

DATE	LOCATION
Tuesday, April 27 2021	NSCC Kingstec Campus

### 1. Schedule & Duration

Time	Task
8:00 am – 8:15 am	Explanation of contest rules and procedures
8:15 am – 8:30 am	Machine orientation
8:30 am – 11:30 am	Part 1
11:30 am – 11:45 am	Clean up
11:45 am – 12:15 pm	Lunch (provided)
12:15 pm – 12:30 pm	Machine orientation
12:30 pm – 3:30 pm	Part 2
3:30 pm – 3:45 pm	Clean up
3:45 pm – 4:30 pm	Judging

The contest will start promptly at 8:00 am. Late competitors may be disqualified.

### 2. Purpose of the Contest

- To assess the contestant's precision machining skills and trade knowledge through practical testing and the post-secondary level.
- To demonstrate skills using a conventional engine lathe and conventional milling machine.

### 3. Criteria

The contest will take place over a one-day period. The contest will consist of a 3-hour lathe project, and a 3-hour milling project. The practical sections of the contest involve, machining a project using a conventional engine lathe and machining a second project using a conventional milling machine. Measuring may be in Metric or Imperial. Machines will be assigned on a draw basis.

### 4. Number of Stations / Allocations

There will be six (6) spaces.

## **5. Skills & Knowledge to be Tested**

Conventional Engine Lathe may include but not restricted to:

- External and / or internal cylindrical turning;
- Taper turning (internal and / or external);
- External and internal threading (metric or imperial);
- Grooving (external);
- Drilling & Reaming;
- Knurling;
- Applied metrology.

Conventional Vertical Milling Machine may include but not restricted to:

- Conventional vertical milling;
- Drilling, Reaming and Tapping;
- Angular milling, including calculations;
- Pocket milling;
- Reaming, Drilling & Tapping;
- Applied metrology.

***Qualified contestants may test drive machinery on an appointment basis, prior to one-day before the contest. Please contact the PTC chair for an appointment.***

Theoretical Skills and Knowledge:

- Applied knowledge;
- Applied trade calculations.

Note: The measuring system may be Metric or Imperial.

## **6. Prerequisites**

### ***Contest-Specific Prerequisites***

- The contest will be open to four (4) NSCC candidates, two (2) each from Kingstec Campus and Pictou Campus, as selected by instructors and a maximum of two (2) candidates from apprenticeship;
- There is a maximum of six (6) seats in this competition;
- The PTC may fill vacant seats from a waiting list.

### **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 journey-person;
- 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**

- All necessary milling machine cutters and holders;
- All necessary measuring tools will be supplied;
- All necessary turning tools required;
- Contestants may be required to share some of the supplied tools and equipment.

#### Project Materials:

- Turning project – brass, aluminum or steel;
- Milling project – brass, aluminum or steel.

Each contestant will be supplied with a work piece blanks for the lathe and milling machine projects.

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

- CSA approved safety glasses;
- CSA approved safety boots or shoes;
- A non-programmable scientific calculator;
- A 3 ply face mask

Contestants may bring the following optional items:

- Shop coat or equivalent;
- Machinists reference materials (hand book, drill charts etc.);
- 8" Vernier Calipers.

## 8. Evaluation & Judging Criteria

### Turning

Item	Points
Compliance with occupational health and safety regulations	50
Project completion and assembly, where applicable	100
Compliance with appropriate surface finish and deburring	100
Compliance with dimensions, tolerances and fits, as specified in plans	750
<b>Scored out of 1,000</b>	

### Milling

Item	Points
Compliance with occupational health and safety regulations	50
Project completion and assembly, where applicable	100
Compliance with appropriate surface finish and deburring	100
Compliance with dimensions, tolerances and fits, as specified in plans	750
<b>Scored out of 1,000</b>	

Note: The turning project and the milling project will be averaged for the final mark out of 1,000.

No ties are permitted. Any tie will be decided by the contestant that get their project to the nominal size.

## **9. Additional Information**

Prior to the start of the competition contestants and coaches will be provided with a comprehensive safety orientation, which will include machine operations. This orientation will be a minimum of 15 minutes for each machine.

Masks must always be worn while on Campus as per NSCC COVID-19 Guidelines.

All competitors will be asked to self-screen before coming to campus as per NSCC procedure listed below.

[pre-screening-covid-agreements-for-entry.pdf \(nsc.ca\)](#)

[covid-19-self-screening-procedure.pdf \(nsc.ca\)](#)

## **10. PTC Contact Information**

Glenn Baxter – Committee Member: [glenn.baxter@nsc.ca](mailto:glenn.baxter@nsc.ca)

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