

DATE	LOCATION
Thurs/Friday, March 26-27, 2020	NSCC Ivany Campus

## 1. Schedule

**PLEASE NOTE: THIS IS A TWO-DAY COMPETITION, March 26-27, 2020**

Please note, the schedule is the same for both days.

Time	Task
8:00 am	Competition starts
12:00 pm	Lunch (provided)
4:00 pm	Competition ends

## 2. Purpose of the Contest

By a team of two participants, open to electro-mechanical, electrical, electronic and mechanical engineering technologies sectors. By means of a practical exercise, measure certain skills that every technician must acquire in the field of industrial control and automation.

## 3. Criteria

The competition is based on tasks performed on Festo's MPS stations, with the same tasks given to each team.

## 4. Number of Stations / Allocations

There will be twelve (12) spaces available for teams.

## 5. Skills & Knowledge to be Tested

- Interpreting and using electrical and pneumatic schematics, and mechanical drawings;
- Construction, configuration and alignment of mechanical devices and assemblies including pneumatic and electrically driven mechanisms;
- Installation of pneumatic tubing and pneumatic devices including directional control valves, flow controls, pressure regulators and cylinders
- Installation, wiring, adjustment and alignment of electronic and electrical sensors;
- Installation and wiring of electric motors, actuators, assemblies and cabling;
- Programming PLCs;

- Rendering operational and modifying sequential mechanisms that have a programmable logic controller (PLC);
- Commissioning electrical, pneumatic and mechanical systems;
- Troubleshooting;
- Executing tasks correctly and as fast as possible;
- Working safely, effectively and efficiently in teams.

## **6. Prerequisites**

### *Contest-Specific Prerequisites*

- Understanding of electronic and pneumatic diagrams, circuits and components;
- PLC programming knowledge, including editing software and PC to PLC communications;
- Troubleshooting techniques;
- Electrical wiring skills and use of hand tools for mechanical assembly;
- Pneumatic assembly skills including installation of tubing and associated components;
- Developing and using Sequential Function Charts or other PLC programming protocols.

### *SCNS Prerequisites*

- Enrolled in a community college, university or private school OR be registered as an apprentice with the Department of Labour and Advanced Education;
- Registered as a competitor with Skills Canada – Nova Scotia (SCNS);
- The competitor cannot be a certified journeyperson;
- The competitor must possess a Canadian citizenship or landed immigrant status and be a resident of Nova Scotia. Competitors are responsible for verifying this information if requested;
- Have been earning post-secondary credits any time during the academic school year (September to June);
- All competitors must be able to show either current apprenticeship status and/or proof of enrollment in a post-secondary institution upon request of the Provincial Technical Committee (PTC) or SCNS.

## **7. Equipment & Clothing**

### **a) What Will Be Supplied**

- Workstations from Festo;
- Pneumatic Tubing and Cutters;
- Wires and ferrules;
- Tie wraps.

### **b) What Competitors Must Supply**

- Multimeter (V.O.M.);
- Various screwdrivers;
- Set of ALLEN metric keys;
- Set of open metric keys;
- Metric or adjustable wrenches;
- Wire strippers, wire cutters and pliers;
- PLC board and programming tools. \*

\*PLC board must be pre-wired with two (2) FESTO Syslink cables and 24 VDC power supply.

### **8. Evaluation & Judging Criteria**

- Assembly/disassembly and Professional Practice;
- Machine operation;
- Time evaluation.

### **9. Additional Information**

### **10. PTC Contact Information**

<b>Name</b>	<b>Employer</b>	<b>Email</b>
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