

South Carolina Skills USA
State Residential Electrical Competition

Name of Event: Electrical Construction Wiring

Date of Event: March 11, 2026

Contest Chair Contact Information:

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Note: Each school is allowed to have up to 4 contestants

All competition materials, i.e. wire devices, tools, etc., must be supplied by the competitor and his/her school.

Tuesday 3-10-26 Competition Testing and Set Up

Time/Date: **1pm-3:30pm 3-10-26;** Testing will be held at our competition space.

8:30am-9:30am 3-11-26; Testing will be held in our competition space

The test will consist of 30 questions and competitors will have 45 minutes to complete. See attached test question examples at the end of this document.

3:30pm-4:30pm Competition walls set up for Tuesday competition. If you have students/faculty available to help with this set up please be there. As the competition has been moved to Columbia we do not have as much manpower available to set up as in previous years. **We would appreciate all the help that we can get.**

Wednesday 3-11-26 State Wiring Championships

9:30am: Orientation

9:45am: Rules/Questions/Etc.

10:00A.M.-11:45P.M. Hands on Project

11:45A.M.-12:05P.M. Lunch (It is the responsibility of the instructor to bring lunch to their student(s))

12:05P.M.-2:00P.M. Hands on Project

2:00P.M. Championship concludes

2:00P.M.-3:00P.M. Judging and tallying of scores

3:00P.M.-4:00P.M. Breakdown and Clean Up

Thursday 3-12-26 Awards Ceremony

*****CHANGES TO THIS SCHEDULE ARE POSSIBLE. IF ANY CHANGES ARE MADE YOU WILL BE NOTIFIED PRIOR TO THE COMPETITION.*****

State Electrical Competition Materials List

*****IT IS THE RESPONSIBILITY OF THE COMPETITOR AND THE INSTRUCTOR TO ENSURE THAT EVERYTHING ON THE BELOW LIST IS PROVIDED FOR THE COMPETITION, INCLUDING MATERIAL/TOOLS/PPE/SKILLS USA REQUIRED CLOTHING. THERE IS NOT ANY MATERIAL OR TOOLS THAT ARE PROVIDED BY SKILLS USA. COMPETIORS ARE ALLOWED TO USE OTHER INDUSTRY STANDARD TOOLS NOT LISTED BELOW AS LONG AS THEY ARE BEING USED APPROPRIATLEY AND SAFELY. IF YOU HAVE ANY QUESTIONS PLEASE REACH OUT.*****

<u>Amount</u>	<u>Description</u>
1. 1	GFCI Duplex Grounded Receptacles
2. 2	3 Way Grounded Switches
3. 4	Single Pole Switches
4. 3	Plastic Keyless Light Fixture
5. 3	Duplex Grounded Receptacles
6. 2	4 way grounded switches
7. 1 Box	Wire Staples
8. 1 Box	Ground Pigtail Wire Nuts/Crimp Bonding Grounds
9. 40	Red Wire Nuts
10. 20	Yellow Wire Nuts
11. 3	40 watt light bulbs
12. 1	240 volt receptacle, example a dryer receptacle (flush mount)
13. 1	3 to 4 foot pigtail (SO) cord with 120v 3 prong male plug on one end, this will be used to test the project.

NOTE: Conduit will be provided for the competition

Boxes for State Competition

1. 3	Two Gang Nail on Boxes (Plastic)
2. 8	One Gang Nail on Boxes (Plastic)
3. 3	Round Nail on Ceiling Boxes (Plastic)
4. 5	½" KO 4x4 square metal boxes

Conduit

1. 10 ½" one hole straps with ¾" #10 sheet metal screws
2. 10 ½" EMT connectors
3. 8 ½" Romex connectors

Wire

15 feet- 10/3 with ground

80 feet 14/2 with ground

25 feet 14/3 with ground

Instructors will be given a copy of the project at the conclusion of the competition for their record.

Equipment

1. Standard Electricians Tool Box or Tool Pouch & Tools (i.e. Lineman Pliers, Wire Strippers, Hammer, Drill, Screwdrivers, Tape Measure, etc.)
2. Digital Multimeter (Optional)
3. ½" EMT Bender
4. Hack Saw
5. Drill

Dress

1. ALL contestants will wear khaki pants and khaki shirt with skills logo on shirt sleeve.
2. Shirt will be tucked in!
3. NO sagging of the pants!
4. No tennis shoes!
5. Work Boots or Safety Shoes!
6. Hard Hats!
7. Safety Glasses!
8. NO School Logos or ANY Identifying school names allowed to be worn by competitors!
9. Sponsor Logos may be worn on shirts and Hard hats.

