Skills Compétences Canada
Vancouver2022

CONTEST DESCRIPTION

Aerospace Technology

POST-SECONDARY and TEAM CANADA

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

In response to the evolving labour market and changing skill needs, the Government of Canada has launched the new Skills for Success *(former Essential Skills)* model defining nine key skills needed by Canadians to participate in work, in education and training, and in modern society more broadly. SCC is currently working with Employment and Social Development Canada (ESDC) to bring awareness of the importance of these skills that are absolutely crucial for success in Trade and Technology careers. Part of this ongoing initiative requires the integration and identification of the Skills for Success in contest descriptions, projects, and project documents. The next phase and very important aspect of our Skills for Success (SfS) initiative is to provide a *Skills Report Card* to each competitor at the Skills Canada National Competition. The purpose of the report card is to inform the competitor about their current level of nine identified Skills for Success based on their competition scores. With this knowledge, the competitor will be made aware which skill may require improvement. Full implementation is expected in the next Skills Canada National Competition.
The following 9 skills have been identified and validated as key skills for success for the workplace in the legend below:
[1]Numeracy, [2]Communication, [3]Collaboration, [4]Adaptability, [5]Reading, [6]Writing, [7]Problem Solving, [8]Creativity and Innovation, [9]Digital

These Skills for Success have been identified in section 2.4 and/or 3.2 of your Contest Description and if applicable, in your Project and supporting documents.

2 CONTEST INTRODUCTION

2.1 Description of the associated work role(s) or occupation(s)

https://www.skillscompetencescanada.com/en/skill_area/aerospace-technology/

2.2 Purpose of the Challenge

To assess the contestants' skills and knowledge in performing tasks in the aerospace industry. Challenges reflect the skill level of a graduate student from any Canadian Aircraft Maintenance Engineer Category M Program. There is no requirement that competitors have previously completed an AME M Program.

2.3 Duration of contest

10 hours - A detailed schedule will be posted on our website.

3 CONTEST DESCRIPTION

3.1 List of documents produced and timeline for when competitors have access to the documents on the Skills/Compétences Canada website

DOCUMENT	DATE OF DISTRIBUTION
No other documents will be produced prior to the competition	

3.2 Tasks that may be performed during the contest

Each module will be two hours in length. In some cases, duration may be reduced to accommodate scheduling issues. Five modules will be selected from the following list based on availability of equipment. Competitors will be notified of module selection during competition orientation. Examples are provided for reference purposes only and may not be reflective of actual tasks.

Field Damage Repair (2 hours)

- Determine repair requirements in accordance with standard practices (AC43.13) and/or supplied engineering information [5, 7]
- Fabricate repair parts [1, 7]
- Install repair parts [7]
- Example: Punctured skins, cut wiring, etc.

Sheet Metal Fabrication (2 hours)

- Fabricate a part based on supplied documentation and standard practices (AC43.13)[5]
- Demonstrate ability to correctly calculate a layout (Bend Radius, Bend Allowance, Set Back, etc.) [1]
- Example: Corner Section, Hat Channel

Composite Inspection/ Simulated repair (2 hours)

- Inspect damage and determine appropriate repair in accordance with standard practices and/ or supplied engineering documentation[5,7]
- Complete all repair stages with a full layup of materials including vaccum bagging.

System Troubleshooting (Electro-Mechanical) (2 hours)

- Read and interpret technical documents [5]
- Determine repair and/or modification requirements [7]
- Perform the required repair and/or modification as applicable [7]
- Perform functional tests as appropriate [7]
- Demonstrate an understanding of system function
- If required, work alongside another competitor completing a different module on the same aircraft/training aid [3]

- Example: Aircraft Flap System, Janitrol Heater

Aircraft Inspection (1-2 hours)

- Read and interpret technical documents[5]
- Perform requested maintenance activities [7]
- Complete a defect report detailing finding if required [6]
- Perform functional tests as appropriate [7]
- Example: 100-hour Inspection Tasks, Daily Inspection Tasks

Gas Turbine Engine Maintenance (2 hours)

- Read and interpret technical documents.[5]
- Perform required maintenance activities [7]
- Perform functional tests as appropriate [7]
- Example: Fuel Nozzle Inspection, Internal Borescope Inspection

Electrical/ LRU troubleshooting (1-2 hours)

- Read and interpret technical documents.[5]
- Perform required troubleshooting on aircraft system. [7]
- Perform the required repair and/or modification as applicable [7]
- Perform functional tests as appropriate [7]
- Complete documents and reports as required [6]
- Example: Aircraft lighting, Landing gear indication, Power distribution circuit

Skills for Success - [1]Numeracy, [3]Collaboration, [5]Reading, [6]Writing, [7]Problem Solving

4 EQUIPMENT, MATERIAL, CLOTHING

4.1 Equipment and material provided by Skills/Compétences Canada

- Specialized hand tools
- Cleaning supplies
- Shop supplies / equipment
- Printer
- Nonprogrammable calculator
- Chairs
- Power bars
- Recycle bins
- Extension cords
- Tape
- 8 oz Ballpeen Hammer
- Torque wrench
- Precision ruler 6" and 12" nonmetric
- Vernier caliper
- Wire Strippers and Crimpers
- Volt/Ohm Meters

