2024 UESI Pipelines Conference Student Competition
$500 Scholarship for each winning team member

Purpose
The educational and professional goals of the competition include basic understanding of the importance of utility engineering and surveying throughout the civil engineering profession. The competition will introduce basic concepts to students which will increase their knowledge as they enter the workforce.

Eligibility
The competition will be open to all college/university undergraduate students enrolled in applicable two or four year programs within the US and Canada. All students must be student members of ASCE. The competition will be limited to 20 students who will be grouped into teams upon arrival. The selected applicants will receive full admission to the conference and a $800 stipend. All other related expenditures are the responsibility of the students.

Awards
A five hundred dollar ($500) endowment prize will be awarded to each student on the winning team. Additionally, all participants will be recognized at the Pipelines Conference during one of the events.

Ethics
According to the ASCE Code of Ethics, Canon 5, “Engineers shall build their professional reputation on the merit of their services and shall not compete unfairly with others”.
In the context of this contest, “unfair competition” may include conduct such as the following:
• Failure to provide proper credit for past teams, plagiarism, or any other false statements concerning the source of material used in the contest.
• Taking other people’s designs, artwork, or other creative content without permission (for an overview of Intellectual Property Laws, including Trademark and Copyright, visit https://fairuse.stanford.edu/overview/introduction/intellectual-property-laws/).
• Any false or malicious statements about other teams, members, or others involved in the competition.

Required Conduct
All participants shall act professionally and respectfully at all times. Failure to act appropriately can result in sanctions, disqualification, and loss of invitations to future competitions or Society-wide competitions. The inappropriate use of language, alcohol, or materials, uncooperativeness, or general unprofessional or unethical behavior will not be tolerated.
**Competition**

The Dallas/Fort Worth area is rapidly expanding increasing the need for future water supplies and pipelines. A utility has hired you to design approximately 11 miles of 48-inch pipe that will provide additional potable water capacity to the local area. The pipeline will cross wetlands, roadways, creeks, and highways. The pipeline has to be designed and constructed within three years. The pipeline will connect to an existing 72-inch pipeline and terminate at a water pump station.

The scope of work includes a route study and pipeline material evaluation. Your task is to complete the following:

- Provide a recommendation on the preferred route considering future roadway expansions, wetlands, creeks, and socioeconomic impacts in your evaluation. Present your process and rationale for the selected route.
- Evaluate pipe materials for the 48-inch potable water pipeline considering factors such as initial cost, life cycle cost, availability, constructability, and cathodic protection. Provide a material recommendation and justification to the owner.
- Assess construction methods. Provide options for open cut installation and trenchless options, such as horizontal directional drilling (HDD), tunnelling, etc., as trenchless will be required under major roadways, wetlands, or other sensitive areas. Trenchless can also be considered for all installation conditions.

Information to be provided:

- A map of the area identifying areas of geographic significance
- Burial depth
- Soil conditions
- Operating pressure, flow velocity, and average annual temperature

**Scoring**

1. Meet with predetermined vendors – pipe manufacturers and contractors (10 points)
2. Route selection (30 points)
   a. Installation time
   b. Community impacts
   c. Environmental impacts
   d. Construction methods
3. Material recommendation (30 points)
   a. Initial cost
   b. Life cycle cost
   c. Availability
   d. Constructability
4. Presentation (30 points)
   a. Creativity (innovative solution, clarity of slides, presentation flow)
   b. Engagement (body language, eye contact, confidence, clear enunciation)
   c. Q&A (thoroughly answer questions)

**Judging**

The Younger Member Engagement Committee will select the judging panel to evaluate the competition scoring. The decision of the judges is final.
Materials
All educational material will be provided before the competition or onsite.

Coaching
A professional mentor will be assigned to each team to help guide them through the competition. Members of the Younger Member Engagement Committee will also be available throughout the process to answer questions.

Timeline
Monday (Day 1)
- 8am to 9am – Meet with students to go over the competition
- 9am to 4pm – Meet with vendors in exhibition hall, prepare short presentation (10 min) including costs, reasoning, and conclusion.
  - Vendor meetings - TBD
Tuesday (Day 2)
- 8am to 1030am – Presentations
- 1030am to 11am – Competition committee presentation evaluation
- 1130am to 1pm – Winner presentation at Awards luncheon