



PURPOSE

This contest is designed to evaluate team preparation for employment and to recognize outstanding students for excellence and professionalism in the field of residential carpentry, masonry, plumbing, electricity, and teamwork skills.

ELIGIBILITY (Team of 4)

Open to a team of four SkillsUSA members enrolled in a program(s) with building trades as the occupational objective. Team members may be from different chapters (schools).

CLOTHING REQUIREMENT

White crew neck short-sleeved T-shirt, work pants, safety glasses with side shields or goggles, leather or steel toed work shoes. Safety prescription glasses can be used only if they are equipped with approved side shields. If not, they must be covered with goggles. Students should arrive as they would on a jobsite, professionally dressed with proper safety attire.

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

SAFETY REQUIREMENT

Both the instructor and the contestants certify by agreeing to enter this contest that the contestants have received instructions and have satisfactorily passed an examination on the safe use of portable electric power tools (including cordless) and all hand tools. All team members are required to have an OSHA Certification prior to competition. To take the OSHA Certification test, go to: www.careersafeonline.com.

The contestants are responsible for inspecting the tools supplied and making sure they are in safe working condition. Further, they agree that SkillsUSA NYS., the NY chair/committees, volunteers and the judges are released from all responsibility relating to personal injuries resulting from their use. Contestants will be removed from competition if proper training has not been provided and/or they are using the equipment in an unsafe manner.

EQUIPMENT AND MATERIALS

1. Supplied by the NY chair/committee:
All materials and project plans
2. Supplied by the contestant:
 - a. Personal Protective Equipment
 - Hard hat
 - Safety glasses w/ side shields
 - Gloves
 - Steel toed work shoes
 - Hearing protection
 - b. Clean-up
 - Broom
 - Shovel
 - Shop Towels
 - Work Bench brush
 - Dust pan
 - c. Masonry Tools
 - Tape 30'
 - Trowels
 - Mud Board
 - Wheelbarrow
 - Level-2' and 4'
 - Striker/Jointer 1/2" x 5/8"
 - Brush
 - Framing hammer
 - Chalk Line
 - Framing Square
 - 12 oz or heavier plumb bob
 - Brick spacing rule
 - 100' braided nylon mason's line
 - Mason's line blocks
 - 18-24 oz. Brick hammer
 - Pencil/Sharpe
 - d. Carpentry Tools
 - 6' or 8' ladder
 - Circular saw
 - Framing hammer
 - Cat's paw/nail puller
 - Saw horses - 2 pair
 - Chalk line
 - Aviation shears

- Tri-square, speed square, or combination
- Adjustable wrench (8-12)
- Sliding T-bevel
- Hack saw and blades
- 4' and 2' level
- Hand saw- cross cut
- Power drill(s)
- Spade bits
- Framing square
- 30' tape
- Phillips head drill bits
- Utility knife and blades
- Screwdrivers (standard and Phillips)
- Pencil/Sharpe
- e. Electrical Tools
 - 30' tape
 - Screwdrivers (standard and Phillips)
 - 10" side cutters
 - Hammer
 - Hacksaw & blades
 - Torpedo level
 - Wire strippers
 - 8" diagonal cutters
 - Adjustable wrench
 - Long-nose pliers
 - Channel Locks
 - Utility knife
 - Pencil/Sharpe
- f. Plumbing Tools
 - Tape 30'
 - PVC saw
 - Claw hammer
 - Hole saw (pipe diameter)
 - File, round/flat
 - Torpedo level
 - Hack saw and blades
 - Regular & stubby screwdrivers
 - Level-2' and 4'
 - Handsaw and blades
 - 10" channel locks
 - Utility knife and blades
 - Framing square
 - Pencil/Sharpe
- g. Miscellaneous
 - Lead Cords
 - GFI protection for lead cords.

One-page resume to be handed in at orientation. Failure to do so will result in a 10-point penalty.

Note: Your contest may also require a hard copy of your résumé as part of the actual contest. Check the Contest Guidelines and/or the updates page on the NYS SkillsUSA Web site:

<http://www.nysskillsusa.org/>

Note: No Power activated tools or air nailers

SCOPE OF THE CONTEST

The contest is designed to assess a team's ability to perform tasks identified by the NY Chair/ committee, which includes: local union officials

Knowledge Performance

The contest includes a written action plan developed by team members for the purpose of assessing the team's knowledge of the building trades.

Skill Performance

The contest includes a team project assessing the ability to analyze a project drawing, write an action plan, professionally present the team project, and perform skills in residential carpentry, plumbing, electricity and masonry.

Contest Guidelines

1. Each team will be given the project drawing at the contest orientation meeting to analyze the drawing and formulate a written action plan.
2. Each team will conduct a three- to five-minute professional presentation to the judges on how the team plans to accomplish the project.
3. Each team member is required to have an active part in the presentation.
4. The written action plan and the presentation will be judged.
5. Cleanliness of jobsite, timeliness of completion of the project, effective ordering of material and inventorying tools and equipment will be assessed.

Standards and Competencies

TW 1.0 — Present an action plan after analyzing the project drawing

- 1.1 Analyze the project drawing
 - 1.1.1 Interpret and determine

- dimensions from multi-view drawings
 - 1.1.2 Interpret specifications, abbreviations, symbols, and drawing notes
 - 1.1.3 Interpret oral and written changes
 - 1.1.4 Prepare material take-off from blueprint
- 1.2 Write the action plan and give a presentation
 - 1.2.1 Organize, prepare and present an action plan
 - 1.2.2 Use data display instruments such as flow charts or cause and effect diagrams
 - 1.2.3 As a team, develop a presentation that is three to five minutes in length portraying how your team will accomplish the building project including the team's safety plan
 - 1.2.4 Use of visuals is permitted (e.g., flip chart with notes or diagrams, PowerPoint presentation). Each team will be provided with a flip chart stand.

