

19 UNIVERSITIES | 600 COMPETITORS

COMPETITION ROSTER



MARCH 21-23, 2024

ORLANDO, FLORIDA

[STUDENTSYMPOSIUM.ASCE.ORG/SOUTHEAST](https://studentsymposium.asce.org/southeast)



Ready to compete?

COMPETITIONS ROSTER

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Ready to compete?

ASCE CONCRETE CANOE COMPETITION

National – Teams may be eligible to advance to Society-wide national competition for this competition.

Overview

Since the early 1970s, ASCE student chapters have been constructing and racing concrete canoes. During that time, canoe designs and mixes have varied, but the long-established tradition of teamwork, camaraderie, and spirited competition has been constant. Teams, their associates, judges, and all other participants are expected to maintain and build upon this tradition.

Objective

The ASCE Concrete Canoe Competition provides students a unique opportunity to gain hands-on practical experience while testing their skills with concrete mix designs and project management challenges.

Eligibility

Please review the national rules for the Concrete Canoe Competition specifications on team size and competition requirements. Deliverables should conform to the national rules. <https://www.asce.org/communities/student-members/conferences/rules>

CLICK HERE FOR LINK

Project Proposal, Mix Design Sheets, and Materials Notebook

Hard copies will be required for this competition. Five (5) bound hard copies of the Project Proposal shall be received no later than Friday, February 16, 2024 and be mailed to the following address:



Chen Moore and Associates
500 West Cypress Creek Road, Suite 600
Fort Lauderdale, FL 33309
Attn: Peter Moore, Concrete Canoe

Judging

Judges will score competition entries according to the scoring rubrics in the national rules.

Important Dates

- Release of Student Symposium Competition Rules and Regulations on September 5, 2023.
- Preliminary Project Delivery Schedule, Letter of Intent, and RFQ Pre-Qualification Form Due by 5:00 PM EST on November 3, 2023.
- Project Proposal and MTDS Addendum. Due by 11:59 PM EST on February 16, 2024 through ASCE's Cerberus ftp server.
- Project Proposals and MTDS Addendum shall be mailed and received to the address above by February 16, 2024.
- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL.
- Competition time and location will be released closer to event.

Questions

The national question forum for the Concrete Canoe Competition can be found on the ASCE Concrete Canoe Competition Facebook Page.

<https://www.facebook.com/ASCENCCC/>

[CLICK HERE FOR LINK](#)



Ready to compete?

ASCE SUSTAINABLE SOLUTIONS COMPETITION

National – Teams may be eligible to advance to Society-wide national competition for this competition.

Overview

The ASCE Sustainable Solutions Competition challenges students to develop a stronger understanding of sustainability and learn to incorporate sustainable solutions into everyday problems that engineers may encounter. Students are encouraged to be creative in their solutions and use all resources available.

Objective

2024 Topic: The fictional City of ASCE is well known for its early 20th Century waterfront and manufacturing hub on the Big Brown River to support the budding industrial economy at the time. However, a decline and abandonment of the riverfront has since occurred. The City is seeking proposals to revitalize and redevelop three blocks of the waterfront area using the

Institute for Sustainable Infrastructure's Envision framework to meet the City sustainability goals.

Eligibility

Please review the national rules for the Sustainable Solutions Competition specifications and requirements. Please review the national rules for the Sustainable Solutions Competition specifications on team size and competition requirements. Deliverables should conform to the national rules. <https://www.asce.org/communities/student-members/conferences/rules>

[CLICK HERE FOR LINK](#)

Competition Components

The competition is divided into four competition components, as outlined in Section 8 of the national rules:

- Technical Design Proposal



- Sustainability – ENVISION Scoring and Justifications
- Poster
- Interview

Judging

Judges will score competition teams according to the scoring rubric in the national rules.

Important Dates

- Release of Student Symposium Competition Rules and Regulations on September 5, 2023.
- Letter of Intent and Eligibility Acknowledgement Form Due by 5:00 PM EST on November 3, 2023.
- Per Section 10 of the national rules, a webinar will be hosted in November 2023 by ASCE to provide an overview of the ENVISION v3 Checklist and ENVISION Guidance Manual.
- Competition Submissions Due by 11:59 PM EST February 16, 2024 through ASCE's Cerberus ftp server.
- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL.

- Competition time and location will be released closer to event.
- Each team will deliver their Public Outreach Poster to the designated competition room by 8:00 AM on March 22, 2024 to be displayed outside the presentation room. Teams are required to provide an easel to display their poster. The "Fan Favorite" voting will be available until 1:00 PM. One (1) submission per participating team will be accepted. Voters may not vote for their own student chapter's team.

Questions

Per the national rules, Requests for information (RFI) must be sent to student@asce.org with the subject line "2024 SSC RFI". Please review the national rules on how to submit and review RFIs.



Ready to compete?

ASCE STUDENT SYMPOSIUM PAPER COMPETITION

National – Universities are encouraged to participate in the national Daniel W. Mead Prize for Students. The regional Student Symposium Paper Competition will follow the same guides as the national competition but does not qualify universities for society-wide competition.

Overview

The prize was established and endowed in 1939 by Daniel W. Mead, Hon.M.ASCE, a Society past president. The contest provides an opportunity for alert young civil engineers to further their professional development and gain national attention.

Objective

The regional Professional Paper Competition will follow the same topic as the Daniel W. Mead

Prize for Students. Please review the 2024 Topic on the ASCE Daniel W. Mead Prize for Students webpage. <https://www.asce.org/career-growth/awards-and-honors/daniel-w-mead-prize-for-students>

CLICK HERE FOR LINK

Eligibility

Per national guidelines, Professional Paper is an individual competition. Each university may only have one (1) submission.

Participation in the ASCE Student Symposium Paper Competition, including submission and presentation by at least one (1) member of the ASCE Student Chapter is a requirement to advance to an ASCE Society-wide Competition Finals. Competitions with potential advancement to Society-wide finals include: Concrete Canoe,



Sustainable Solutions, Student Steel Bridge, UESI Surveying Competition.

Procedure

Please review the national rules for specifications and requirements. Deliverables shall conform to the national rules. <https://www.asce.org/career-growth/awards-and-honors/daniel-w-mead-prize-for-students>

[CLICK HERE FOR LINK](#)

Submittals

- Regional papers will be submitted electronically on or before 11:59 PM EST February 16, 2024. The submission link can be found here: <https://forms.gle/cqrsdJefwW6TY95KA>

[CLICK HERE FOR LINK](#)

- A completed submission will consist of a single pdf file containing:
 - Cover letter, from the faculty advisor stating the name, ASCE member ID number, mailing address, phone number, and email address for the paper's author.
 - The paper submitted. The name of the pdf file shall follow this format: Mead Student Prize – Author's Last Name – Name of University.pdf
- Papers submitted for the Southeast Student Symposium may also be submitted to the

National Daniel W. Mead Student Contest. The deadline for national competition submittal is March 1, 2024 11:59 PM EST to student@asce.org.

- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL.

Presentation

- Each presentation will explain their argument from the submitted paper.
- Presentations should not exceed three (3) minutes in length; presenters will respond to judges questions after the presentation during a two (2) minute question and answer period.
- All technical presentations shall be conducted in a professional manner and shall be presented in English.
- Presentations shall be open to the public for viewing, as space permits.

Presentation Equipment

- Presenters must bring a USB drive with all presentation materials.
- Presenters shall not prerecord any speaking parts.



Judging

Judges will score competition entries according to the scoring rubric provided by ASCE.

Questions

Per the national guidelines, questions should be directed to student@asce.org.



Ready to compete?

ASCE/AISC STEEL BRIDGE COMPETITION

National – Teams may be eligible to advance to Society-wide national competition for this competition.

Overview

ASCE and American Institute of Steel Construction (AISC) are partnering to offer the Student Steel Bridge Competition (SSBC) at the regional ASCE Student Symposia. This competition challenges students to extend their classroom knowledge to a practical and hands-on steel-design project that grows their interpersonal and professional skills, encourages innovation, and fosters impactful relationships between students and industry professionals.

Objective

Each student team develops a concept for a scale-model steel bridge approximately 20 feet and to carry 2,500 pounds according to the competition rules. The team must determine

how to fabricate their bridge and then plan for an efficient assembly under timed construction conditions at the competition. Bridges are also load-tested, weighed, and judged on aesthetics.

