



**Pennsylvania - District 2**  
*Education . . . with a competitive side*



# MECHATRONICS COMPETITION

## **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 mechatronics as the occupational objective.

**Purpose:** To evaluate each team (of two students) preparation for employment and to recognize outstanding students for excellence and professionalism in the field of Mechatronic Technology.

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

All task / project drawings, instructions, and procedure expectations.

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

1. Pencil, or pen
2. Safety glasses
3. Calculator
4. Multimeter
5. One page word processor generated resume

## **Scope of the Contest:**

Teams will be required to understand Mechatronic systems according to printed directions and drawings. The contest shall consist of mechanical, pneumatic, electrical and control systems that must be assembled, wired, adjusted and tested for proper operation. Contestants will be judged for accuracy and neatness, as well as general interdisciplinary knowledge of the individual technologies and how they interact in an

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integrated system. In order to successfully compete, teams must demonstrate ability in the following areas:

- Interpret mechanical drawings, electrical circuit diagrams and/or pneumatic circuit diagrams
- Troubleshoot PLC system problem(s)
- Create a schematic from a working circuit
- Complete a troubleshooting exercise to find faults in a system.
- Complete a comprehensive written assessment in Mechatronic Technology.

*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.*