

2021 PROVINCIAL SKILLS CANADA COMPETITION



CONTEST DESCRIPTION

CONTEST AREA: ELECTRONICS			LEVEL: Secondary
COMPETITION SCHEDULE:			LOCATION: COMPETITOR'S SCHOOL. SEE COMPETITION FORMAT INFORMATION BELOW
Tech Check	April 13	9:30-10:30am	
Orientation	April 20	8:00-8:30	
Competition	April 20	8:30-12:00; 12:30-3:00	
Lunch Break	April 20	12:00-12:30	
DURATION: 6 HOURS			REGIONALIZED: NO
<p>COMPETITION FORMAT: (VIRTUAL/ IN SCHOOL)</p> <p>All secondary competitors will be competing with in their school environment and must arrange in advance with a teacher for a safe competition location, according to their school's Covid-19 safety policies. They will need to prepare their competition space with all of the required tools, equipment, materials, and technology (as listed below) that will be needed to complete the competition. Teachers and competitors will need to work together to ensure the competitor is ready for success on their competition day.</p> <p>Each competitor must have a teacher/ supervisor available throughout the day, in case of incident. (Teacher/Supervisor must be present at the competition orientation.)</p> <p>Competitors and Teachers should be prepared to receive additional information about the competition projects, livestreams, shipping, etc. prior to the competition. Please ensure you are double checking for emails from Skills, including checking junk mail.</p>			
<p>WEBEX LIVESTREAMS:</p> <p>Tech Check: A "Tech Check" will take place prior to the competition with the purpose of giving the competitor an opportunity to ensure they have all of the necessary technology in place to join in their virtual orientation meeting the morning of their competition. On the competition day, there will be no time to work out technology issues. This is the opportunity work out any unforeseen issues and to start your competition day off prepared. There may also be an opportunity to ask questions regarding the competition day if time allows. An email with the WebEx link will be sent out in advance of the competition.</p> <p>Competition Orientation: The competition will begin with a virtual orientation. Competitors will join the assigned videoconference link that will be emailed to all registered competitors for the competition orientation. Camera's MUST be on and competitors visible on the camera during the orientation.</p>			

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PROJECT SUBMISSION LINK:

- <https://form.jotform.com/SkillsAB/2021PSCC>
- Multiple files can be uploaded at once, each file has a maximum size of 1G. If file sizes are larger than 1G, please follow alternate instructions through the submission link.

ACCEPTED FILE TYPE: pdf, doc, docx, xls, xlsx, csv, txt, rtf, html, zip, mp3, wma, mpg, flv, avi, jpg, jpeg, png, gif. If you would like to submit a different type of file, please place it in a zip folder.

To create a zip folder – Select all the files that you would like to submit and right-click your mouse, a menu will open, select Send To, and then click on Compressed (zipped) folder. A zip file will then be created containing your submission documents.

Please note: Late submissions sent after the date and time specified above will not be accepted.

SHIPPING PROJECT FOR JUDGING: Competitors will be required to ship their finished projects for judging. Skills Canada Alberta will provide packaging and shipping labels. Competitors will be required to ship their projects with in 36 hours. Additional shipping information will be shared in advance of the competition.

SAFETY:

The health, safety and welfare of all individuals involved with Skills Canada Alberta are of vital importance. Safety is a condition of participation with Skills Canada Alberta and shall not be sacrificed for the sake of expediency. At the discretion of the judges and technical committees, any competitor can be denied the right to participate should they not have the required proper safety equipment and/or act in an unsafe manner that can cause harm to themselves or others.

Safety Checklist: It is the responsibility of each competitor and teacher to review the Safety Checklist (<https://skillsalberta.com/additional-2021-competition-resources/>) in advance of the competition and ensure they are able to meet all safety requirements. During the orientation, the safety checklist will be formally reviewed.

AWARDS CEREMONY INFORMATION: Please join us for a live virtual awards ceremony on May 13th at 6:30PM.

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.