Eligibility

Only one (1) team per school may compete in the SSBC. Please review the national rules for the Student Steel Bridge Competition specifications on team size and competition requirements. Deliverables should conform to the national rules.

<https://www.asce.org/communities/student-members/conferences/rules>

CLICK HERE FOR LINK

Judging

Judges will score competition entries according to the scoring rubrics in the national rules.



Important Dates

- Release of Student Symposium Competition Rules and Regulations on September 5, 2023.
- SSBC-ASCE Student Chapter Participation Form and Letter of Intent and Eligibility Acknowledgement Form Due by 5:00 PM EST on November 3, 2023.
- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL
 - Competition time and location will be released closer to event

Questions

The website aisc.org/ssbc lists clarifications of the rules. Teams may submit questions via a form on that website, but should first read the previously posted clarifications, reread this rules document carefully in its entirety, and review the Host and Competitors Guides at aisc.org/ssbc. Submitters' names and affiliations must accompany clarification requests and will be posted with the questions and answers.



Ready to compete?

ASCE UESI SURVEYING COMPETITION

National – Teams may be eligible to advance to Society-wide national competition for this competition.

Overview

The ASCE UESI Surveying Competition's educational and professional goals include a recognition of the importance of basic surveying principles to all civil engineering projects. Students will be required to use standard field and office equipment and procedures to solve common problems encountered in industry. A clear understanding of and ability to apply basic surveying principles will assist the graduate civil engineer in communicating and working with the surveying professionals on the job site and during the design process.

Objective

The educational and professional goals of this

competition are to recognize the importance of basic surveying principles to all civil engineering projects. Students will be required to use standard field and office equipment and procedures to solve common problems encountered in industry. A clear understanding of and ability to apply basic surveying principles will assist the graduate civil engineer in communicating and working with the surveying professionals on the job site and during the design process.

Eligibility

Only one team per university may compete in this competition. Please review the national rules for the UESI Surveying Competition specifications on team size and competition requirement. For the regional competition, teams are responsible for providing all necessary surveying equipment as outlined in Section 9.3 of the national rules. Teams should be prepared to perform all Tasks outlined



in the national rules. <https://www.asce.org/communities/student-members/conferences/rules>

[CLICK HERE FOR LINK](#)

Judging

Judges will score competition entries according to the scoring rubrics in the national rules.

Important Dates

- Release of Student Symposium Competition Rules and Regulations on September 5, 2023.
- Letter of Intent and Eligibility Acknowledgement Form Due by 5:00 PM EST on November 3, 2023.
- Task 1A will be released to participating student chapters by 5:00 PM EST on January 8th, 2024.
- Task 1A Projects are Due by 5:00 PM EST February 26, 2024 through ASCE's Cerberus ftp server. Late submittals will be subject to late penalties as outlined in the national rules.

- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL.
 - Competition time and location will be released closer to event.

Questions

Per the national rules, the competition provides a "Requests for Information (RFI)" period so that student teams can ask questions about the rules. See Section 4 of the national rules document for where and when to send RFIs as well as how to access the responses.



Ready to compete?

ASCE CONSTRUCTION INSTITUTE COMPETITION

National – Teams may be eligible to advance to Society-wide national competition for this competition.

Overview

The ASCE Sustainable Solutions Competition challenges students to develop a stronger understanding of sustainability and learn to incorporate sustainable solutions into everyday problems that engineers incur. Students are encouraged to be creative in their solutions and use all resources available.

Objective

Participating students will receive a focus scope of work for one real-world engineering project and will then be tasked to solve various construction related challenges related to that project. Performing calculations, writing short responses, or gathering other forms of documentation will be required for each challenge.

Eligibility

Only one team per university may compete in this competition. Please review the national rules for the Construction Institute Competition specifications on team size and competition requirements. Deliverables should conform to the national rules. <https://www.asce.org/communities/student-members/conferences/rules>

CLICK HERE FOR LINK

Judging

Judges will score competition entries according to the scoring rubric in the national rules.



Important Dates

- Release of Student Symposium Competition Rules and Regulations on September 5, 2023.
- Letter of Intent and Eligibility Acknowledgement Form Due by 5:00 PM EST on November 3, 2023.
- CI Competition Team Member Form Due by 11:59 PM EST on February 1, 2024.
- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL.
 - Competition time and location will be released closer to event.

Questions

This competition does not provide a "Requests for Information (RFI)" period to ask questions about the project. See Section 5 of the national rules document for where to send emails for additional information or clarification. Major clarifications and changes to the rules will be publicly published on the ASCE website as a revision to the Rules document.



Ready to compete?

ASCE TIMBER STRONG DESIGN BUILD COMPETITION

National – This is a Society Pilot Competition, however, there is no advancement to a Society-wide national competition for this competition.

Overview

ASCE has partnered with the American Wood Council (AWC), APA - Engineered Wood Association (APA), and Simpson Strong-Tie (SST) to pilot the Timber-Strong Design BuildSM (TSDBSM) Competition. The competition seeks student teams to design and build an artistically creative 2-story wood light-framed building that is sustainable, aesthetically pleasing and structurally durable.

Objective

The 2024 Timber-Strong Design Build (TSDB) Competition enables students to gain experience in performing crucial aspects of

common structural engineering design and practice. Participating students will learn about the processes involved in professionally designing and proposing a project bid, which must be unique and not a replication of a previous year's design

Eligibility

Only one (1) team per university may compete in the competition. Please review the national rules for the Timber Strong Design Build Competition specifications on team size and competition requirements. Deliverables should conform to the national rules. <https://www.asce.org/communities/student-members/conferences/rules>

CLICK HERE FOR LINK



Judges

Judges will score competition entries according to the scoring rubrics in the national rules.

Important Dates

- Release of Student Symposium Competition Rules and Regulations on September 5, 2023.
- Letter of Intent and Eligibility Acknowledgement Form Due by 5:00 PM EST on November 3, 2023.
- Teams are responsible for completing Mandatory Tasks outlined in Section 4.6 of the national rules and uploading the required files through ASCE's Cerberus ftp server.
- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL.
 - Competition time and location will be released closer to event.

Questions

Per the national rules, Requests for information (RFI) must be sent to student@asce.org with the subject line "TSDB Competition RFI". Please review the national rules on how to submit and review RFIs.



Ready to compete?

GEO-WALL COMPETITION

Regional – There is no advancement to a Society-wide national competition for this competition. However, the National GeoWall Competition is held during the 2024 Geo-Congress in February 2024. As outlined in Section 5 of the national rules, teams will be selected for the National Finals GeoWall competition based upon scores earned on the design reports. Participating teams are encouraged to submit their Design Report to the Geo-Institute but are not required to do so for regional participation.

Overview

MSE walls have roots to prehistoric builders who used sticks and tree branches to reinforce soil structures. The modern use of reinforced soils dates to the 1960s and French architect Henri Vidal's development of the Reinforced Earth® system. In the US, the first MSE wall was built on California SR-39 near Los Angeles in 1971. Sometimes the construction of MSE walls must account for underground utilities, tunnels or other obstructions. This year's competition will model these obstructions requiring teams to design and construct a MSE wall around a proposed tunnel.

Objective

The objective of the GeoWall competition is to design and build a model mechanically stabilized Earth (MSE) retaining wall using kraft paper taped to a poster board 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 the designed surcharge loads.
- Effectively communicate their analysis and design processes.
- Enjoy a friendly but spirited competition among schools.

Eligibility

Only one team per school will be allowed to compete. A team consists of a maximum of four (4) students consisting of no more than two (2) graduate students. Each team shall designate a team captain.



Rules and Regulations

Please review the national rules for the GeoWall Competition specifications and requirements. Deliverables should conform to the national rules. Teams can download the national rules below. Teams are expected to bring all necessary competition equipment to the competition. Judges will only be providing Backfill Material and Wall Material during the competition. <https://www.mygeoworld.com/groups/geo-challenge>

[CLICK HERE FOR LINK](#)

Submittal

- The design report will be submitted electronically on or before 11:59 PM EST February 16, 2024. The submission link can be found here: <https://forms.gle/q5JWrZwbhVuzz6Ms8>

[CLICK HERE FOR LINK](#)

- A completed submission will consist of a single pdf
 - The Design Report Submittal will include the items outlined in Section 4.
 - The name of the pdf file shall follow this format: GeoWall 2024 Submittal – Name of University.pdf
 - Appendix A is not needed for the regional competition.

