Contest Description
Precision Machining
Post-Secondary

DATE	LOCATION
Tuesday, March 28th, 2025	NSCC Akerley Campus

1. Schedule

Time	Task
7:30 am – 8:00 am	Contest Registration
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
3:30 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.

2. 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.

3. Number of Stations / Allocations

There will be six (6) spaces.

4. 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;
- Dovetail milling;
- T-slot milling
- 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.

5. Prerequisites

Contest-Specific Prerequisites

- The contest will be open to four (4) NSCC candidates, two (2) each from Kingstec Campus and Akerley 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

- Be enrolled in a community college, university, private school OR be a registered apprentice with the Department of Labour and Advanced Education (Apprenticeship Agency);
- Be registered as a competitor with Skills Canada – Nova Scotia;

- The competitor cannot be a certified journey-person;
- Possess Canadian citizenship or Permanent Resident (Landed Immigrant) status and be a resident of Nova Scotia. Competitors are responsible for verifying this information if requested; Note: International students are eligible to compete in the Nova Scotia Skills Competition, however they are not eligible to advance to the Skills Canada National Competition. International competitors will be required to sign an additional release form acknowledging.
- Have been earning post-secondary credits in a sector relevant to the one in which they wish to compete (i.e. to compete in carpentry, the student would be earning credits in any construction-related trade) at 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 Skills Canada – Nova Scotia.
- Have completed and submitted a signed release form

6. Equipment & Clothing

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. Contestants will not be given a second piece of material if mistakes are made.

What Competitors Must Supply

- CSA approved safety glasses;
- CSA approved safety boots or shoes;
- A non-programmable scientific calculator;

Contestants may bring the following optional items:

- Shop coat or equivalent;
- Machinists reference materials (hand book, drill charts etc.);
- 8" Vernier or digital Calipers.
- A 3-ply face mask

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7. Evaluation & Judging Criteria

Turning

Item	Points
Compliance with occupational health and safety regulations	50
Compliance with appropriate surface finish and deburring	100
Compliance with dimensions, tolerances, and fits, as specified in plans	850
Scored out of 1,000	

Milling

Item	Points
Compliance with occupational health and safety regulations	50
Compliance with appropriate surface finish and Deburring	100
Compliance with dimensions, tolerances, and fits, as specified in plans	850
Scored out of 1,000	

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 gets their project to the nominal size.

8. 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.

9. PTC Contact Information

Zack Chaisson – Committee chair: zack.chaisson@nscc.ca
Brandon Smith - Committee Member: brandon.smith@nscc.ca
Kelsey Gallant - Committee Member: kelsey.gallant@nscc.ca