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Tallahassee Branch ASCE Bridge Florida Competition

CONCEPT

Using the 2016 Bridge Designer Software (available as a free download at https://www.asceflbridge.org/software), students will design a bridge to carry a vehicle over a river. The successful design with the lowest cost is the contest winner.

AWARDS



CINZA

Junior Division: Grades 6-8 1st Place: Certificate, TI-84 Plus CE Calculator or Cash 2nd Place: Certificate and Cash 3rd Place: Certificate and Cash 4th Place: Certificate and Cash 5th Place: Certificate and Cash

Senior Division: Grades 9-12 1st Place: Certificate, TI-89 Titanium Calculator or Cash 2nd Place: Certificate and Cash 3rd Place: Certificate and Cash 4th Place: Certificate and Cash 5th Place: Certificate and Cash

1st Place Winners will be offered an opportunity to compete at the state-level competition hosted by the ASCE Florida Section on Thursday, July 1st. This year's state-level competition will be virtual (online).

REGISTRATION

There is no need to register. The contest will be virtual (online). Please see attached instructions to compete.





2021 Tallahassee Branch ASCE Bridge Florida Competition

WHO:

All Middle School (Grades 6-8) and High School (Grades 9-12) students from the following counties are eligible to compete: Bay, Calhoun, Franklin, Gadsden, Gulf, Holmes, Jackson, Jefferson, Leon, Liberty, Madison, Taylor, Wakulla and Washington Counties.

WHAT:

Using the 2016 Bridge Designer Software, students will design a bridge to carry a vehicle over a river.

WHERE:

Online

WHEN:

May 24, 2021 through May 30, 2021

- The local contest codes will be announced at 8:00 AM EDT on Monday, May 24, 2021 via the FIGG Bridge Group Twitter account (@FIGGBridge, <u>https://twitter.com/figgbridge</u>). If you can't access the FIGG Bridge Group Twitter account, please email <u>bridgecontest@figgbridge.com</u> for the local contest codes.
- Designs are due by midnight EDT on Sunday, May 30, 2021. No exceptions! Please see Submission Instructions below.

RULES:

- The bridge that safely carries the design load with the lowest final cost wins. Ties will be broken based on time of email submission.
- Designs will not be accepted after May 30, 2021.
- Incomplete submissions will not be scored.
- You may create and submit more than one bridge design.
- The specified local contest code for your division (Junior or Senior) must be used to design your bridge. Please see Directions below.
- The winners in each division will be notified via email by the end of the day Friday, June 11, 2021. Arrangements will be made to distribute awards and prizes.

SUBMISSION INSTRUCTIONS:

Your final bridge design must be sent to <u>bridgecontest@figgbridge.com</u> for scoring. Please include the following in your submission email:

- First Name
- Last Name
- Email Address
- Grade
- School
- Parent's Name
- Parent's Email Address
- Bridge Cost
- Don't forget to attach the bridge design (.bdc) file! Your submission will not be scored if the file is not attached.



HELP: Please email questions to bridgecontest@figgbridge.com

AWARDS:

Junior Division: Grades 6-8

1st Place: Certificate, TI-84 Plus CE Calculator or Cash
2nd Place: Certificate and Cash
3rd Place: Certificate and Cash
4th Place: Certificate and Cash
5th Place: Certificate and Cash

Senior Division: Grades 9-12

1st Place: Certificate, TI-89 Titanium Calculator or Cash
2nd Place: Certificate and Cash
3rd Place: Certificate and Cash
4th Place: Certificate and Cash
5th Place: Certificate and Cash

Additional prizes may also be distributed at the discretion of the ASCE Tallahassee Branch.

First place winners in each division will be offered an opportunity to compete at the state-level competition hosted by the ASCE Florida Section on Thursday, July 1, 2021. This year's state-level competition will be virtual (online). If the first place winner is not available to participate, the second place winner will be invited to participate.

