



Contest Description

Edmonton Expo Centre, Edmonton

May 7 & 8, 2025

EVENT: Electronics	LEVEL: Secondary
WORLDSKILLS TRADE #:	LOCATION: Hall E, Edmonton Expo Centre, Edmonton
DURATION: 13 hrs (Two Days)	REGIONALIZED: No
COMPETITION SCHEDULE:	
May 7:	
ORIENTATION	7:30AM-8:00AM
COMPETITION	8:00AM-9:45AM
BREAK	9:45AM-10:00AM
COMPETITION	10:00AM-11:30AM
LUNCH	11:30AM-12:30PM
COMPETITION	12:30PM-2:00PM
BREAK	2:00PM-2:15PM
COMPETITION	2:15PM-3:30PM
May 8:	
ORIENTATION	7:30AM-8:00AM
COMPETITION	8:00AM-9:45AM
BREAK	9:45AM-10:00AM
COMPETITION	10:00AM-11:30AM
LUNCH	11:30AM-12:30PM
COMPETITION	12:30PM-2:15PM
The times above are approximate and may change as required.	

Please Note: This document is subject to change as competition information is updated. Competitors are responsible for staying up to date with the most recent information. Check the footer for last updated date. Changes will be highlighted in yellow.

SKILLS AND KNOWLEDGE TO BE TESTED

The contest will cover the theoretical and practical aspects of current state-of-the-art electronic industry standards. The competitor may be asked to demonstrate abilities in the following areas:

- Interpret electronic schematic diagrams, pictorials, manufacturers technical specifications and suppliers' catalogues.
- Identify common electrical and electronic components.
- Construct, analyze, and troubleshoot DC circuits including series resistance, parallel resistance, series-parallel resistance and solid-state switching circuits
- Construct, analyze, and troubleshoot circuits which may include diodes, transistor amplifiers, IC amplifiers, operational amplifiers and comparator circuits, TTL/CMOS gates, timers.



- Construct, analyze, and troubleshoot circuits using solderless breadboards as well as soldering/desoldering through-hole components on PCBs.
- Apply the appropriate test procedures and equipment to a given situation.
- Interpret the observed values from the test equipment. (DC voltages, currents and waveforms and circuit resistance).
- Answer questions related to basic electrical/electronic theory.

PROJECT DESCRIPTION

Actual project details will be released the morning of the competition.

Tasks that may be performed during the contest:

Day 1

- **Part 1 – Schematic Reading and Breadboarding:** Construct a circuit (or circuits) from provided schematics and datasheets on a solderless breadboard.
- **Part 2 – Electronics Theory:** Answer short-answer and/or multiple-choice questions on electronics theory, components, digital logic, circuit analysis, and/or measurement interpretation.

Day 2

- **Part 3 – Soldering/Desoldering:** Hand solder through-hole and surface mount components on a printed circuit board to acceptable industry standards. Desolder through-hole components, preserving the PCB pads to solder in new components.
- **Part 4 – Measurement and Troubleshooting:** Identify and correct errors with a provided circuit. Use a digital multimeter to measure DC voltage, current, and continuity in the corrected circuit. Use measurements to determine what to change in the circuit to produce provided results.

EQUIPMENT & MATERIALS

Skills Canada Alberta Provided Tools, Materials, and Equipment

- Workstation (Table, Chair, Power bar)
- Soldering Equipment
 - Soldering Iron
 - Fume extraction
 - ROHS Compliant Lead-Free Solder
 - Solder wick
 - Flux
 - Third hand or another appropriate work-holding device

- Electronics Components, Power Supply, PCBs

Competitor Provided Tools, Materials, and Equipment*

- Digital multimeter (w/ a fresh battery)
- Spare Fuse for multimeter
- Long nose pliers
- Side Cutters (for 18-gauge wires)
- Flush Trim Cutters
- Wire Stripper
- Screwdrivers (including precision set)
- “Third Hand” including magnifying glass. (optional)
- Safety Glasses
- Pens, Pencils, Eraser, Ruler
- Stand-alone calculator (non-programmable i.e. TI-30Xa)

JUDGING CRITERIA

Task	Weight
1. Schematic Reading and Breadboarding	30%
2. Electronics Theory	20%
3. Soldering/Desoldering	30%
4. Measurement/Troubleshooting	20%

TIE BREAKING PROCESS

In the case of a tie, the winner will be determined by the highest score in Part 3: Soldering/Desoldering. If these scores are tied, the winner will be determined by the highest score in Part 1: Schematics Reading and Breadboarding. If these scores are also tied, the winner will be determined by the highest score in Part 4: Measurement/Troubleshooting.

CLOTHING REQUIREMENT

Appropriate work clothing must be worn to compete. All clothing must be neat and clean, and free of rips and tears. Casual wear such as shorts and open toed shoes/sandals will not be permitted. No loose-fitting clothes or jewelry. Long hair must be tied back for the soldering/desoldering task.

ADDITIONAL INFORMATION

Skills Canada Alberta Regional and Provincial Rules and Regulations
[Regional and Provincial Rules and Regulations](#)



Project Change at the Competition

Where a Test Project has been circulated to competitors in advance, the PTC can change the project up to a maximum of 30% of the work content for the competition.

Competitor Registration

Registration for Provincial Skills Canada Competition (PSCC) will open online on January 15, 2025 @ 8:30 AM. Please refer to this competitions event page for additional registration and competition information: <https://skillsalberta.com/competition/>

Lunch

Lunch for accredited competitors will be provided by Skills Canada Alberta.

Parking & Venue Maps

Parking is FREE for all attendees.

Attendees **MUST** register for FREE parking by clicking the below link. Attendees can pre-register their vehicle at anytime prior to the PSCC, or register onsite at the PSCC.

<https://www.offstreet.io/location/81V8R1Z6>

<http://edmontonexpocentre.com/attend/parking/>

Opening Ceremonies / Competitor Registration

Opening Ceremonies for the PSCC will take place on Tuesday May 6, 2025, at 6:00 pm in Hall D of the Edmonton EXPO Centre. Admission is free, and everyone is welcome to attend. It is important to note that competitor registration will open immediately following the Opening Ceremonies.

Awards Ceremony

The Awards Ceremony will take place on Thursday May 8, 2025, at 6:30 pm in Hall D of the Edmonton EXPO Centre. Admission is free and everyone is welcome to attend. The Awards Ceremony will be shown live at <http://skillsalberta.com/>

Team Alberta Information

Team Alberta will be selected at the PSCC Awards Ceremony. Gold medalists will then be eligible to participate at the Skills Canada National Competition (SCNC) on May 28- May 31, 2025, in Regina, SK. It is recommended that competitors review the SCNC contest description to be familiar with the national contest description and project at

<https://www.skillscompetencescanada.com/en/calendars/category/skills-canada-national-competition/>



During the PSCC Awards Ceremony on Thursday May 8, 2025, gold medalists will be given their Team Alberta information package and will confirm their participation in the SCNC. Students must be present at the Awards Ceremony to claim their position on Team Alberta. If the Gold medalist is not able to attend SCNC, the next top-ranking individual will be asked to participate. If a student is not able to attend the Awards Ceremony a letter confirming the student’s interest in Team Alberta participation must be emailed to javierad@skillsalberta.com prior to the start of competition on May 7, 2025.

Please prepare your students in advance to accept a position on Team Alberta and review how your school will support their participation.

Please see this link for additional Team Alberta information: <https://skillsalberta.com/team-alberta/>

Questions?

Please contact Mike Sury MikeS@SkillsAlberta.com

COMMITTEE MEMBERS

Joe Wilson	Lee Bannister	
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