Skills Compétences Canada











CONTEST DESCRIPTION

Electrical Installations

POST SECONDARY

SkillsCompétences Canada
Calgary2027

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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 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 competitors 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 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/electrical-installations/

2.2 Purpose of the Challenge

Assess the contestant's skills and abilities performing various installation tasks in the field of residential, commercial and industrial electrical wiring.

2.3 Duration of contest

12 Hours Total 7 hours-Day One and 5 hours-Day Two

2.4 Skills and Knowledge to be tested.

Throughout the final contest, contestants can expect to be evaluated in one, two, three or all the following areas:

- Installing residential, commercial wiring and control systems
- Installing branch circuit components
- Installing heating equipment and controls
- Installing motor control systems
- Installing communications systems, wiring devices and various types of detectors
- Install and program an “Zeilo” intelligent relay using a laptop.
- Trouble shooting using test instruments.

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
Blueprint	December 2026

3.2 Tasks that may be performed during the contest.

- Contestants must demonstrate mastery of the following technical skills:
    - Measuring and marking dimensions on a work surface using scale plans and drawings based on the metric or imperial measuring system;[1, 5]
    - Measuring and accurately marking the location of outlets and drilling holes on control panels;[1]
    - Installing electrical equipment, cables, conduit, tubing and raceways;
    - Measuring and bending tubing and conduit;[1]
    - Measuring, sawing, drilling, deburring metals and plastics;[1]
    - Assembling components using screws, staples and bolts;
    - Linking lines and equipment to control panels and their components;[7]
    - Wiring and connecting electrical components;
    - Wiring and programming of an intelligent relay;
    - Identifying and marking conductors according to plans and drawings;[5]
    - During the competition, competitors will be required to complete a trouble shooting exercise using provided test equipment. The competitor will be assigned a time to complete this task.[7]

- Contestants must demonstrate mastery of the following theoretical skills:
    - Reading, interpreting and executing plans, drawings, diagrams and schematics in compliance with standards;[5,6]
    - Reading, interpreting and executing manufacturer's technical specifications for the electrical components to be installed;[5]
    - Knowledge of electrical materials and construction work methods;
    - Knowledge of basic electrical circuits;
    - Knowledge of basic electrical devices and equipment;
    - Knowledge of occupational health and safety regulations;
    - Knowledge and application of electrical code requirements in Canada and installation to comply with the current edition of the Canadian electrical code book (CEC current enforced edition).[5]

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

4 EQUIPMENT, MATERIAL, CLOTHING

4.1 Equipment and material provided by Skills/Compétences Canada

- Work bench
- Ladder
- Access to a 120-volt receptacle
- Manual pipe bender EMT ½
- 3/4" x 6" total length self-feeding ship auger
- Cordless drill - Impact combo pack
- Zelio (part no. SR2A101FU) smart relay pack with patch cord
- Torpedo level
- Metric measuring tape

4.2 Equipment and material provided by the competitor.

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.

- Supplies for drawing and writing, i.e., pencil, eraser, etc.
- Set of screwdrivers (Robertson, flat, termination and Philips)
- Termination screwdriver
- Electrician's pliers (lineman pliers)
- Electrical digital multi-meter
- Cutting pliers (side cutters)

- Knife (no utility knives, box cutters etc. Nothing with a replaceable blade) Must be a lockable or fixed blade type.
- Hammer
- Needle-nose pliers
- Adjustable wrench (crescent wrench)
- Fish tape
- Unibit metal bit, capable of 7/8” hole and/or 1 set manual hole punches for 1/2" knock-outs
- Tapping screwdriver (6/32 - 8/32 – 10/32)
- Metal hack saw
- AC 90 jacket remover tool “BX Cutter”
- EMT reaming tool
- Wire stripper
- Drywall saw
- Metal file (complete with handle)
- Multi-purpose pliers
- Adjustable pliers (water pump pliers)
- Set of metal and wood drill bits
- Laptop for programming smart relay (Zelio - part no. SR2A101FU) *LAPTOP MUST BE BROUGHT TO ORIENTATION*
- Heat gun or heating blanket for bending PVC conduit
- Crimping tool
- #2 & #1 Robertson driver bits
- #2 & #1 Phillips driver bits
- Canadian Electrical Code Book (currently enforced edition)

4.3 Toolboxes Guidelines

One of the objectives of SCC is the sustainability of the Competition. As a result, the toolboxes brought by Competitors will be restricted to the following maximum specifications.
The Competitor toolbox must not exceed 0.25 m^3 (8.8 cubic feet) in volume. It can be multiple toolboxes, but the total of all toolboxes must not exceed the maximum volume indicated. There is no exception to this rule. If the Competitor toolbox is larger than what is indicated, the Competitor with the guidance of the NTC, will be required to remove toolbox from site. All tools must fit inside one or more toolboxes. Tools outside of a toolbox will not be permitted.

4.4 Required clothing provided by the competitor.

- Neat and clean – torn clothing is not allowed.
- No facial, hand or loose hanging jewellery

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.

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

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

- NA

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

- Hearing protection
- Safety shoes
- Safety gloves
- Hard Hat
- Safety Glasses

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
Operation Residential/Motor Control Circuits	20
Measurement	10
Cable installation	10
Tubing and Conduit Installation	10
Equipment and Component Installation	10
Connection of Conductor to Components and Equipment	15
Compliance with Health and Safety Regulations	5
Intelligent Relay Operation	10
Fault Finding	10

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
Tools / Infrastructure	Competitors **may not** bring tools other than those listed above. No other outside material or manuals are allowed.

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 trouble shooting criteria will be declared the winner.
- Tiebreaker #2: The competitor with the highest score in the Equipment and Component Installation will be declared the winner.
- Tiebreaker #3: The competitor with the highest score in the Health and Safety criteria will be declared the winner.

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	James Wooldridge
Prince Edward Island	Ray Murphy
Nova Scotia	Robert McKindrick
New Brunswick	Tana Sullivan
Quebec	Serge Guay -Co-Chair
Ontario	Adam Hicks
Manitoba	Danielle Nicholson
Saskatchewan	Jay Vollet
Alberta	Tyler Wasilenko
British Columbia	James McKenna
Yukon	Aaron France - Chair
Nunavut	Kimberly Smith
NWT	Siyath Sok

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