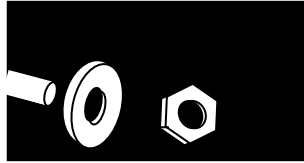


# Oklahoma Technical Drafting Guidelines



## PURPOSE:

To evaluate each contestant's preparation for employment and to recognize outstanding students for excellence and professionalism in the field of technical drafting.

**FIRST, refer to the Oklahoma SkillsUSA Policy and Procedures Manual.**

## CLOTHING REQUIREMENT

Original/Official SkillsUSA Dress less jacket (white shirt, black tie, black slacks/skirt, black belt, black shoes, black socks/black or nude hose)

OR

New Official SkillsUSA Regulation Attire for Drafting Contest (White SkillsUSA polo, black slacks/skirt, black belt, black shoes, black socks/black or nude hose).

Contestants should **NOT** wear clothing with any school identification visible to the judges. Those contestants wearing program uniforms will need to cover all identifying patches.

## ELIGIBILITY:

Open to active **SkillsUSA** members enrolled in programs with technical drafting as the occupational objective.

## EQUIPMENT:

1. Supplied by the technical committee:
  - a. The technical drafting workstation will be equipped with a flat table (approximately 24" X 72"), a second table with space for a personal computer and a chair.
  - b. One (1) 110-volt electric outlet
  - c. Output hardware – plotter or printer
    - 1.) Plotter media.
    - 2.) Pens, ink or toner as required.
  - d. Drafting paper/vellum
  - e. All necessary information and furnishings for judges and technical committee.
2. Supplied by the contestant:

- a. Typical personal drafting equipment and supplies desired for traditional drafting (specific equipment will be noted on the Oklahoma SkillsUSA Technical Drafting Contest Information website).
- b. A personal computer, monitor and input devices or a laptop computer.
- c. Each contestant will be required to bring a 50' extension cord and a power strip.
- d. Technical software of choice.
- e. Students may bring published computer-aided drafting reference books, software manuals, published technical drafting reference books, tables and calculators. Reference materials may not take up more than one (1) cubic foot of space and may not be shared by contestants.
- f. One (1) battery operated calculator.
- g. One USB drive, 4MB minimum.

**NOTE:** The setup and configuration of all computer hardware used in the contest will be the responsibility of the contestant. At the conclusion of the contest, when the judges permit it, contestants and advisors will be allowed into the contest area to remove their equipment. **Positive identification will be required.** **Contestants failing to remove their equipment as directed WILL BE DISQUALIFIED.** Please bring a cart to assist in the removal of your equipment.

## SCOPE OF THE CONTEST:

1. The contest will focus on the solution of the given problems by applying appropriate technical drafting skills to solve visualization and presentation problems of a mechanical nature. The contestants will be required to solve industry-developed problems. It is at the contestant's discretion as to which drafting tools and techniques will be utilized: the technology of Computer-Aided Drafting (CAD),

- traditional board techniques, or some combination of the two.
2. The manual drafting component will be limited to a technical sketch (See “Equipment - 2.a” on the previous page.)
  3. Solid modeling will be required (See “Scope of the Contest – 5.o and 5.p” below).
  4. DXF file translation may be required.
  5. Contestants will demonstrate their ability to perform technical drafting skills selected from the following list of competencies as determined by the technical committee:
    - a. Scale usage
    - b. Sketching
    - c. Orthographic views
    - d. Auxiliary views
    - e. Sectional views
    - f. Dimensioning and tolerancing including geometric dimensioning and tolerances
    - g. Detail and assembly drawings
    - h. Fasteners and hardware
    - i. Presentation/pictorial drawings
    - j. Materials and specifications
    - k. Manufacturing processes
    - l. Power transmission
    - m. Sheet metal developments
    - n. Use of reference materials
    - o. Computer-generated 3D models
    - p. Calculation of mass properties (volume, density, etc.)
  6. During the contest, the contestants will work independently. No assistance will be given by other contestants, instructors, or observers. Limited technical assistance for computer or software malfunction may be given by appropriate technical committee personnel.
  7. Contestants will each be given the same amount of time to accomplish the problem. Everyone will begin at the same time and no one will be allowed to work past the contest conclusion.
  8. Each contestant will be responsible for establishing plotting procedures at the computer and for plotting their work to a .pdf file on a USB drive.
  9. Judging criteria are general in nature and will be done from plotted drawings and CAD stations. Specific criteria will be based on the demonstration of competency in those elements of accuracy and productivity included in the contest problem.