was slow because of its weight. Reducing weight will be a focus in designing the 2016 canoe, to be held at the University of Alabama in Tuscaloosa, AL.



Photo: Members of the Auburn University chapter of the ASCE testing their concrete canoe.



Photo: A member of the Auburn University chapter of the ASCE making the cast of the concrete canoe.