



## CONTEST SCOPE

*Program Name- Electronics*

*Contest Chair- Seth P. Musco*

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### Berks Career and Technology Center

*East Campus – 3307 Friedensburg Road Oley, PA 19547*

*West Campus – 1057 County Welfare Road Leesport, PA 19533*

<b>Contest:</b>	Electronics Contest
<b>Purpose:</b>	The Electronics contest is designed to evaluate a contestant's ability to complete a set of field related tasks quickly and accurately.
<b>Clothing:</b>	Contest appropriate clothing. Students will not be penalized for clothing unless it is a safety violation.

## Equipment and Material:

### Equipment/Tools/Materials Provided by Host School:

Equipment that will be provided to all contestants:

- Digital Multimeter/Meter leads
- Breadboard/Jumper Wires
- Power Supply
- Soldering Iron/Solder/Solder Wick
- Components for the circuits
- Scratch Paper
- Exam/Lab Instructions
- Pencil
- TI84 Calculator

### Equipment/Tools/Materials Provided by the Contestant:

What should the contestant bring with them to the contest:

- Safety glasses

## Scope of Contest

Each competitor will be expected to demonstrate their skills by completing the following tasks:

- Written Examination
- Construct, evaluate and demonstrate the ability to measure aspects of a combination resistor circuit
- Construct digital logic circuit and provide Boolean Expression, initial and simplified, for the circuit
- Solder components to a circuit board and remove soldered components from a circuit board
- Construct, evaluate, and provide gain calculations for an op amp circuit

There will be a 3-hour time limit for the completion of these skills.

## Additional Information

1. This competition is timed. You have 3 hours to complete all tasks.
2. You should:
  - a. Read and understand the general instructions and contest regulations.
  - b. Make certain you have all the required tools and materials.
3. All contestants may be randomly selected to start at a station.
4. While the contest is in progress:
  - a. You may not talk with the public, advisors, or other contestants.
  - b. If a cell phones/smart device/smart watch is seen or used during the competition the contestant will be disqualified.
  - c. Non-verbal communication is not permitted to anyone
    - i. I.E. hand gestures or signals to contestants or advisors
  - d. You may ask questions pertaining to the contest guidelines or materials to the event chairperson or judges.

- e. You may not leave your assigned work area without permission of the contest chair or the judges.
  - f. If you need to use the restroom you will need to inform the contest chair person.
5. When your contest is completed: (ALL JOBS)
- a. Clean your work area thoroughly.
  - b. Clean and pack your tools.
  - c. Report to the judges/contest chair and turn in your paperwork.
  - d. Judges will record your final time.
  - e. Follow all instructions given to you by the contest chair or judges.
6. Judging is based on:
- a. Written test
  - b. Safety
  - c. Constructing circuits
  - d. Component Selection
  - e. Soldering
  - f. Correct calculations
  - g. Overall job performance, completion, and use of equipment and tools.
7. Sequence of Contest
- a. Read contest sheets and plans carefully.
  - b. Check materials at your work station.
  - c. Notify judges if your materials are not complete.
  - d. Complete the project.
  - e. Carefully check/test your work.
  - f. Ask for a judge to score your work.
  - g. The judge will direct you to tear down your work and put the parts/materials back the way you found them.
  - h. The judge will direct you to move to another available workstation. (They do not need to be completed in any specific order)
  - i. Go to the judge/contest chair for your completion time
  - j. Follow the judge/contest chair instructions