IGNITE YOUR POTENTIAL 2024-2025

NYS SkillsUSA Standards

ARCHITECTURAL DRAFTING

PURPOSE

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

ELIGIBILITY

Open to active NYS SkillsUSA members enrolled in programs with architectural drafting as the occupational objective.

CLOTHING REQUIREMENT

NYS SkillsUSA Business Professional

- White polo shirt (plain or with SkillsUSA or SkillsUSA NY monogram) or White dress shirt with
- plain black tie with no pattern or a SkillsUSA black tie, or business like white collarless blouse or white blouse with small plain collar.
- Black dress slacks (accompanied by black dress socks or black or skin-tone seamless hose) or black dress skirt (knee-length, accompanied by black or skin-tone seamless hose).
- Black leather shoes that are not backless or open toe

Note: **Contestants must wear their contest clothing to the contest orientation meeting. Also bring #2 pencil, resume, and safety assurance form.**

EQUIPMENT AND MATERIALS

1. Supplied by the NY Chair/ committee:
    a. The architectural drafting workstation will be equipped with a standard table, a work area for reference material, a space for a personal computer, personal printer, and a chair.
    b. 110-volt electrical outlet
    c. One formatted IBM-compatible diskette
    d. Drafting paper/vellum
    e. All necessary information and furnishings for judges.
2. Supplied by the contestant:
    a. PC-type computer, monitor and input devices, including all power cords. Computers may be obtained from any source. To have access to the most current technology, contestants and their schools are encouraged to develop a relationship with a hometown computer/software dealer who can serve as a contestant sponsor. It is advisable to have active virus-protection software on the contestant's computer.
    b. Contestants need to provide a color printer, ink, paper, and all connectivity cables/power sources.
    c. Removable data storage device (flash drive) or recordable CD
    d. Architectural software of choice. Proof of licensing for every software program installed on the contestant's computer must be provided to the technical committee at the contestant orientation meeting. School-owned computers must be set up to operate the software of choice independent of the school's network.
    e. Students may bring published reference books, tables, and software manuals. Reference materials must not take up more than 1 cubic foot of space and may be shared between contestants. Legal PDF copies of textbooks may be allowed if resident to the student's computer hard drive and approved by the NY chair/committee.
    f. Typical personal drafting supplies desired for board drafting and freehand sketching subject to the approval of the NY chair/committee.
    g. Battery-operated calculator
    h. Multi-receptacle power strip
    i. Students choosing to use board drafting equipment must bring their own drawing board, equipment, and drafting supplies.
    j. All competitors must create a one-page résumé and submit a hard copy at orientation. Failure to do so will result in a 10-point penalty.

Note: The setup configuration and the tear-down of all contestant-provided equipment will be the responsibility of the contestant.

RESUME REQUIREMENT

Competitors must create a one-page resume to submit at orientation.

DEVICES

Cell phones or other electronic devices not approved by the NYS Chairperson will be collected by the contest chair during the competition. Chairpersons will announce their acceptance by listing it on their standard or at the orientation meeting. In case of emergencies advisors should allow the competitors to take their phones to the contest areas.

If the competitor uses their device in a manner which compromises the integrity of the competition the competitor's score may be penalized.

SCOPE OF THE CONTEST

KNOWLEDGE PERFORMANCE

All competitors are required to take the SkillsUSA professional development test online.
The contest will include a written test assessing general knowledge of architecture and drafting. Written portions may also exist during the skills portion of the contest. Knowledge of terms and principles used in the architecture profession will be required for the skill demonstration portion of the contest. The PDT will be taken at orientation.

SKILLPERFORMANCE

The contest will assess skill performance by providing a hand sketch and computer-generated problem that may be solved using either board drafting or CAD.

CONTEST GUIDELINES

1. Preparation of drawings will include proper dimensions and line type selection according to current drafting standards.
2. During the contest, the contestants will work independently; no assistance from other contestants, instructors or observers is allowed.
3. Limited technical assistance for computer or software malfunction may be given by appropriate manufacturers' representatives or members of the technical committee.
4. Contestants will each be given the same amount of time to accomplish the problem. Everyone will begin at the same time and take the required lunch break, and no one will be allowed to work past the contest conclusion. (Additional time may be granted for equipment malfunction.)
5. Each contestant will be responsible for establishing plotting procedures at the computer and for plotting his or her work to a plot file on a USB flash drive. Students must have a program on their computer to allow them to plot to a PDF if the program of choice does not allow this plotting option.
6. Criteria to evaluate skill performance are general in nature and will be done from plotted drawings, manual drawings, and sketches. Specific criteria will be based on the

   demonstration of competency in those elements of accuracy and productivity included in the contest problem.
7. Competencies to be demonstrated may be selected from the Standards and Competencies below.

STANDARDS AND COMPETENCIES

AD 1.0 — Demonstrate understanding of terms and principles used in the architectural profession.

1.1. Define and use terms commonly used in the architectural profession.
1.2. Explain the application of geometric objects to building materials.
- 1.2.1. Define the characteristics of an equilateral triangle and its application to architecture.
- 1.2.2. Define the characteristics of an isosceles triangle and its application to architecture.
- 1.2.3. Define the characteristics of a square and its application to architecture.
- 1.2.4. Define the characteristics of a parallelogram and its application to architecture.
- 1.2.5. Define the characteristics of an equilateral triangle and its application to architecture.
- 1.2.6. Define the characteristics of a hexagon and its application to architecture.
- 1.2.7. Define the characteristics of an octagon and its application to architecture.
- 1.2.8. Define the characteristics of a circle and its application to architecture.

AD 2.0 — Interpret and apply conventional General Drafting Standards to architectural drafting situations.

2.1. Define the function of each line in the Alphabet of Lines.
2.2. Explain the graphical characteristics of each line.
  2.2.1. Visible/Object Lines:
  2.2.2. Hidden Lines:
  2.2.3. Section Lines:
2.3. Explain orthographic elevation projection.
  2.3.1. Architecturally, views are referred to as elevations.
  2.3.2. Roof plan is the top view, and front elevation is the front view, etc.
  2.3.3. Elevations are oriented on site with reference to true north or building north.
2.4. Explain the terms and definitions used in detail drawings, working drawings and drafting.
2.5. Define and describe the components that comprise architectural drawings.
  2.5.1. Necessary multi-views
  2.5.2. Dimensional information
  2.5.3. Specified materials
  2.5.4. Revision block, title block and sheet size
  2.5.5. Drafter/reviewer names
  2.5.6. Enlarged views and sections showing detail
  2.5.7. General notes with construction information
  2.5.8. Schedules: doors, windows and room finishes
2.6. Define and describe the components that comprise architectural construction (working) drawings.

AD 3.0 — Develop a set of working drawings from a provided scenario with provided materials using competencies identified for drafting certification by the American Design Drafting Association.

3.1. Produce Multiview drawings with lines, curves, surfaces, holes, fillets, rounds, chamfers, run outs and ellipses.
3.2. Use standard drafting techniques to create section views to improve the visualization of new designs.
3.3. Clarify Multiview drawings and facilitate the dimensioning of drawings.
3.4. Summarize and apply the principles and procedures for adding size information to a drawing according to standard dimensioning practices.
3.5. Draw and label site plans, floor plans, foundation plans, plumbing plans, mechanical plans, electrical plans and landscaping plans with elevations, sections, details, schedules and necessary multiviews.