- Papers submitted for the Southeast Student Symposium may also be submitted to the National GeoWall Competition. The deadline for national competition submittal is December 15, 2023 6:00 PM PST to the email designated in the national rules.

Judges

Judges will score competition entries according to the scoring rubrics in the national rules.

Important Dates

- Release of Student Symposium Competition Rules and Regulations on September 25, 2023.
- Design Reports Due for the national competition by 6:00 PM PST December 15, 2023.
- Design Reports Due for the Southeast Student Symposium by 11:59 PM EST February 16, 2024 through this link: <https://forms.gle/q5JWrZwbhVuzz6Ms8>.

[CLICK HERE FOR LINK](#)

- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL.

- Competition time and location will be released closer to event.



Questions

Requests for information (RFI) must be sent to 24southeastsym@gmail.com with the subject line "GeoWall Competition RFI".



Ready to compete?

T-SHIRT COMPETITION

Regional – There is no advancement to a Society-wide national competition for this competition.

Overview

The regional T-Shirt Competition allows competing teams to demonstrate their artistic ability, creativity, and communication of graphic design. Universities are encouraged to wear their designed T-shirt on Saturday, but it is not required.

Eligibility

Each university may enter one (1) T-shirt in the competition. There is no limit to the number of students that can be involved in the design of the shirt. The shirt should be designed by students, and not a hired or paid service.

Submittals

One (1) medium shirt must be submitted on the day of the competition to be evaluated by a panel of three (3) judges. Teams will submit their shirt at the designated time and location on

Saturday, March 23, 2024.

Execution

- The shirt may be any style (t-shirt, tank top, long sleeves, polo, etc)
- The shirt may include sponsorship information
- The shirt **MUST** include the competing university's name in the design

Judging

Judges will score teams based on the following:

- Creativity and uniqueness
- Contains "ASCE" and the name of competing university
- Relevance to Civil Engineering

Important Dates

- Release of Student Symposium Competition



Rules and Regulations on October 1, 2023.

- 2024 Southeast Student Symposium
Regional Competition March 21-23, 2024 in
Orlando, FL.
- Competition time and location will be released
closer to event.

Questions

Requests for information (RFI) must be sent to 24southeastsym@gmail.com with the subject line "T-Shirt Competition RFI".



Ready to compete?

MYSTERY COMPETITION

Regional – There is no advancement to a Society-wide national competition for this competition.

Overview

The regional Mystery Competition challenges students to think on their feet and to work as a team to accomplish a given task at hand. Teams will not be given any information about the competition until the time of the event.

Eligibility

Each university may have one (1) team consisting of three (3) student chapter members with a designated team captain. Teams should arrive to the competition site at least fifteen (15) minutes prior to the start of the event.

Submittals

No Submittals are required prior to the competition.

Procedure

Competition rules will be announced at the time of the competition itself.

Judging

Scoring will be announced at the time of the competition itself.

Important Dates

- Release of Student Symposium Competition Rules and Regulations on October 1, 2023.
- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL.
 - Competition time and location will be released closer to event.

Questions

This competition does not provide a “Requests for Information (RFI)” period to ask questions about the competition.



Ready to compete?

CONCRETE CORNHOLE COMPETITION

Regional – There is no advancement to a Society-wide national competition for this competition.

Overview

Each school will bring a concrete corn hole board to be judged and to be used in a double elimination bracket tournament. Judging will be based on the performance of teams during the tournament, aesthetics, and technical components of the mix and board.

Eligibility

Each school may have one (1) team with two (2) to four (4) students. Only two (2) members can play at a time. Each team shall have a designated captain.

Board Dimensions

- The board is to be four (4) feet in length and two (2) feet in width.
- The hole will be six (6) inches in diameter and the center will be located one (1) foot from either side and nine (9) inches from the top edge (refer to Figure 1). All dimensions shall have an allowable tolerance of ± 0.25 inches.
- There are no minimum or maximum thickness requirements for the board.

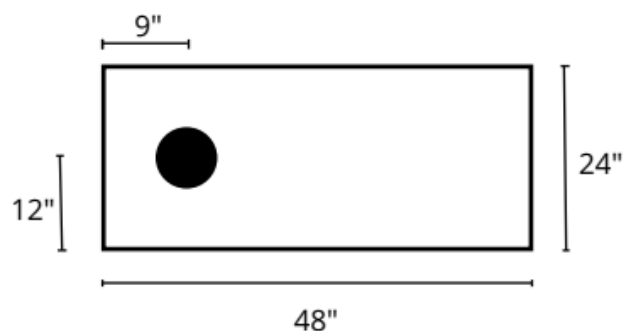


Figure 1. Board Dimensions



Cornhole Bags and Support Structure

- The cornhole bags and support structure for the tournament will be provided by the host.
- The cornhole bags will be 6 inches by 6 inches and weigh approximately 15 oz.
- The support structure, constructed from 2x4s with a lip at the bottom to support the concrete board.

Board Aesthetics

- Teams may choose to decorate their board as they choose.
- The name of the team's university must be displayed on the board.
- Stickers/decals are not permitted.

Mix Design

Failure to adhere to the specified mix criteria will result in a 15 point deduction from the technical sub-total

- Cementous Material: Teams are permitted to use only the following cementitious material as long as they adhere to the ASTM standard for the material:
 - Portland or Hydraulic Cement (ASTM

C150/C595/C1157)

- Fly Ash (ASTM C618)
- Slag Cement (ASTM C989)
- Silica Fume (ASTM C1240)
- The water to cementitious materials ratio (w/cm) must be 0.35 or greater.
- Aggregate: Aggregates must pass a ½ inch (12.7 mm) sieve and be retained on a #200 sieve. The mix must contain at least 30% aggregate by volume.
- Admixtures: Chemical admixtures that meet ASTM C494 and/or ASTM C260 are allowed. No other admixtures will be permitted.
- Reinforcement
 - Teams are allowed to use fiber reinforcement (ASTM C1116) or reinforcement grid.
 - No "bar" type reinforcement is allowed (including but not limited to: aluminum, steel, basalt, etc.)

Technical Report

Technical reports must be 750 words or less. Technical reports must have a cover page including: name of regional competition "Concrete Cornhole," team member names,



representative university, Technical report must follow the criteria in the Technical Paper rubric.

Teams will complete the provided Mix Design Spreadsheet. The Mix Design Spreadsheet must be submitted with the technical report. The report should be submitted here: <https://forms.gle/fEapW33uyb7qV8nR6>.

[CLICK HERE FOR LINK](https://forms.gle/fEapW33uyb7qV8nR6)

Tournament Style and Game Play

Teams will be assigned to a double elimination bracket at random.

Each game will be played to twenty-one (21) points; the first team to reach or exceed 21 points will be declared the winner. A round consists of one (1) player from each team throwing all four (4) bags. Each game will consist of as many rounds as it takes for one team to reach at least 21 points with a margin of victory of at least 2 points.

Bags that land on the board and stay on the board are worth one (1) point. Bags that go through the hole are worth three (3) points. Bags that bounce onto the board from the ground do not count and must be removed before the next bag is thrown. Bags that were on the board and pushed off by another bag do not count (unless they have been pushed into the hole). At the end of the round, points will be totaled for each team, and the difference of the teams' points will be

awarded to the team that had the highest score.

For the first round, the team with the higher seed number will go second. The team that scored the previous round will start the following round. If no points were scored in a round, the team to score the last points goes first. Team members will be on alternate sides of the pitch and stay in the same lane. Players will alternate throwing bags (one at a time) until each player has thrown all four (4) of his or her bags. Bags must be thrown underhand. If a player crosses outside of the pitcher's box, that bag does not count and cannot be re-thrown.

