



Department of Civil Engineering
American Society of Civil Engineering
Student Chapter

2019 Ohio Valley Student Conference

Thursday, April 11-Friday, April 12, 2019

2019 Geotechnical Competition

Overview

This competition is designed to inspire creativity and critical thinking of engineering students. While no experience in geotechnical engineering is necessary to compete, the basic principles of soil mechanics will help you. The objective of this competition is to construct a dam that can last the longest without failing. Points will be awarded for: longest time without failing, least reinforcing material used, and shortest construction time.

Rules

Teams may consist of no more than five members and each school is allowed to have up to two teams competing. Teams will be provided with all necessary materials. No additional tools may be used. All participants must be registered for the ASCE Ohio Valley Student Conference.

Construction Time

Teams will be given a 10 minute design time in which they are not allowed to use any of the construction materials or tools. Teams will have a maximum of 30 minutes to construct their dam. 15 and 5 minute remaining warnings will be given by a judge. Teams that exceed the 30 minute construction time will be disqualified.

Construction Parameters

Teams will be given a plastic tub in which to build their dams. The dimensions of the tub will be released during the captains meeting. The dam must not exceed four inches in width, and cannot exceed the height of the container. Team that do not follow the Construction Parameters will have a deduction from their overall score.

Reinforcing Material

Each team will receive the same amount(s) and type(s) of reinforcing material which will be recorded before and after the competition. The calculated amount of total material minus material remaining will be used in the



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scoring process. Any loss of material will be counted as being used in the construction process. The type(s) of reinforcing material will be disclosed during the captains meeting.

Scoring

The point system breakdown of the total score is as follows: 70% for time until failure, 20% for reinforcing material, and 10% for construction time. The team with the longest lasting dam will receive the full 70% and all other teams will receive a portion of the 70% based on rank. The same rationale is applied for the remaining scoring categories.

Other Information

All information will be disclosed in the captains meeting at the start of the competition. Teams will then be given a 10 minute design period followed by a 15 minute clarification period for the team captains. Reinforcing material type(s) and construction area will be announced at the captains meeting.

| Time | |
|---------------------|--|
| 9:00 AM – 9:45 AM | Captains Meeting |
| 9:50 AM – 10:00 AM | Design Time |
| 10:00 AM – 10:15 AM | Clarification Period for Team Captains |
| 10:15 AM – 10:45 AM | Construction of Dams |
| 10:45 AM – 12:00 PM | Dam Testing and Scoring |

Time frames are tentative and might be changed. The length of the design time and construction time will remain as stated in the rules.



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2019 Geotechnical Scoring Summary Sheet

| | |
|---------------------|----|
| Contestants: | 1. |
| | 2. |
| | 3. |
| | 4. |
| | 5. |
| School: | |
| Team Name: | |

Each school is allowed to have up to two (2) teams for this competition and up to five (5) contestants on each team.

| Geotechnical Scoring Criteria | Score |
|---|--------------|
| Time until dam failure – Teams will be ranked from the largest to shortest time. | /70 |
| Reinforcing Material – Teams will be ranked from least material used to the most material used. | /20 |
| Construction Time – Teams will be ranked from the shortest to longest time. | /10 |
| Penalties | - /0 |
| Overall Score | /100 |

**** Please submit any questions regarding these rules to ovsc2019@zips.uakron.edu with “Competition Name_RFI” in subject line ****