State Qualifying Exam: No   National Contest: Yes   Participation: Teams of 3

Contest Description
This competition evaluates teams for employment in integrated manufacturing technology fields of computer-aided drafting/ design (CAD), computer-aided manufacturing (CAM), and computer numerical-controlled machining (CNC). CAD operators construct the part geometry, the CAM operator generates the tool paths, and the CNC operator sets up and machines the part. Plotting is not a scored event; however, the competitors must be able to generate a plot file that will be used to send their data to the plotter.

Tasks To Be Evaluated
Tasks performed are those typical for CAD design, toolpath creation using CAM software, and setup of a HAAS CNC Milling Simulator. Students will work together, determining their approach to satisfy the needs of the customer and the product being manufactured.

Clothing Requirement
National Requirement:
- Official khaki work shirt and pants; black, brown or tan leather work shoes; and safety glasses, clear lenses with side shields or goggles.
  - Prescription glasses can be used only if they are equipped with side shields. If not, they must be covered with goggles.

State Requirement: National Requirement OR similar "like" clothing.

Supplies Provided by Technical Committee
SkillsUSA will provide all contest documents, and a work space with power for computers and printers. SkillsUSA does NOT provide and computers or printers. SkillsUSA will also provide a Milling Machine trainer/simulator for use to emulate the machining process. SkillsUSA does NOT provide any software needed to compete. Internet and/or WIFI are also NOT provided to the teams.

Supplies Provided by Contestant
Each team must have (2) computers with their chosen CAD and CAM software. Said software must be capable of functioning as a stand alone system, without access to any internet or network connections. At least (1) printer is required, and may be cabled or wireless. Engineering calculators are also required; use of tablets, I-phones, Smart phones, etc are not allowed. And resume from each member of the group.

Additional Information
A very good working knowledge of at least one of the skills listed, by each team member. That is, each student should have one skill minimum, different from the other team members. Additional competency in each of the other two skills will help the team work more smoothly and quickly.