Judging

1. Aesthetics (20 points) – Board aesthetics will be judged based on creativity, originality, and overall quality of design. Each team is eligible to receive 20 points based on aesthetics. Use of stickers or decals will result in a deduction of 10 points.
2. Technical Subtotal (20 points) – Teams will be ranked based on board thickness with the thinnest board receiving the entire 20 points. All other points allotted will be linearly determined in descending order. The board must remain in playable condition throughout the tournament. If the board breaks, the full point value awarded for thinness will be revoked.
3. Technical Report (25 points) – Teams will submit a 750 word or less technical report



and a completed Mix Design Spreadsheet. The report will be scored according to the Technical Report rubric.

4. Game Play (20 points) – Teams will be ranked based on the finishing position in the tournament. The first-place team will be awarded 20 points. All other points will be linearly determined in descending order.

In the event of a board failure, the team with an unplayable board will be disqualified. Teams are eligible to receive up to 85 total points.

Final Score = (Aesthetics + Technical Subtotal + Technical Report + Game Play)

Important Dates

- Release of Student Symposium Competition Rules and Regulations on October 1, 2023.
- Technical Reports Due by 11:59 PM EST February 26, 2024 through this link: <https://forms.gle/fEapW33uyb7qV8nR6>

[CLICK HERE FOR LINK](https://forms.gle/fEapW33uyb7qV8nR6)

- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL.
 - Competition time and location will be released closer to event.

Questions

Requests for information (RFI) must be sent to 24southeastsym@gmail.com with the subject line "Concrete Cornhole RFI".



Judge Name

University Name

Concrete Cornhole – Technical Report Rubric

1.	Word count (750 words or less) AND Mix design table was included	/2
2.	Paper is logically organized and free of grammatical errors	/2
3.	Description of aesthetic theme/design	/3
4.	Reasoning for thickness chosen	/3
5.	Description of materials used	/3
6.	Reasoning for mix design materials used	/3
7.	Reasoning for mix design proportions	/3
8.	Description of construction process	/3
9.	Discussion of innovative design components	/3
TOTAL		/25

School Name

Faculty Advisor Name

Team Captain Name

Component	Type	Amount Used (lb)	Volume Used (ft ³)	Density (lb/ft ³)
Cement				
Cementitious Materials				
Aggregate				
Chemical Admixtures				
Reinforcement				
Water				
TOTALS	---			



Ready to compete?

SOUTHEAST DESIGN-BUILD CHALLENGE

Regional – There is no advancement to a Society-wide national competition for this competition.

Overview

Throughout your academic journey, you've delved into myriad courses to master the core tenets of engineering. This competition represents a chance to manifest those principles into practical application, emulating a real-world design-build project. For this endeavor, there are two pivotal roles: the judges, who will assume the guise of the "Owner", and your student ensemble, which will be designated as the "Design-Build Team".

On Friday, March 22, 2024, your team is tasked with delivering a presentation elucidating the design and preliminary budget of the project. Subsequently, on Saturday, March 23, 2024, you will showcase your completed constructed artifact to the "Owners". They will appraise

submissions based on uniqueness and the aptitude to encapsulate the essence of the project scope.

As the "Owner", we operate within a defined budget for projects. Hence, we invite you to compete by offering design and construction services that will stand out and impress our team. Your objective is to persuade us of the merits of your project and why it stands out compared to those of your competitors. Let's dive in!

Overview of Design and Construction Participants and Methods

Any successful building project relies on the collaborative efforts of several key participants:

1. The Owner/Developer: This entity is responsible for funding the project and outlining its main purpose, whether it's an



office complex, a restaurant, or any other facility.

2. The Design Team: Comprising architects and a variety of engineers (civil, structural, mechanical, electrical, plumbing, and specialty), this team translates the owner's vision into actionable designs ready for the permitting process.
3. The General Contractor: This role focuses on assessing design feasibility, estimating project costs, exploring value engineering avenues, and supervising the construction process.

Method 1: Design-Bid-Build Delivery Method

In traditional construction approaches, the Design-Bid-Build method is prevalent. Here is how it unfolds:

- The owner first collaborates with the Design Team, either by direct selection or through a competitive process.
- Once the design reaches a specific milestone, the owner then contracts a General Contractor, based on either selection or a competitive bid.
- The contractor's responsibilities encompass preconstruction aspects, including cost estimation and suggesting *value engineering possibilities. Once preconstruction is finished,

the general contractor will supervise the construction of the project.

**A note on Value Engineering: This process is about proposing alternative project specifics that, while aligned with the Design Team's vision, present cost or scheduling efficiencies. By staying attuned to market shifts and nuances, like the recent equipment shortages, the General Contractor can offer real-time pricing insights to the Design Team. Throughout the construction phase, the Design Team remains actively engaged, endorsing project materials and resolving RFIs (Requests for Information). An example of a value engineering option would be two products that meet the exact same technical and performance specifications, but one brand is currently more cost effective, not hindering the performance of the overall system.*

However, based on project complexity or timeline constraints, some stakeholders might lean towards the Design-Build Delivery model. This is the model that your competition will be based on.

Method 2 (Your Competition Method): Design-Build Delivery Method

Distinct from the Design-Bid-Build method, Design-Build brings together the Design Team and the Contractor under one umbrella. This method is recognized for its collaborative approach and is chosen for various inherent



benefits and operational specifics:

1. **Integrated Services:** By having both design and construction services integrated, there's a single point of responsibility. This can reduce the risks and overall timeline as the processes are more streamlined and can often overlap.
2. **Efficiency:** Because design and construction professionals are working side-by-side, decisions and revisions can be made more quickly. There's no waiting period between designing, bidding, and then building.
3. **Cost Savings:** The integrated team works together from the get-go, optimizing design decisions based on the available budget. This proactive approach can lead to more accurate initial budgeting and fewer unexpected costs or overruns.
4. **Enhanced Communication:** With fewer parties involved and a single team approach, there's a consistent line of communication. The owner communicates with one entity, ensuring clarity and reduced potential for misunderstandings.
5. **Flexibility:** As design and construction stages can overlap, there's an opportunity for flexible adjustments. If an unforeseen issue or a desired change arises during construction, the integrated team can address it without significant delays.
6. **Quality Control:** The unified team approach can lead to higher standards of quality. Since the same group oversees the project from concept to completion, there's an inherent vested interest in delivering a high-quality result.
7. **Risk Management:** Fewer contractual entities can lead to reduced legal and financial risks. Any challenges that arise are handled within the unified team, eliminating the "blame game" that might occur between separate designer and contractor entities.
8. **Timeline Advantages:** With concurrent design and construction processes, the overall project duration can be reduced, leading to faster project completion.

In essence, the Design-Build method offers an environment where every aspect of a project, from inception to completion, is under one integrated team's responsibility. This collaborative strategy often results in projects that are delivered faster, within or under budget, and with fewer challenges or disputes.

The Significance of Public Sculpture Art in Cities

Public sculptures breathe life into the heart of urban landscapes, standing as silent sentinels that narrate a city's tale. More than mere adornments, these artistic installations capture the essence of a city's history, culture, and aspirations. They provide residents with



a tangible link to their past, while offering visitors insights into the city's unique narrative and identity. As landmarks, they become focal points for gatherings, a backdrop for countless memories, and catalysts for introspection. In an ever-globalizing world, public sculptures anchor a city to its roots, ensuring its spirit remains palpable amidst the hustle of modern life. They're not just artworks; they're cultural cornerstones that define and differentiate every metropolis, underscoring the significance of artistic expression in the fabric of urban existence.

In an article authored by Nick Mafi and Jessica Cherner for Architectural Digest, 11 renowned public sculptures situated in cities worldwide are highlighted. These captivating pieces serve as the inspiration for this competition. For a detailed exploration of these sculptures, you can visit the article here: <https://www.architecturaldigest.com/gallery/11-most-fascinating-public-sculptures>

Scope of Services

Your Design-Build Team is tasked with crafting a scaled public sculpture that epitomizes the essence of the city where your university resides.

Dimension Criteria:

- The sculpture must be of a minimum dimension of 5'x5'x3' in any orientation.
- The sculpture must be entirely self-supporting and independent. There will be no provision for power, water, or other utilities. If your sculpture

necessitates a foundational plate for stability, its dimensions will not be counted in the required measurements.

Design Objectives:

- We encourage your team to explore diverse materials, innovative building methods, and considerations for "interactive features" (those that can engage pedestrians or observers).
- Your sculpture should echo the spirit and ethos of your community, making it evident in your final presentation.