Prizes for the ASCE Florida Section competition are as follows (subject to change):

Junior Division: Grades 6-8

1st Place: \$1,000 **2nd Place:** \$300 **3rd Place:** \$200

Senior Division: Grades 9-12

1st Place: \$1,100 **2nd Place:** \$400 **3rd Place:** \$300

DIRECTIONS:

- Download the 2016 Bridge Designer Software from the ASCE Florida Section Competition webpage: <u>https://www.asceflbridge.org/software</u>
- 2. Install the program on your computer by clicking the provided **setupbdv16j.exe** file and following the on-screen instructions.
- 3. Open the program and follow steps a e below to configure your bridge for the local competition using the local contest code.



a. Open the Bridge Designer 2016 program and select **Create a New Bridge Design**. Click **OK**.

Powered by ENGINE	Design tip:	
O Create a New Bridge Design. O Load a Sample Bridge Design.	When you use the Bridge Designer, your objective is to design a truss bridge that costs as little as possible, while still passing the load test with no member failures.	
	the load test with no member failures.	About
Cload an existing Bridge Design File.		Cancel

b. Read the Design Requirement and click **Next**.

Design Project Setup Wizard Read the Design Design Requirement:	n Requirement	X Design Tip:
As a civil engineer working for the state Department of Transportation, you are responsible for designing a truss bridge to carry a two-lane highway across this river valley. Your objectives are: (1) To ensure that the bridge can carry its own weight (to include the weight of the reinforced concrete deck), plus the weight of a standard truck loading. (2) To keep the cost of the project as low as possible. For the complete Design Specifications, click the Help button below.	Elevation View 44 meters 44 meters 24 meters 2 24 meters 2 2 2 2 2 4 meters 2 2 2 4 meters 2 2 2 4 meters 2 2 4 meters 2 2 4 meters 2 4 meters 4 meters 2 4 meters 2 4 meters 2 4 meters 2 4 meters 2 4 meters 2 4 meters 4 meters 2 4 meters 4 me	The Bridge Designer 2014 will help you satisfy these design requirements. The deck elevation and support configuration (which you will choose in Step 3) will be automatically set on the Drawing Board. The BD will also provide a simulated Load Test to check your bridge for structural safety using the deck weight and standard truck loading that you will choose in Step 4. If your structure is not strong enough to carry the required loads, the BD will highlight the members that need to be strengthened.
Site Cost: \$0.0 (Includes cost of deck,	excavation, and supports; not steel trusses.)	*
	Help Cance	el << Back Next >> Finish



c. Select **Yes, with a 6-character Local Contest Code** and enter the six-character local contest code for your division provided on Twitter. Click **Next**.

ocal Contest Code	Deck Cross-Section	Design Tip:
re you participating in a local bridge design contest? No Yes, with a 4-character Local Contest Code Enter the Local Contest Code: Enter the Local Contest Code: Enter six- character code here		 If you are participating in a local contest using a 6-character Local Contest Code, you may only use the specific design project (i.e., site configuration and load case) designated for that particular local contest. When you enter the Local Contest Code here, the specified site configuration and load case will be automatically set on the Drawing Board. If you enter a valid Local Contest Code and dick the Next button, the Design Project Setup Wizard will advance to Step 5 because the site configuration and load case are already set. If you click No, or if you have a 4-character Local Contest Code, you will be able to choose any one of 392 available design projects.
e Cost:		

- d. Continue through the following wizard screens:
 - Select a Standard Truss Template (optional)
 - Fill in the Title Block (optional)
 - Design the Steel Truss
 - Click Finish
 - Verify the local contest code is displayed in the title block at the bottom right part of the screen (Project ID).
 - Start your design!
- e. Save your design by going to **File**, **Save As**, and typing in a file name. Check the file type is Bridge Design File (.bdc). Be sure to save often! This is the file you will attach to the email when making your submission.