- Cushion Clamp
- 1/4 drive 12-point socket set SAE include 9/32 and 11/32
- 12-PT. Combination Wrench Set
- Combination Screwdriver Set Phillips
- Reversible Wire Twister - 6"
- Long Nose Pliers with Cutter - 6"
- Diagonal Cutter - 6"
- Soft Face/Brass Head Hammer
- Telescoping Inspection Mirror - 36-3/8"
- LED Flashlight
- 1/4 drive torque wrench
- Crow foot wrench
- Multi use tool bag
- Plier Wrenches 12"
- Files Kit
- Pin Punch Set
- Pick Set
- Measuring Tape
- Specialty tooling specific to the required tasks
- Applicable Maintenance Documentation specific to the required tasks

COMPETITORS WILL BE REQUIRED TO USE THE MATERIAL AND EQUIPMENT PROVIDED BY SCC. ALL OTHER MATERIAL AND EQUIPMENT WILL BE REMOVED FROM THE SKILL AREA.

4.2 Equipment and material provided by the competitor

- N/A

4.3 Required clothing provided by the competitor

- Appropriate workplace clothing (coveralls, work pants, etc.)
- No shorts allowed on site

5 HEALTH AND SAFETY

5.1 Safety program

SCC has implemented a comprehensive safety program as health and safety is an integral part of our competitions. Our safety program includes guidelines and procedures to make the work environment in each skill area safer.

5.1.1 Safety manual

As part of our program a safety manual has been created to monitor and document health and safety within each skill area. It includes a definite plan of action designed to prevent accidents. The safety manual will be provided for every skill and these instructions must be followed and respected by all participants and officials at the SCNC.

5.1.2 Safety workshop

During orientation, 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 environmental rules, may be required to undertake a second safety workshop, this will not affect the Competitor's competition time.

5.2 COVID-19 Protocol

The COVID-19 guidelines will be shared as soon as they are available.
The COVID-19 guidelines will be subject to change based on the BC COVID-19 guidelines in place at the time of the competition.

5.3 List of required personal protective equipment (PPE) provided by Skills/Compétences Canada

- Hearing Protection
- Safety Glasses (Including over-the-glasses type)
- Nitrile Gloves

5.4 List of required personal protective equipment (PPE) provided by the competitor

- CSA approved Safety shoes
- Competitors may bring their own PPE provided it meets or exceeds CSA standards (ie. perscription safety eyewear (full wrap-around type), headset-type ear protection, etc.). Use of any alternate equipment will be at the discretion of the NTC Chair.

Note: Competitors who do not have the required protective equipment will not be allowed to participate in the competition

6 ASSESSMENT

6.1 Point breakdown

Note: This list is subject to change.

TASKS	/100
Module 1	20
Module 2	20
Module 3	20
Module 4	20
Module 5	20

7 CONTEST SPECIFIC RULES

Contest specific rules cannot contradict or take priority over the Competition Rules. They do provide specific details and clarity in areas that may vary from contest to contest. Any additional contest rules will be reviewed during the competitor orientation.

TOPIC/TASK	CONTEST SPECIFIC RULE
Module Selection	Competitors will be notified of the five modules selected during competition orientation. Prior communication of selected modules with competitors is prohibited.
Free Periods & Breaks	During free periods and between modules, competitors are encouraged to explore other contests. As a courtesy to fellow competitors, please refrain from closely watching other Aerospace Technology modules still in progress.
Music/Audio	No audio playback devices, headphones or ear buds are allowed due to safety and communication concerns.
Drawings, recording information	Competitors are not allowed to bring any prepared drawings or documented information to the Competition. Video and/or audio recording is prohibited.
Templates, aids, etc.	Competitors are not allowed to bring templates and aids to the Competition that may give them an unfair advantage.
Use of technology – personal laptops, tablets and mobile phones	Competitors are not allowed to bring personal laptops, tablets or mobile phones into the workshop. Exception: Mobile phones remain on silent mode in a personal bag and are only accessed when outside the workshop area.

8 ADDITIONAL INFORMATION

8.1 Interpreter

If a competitor requires the help of an interpreter once onsite during the competition, 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 may not be guaranteed.

8.2 Ties

- **Tiebreaker #1:** The competitor with highest Module 1 mark will be considered the winner.
- **Tiebreaker #2:** The competitor with the highest Module 2 mark will be considered the winner.
- **Tiebreaker #3:** The competitor with the highest Module 3 mark will be considered the winner and so on.

8.3 Test Project change at the Competition

Where the Test Project has been circulated to Competitors in advance, NTC shall change a maximum of 30% of the work content. Please refer to the Competition Rules.

8.4 Competition rules

Refer to the competition rules of the Skills Canada National Competition which can be found on our website.

9 NATIONAL TECHNICAL COMMITTEE MEMBERS

MEMBER ORGANIZATION	NAME
Newfoundland and Labrador	
Prince Edward Island	
Nova Scotia	
New Brunswick	
Quebec	Louis Deschênes – Co-Chair
Ontario	Louis Anderson
Manitoba	Jonathan Epp
Saskatchewan	Peter Boniface
Alberta	Chuck Luehr
British Columbia	Richard Johnstone – Chair
Yukon	
Northwest Territory	
Nunavut	

Contact the Skills/Compétences Canada national secretariat for any questions or concerns: Nathalie Maisonneuve (nathaliem@skillscanada.com).