Interdisciplinary Collaboration:

- This competition is an invitation to venture beyond your usual boundaries and grasp the symbiosis among various disciplines, spanning civil, structural, mechanical, electrical, plumbing, and specialized design. Incorporate insights from these fields into your design and resultant piece. This is your chance to fathom how these domains converge to realize a cohesive and functional masterpiece.

Budgetary Constraints:

- Your budget may not exceed \$750.00. Note that donated or recycled materials and second-hand products are exempt from this budget, provided they are not acquired through purchase.



Eligibility

Our goal is to immerse students in the collaborative dynamics between designers (Architects/Engineers) and builders (General Contractors). Consequently, your Design-Build Team should mirror this professional structure.

Your team should consist of:

- (1) Design Executive
- (1) Designer
- (1) Construction Executive
- (1) Construction Project Manager

Each individual can only assume one role.

While these are the foundational roles, we heartily recommend expanding your team with specialized designers or builders to encompass a broader spectrum of expertise. Your Design-Build proposal should enumerate all members, from core design and construction personnel to niche experts. For example, a project like a performing arts center would engage specialists like acoustic engineers, lighting technicians, and community engagement coordinators in addition to the standard slate of personnel.

Given the delineation between design and construction roles, each subgroup should devise a unique company name and profile. For instance, in real-world Design-Build collaborations, a general contractor like "ABC" might ally with a design firm like "XYZ",

culminating in a joint venture titled "ABC-XYZ". We advise adopting a similar nomenclature for this competition.

Presentation of Concept Design to Owner

Date: Friday, March 22, 2024

Duration: Presentation – 10 Minutes | Q&A – 10 Minutes

Location: Conference room to be determined. Screen and plug-in support to be provided.

Requirements:

- **Team Introduction:** Begin by introducing your project team and their affiliated companies.
- **Concept and Visuals:** Outline and showcase your design concept without revealing images or the physical constructed piece. Examples of design concepts would be artistic drawings or renderings. This segment is your platform to enthuse the "Owner" about your vision. For an impactful delivery, consider leveraging tools like Fiverr to craft a visual impressive presentation. Integrate any pertinent renderings or illustrations to give depth to your presentation.
- **Local Connections:** Elucidate on how your sculpture relates and resonates with the city housing your university.



- **Technical Analysis:** Dive into the details of the materials you've chosen. Explain the reasoning and functionality behind any integrated plumbing, electrical, lighting, or other specialty systems.
- **Calculations and Foundation Design:** While ensuring the safety of the public is paramount, we acknowledge that this is a student competition. Therefore, we do not require detailed wind calculations on the sculpture's structure itself. However, an essential aspect we'd like you to explore is the foundational design in the context of wind loading, self-weight, and the geometry of the structure. Remember this art piece must withstand potential weather events and it's crucial that the sculpture and public remain safe. While you will not build an actual foundation, we would like your team to describe how the piece will be secured if constructed.
- **Initial Budget:** Furnish a detailed preliminary budget for the "Owner's" review.
- **Final Construction Drawings:** Introduce the detailed set of 24"x36" prints. The Q&A will probe into the content of your presentation and the depth of these drawings. They should be formatted akin to traditional permitted construction sets, featuring:
 - Cover Page/Borders
 - Specifications (materials, colors, brands, etc.)
 - Architectural, Structural, and any relevant sections (like electrical or plumbing).
 - Comprehensive Plan, Elevation, and Section cuts.
 - Your team's insignia, cementing both ownership and assurance of the design's integrity.

Presentation of Constructed Product to Owner

Date: Saturday, March 23, 2024

Duration: Informal Discussion – 5 Minutes

Location: Place your sculpture at your school tent at the Concrete Canoe Races.

Requirements:

- **Constructed Product:** Display and explain the final, tangible project at the designated venue. Ensure the product is safely installed and easily viewable by the judges.
- **Construction Final Cost:** Present an 11"x17" printed summary that includes:
 - Initial budget drafted by the Design Team.
 - Adjustments made through the Value Engineering process.
 - A breakdown of the final total construction cost, additionally itemizing:



- Cumulative hours and costs of both Design and Construction Teams.
- Hourly wages (actual hours worked will be emphasized): Design and Construction Managers at \$100/hour and Designers/Builders at \$40/hour.
 - These values will not count towards your \$750 budget, just placed to show that every project is made up of materials and invaluable expertise from all parties.
- **RFI Log:** Assemble and present a comprehensive log detailing all questions and clarifications exchanged between the Construction and Design Teams. This can be manifested in the form of a spreadsheet or document. The log should encapsulate inquiries related to design drawings, approvals from the Value Engineering process, and any other relevant discussions.

For those unfamiliar with RFIs (Requests for Information): Picture a scenario where your sculpture demonstrates unforeseen deflection in a critical component. The general contractor might then pose an RFI to the design team: "A/E, we've observed unexpected deflection in a specific material. Could you recommend an alternative material or an additional support mechanism to address this deflection?" The RFI log would meticulously record both the posed question and its subsequent answer, which might resemble: "GC, consider integrating an additional wooden support

approximately 4 inches from the affected connection point. Secure it to the designated location using a specified adhesive." As a professional reminder: RFIs carry contractual implications and demand the utmost rigor and precision. Each RFI merits scrupulous attention, ensuring every query is aptly addressed with due diligence.

- **Redline Drawings:** Submit a version of your 24"x36" Final Construction Drawings where modifications from the original design to the actual constructed piece are literally marked up in red. When we say "redlined," we mean this quite literally: use a red pen or marker to indicate on the drawings where changes or deviations occurred during construction. In scenarios where your team stayed true to the original design without any alterations, clearly annotate "Constructed Per Specifications" at the top of the sheet.

Understanding the intricate dance between RFIs and redlines is crucial. For instance, if an engineer's original plans specified screw placements every 4" on center, but on-site challenges—like unforeseen electrical wiring or structural barriers—made such placements unworkable, the contractor would typically raise an RFI. Once the design team responds and suggests a solution, this new change should be redlined on the drawings, marking exactly what was constructed as opposed to the original design. This practice ensures that everyone, from the project manager to the field worker, is on the same page about what was actually built. Through this competition,



we're aiming to instill the importance of this process in you. Both RFIs and redlining are foundational elements of construction, ensuring accuracy and communication. We hope you emulate this practice with the seriousness and meticulous attention it merits in the professional world.

- **Safety Considerations:** Briefly discuss any safety precautions taken during construction and any safety features of the final product.

Scoring Criteria

- 1. Quality of Craftsmanship of Sculpture – 10%**
 - Evaluation of the finish and overall quality of the constructed sculpture.
- 2. Building Techniques & Innovation – 10%**
 - Implementation of advanced or unique building methods, like 3D modeling and innovative construction solutions.
- 3. Cost Estimate Thoroughness – 10%**
 - Detail and clarity of the initial and final cost projections.
- 4. Constructability Collaboration (Design & Construction Teams) – 10%**
 - Integration and synergy between design and construction teams, emphasizing the feasibility of the design. This includes the RFI and redline process.
- 5. Design Intent Thoroughness & Completeness – 15%**
 - Detail, clarity, and completeness of the provided plans, calculations, and construction documents.
- 6. Interdisciplinary Integration – 10%**
 - Effective use of various disciplines (e.g., architecture, structural engineering, electrical/plumbing design) in the sculpture's design and execution.
- 7. Design Innovation – 10%**
 - Originality, creativity, and forward-thinking aspects of the sculpture's design.
- 8. Pedestrian Engagement – 5%**
 - How the sculpture interacts with and is used or appreciated by pedestrians and the general public.
- 9. Integration of Local Community Elements – 5%**
 - Reflection and incorporation of local culture, history, and symbolism in the sculpture.
- 10. Conformance to Submission Requirements – 5%**

Final Thoughts

This competition aims to shed light on aspects of engineering that might remain unexplored



at this juncture of your academic journey. Our goal is to acquaint your team with the multifaceted stages and deliverables inherent to real-world projects, some of which you might not yet have encountered. Whether your future lies in design engineering or construction engineering, mastering the nuances of detail in your drawings — ensuring that what you design is both constructible and economically viable — is crucial. Such mastery distinguishes the truly outstanding engineers and designers. We encourage you to delve deep into the rationale behind the deliverables we’ve outlined. Embrace this challenge, enjoy the process, and strive to produce a piece that both you and your team can look back on with pride.

