

## MID-PACIFIC REGIONAL CONFERENCE COMPETITIONS

### Concrete Canoe

The more locally famous competition, Concrete Canoe is a university tradition that extends to teams that were first formed in the 1980's here at the University of Nevada, Reno. The competition consists of designing and constructing a canoe entirely of concrete and competing against other universities in four separate categories: paddling, final product, design paper, and oral presentation. Winners of the Mid-Pacific conference will advance to the National Concrete Canoe Competition (NCCC) where winners of 17 other regions across the United States will also compete.



### Steel Bridge

The Steel Bridge competition challenges students to design the most efficient bridge based on the design parameters: display, construction speed, lightness, stiffness, construction economy, structural efficiency, and overall performance. The competition not only tests the students' analytical abilities but their fabrication abilities as well, in addition to their ability to hastily yet effectively put together the segments of their bridge, thus modeling the necessity of a design that satisfies speed of construction in industry. Winners of the Steel Bridge Competition will advance to the National Steel Bridge Competition and compete with universities around the nation.

### Professional Paper

The Professional Paper Competition is not just a requirement for ASCE Student Chapters but also offers an opportunity for students to create a thesis on a relevant, ethics-based question. The professional paper must demonstrate the participant's knowledge on a specific topic, their proposed solution, and their skill in writing on that topic, and their skills in presenting that topic in front of a panel of judges. As an example, last year's issue concerned "Ethical Considerations of Water Usage in Periods of Drought," a topic that has local ties to it and poses a serious question regarding the sustainable use of precious resources.



### Water Treatment

The water treatment competition is focused on the construction of a water filtration system and the general quality of water that is produced. Each year there are different chemicals and ingredients added to the influent to create different scenarios where one might need to treat the water to a particular standard. The final score is based on the construction, paper, presentation, and effluent quality. It gives engineering students a chance to improve leadership and management skills as well as gives them real life applications of classroom ideas.

### Water Research Paper and Presentation

The water research paper focuses on engineering applications to water and wastewater. Each year a different topic focused on the different aspects of water and wastewater is brought up. Undergraduate and graduate students compete with each other through a research paper. Then, at the competition, the students give an oral presentation on their paper. The point of this competition is to encourage engineers to learn about water resources and wastewater material.



### GeoWall

The objective of the GeoWall competition is to design and build a model mechanically stabilized earth (MSE) retaining wall using paper reinforcement taped to a posterboard wall facing. The competition objectives are for students to design a MSE wall using the least amount of reinforcement needed to support the retained soil and design loads and effectively communicate their analysis and design processes. The teams must also release a poster that displays their design process and how they proceed with the construction of their retaining wall. After submittals, teams must construct their retaining walls and realize their final design. Winners may compete nationally if they so choose.

### Transportation Competition

The transportation competition is broken down into three parts; students must review a CAD image of a hypothetical street as well as additional tables and materials that might be necessary. Students must evaluate the flaws seen in the design, create a solution that addresses these flaws, including a cost-benefit analysis of their design, and create a report and presentation that effectively highlights the proposed ideas illustrated in their design.

