

2022 SkillsUSA Additive Manufacturing Contest

Purpose To evaluate each contestant's preparation for employment and to recognize outstanding students for excellence and professionalism in Additive Manufacturing.

Clothing: Official Skills USA contest clothing. The official Skills contest clothing is Skills USA white polo and black pants, black belt, black socks, and black shoes.

Requirements: Each team is responsible for bringing their 3D printed model to the competition. Models must adhere to the contest outlines from the proposed standards. Models will not be printed on site. Teams without models, or with models that were not created with the recommended Additive Manufacturing methods, will have points deducted from the presentation portion of the competition.

Equipment:

Note: All contestants must bring their own computer hardware and ensure that their computer has the capability to run their software. Slicing and CAD software should be installed and tested before coming to the contest. No internet access will be available. Teams unable to slice competition model in front of contest personnel will have points deducted from their final score.

Appropriate licensure is required for all software. All schools should bring an extension cord and surge protector.

PLEASE NOTE: Students will not be given the opportunity to modify their design at the competition. The computer and software are tools to help students demonstrate their understanding of CAD software and the designed part. If the student cannot explain the use of the CAD software to the judge's satisfaction, points will be deducted in their final score.

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The goal for the 2022 District 6 SkillsUSA Additive Manufacturing competition is to prepare students for the State competition that will focus on additive manufacturing design with strict requirements on form, fit, and function. The contest below has been designed with the State competition in mind. This competition will prepare students for competing at State and challenge their understanding of additive manufacturing.

The Soda Can Challenge:

This contest is focuses around a standard 12 ounce can of soda. Contestants will design a multi part table that can support the weight of a full soda can.

- The table created must be made up of at least 3 unique parts that connect into a single cohesive structure.
- The table top may not be one solid piece
- The surface of the table must be at least 1.5 inches from the testing surface.
- Each part must be smaller than 3" in all dimensions.
- The finished product must fit within a 6"x6"x6" cube when assembled.
- The finished product may not use any fasteners or adhesives
- The finished product must be 3D printed.
- There will be an optional bonus for entries that can support more than one can of soda.

On contest day, students must provide to judges:

- 3D printed model
- A demonstration of the tables ability to be assembled and disassembled
- CAD model
- 3D printing slicer of student's choice
- Presentation of design and show functionality of the soda can table.

On contest day students will be required to demonstrate the following skills.

- Open their contest model in an approved CAD format (.stp, .ipt, .sldprt, asdasm, etc)
- Convert file from CAD forma to an STL file
- Slice file with settings provided by contest personnel

Knowledge test:

A knowledge test will be administered during the competition to test the students understanding of additive manufacturing and general CAD knowledge.

For questions pertaining to the competition, please contact Joe Rizo

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