Important Dates

- Release of Student Symposium Competition Rules and Regulations on October 1, 2023.
- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL.
 - Competition time and location will be released closer to event.

Questions

Requests for information (RFI) must be sent to 24southeastsym@gmail.com with the subject line “Southeast Design-Build RFI”.



Ready to compete?

TRAFFIC CONTROL COMPETITION

Regional – There is no advancement to a Society-wide national competition for this competition.

Overview

Nationally, two people are killed every day in work zones. To protect our workers, preparing and arranging Temporary Traffic Control (TTC) safely and accurately is important. TTC has three main objectives:

- Safety – Protect roadway users and workers.
- Mobility – Maintain traffic flow and minimize adverse impacts associated with congestion, travel restrictions, and work activities.
- Constructability – Complete the project on time within budget and meeting quality standards.

Successful projects require a carefully considered balance of all three objectives. Standard plans

shall be utilized to align with driver expectancy and provide continuity. Familiarity with your state's TTC standards and teamwork skills will be vital when entering the industry as a Traffic Engineer.

Objective

Students are given a construction roadway project scenario at random. They will need to assemble TTC based on the given scenario and the Florida Department of Transportation (FDOT) Standard Plans. It is a race with a twist... and students will be docked for noncompliance with FDOT standards and for putting their team at risk / not obeying safety precautions.

Eligibility

Each school may have one (1) team with four (4) students. Each team shall designate one (1) member as Engineer In Charge/Announcer, one (1) member as the Drafter, and two (2) members as the Field Construction Team. A maximum of



one (1) graduate student is allowed to participate per team.

Resources

FDOT Standard Plans can be found here: [FY 2023-24 Standard Plans for Road Construction](#)

Temporary Traffic Control Sheets can be found on pages 55-100 of the pdf. <https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/design/standardplans/2023/standardplansfy2022-23ebook.pdf>

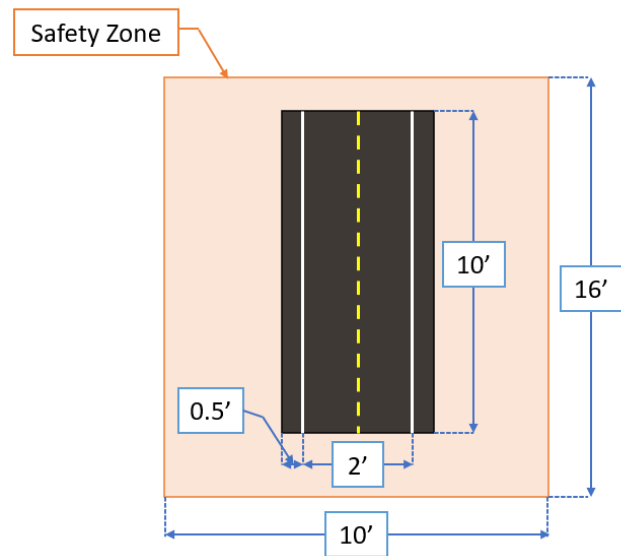
CLICK HERE FOR LINK

Procedures and Logistics

The scenario will indicate the following:

- What type of roadway facility (e.g. two-lane roadway or multi-lane travel way)
- Location of construction (e.g. eastbound shoulder within 2 feet of travel way)
- Speed of roadway (e.g. 45 mph)
- Time expectancy of construction (e.g. less than 60 minutes)
- Channelization devices will consist of only cones
- The actual roadways will be “scaled” for indoor play. Roadway travel lanes will be 1 foot in width and shoulders will be 0.5-feet in width.

The entire travel way will be approximately 10-feet long. Stationing will be placed along the roadway in 1-foot intervals. Each station represents 100 feet. Each team will be provided a “Safety Zone” to not interfere with the other teams play. Please see the competition area diagram below.



Not to scale

Drafted Plans

- The team will be given a set time of 20 minutes to use FDOT Standards and draft the Temporary Traffic Control Plan.
- Teams are encouraged to bring a calculator and paper. Teams may also bring their own FDOT standards and notes (printed or on an electronic device). Blank FDOT Standard Plans Packets will be provided for each team.
- A checklist for the channelization devices and



signage will be provided to each team. An example of this checklist is attached.

- The Engineer In Charge and Drafter must complete the checklist following the appropriate FDOT Standard Plans and will be scored based on accuracy.
- The final TTC arrangement will be scored on accuracy to the checklist.
- Each team will be exposed to at least one hazard (e.g. an approaching vehicle). The Field Construction team must react in the appropriate safe manner to receive full points.

Temporary Traffic Control (TTC) Setup

- The Engineer In Charge must direct the Field Construction Team members to arrange the TTC as quickly and safely as possible. The Drafter may not participate in the TTC Setup. Teams will be given 30 minutes for TTC Setup.
- The Engineer In Charge will provide the completed checklist to the Field Construction Team members. The Field Construction Team members must then collect the appropriate signage and number of channelization devices, which will be located outside of the Safety Zone. Only the Field Construction Team may touch the signage and channelization devices. The Field Construction team is allowed to collect the signage and channelization devices only ONCE. Points will be docked for extra equipment.
- Field Construction Team members may NOT look at the FDOT Standard Plans at any time during the TTC Setup; they rely solely on the verbal guidance of the Engineer In Charge and the checklist.

- Once the Engineer In Charge is confident in the TTC Setup, they must ensure the Field Construction Team is away from the roadway and alert the Judge to stop the clock.

Judging

The team's score will be determined by earning points in the Drafted Plans and Temporary Traffic Control (TTC) Setup categories and then subtracting the time spent in the TTC Setup from the score. The team with the highest score will be the winner.

Important Dates

- Release of Student Symposium Competition Rules and Regulations on October 1, 2023.
- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL.
 - Competition time and location will be released closer to event.

Questions

Requests for information (RFI) must be sent to 24southeastsym@gmail.com with the subject line



Judge Name

University Name

Drafted Plans

(Evaluated to accuracy of FDOT Standard Plans)

1.	Correct FDOT Standard Chosen	/200
2.	Channelizing Device Spacing	/200
3.	Taper Length "L"	/200
4.	Work Zone Sign Spacing "X"	/200
5.	Buffer Length "B"	/200
SUBTOTAL 1		/1000

Temporary Traffic Control (TTC) Setup

(Evaluated to accuracy of Drafted Plans)

1.	Channelizing Device Spacing	/200
2.	Channelizing Device Location/Placement	/200
3.	Work Zone Sign Spacing	/200
4.	Work Zone Sign Location/Placement	/200
5.	Correct Signs Used	/200
SUBTOTAL 2		/1000

Final Scoring

Summation of Subtotals 1 and 2		/2000
TTC Time in seconds (To be subtracted from Summation of Subtotals)		
TOTAL (Summation of Subtotals – TTC Time)		



Initial Drafting – Traffic Control Checklist Example

University Name:

Circle the most appropriate FDOT Standard Plans Index that would apply to your scenario:

102-XXX

102-XXX

102-XXX

What was the speed provided to you: _____ mph

What was the duration of construction provided to you: _____ mins or hrs (circle one)

Appropriate channelization device spacing (max): _____ feet (write N/A if not applicable)

Appropriate taper length “L” (min): _____ feet (write N/A if not applicable)

Work Zone Sign Spacing “X” (min): _____ feet (write N/A if not applicable)

Appropriate buffer length “B” (min): _____ feet (write N/A if not applicable)

Write in the total quantity needed for each sign. If you do not need a particular sign, you may leave it blank or write in zero or N/A.



Total Quantity: _____



Total Quantity: _____



Total Quantity: _____



Total Quantity: _____



Total Quantity: _____



Total Quantity: _____



Total Quantity: _____



Total Quantity: _____



Total Quantity: _____



Total Quantity: _____



Total Quantity: _____



Total Quantity: _____



Ready to compete?

MINI PRESTRESSED BEAM COMPETITION

Regional – There is no advancement to a Society-wide national competition for this competition.

Overview

Prestressed Concrete is concrete with its primary reinforcement consisting of steel strand that has been put into tension which results in compression of concrete. This is similar how you tune a guitar string.