NOTE: POINTS WILL BE DEDUCTED IF CONTESTANT DOES NOT HAVE PROPER ATTIRE PER SKILLS USA.

Written Test Outline

- General Construction Industry Safety Knowledge
- General Electrical Safety Knowledge
- Residential NEC Knowledge

- Residential Wiring Knowledge
- Commercial Wiring Knowledge
- Industrial Wiring Knowledge

**** Instructors will be given a copy of the written test at the conclusion of the competition for their record.****

Competition Supplemental Information

- **It is the responsibility of all instructors to bring lunch for their student(s)**
- **It is the responsibility of all contestants to breakdown and clean up their wiring projects. Any contestant in violation will have 50 Points deducted from their overall score.**

TEST FROM 2025 FOR PREPERATION PURPOSES ONLY

1. A wire should be hooked in what direction when making up an electrical device:
 - a. Clock Wise
 - b. Counter Clock Wise
 - c. Doesn't Matter
2. True/False-Safety should be the number ONE concern of all crew members on a construction site.
 - a. True
 - b. False
3. Per NEC table Copper #10 AWG is good for _____ amps @ 75 degree C in conduit.
 - a. 15
 - b. 20
 - c. 25
 - d. 30
4. Per the NEC GFCI protection must be used where?
 - a. Outdoors
 - b. During construction while on a temporary power source
 - c. In areas considered a wet location
 - d. All of the above
5. Wire nuts are used for what purpose?
 - a. Mount wire to metal studs
 - b. Strapping EMT
 - c. Joining 2 or more wires
6. True/False-The common symbol of S or \$ is used to denote duplex receptacles.
 - a. True
 - b. False
7. What is the minimum amount of 3 way switches that must be in an area that a device or light is switched from multiple locations?

- a. 1
 - b. 2
 - c. 3
 - d. 4
8. Type NM cable is commonly referred to as _____.
- a. MC Cable
 - b. Smurf Pipe
 - c. Armored Cable
 - d. Romex
9. True/False-THHN is a type of wire coating.
- a. True
 - b. False
10. Devices in a residential dwelling are required to be installed every _____ feet along the floor line in a bedroom.
- a. 5
 - b. 6
 - c. 7
 - d. 8
11. If you are working on an industry standard 8' ladder, what is the highest point from the floor that the bottom of your shoes are allowed to be per industry standard safety standards?
- a. 8'
 - b. 7'
 - c. 6'
 - d. 5'
12. True/False- Safety glasses are not necessary to be worn when working with an angle grinder.
- a. True
 - b. False
13. When working with $\frac{3}{4}$ " EMT, what is the take up for a 90 degree bend?
- a. 5 inches
 - b. 7 inches
 - c. 9 inches
 - d. 6 inches
14. Class 2 wiring can be installed in which of the following conditions?
- a. In conduit
 - b. In Cable tray
 - c. Open air environment with approved hangers
 - d. A, B, C are all correct
15. Single phase 120/240VAC power in the USA has a sine wave that inverts _____ per second.
- a. 40
 - b. 45
 - c. 50
 - d. 60

16. Transformers are installed in electrical systems when _____.
- More power is needed in a kitchen
 - Voltage needs to be increased or reduced
 - Lightning strikes are common
17. A 3-way switch requires how many wires?
- 1
 - 2
 - 3
 - 4
18. When voltage is increased amperage _____.
- Increases
 - Decreases
 - Does not change
19. A 120V circuit with 6 amps of load is calculated as how many watts?
- 720
 - 680
 - 600
 - 540
20. If a breaker is rated at 20 amps and the breaker has a typical 80% rating, at what amperage will the breaker trip?
- 20 amps
 - 18 amps
 - 16 amps
 - 14 amps
21. Based on the NEC how often does Romex have to be strapped?
- Every 8 Feet, Within 12" of a box
 - Every 6 Feet, Within 12" of a box
 - Every 4 ½ Feet, Within 12" of a box
 - Every 2 Feet, Within 12" of a box
22. The "hot" wire is made up to the _____ color screw on a receptacle.
- Gold
 - Silver
 - Black
 - Green
23. EMT couplings and connectors come in both _____ and set screw type.
- Threaded
 - Compression
 - Welded
 - Joining
24. If a disconnect in the blueprints of a drawing is shown as 60A/3P/250V/3R, The 3R lets you know that the disconnect is rated for _____.
- Hazardous locations
 - Wet locations
 - Submersible locations

- d. Dry locations only
25. Before the use of any tools, ladders, equipment, etc. what should be done first?
- a. Inspection to ensure everything is in good working order
 - b. They must be moved to your work area
 - c. Must be signed out by a supervisor