TW 2.0 — Perform effectively as team members

- 2.1 Demonstrate group problem-solving techniques
- 2.2 Demonstrate team proficiency in construction of a building project
- 2.3 Perform additional teamwork competencies as determined by the technical committee

TW 3.0 — Perform carpentry skills

- 3.1 Estimate and use the amount of materials needed and proper tools
 - 3.1.1 Identify, receive and inspect materials
 - 3.1.2 Store materials correctly around work area
 - 3.1.3 Use the correct amount of materials for the project in the correct manner
 - 3.1.4 Identify and safely use carpentry hand and power tools
- 3.2 Perform framing and install sub-floor and common roof rafters
 - 3.2.1 Frame and install sill plate, girders, floor joists and bridging

- 3.2.2 Use dimensional and engineered wood products and steel products
- 3.2.3 Frame floor opening and install sub-floor
- 3.2.4 Frame and brace walls to include corners, openings, trimmers, cripples, partitions, plumbing partitions, fixture backing and sheathing
- 3.2.5 Frame stair stringer and other components
- 3.2.6 Calculate and use the rise and run of a common roof
- 3.2.7 Lay out a common roof plan
- 3.2.8 Lay out, cut and install common rafters, ridge board, ceiling joists and collar ties
- 3.2.9 Install roof sheathing

TW 4.0 — Perform masonry skills by laying and installing a brick/block wall

- 4.1 Estimate and use the amount of materials needed and proper tools
 - 4.1.1 Identify, receive, and inspect materials
 - 4.1.2 Store materials correctly around work area
 - 4.1.3 Use the correct amount of materials for the project in the correct manner
 - 4.1.4 Identify and safely use masonry hand and power tools
 - 4.1.6 Organize area neatly
 - 4.1.7 Place mortar pans properly
 - 4.1.8 Select and effectively arrange masonry tools
- 4.2 Tool and polish joints
 - 4.2.1 Tool concave, rake weather, V-jointer, grapevine, and struck joints
 - 4.2.2 Polish the joints
 - 4.2.3 Tuckpoint a wall
 - 4.2.4 Brush and touch up a wall
- 4.3 Lay a brick/block wall
 - 4.3.1 Lay out a wall in preparation for building a straight and/or corner wall
 - 4.3.2 Spread and furrow mortar correctly for brick units
 - 4.3.3 Construct a straight wall
 - 4.3.4 Construct an outside and inside corner lead

- 4.3.5 Spread bed joints and throw on full head joints for block units
- 4.3.6 Build a block corner to a specified height
- 4.3.7 Install lintels and moisture drainage such as masonry flashing and weep holes
- 4.3.8 Install brick detailing if requested

1W 5.0 — Perform plumbing by installing cleanout drains, roughing in water supply lines, performing pressure tests and cutting, reaming, and joining

- 5.1 Estimate and use materials and proper tools
 - 5.1.1 Identify, receive and inspect materials
 - 5.1.2 Store materials correctly around work area
 - 5.1.3 Use the correct amount of materials for the project in the correct manner
 - 5.1.4 Identify fittings from a sketch of a piping system
 - 5.1.5 Identify and safely use plumbing hand and power tools
- 5.2 Rough in water supply lines and perform pressure tests
 - 5.2.1 Calculate the slope required for waste and vent lines
 - 5.2.2 Rough in waste and vent lines for sinks, lavatories, bathtubs, showers, and water closets
 - 5.2.3 Install cleanout drains
 - 5.2.4 Secure horizontal and vertical lines of pipe to wood, metal, and masonry surfaces
 - 5.2.5 Rough in water supply lines for sinks, lavatories, bathtubs, showers, and water closets
 - 5.2.6 Perform pressure tests on water supply system
- 5.3 Join pipes
 - 5.3.1 Cut, ream and join copper tubing using the sweat method
 - 5.3.2 Cut, ream and join copper tubing using the compression method
 - 5.3.3 Cut, ream and join CPVC and another similar pipe
 - 5.3.4 Cut, ream and join PVC pipe
 - 5.3.5 Cut, ream and join ABS pipe
 - 5.3.6 Cut, ream and join copper tubing by sweat, compression or other

methods

1W 6.0 — Perform electrical skills by laying out electrical installations

- 6.1 Estimate and use materials and use tools properly
 - 6.1.1 Apply the current National Electrical Code
 - 6.1.2 Plan, work and lay out electrical installations
 - 6.1.3 Identify, receive, and inspect materials
 - 6.1.4 Correlate specifications, prints and job sites
 - 6.1.5 Use the correct amount of materials for the project in the correct manner
 - 6.1.6 Store materials correctly around work area
 - 6.1.7 Identify and safely use electrical hand and power tools
- 6.2 Rough in
 - 6.2.1 Choose size and install ganged, octagon and surface mount boxes to a specified height
 - 6.2.2 Install and staple all electrical wire essentially free from hazard according to a blueprint
 - 6.2.3 Perform splices and junctions in boxes
- 6.3 Install devices such as single pole switch, three-way switch, four-way switch, duplex grounded receptacle, ground fault circuit interrupter, light fixtures and wall plates

TW 7.0 — Prepare for unique tasks that may be included in a given situation

- 7.1 Run conduit in the electrical unit
- 7.2 Troubleshoot electrical circuits
- 7.3 Install plumbing fixtures
- 7.4 Install electric fixtures
- 7.5 Repair or replace a P trap
- 7.6 Build a brick/block composite wall
- 7.7 Complete exterior or interior carpentry finish work
- 7.8 Install shingles
- 7.9 Install window(s)
- 7.10 Install door(s)
- 7.11 Install underlayment
- 7.12 Install floor coverings