Objective

Teams will use bass guitar strings to act as the prestressing force within a concrete beam. Each team will have control over the ultimate shape of the beam but defining factors such as length, width, and height of the formwork, as well as the amount of concrete material that will be provided dictate the final product.

Eligibility

Teams are not limited by the number of students allowed for the building team, however only three (3) students are allowed to be present for testing. Each team should designate a team captain. Each university can have one team and only one beam will be scored.

Procedures

Teams will arrive at the designated competition location on Friday, March 22nd to construct their Mini Prestressed Beam. Each team will build the beam onsite at the symposium. Testing and scoring will be conducted on Saturday, March 23rd. The finalized report will need to be submitted at the time of testing/scoring of the beams.

Teams are required to bring the following items with them to the competition location:



- One standard tarp – at least 8' x 6' in size
- Paper and a writing utensil
- Safety glasses and PPE
- Pliers
- Wire cutters
- 3/8" wrench or adjustable wrench
- Box cutters
- Philip screwdriver
- Straight screwdriver
- Tape measurer
- Tape
- Caulk
- Drill bits and drills
- Drywall screws – 1/14"

The following material will be provided by the competition judges at the time of the competition:

- Casting form
- 4 packs of bass strings – (Dia .100, .080, .065, .045)
- 1 aluminum L bracket (12"x1"x1") – for anchoring
- 16 machine screws – for tuning
- 1 sheet ¼" marine plastic – for bridge and saddle
- Concrete mix (by volume)
- 2 sheets (24"x24"x1") polystyrene foam – to create beam shape)
- Release agent
- ½" x 3/16" x 12" aluminum bar – for bridge & saddle if needed

Construction

The beams must be constructed in full on March 22nd. Only materials provided by the competition judges may be used for beam construction. The beam must use the guitar/bass string to act as the prestressing strand/reinforcement in the beam. The beams must conform to the maximum depth, width, and length of the formwork provided. Students may use various tools (measuring devices, guitar tuner, glue, etc) at their discretion to aid in constructing the beam. Concrete must be poured by 3 PM on March 22nd.

Constraints

1. The teams must only use the materials and tools provided at the competition.
2. Beams must maintain the length of the formwork provided. Beams shorter than the provide formwork will be disqualified.
3. All concrete must be poured by 3 PM on March 22nd.
4. Member size is constrained as follows:
 - No greater than 12" in width
 - No greater than 6" in height
5. The beam shall stand freely on a flat surface.



5. Beams will be required to maintain a maximum of 6" of bearing on each end.
5. Beams will be constructed in such a manner that will allow for the member to be loaded either directly on top of the beam (flat top surface required) or using a strap provided by the competition judge.

Loading

The beams will be loaded at 3" from the edge of the bearing surface until shear cracks develop in the beam. The judges will visually determine when shear cracks begin to develop. The loading will be done in predetermined increments. The beams will then be loaded at midspan until failure. Failure will be determined once one of the below criteria happens. Beam fails to hold weight added for more than 5 seconds or deflection of more than $L/360$ occurs.

Judging

Teams will be ranked in order of Lowest Overall Score. Each team will be ranked in descending order for each of the five test categories (prediction of prestressing, prediction of camber, load at shear crack, prediction of load at midspan for failure, load achieved at midspan for failure). The team with the lowest score at the end of the competition will win.

Important Dates

- Release of Student Symposium Competition Rules and Regulations on October 1, 2023.
- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL.
 - Competition time and location will be released closer to event.

Questions

Requests for information (RFI) must be sent to 24southeastsym@gmail.com with the subject line "Mini Prestressed Beam Competition RFI".



Ready to compete?

JACOBS SOLUTIONEERING CHALLENGE

Regional – There is no advancement to a Society-wide national competition for this competition.

Overview

Jacobs Engineering Group is dedicated to challenging today to reinvent tomorrow by solving the world’s most critical problems for thriving cities, resilient environments, mission-critical outcomes, operation advancement, scientific discovery, and cutting-edge manufacturing, by turning abstract ideas into realities that transform the world for good.

Whether you are a civil engineer, structural engineer, architect, or mechanical engineer, we all can be a solutioneer! Jacob’s defines a solutioneer as:

“A visionary who transforms challenges into opportunities to make a smarter, more connected, and sustainable world.”

Through collaboration amongst all engineering disciplines, we can brainstorm, develop, and deliver our innovative solutions into reality.

Objective

The Solutioneering Challenge is a competition designed to inspire and engage students from colleges and universities in the development of time-sensitive solutions while considering the impact in the future. Most projects have definitive timelines to prepare, design, and deliver a successful result. However, with the rapidly changing climate, and natural disasters becoming seemingly more frequent, communities don’t have all the time they need to come up with the solutions for tomorrow. Time restrictions only add more challenges. The objective of this competitions is to place a team of solutioneers in a stressful, time-sensitive scenario challenging their thought process as they aim to provide a solution for the challenges of today to reinvent tomorrow.



Setting the Scene

The stage is set with the fictitious city of Coastal Springs, a city located on the west coast of Florida. Coastal Springs has not invested in any new infrastructure in the last 5 years. As a result of the poor planning, the city is very susceptible to massive flooding, power outages, and slow response times for essential services. An unfortunate, massive storm would most certainly wreak havoc and destruction that the city has not seen in decades.

News has just broken where scientists have tracked, with almost 90% certainty, a potential Category 4 hurricane. Coastal Springs is directly in the path of the hurricane's eye. Your team has been dispatched by the city governance to prepare a disaster relief plan and mitigation strategy. You only have a few days before the hurricane is set to make land fall. Time is of the essence and a plan must be formed.

Competition Format

Forming a team of up to 5 individuals, your team will be tasked with providing a disaster relief and future mitigation plan to the city. Over the course of a two (2) hour window, teams will need to draw out a schematic of their disaster relief plan along with a 1 to 2 page report detailing their schematic and explain their decision process.

Students will be asked to accommodate the current situation of the Coastal Spring's infrastructure and implement innovative solutions to help prepare the city for the

imminent hurricane while also preparing the city for future mitigation efforts. There will be two (2) portions: the drawing and the report. The drawing portion will include a detailed sketch overlaid on the layout of Coastal Springs demonstrating a disaster relief plan and a future plan to make Coastal Springs more resilient. The report will include a summarized explanation of the decision process and reasoning behind the selected design from the drawing portion.

Day of the Competition

Teams will be asked to meet in a designated room (Time and Location TBD). At the start of the competition, each team will be given three (3) engineering sheets, 32" x 44", showing a scaled layout of Coastal Springs: (1) will be the working sheet, (1) will be used for final presentation of the proposed assessment, and (1) will be used for the final presentation of the proposed future remediation efforts. All three will be submitted to show the progression of the team's work and collaboration.

Students will be given flood maps that follow the same layout of the city. The flood maps will show the probable flood heights, Flood Height and associated risk percentage, Flood Risk Map for the various areas of the Coastal Springs. Reviewing and understanding these two types of flood maps is strongly recommended prior to the competition.

In addition to everything above, students will be given a table showing the flood plains corresponding to their respective expected



return period, i.e. 10 year, 25 year, 50 year, 100 year, and 250 year. These will serve as the basis for your decisions and suggestions to the city for future remediation efforts. The design category chosen for the future efforts and the report will be up to the team. Choose wisely.

Rules

- 1. Team Formation:** Participants form teams consisting of undergraduate and/or graduate students from their respective university. Teams are encouraged to include members with diverse backgrounds, such as engineering, environmental science, meteorology, and other relevant disciplines. There is a maximum of 5 members per team.
- 2. Research and Development:** Teams have several months to develop and refine their knowledge of various hurricane mitigation systems, disaster resilience practices, and actual real-life examples in local cities and regions.

Students are encouraged to conduct research, gather data, and educate themselves on the technology currently at their disposal to support their designs. Use any resources available like the ones on the ASCE website, FEMA, and USACE's Engineering with Nature Volume 2.

- 3. Technology:** While a personal computer is required during the competition to write the report, teams will not be able to search the internet to develop their solutions, especially

anything generated from AI supported software or browsers, during the two hours of competition time. A computer is permitted for viewing PDFs and typing up the report.

