

2022 SECONDARY SKILLS CANADA ALBERTA VIRTUAL COMPETITION

INSPIRE.
DEVELOP.
ELEVATE.



CONTEST DESCRIPTION

CONTEST AREA: ELECTRONICS	LEVEL: Secondary
COMPETITION SCHEDULE: Competition Date: April 13 th , 2022 Duration: 6 Hours Mandatory Registration – 7:45AM-8:00AM Mandatory Orientation - 8:00AM-8:30AM Competition- 8:30AM-12:00PM 12:30PM-3:00PM Lunch 12:00-12:30PM Submission due – 3:45PM	LOCATION: COMPETITOR’S SCHOOL. SEE COMPETITION FORMAT INFORMATION BELOW LIVESTREAMED: YES – COMPETITORS WILL BE REQUIRED TO BE ON CAMERA FOR PORTIONS OF THE COMPETITION
COMPETITION FORMAT: (VIRTUAL/ IN SCHOOL) 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. Each competitor must have a teacher/supervisor available throughout the day, in case of incident. (Teacher/Supervisor must be present at the competition orientation.) 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. WEBEX LIVESTREAMS: Competition Registration and Orientation: The competition will begin with a mandatory virtual registration. Competitors will join the assigned link that will be emailed to all registered competitors and registering teachers in advance. This will be the time that competitors are able to check in and ensure sound, cameras, and tech are working appropriately. The registration will be followed by competition orientation. Camera’s MUST be on and competitors visible on the camera during the orientation. Competition Livestream: Competitors must remain on camera through their entire competition. Camera’s MUST be on and competitors visible on the camera, as well as mics working. Competitors must consider their camera angle and lighting in advance of the competition. It is the competitor’s responsibility to ensure they are prepared for the competition livestream.	

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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 file – 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.

Submissions will be due within 15 minutes of the end of competition time. Please note: Late submissions sent after the date and time specified above will not be accepted.

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 in advance of the competition to ensure all safety requirements are met prior to the competition. During the official competition orientation, the Safety Checklist will be formally reviewed with competitors. The Safety Checklist is posted as a separate document with the Contest Description.

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

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.
- Construct, analyze and troubleshoot circuits which may include integrated circuits (ICs) such as logic gates, operational amplifiers, timers, and other TTL or CMOS components.
- Apply the appropriate test procedures and equipment to a given situation.
- Interpret the observed values from the test equipment (voltages, currents, 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 – Theory: Multiple Choice and Numerical Response Quiz
- Part 2 – Breadboarding: Reverse engineer the schematic diagram from an image of a breadboarded circuit
- Part 3 – Measurement & Analysis: Construct circuit in MultiSim Live. Measure voltage and current using MultiSim Live measurement tools and answer circuit analysis questions based on those measurements
- Part 4 – Soldering: Assemble a circuit on a provided PCB using through-hole components

SUBMISSION REQUIREMENTS

- Part 1 - Theory: Photo or scan of quiz answers
- Part 2 – Breadboarding: Photo or scan of schematic diagram
- Part 3 - Measurement: Photo or scan of measurements and analysis answers
- Part 4 - Soldering: Shipped for judging

SHIPPING FINAL PROJECT FOR JUDGING:

Competitors will be required to ship their finished project for judging. Skills Canada Alberta will provide return packaging and pre-paid return shipping labels. Competitors will be required to ship their projects within 24 hours after the competition.

EQUIPMENT & MATERIALS

Skills Canada Alberta Provided Tools, Materials, and Equipment

- Electrical Components for Soldering task

Any tools and equipment provided by Skills Canada Alberta will be shipped to your school prior to the competition. If you have any questions, please contact: whitneyk@skillsalberta.com.

Competitor/School 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
- 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.

JUDGING CRITERIA

Category	Points
Theory	20
Breadboarding	30
Measurement & Analysis	20
Soldering	30

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TIE BREAKING PROCESS

In the case of a tie, the winner will be decided by the highest score in the Breadboarding category. If there is still a tie, the winner will be decided by the highest score in the Soldering category.

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 Secondary Skills Canada Alberta Virtual Competition will open online at <https://portal.skillsalberta.com/> on January 26, 2022 at 8:30 AM. There will be no registration fee for competitors to compete. Late cancellation or drop-spots fees may apply.

Lunch

Lunch will NOT be provided.

Virtual Awards Ceremony

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

Team Alberta Information

Top eligible medalists will compete virtually in the Skills Canada National Competition (SCNC) May 16-27, 2022. 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/>.

If a competitor is not able to attend the SCNC, competitors **MUST** notify Katherine Kupchenko katherinek@skillsalberta.com prior to the start of competition. If a gold medalist is not able to attend the SCNC, the next top-ranking individual will be asked to participate.

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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 2022 Provincial Skills Canada Competition are eligible for a Letter of Participation that can be downloaded on the Registration Portal after the competition ends.

Questions?

Please contact Whitney Koop whitneyk@skillsalberta.com if you have any questions regarding the Contest Description.

COMMITTEE MEMBERS

Joe Wilson	Lee Bannister	
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