Skills Compétences Canada











CONTEST DESCRIPTION

IT Network Systems Administration

SECONDARY

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

The Government of Canada has updated the previous Essential Skills framework to the new Skills for Success model in response to the evolving labour market and changing skill requirements. This model outlines nine fundamental skills Canadians need to thrive in work, education, training, and daily life.

Skills/Compétences Canada aims to highlight the importance of these skills, vital for success in trade and technology careers. Competitors can see how Skills for Success are integrated into contest descriptions, projects, and project documents. Recognizing these skills during the competition helps competitors match tasks with specific skills necessary for success and understand how these skills apply within their trade or technology programs and future careers.

The nine key Skills for Success, validated for workplace success, are:

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 are detailed in sections 2.4 and/or 3.2 (to be completed by SCC) of your Contest Description and, if relevant, 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/it-network-systems-administration/

2.2 Purpose of the Challenge

To evaluate each competitor's skills and to recognize excellence and professionalism in the field of IT network systems administration.

2.3 Duration of contest

12 hours, over 2 days

2.4 Skills and Knowledge to be tested.

The competition evaluates a competitor’s knowledge of computer and network system.[7,9]

Skills for Success – [7]Problem Solving, [9]Digital

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 document	n/a

3.2 Tasks that may be performed during the contest.

3.2.1 Skills for Success

- Create, interpret, and modify network diagrams[5,6,7]
- Create, interpret, and modify network, and system documentation, and processes[5,6,7]
- Use Windows capture technology such as Windows Steps Recorder and Snipping tools[9]

3.2.2 Physical system setup[2,7,9]

- Identify, install, connect and test hardware components
- Setup and network workstations
- Evaluate and justify component selection for particular tasks.
- Basic system configuration as required

3.2.3 Desktop system configuration[7,9]

- Install and configure virtual machines
- Install Operating Systems (User desktops in both Windows and Linux)
- Install, setup, and configure corporate productivity software products.
- Install and verify correct operation of peripheral devices
- Use disk, system, and file management tools
- Configure operating system functionality including tasks such as: setting themes and control panel settings
- Configure networking in a workgroup environment including shares, permissions, printers.
- Configure and verify proper home computer security practices (eg anti-virus)
- Analyze and resolve common Desktop problems
- Use built-in system tools to automate tasks.

3.2.4 Networking[1,5,7,9]

- Operate basic network diagnostic software utilities such as ping, ipconfig, traceroute, etc.
- Calculate and apply to a network, an IPv4 and/or IPv6 addressing scheme using subnetting and/or Variable Length Subnet Mask (VLSM)
- Configure a secure home wireless routing/firewall solution
- Configure and troubleshoot basic routing and switching
- Analyze and resolve common home Network problems
- Use available documentation and logs to identify and resolve problems

- Fix and document resolution using customer complaint descriptions
- Troubleshoot software installation problems
- Problem examples might include things like inability to login, cannot access website, or computer not starting properly

3.2.5 Cyber-Security[2,7,9]

- Recognize safe online practices
- Maintaining and hardening critical services
- Recognize the need for and implement protections from malware attacks
- Answering forensics questions (need for Cybersecurity, attacks, Concepts and Techniques, …)

Skills for Success – [1]Numeracy ,[2]Communication, [5]Reading, [6]Writing, [7]Problem Solving, [9]Digital

4 EQUIPMENT, MATERIAL, CLOTHING

4.1 Equipment and material provided by Skills/Compétences Canada

- Suitable computer hardware
- VMWare Pro (latest) or higher Desktop virtualization software
- Cisco Packet Tracer latest
- .iso files for Windows 10 or newer and Ubuntu 22.04 or newer
- Internet connection
- Pen and Pencil

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.

- Pen and paper

4.3 Required clothing provided by the competitor.

- Competitors must be dressed as appropriate for an office environment.

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

- N/A

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

- N/A

6 ASSESSMENT

6.1 Point breakdown

Note: This list is subject to change.

TASKS	/100
Desktop Configuration & Troubleshooting (Windows)	25
Desktop Configuration & Troubleshooting (Linux)	25
Small office/Home Office Networking	20
Cyber-Security	30

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
Use of technology - personal laptops, tablets mobile phones, wearable technology, specialized hardware	• Competitors are not allowed to bring USB/memory sticks into the skill area • Competitors should not expect access to the internet during the competition. • Competitors are not allowed to bring personal laptops tablets, mobile phones, wearable technology or specialized hardware (ex: gaming mice, headphones, keyboards) into the skill area

Source file/notes	• Competitors are not allowed to bring notes into the skill area. • All notes made at the Competitor workstation must always remain on the Competitors desk. • No notes may be taken outside of the skill area.
Equipment Failure	• In the occurrence of equipment failure Competitors must notify the National Technical Committee (NTC) immediately by raising their hand. NTC members will take note of the time that the Competitor is not able to make use of their equipment. Any time lost due to equipment failure will be provided to the Competitor at the end of the standard Module time. • No additional time will be granted for work not saved prior to the equipment failure
National Technical Committee (NTC) room	• Competitors are not allowed to enter the National Technical Committee meeting room in the skill area
Skills Area	• Once a competitor submits their project, they are not allowed to return to the competition area.
Online Tools	• Unless otherwise stated, online tools (example: chatGPT) are prohibited.
Breaks	• No extra time will be given to Competitors who stop work during competition time to go to the bathroom or for those who break for a food and/or drink. When time is completed, all Competitors must stop all work on their computer immediately.

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 the highest score in the Cyber-Security module will be declared the winner.
- Tiebreaker #2: The competitor with the highest score in the Small Office/Home Office module will be declared the winner.
- Tiebreaker #3: The competitor with the highest score in the Desktop Configuration & Troubleshooting (Linux) module will be declared the winner.

8.3 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	Charles Reid – Co-Chair
Ontario	John Ulakovich
Manitoba	Tavare Tulloch
Alberta	Gerald Chung
British Columbia	Andrew Mueller – Chair
New Brunswick	Adam Stapledon
Saskatchewan	Anthony Wood
Quebec	Marco Laporte

Contact the Skills/Compétences Canada national secretariat for any questions or concerns: Olga Malvine Rwemera (olgamr@skillscanada.com).