The Report

The written portion of the competition pairs with the solutions presented in the drawing portion. The report will be a minimum of one page and a maximum of two pages. Please use a size 12 point font, single space format for the report.

The report should, at a minimum, include the following:

- A discussion on the cost-benefit analysis of the proposed disaster relief and future mitigation plan, highlighting the priorities of each solution, as a whole and compared to one another, and whether their associated cost can be justified.
- An executive summary providing a summary of the report's content and highlighting any goals and motivations used in the decision process.
- A discussion dedicated to the following:
 - The preparation before the storm will discuss the team's solution to prepare Coastal Springs for the ensuing storm. Additionally, this should incorporate the elements demonstrated in the drawing portion.



- The plan for a future storm will discuss how the team’s future mitigation effort proposal addresses the design flood height selected from the return periods provided at the time of the competition. This should also highlight the priorities for any of the disaster mitigation recommendations made to Coastal Springs.
- Create a plan and priorities list of where the disaster relief should be targeted:
 - What communities, will it be the most flooded, will it be the main roads, will it be essential services.
 - What resources will be required to provide relief? Boats, number of personnel, food, temporary shelter.
- Once you have a short term solution, provide a revised plan / mark up to the city showing the plan for making the city more resilient in the future to the selected design flood height. Make the design year too high and you might be overdesigning for the allotment of cost, design the year too low and your system will become essentially useless:
 - Determine what if any new infrastructure needs to be implemented.
 - Which communities and areas can get immediate attention, which area will get future attention that will take time.
- Are you implementing strategies like installing levees, regrading roads, and enhancing basin plumbing? How would you employ storm flood gates, diversion tactics, and power redistribution, utilizing both underground and overhead systems? What are your plans for applying pervious pavements, reclaiming land for river expansion, and prioritizing areas for effective preventative measures to achieve cascading benefits?

Scoring Rubric

The competition will be scored out of 200 points, the report is responsible for 100 points and the submitted marked up city layouts are responsible for the remaining 100 points. A panel of judges will score each portion of the Solutioneering Challenge. See each respective section for scoring criteria:

City Map Layout Presentation (100 pts)

- **Ingenuity (30 pts)**
 - How effective is the design solution in identifying and addressing the shocks and stressers of the city?
 - Does the solution adequately address the most important stressers to reduce future issues?
- **Feasibility and Scalability of the Solution (30 pts)**



- Does the solution consider cost implications for the proposed mitigation efforts?
- Does a particular mitigation effort have any underlying assumptions that may make it unfeasible, or impossible, to implement in reality?
- How experimental is the proposed solution?
- **Quality of Presentation** (20 pts)
 - How effective does the layout drawn in plan communicate the mitigation efforts chosen?
- **Report Integration** (20 pts)
 - How well does the report incorporate all aspects of the drawn portion of the challenge?
 - Does the report add further context for solutions that are included in the drawn portion? Are any left out?

Written Report (100 pts)

- **Executive Summary** (25 pts)
 - Does the summary of the report touch on the key goals and drivers of the team's proposed solution?
 - Can a reviewer tie the points discussed in the summary with what is written in the report?
- **Technical Writing Quality** (25 pts)
 - Does the report maintain a professional

tone and consistency required for a proposal to a city's governance?

- **Quality of Writing** (20 pts)
 - Is the report concise in explaining the teams' ideas?
 - Does the report include only essential information and avoid any unnecessary fluff that Coastal Springs does not need to know?
- **City Map Layout Integration** (20 pts)
 - How well does the drawing portion tie into the discussions made in the written report?
 - Does the report add all essential and further context for solutions that are included in the drawn portion?
- **Formatting** (10 pts)
 - Does the report have a clear structure that makes the content easy to follow?



Important Dates

- Release of Student Symposium Competition Rules and Regulations on October 1, 2023.
- Technical Reports due at the end of the two-hour timeframe of the competition through this link: <https://forms.gle/ZDkN9tyeCeabC13m7>

[CLICK HERE FOR LINK](https://forms.gle/ZDkN9tyeCeabC13m7)

- 2024 Southeast Student Symposium Regional Competition March 21-23, 2024 in Orlando, FL.
 - Competition time and location will be released closer to event.

Questions

Requests for information (RFI) must be sent to 24southeastsym@gmail.com with the subject line "Jacobs Solutioneering RFI".



Ready to compete?

SPIRIT COMPETITION: RESUME EDITION

Regional – There is no advancement to a Society-wide national competition for this competition.

Overview

Welcome to the Spirit Competition: Resume Edition for this year's ASCE Southeast Student Symposium. Inspired by feedback from our treasured sponsor companies, we're steering the competition in a direction that's both relevant and beneficial for our participating students. We understand that the transition from academia to professional life can be challenging, and what better way to bridge this gap than by focusing on an integral aspect of job-seeking: your resume.

Objective

Our sponsor companies are eager to engage with, understand, and appreciate the meticulous work each student puts into their participation at the symposium. While many students might

already have their next steps planned, this competition ensures that all our sponsors get a glimpse of the diverse talent participating in our event.

Procedure

- Resume Submission: The Spirit Competition will contribute to 5% of your overall score.
 - Full Points: Universities will submit a resume for each student attending the Southeast Student Symposium to earn full points for this segment.
 - No Submission, No Points: Universities with incomplete resume submissions (even if just one student fails to submit) will not receive any points.

The Bonus Challenge:

- Among all the submitted resumes, the



student with the most compelling and well-structured resume will earn an additional 2 percentage points for their institution. This will be judged based on clarity, structure, relevance, and creativity.

Judging Criteria for The Bonus Challenge

1. Clarity: The content should be concise and easily readable, highlighting the key achievements and skills of the student.
2. Structure: The resume should follow a logical order, with clear headings, bullet points, and adequate spacing.
3. Relevance: Every entry, be it academic achievements, internships, projects, or extracurricular activities, should be pertinent to the associated roles the student wishes to pursue.
4. Creativity: While staying professional, innovative presentation methods or the inclusion of unique experiences can set a resume apart.

Submission Guidelines:

- Each resume must be in PDF format and not exceed two pages.
- Each resume should have the student's name, University name, and contact information clearly stated.

- Submit the resumes collectively for your University by March 15, 2024 11:59 PM EST. The submission link can be found here: <https://forms.gle/YjwgT4abF51macPo7>

[CLICK HERE FOR LINK](https://forms.gle/YjwgT4abF51macPo7)

- For students who register after March 15, 2024 your completed resume must be submitted to the above link with an additional email sent to 24southeastsym@gmail.com with the names of the individuals added.

Final Thoughts

This competition is more than just a showcase of resumes - it's an opportunity for students to prepare for the professional world and for our sponsors to discover the next generation of civil engineers. We believe in the potential of our participants, and we're excited to see the talent this competition will unveil.

Questions

Requests for information (RFI) must be sent to 24southeastsym@gmail.com with the subject line "Spirit Competition RFI".



Ready to compete?

PLANS READING COMPETITION

Regional – There is no advancement to a Society-wide national competition for this competition.

OVERVIEW

This event is designed to challenge students in the area of construction plan reading and construction estimating.

ELIGIBILITY

Each university is allowed to have one (1) team of up to three (3) members.

PROCEDURE

Teams will have a maximum time of one (1.5) hours to complete a “fill in the blank” test. Teams will submit their responses on a single form.

MATERIALS

Teams are allowed to bring the following materials:

- Engineering scale
- Two (2) FE approved calculators
- Engineering paper
- Writing utensils
- Stopwatch or other timing device. Note: the judges will maintain the official timing for the competition.
- Cell phones are NOT permitted for use as a stopwatch or dedicated timing devices.
- Cell phones, laptops, tablets, notebooks, or other internet devices will not be allowed into the competition room.



SCORING

Teams' scores will be based on a combination of time completed and number of questions answered correctly. Scores will first be ranked by the highest number of correct answers and then by the shortest amount of time. Unless otherwise specified, numerical answers should be whole numbers (no decimal places). Answers that are illegible will not be counted as correct. No partial credit will be given for incomplete or incorrect answers. Unless otherwise stated, all questions will be weighted equally, and each correct response will earn one point.

Questions

Requests for information (RFI) must be sent to 24southeastsym@gmail.com with the subject line "Plans Reading RFI".