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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 AC circuits including capacitive, inductive and complex RLC circuits.
- Construct, analyze and troubleshoot circuits which may include diodes, transistor amplifiers, IC amplifiers, operational amplifiers and comparator circuits, TTL/CMOS gates, timers.
- Apply the appropriate test procedures and equipment to a given situation.
- Interpret the observed values from the test equipment. (AC/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:

- Part 1 - Breadboard a circuit from a given schematic.
- Part 2 - Hand solder through-hole components on a printed circuit board to acceptable industry standards.
- Part 3 - Set-up and demonstrate use of common electronic measuring equipment including multimeters, power supplies, frequency generators and oscilloscopes. *Using Multisim Live.*
- Part 4 - Complete circuit analysis on a simple electronic circuit which may include generating a schematic diagram.

SUBMISSION REQUIREMENTS

- Part 1 - Breadboarding: Recorded presentation of circuit, and explanation of circuit.
- Part 2 – Soldering: Shipped for assessment.
- Part 3 - Multisim Live: judged live.
- Part 4 - Circuit analysis: picture or screen shot of schematic diagram. Submission of answered questions.

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EQUIPMENT & MATERIALS

Skills Canada Alberta Provided Tools, Materials, and Equipment

- Electronic components

Competitor Provided Tools, Materials, and Equipment*

- Solder Iron suitable for use with no-lead solder types. Stand, Tip cleaner, tips of choice. Butane solder devices will not be allowed.
- De-Soldering tool (Braid or Hand vacuum solder extractor)
- Brush for cleaning solder project. No solvents allowed to clean boards.
- Fume Extractor/ Exhaust Fan
- Digital multimeter
- 9v battery
- Long nose pliers
- Side Cutters
- Wire Stripper
- Screwdrivers (including precision set)
- “Third Hand” including magnifying glass. (optional)
- Magnifier (Optional)
- Power bar
- Safety Glasses
- Pens, Pencils, Eraser, Ruler
- Stand-alone calculator (non-programmable i.e. TI-30Xa)

*Competitors and schools will need to work together to arrange for the tools, equipment, and materials provided by the competitor. If a competitor and/or school is not able to procure a certain item, please contact mikes@skillsalberta.com to inquire if additional arrangements can be made.

VIRTUAL COMPETITION RESOURCE SUPPORT FORM

A \$40 competition resource subsidy is available to all competitors. It is intended for items that were purchased to support competitors (e.g. food supplies, materials, technical equipment, tools, etc.). The form can be accessed at the following link: <https://skillsalberta.com/additional-2021-competition-resources/>

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SHIPPING INFORMATION

Any tools and equipment provided by Skills Canada Alberta will be shipped to your school by: **April 12th**

It is required to ship your project for submission. Skills Canada Alberta will provide you with everything you need to ship your project, including a pre-paid shipping label and packaging. After you complete the competition day, you will need to ship your project within 36 hours. Further instructions will be included with your package.

If you have any questions or concerns regarding receiving or shipping your packages, please contact: whitneyk@skillsalberta.com.

JUDGING CRITERIA

Will be updated prior to the competition.

TIE BREAKING PROCESS

Will be updated prior to the competition.

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.

ADDITIONAL INFORMATION

Skills Canada Alberta Regional and Provincial Rules and Regulations

[Regional and Provincial Rules and Regulations](#)

Competitor Registration

Registration for Provincial Skills Canada Competition (PSCC) will open online at <https://portal.skillsalberta.com/> on January 14, 2021 at 8:30 AM. Please refer to the following links for additional registration information: [Tips for High School Teachers](#) and [Road to Provincials](#)

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Secondary Competitor Information is [available here](#).

Lunch

Lunch must be provided by the competitor

Virtual Awards Ceremony

The Virtual Awards Ceremony will take place **Thursday, May 13th at 6:30PM**. A link will be made available on the website with additional information.

Team Alberta Information

Team Alberta will be selected from competition Gold medalists who will then be eligible to participate at the Skills Canada National Competition (SCNC) in June 1-5, 2021 tentatively in Quebec City, Quebec. It is recommended that competitors review the SCNC contest description to be familiar with the national contest description and project at <http://www.skillsCanada.com/>.

Ethical Conduct

We recognize that participants will be competing individually in their own unique environments. We expect all competitors to compete fairly, respecting and abiding by the established rules in the true spirit of Skills Canada Alberta.

Letter of Participation

Competitors who participate in the 2021 Provincial Skills Canada Competition are eligible for a Letter of Participation that can be downloaded on the Registration Portal after the competition ends.

COMMITTEE MEMBERS

Joe Wilson	Lee Bannister	
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