



CONTEST DESCRIPTION / DESCRIPTION DE CONCOURS

CNC MACHINING

USINAGE CNC

POST-SECONDARY /
NIVEAU POSTSECONDAIRE

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1 THE ESSENTIAL SKILLS FOR CAREERS IN THE SKILLED TRADES AND TECHNOLOGY

SCC is currently working with Employment and Social Development Canada (ESDC) in order to bring awareness to the importance of Essential Skills that are absolutely crucial for success in the workforce. Part of this ongoing initiative requires the integration and identification of Essential Skills in contest descriptions, projects, and project documents. The next phase and very important aspect of our Essential Skills (ES) initiative is to provide an ES report card to each competitor at the Skills Canada National Competition. The purpose of the ES report card is to inform the competitor about their current level of essential skills based on their competition scores. With this knowledge, the competitor will be made aware which essential skill may require improvement. Full implementation is expected in the 2017 Skills Canada National Competition.

The following 9 skills have been identified and validated as key essential skills for the workplace in the legend below:

¹Numeracy, ²Oral Communication, ³Working with Others, ⁴Continuous Learning, ⁵Reading Text, ⁶Writing, ⁷Thinking, ⁸Document Use, ⁹Digital

These essential skills have been identified with in section 2.4 and/or 3.2 of your Contest Description. The top three Essential Skills for your area of competition have been identified on your Project and all other supporting project documents.

2 CONTEST INTRODUCTION

2.1 Description of the associated work role(s) or occupations(s).

<http://skillscompetencescanada.com/en/careers/manufacturingengineering/cnc-machining/>

2.2 Purpose of the Challenge.

Assess the contestant's CNC machining operational skills and techniques using manual and or CAM software.

2.3 Duration of contest.

7 to 8 hours.

2.4 Skills and Knowledge that may be tested.

The contest involves manufacturing a part using CNC turning centre/CNC Vertical Machining centre.

- Reading and Interpreting blueprint drawings⁸
- Manually and/or digital programming Computerized Numerical Control machine tools⁹
- (Turning Centre) May include exterior and interior cylindrical turning, taper turning, threading, drilling, boring, face grooving and applied metrology.¹
- (Machining Centre) May include linear and circular interpolation milling, drilling, reaming, tapping, thread milling and applied metrology¹

Essential Skills - ¹Numeracy, ⁸Document Use, ⁹Digital

3 CONTEST DESCRIPTION

3.1 List of documents produced and timeline for when competitors have access to the documents.

DOCUMENT	DATE OF DISTRIBUTION VIA WEBSITE
Link to Haas web site for operation manual's for machine's	http://www.haascnc.com/download_manual.asp
Link to Sandvick web site for operation manual's and training.	www.sandvick.coromant.com
2017 Test Project Exemples	January, 2017

3.2 Tasks that may be performed during the contest

- The measuring system will be metric.

4 EQUIPMENT, MATERIAL, CLOTHING

4.1 Equipment and material provided by Skills/Compétences Canada

- CNC Machining and Turning Center
- Cutting Tools and Holders
- All raw material (one part per competitor)
- Gauges, measuring instruments
- Parallels/soft blow hammers/wrenches/vices/deburring files
- Haas from Thomas Skinner/Sirco
- Computers and Mastercam software
- Micrometer digital 0-4inch
- Digital Caliber digital 0-8 inch
- Depth Micrometer digital 0-4 inch
- Thread micrometer digital 1-2 inch
- Dial indicator and base
- Edge finder
- Telescoping Gauges
- Thread pitch gage metric

4.2 Equipment and material provided by the competitor

- Non programmable calculator/machinist calculator
- Machining Handbook/Machine manual (optional)
- No other tools allowed

4.3 Required clothing (Provided by competitor)

- Long pants
- Short sleeve shirt
- Shop coat with rolled up sleeves (optional)

5 SAFETY REQUIREMENTS

5.1 Safety workshop

Upon arrival at the Skill area, Competitors will participate in a Safety workshop and they will be expected to work and maintain a safe working area during the competition. Any Competitor breaking any health, safety and environment rules, may be required to undertake a second safety workshop, this will not affect the Competitor's competition time.

5.2 List of required personal protective equipment (PPE) provided by competitors

- Safety Glasses
- CSA approved safety shoes
- Hearing protection (optional)

6 ASSESSMENT

6.1 Point breakdown

POINT BREAKDOWN	/100
Compliance with occupational health and safety regulations	5
Compliance with dimensions, tolerances, and surface finish specified in plans for Milling	45
Compliance with dimensions, tolerances, and surface finish specified in the plans for Turning	45
No additional part (material) per competitor. One piece per person	0
If a failure of a tool occurs as a result of a competitor's negligence, a loss of -5 per tool will be deducted.	- 5
Practical set-up procedure for Turning Centre	2.5
Practical set-up procedure for Milling Centre	2.5

7 ADDITIONAL INFORMATION

7.1 Consecutive translation

If consecutive translation is required on site, the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 1 month prior to the competition or this service might not be guaranteed.

7.2 Software requirements

- If French software is required the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 3 month prior to the competition or this software might not be guaranteed.
- The competitor may use a different CAM system but must take the responsibility of insuring proper operation, which may include proper working post, technical support, computer hardware/software and CNC connections etc. You are not allowed to advertise any other system.

7.3 Computer keyboard requirements

English Keyboards will be provided, if a French keyboard is required the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 3 months prior to the competition or this keyboard might not be guaranteed.

7.4 Tie (No ties allowed)

In the event of a tie, the competitor with the highest score in the surface finish confirmation in both milling and turning will be declared the winner.

7.5 Competition rules

Please refer to the competition rules of the Skills Canada National Competition.

7.6 Skill area specific rules

- No cell phones or cameras during the competition times
- Competitors must not be late. Time will not be added
- Competitors not competing shall not loiter around competition site
- Competitors must show competence in the use of the tools and/or equipment outlined in this Contest Description and can be removed at the discretion of the judges and National Technical Committee (NTC) if he/she does not display tool and or equipment competency

8 NATIONAL TECHNICAL COMMITTEE MEMBERS

Member Organization	Name	Email address
British Columbia	Marte Arreola	
Manitoba - Chair	Rob Ataman	rataman@rrc.ca
Ontario	Louis Dropka	
New Brunswick	Greg Currie	
Saskatchewan	Phil Ursulescu	
Nova Scotia	Kimball Edwards	
Prince Edward Island	Jeff Bowser	
Alberta	Trevor Fanderick	