

# ELECTRICAL CONSTRUCTION WIRING



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## **Clothing Requirements**

Official SkillsUSA khaki work shirt and pants, black or brown leather work shoes, and safety glasses 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.)

***Note:** At the district level if a student is not able to wear the official SkillsUSA attire he/she may wear an outfit that would be acceptable in their specific field of study. Please keep in mind that official SkillsUSA attire will be required at the state and national level.*

## **Eligibility**

Open to active SkillsUSA members enrolled in programs with residential wiring or electrical trades as the occupational objective.

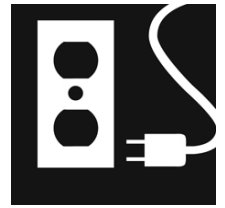
## **Equipment and Materials: Supplied by host school:**

1. All wiring panels, electrical supplies and materials as required by the problem assigned

## **Equipment and Materials: Supplied by Contestant:**

1. All students must have a one-page, typewritten résumé
2. Safety Glasses
3. Hard Hat
4. Work Shoes
5. Cordless Drill with batteries and charger
6. Assorted Flat Blade and Phillips Tips for Cordless Drill
7. 5/8 inch or 3/4 inch Wood Drill Bits
8. Pump pliers
9. Assorted flat blade and Phillips screwdriver
10. Wire strippers
11. Diagonal pliers
12. Side cutting pliers/Lineman's pliers
13. Needle nose pliers
14. Torpedo level
15. Electrician's hammer
16. Electrician's knife/Utility knife
17. Hacksaw
18. 1/2" EMT Conduit bender
19. 1/2" EMT Conduit reamer
20. Measuring tape or folding ruler
21. Multi-meter (volt, ohm, amp) or equivalent voltage and continuity testers
22. Calculator (NO CELL PHONES)
23. Pencils
24. Magic Marker (Sharpie)
25. Current National Electrical Code Book

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## **Scope of the Contest** – *(Defined by the National Competition Regulations)*

*(District Competitions are meant to be a scaled down version of National Competition. It is important for the students to participate in a competition that will reflect a cross-section of the industry skills needed to prepare them for the state and national levels)*

The contest will assess the ability to perform jobs or skills selected from the following list of competencies.

## **Knowledge Performance**

The contest will include a written knowledge exam assessing general knowledge of residential wiring. Written portions may also exist during the skills portion of the contest. Knowledge of terms and principles used in residential wiring will be required for the skill demonstration portion of the contest.

## **Skill Performance**

The skills portion of the contest will include a series of work stations that have information and instruction sheets for wiring a residence or completing a light commercial installation. All work shall conform to the specifications of the latest edition of the National Electrical Code.

## **Contest Guidelines**

Competitors will install a 100 amp panelboard, various conduit bends, and various commercial and residential circuits.

## **Standards and Competencies** – *(Summary of national technical standards list)*

1. Define and apply safety rules and practices in residential wiring according to NEC standards
2. Apply knowledge of basic wiring theory according to NEC standards
3. Install conduits to meet NEC standards
4. Use basic equipment and procedures defined by industry standards
5. Install switch boxes and outlet boxes to meet NEC standards
6. Rough in, connect, and install electrical devices to meet NEC standards

### **Residential Wiring Competition Rating Sheet**

<b>Items evaluated</b>	<b>Possible Points</b>	<b>Contestant Score</b>
Written Test	25	
Station 1 Parts Identification	25	
Job: Smoke Detector, Lighting and Receptacle Circuit	100	
Resume Penalty	-10	
Safety Penalty	-10	
Clothing Penalty	-5	
<b>Total Points</b>	<b>150</b>	

*Note: No cell phones or other electronic devices may be used at any time during a competition; this includes using a calculator function on a cell phone for competitions in which calculators are permitted.*