

2022 SECONDARY SKILLS CANADA ALBERTA VIRTUAL COMPETITION

INSPIRE.
DEVELOP.
ELEVATE.



CONTEST DESCRIPTION

<p>CONTEST AREA: MECHANICAL CADD</p>	<p>LEVEL: Secondary</p>
<p>COMPETITION SCHEDULE: Competition Date: Thursday, April 14 Duration: 7 Hours Mandatory Registration – 7:30AM Mandatory Orientation - 8:00AM Start 8:30AM Lunch 12:00-12:30PM Ends – 4:30PM Submission due – 4:45PM</p>	<p>LOCATION: COMPETITOR’S SCHOOL. SEE COMPETITION FORMAT INFORMATION BELOW</p> <p>LIVESTREAMED: NO – COMPETITORS WILL BE REQUIRED TO REMAIN ON WEBEX, BUT CAMERAS CAN BE TURNED OFF</p>
<p>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.</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: 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.</p>	

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PROJECT SUBMISSION LINK:

- <https://form.jotform.com/SkillsAB/2022SCAVC>
- 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.

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CONTEST INTRODUCTION

Purpose of the Challenge:

Evaluate each competitor's preparation for employment in the field of engineering design and drafting using CADD and to recognize outstanding students for excellence & professionalism in their field.

SKILLS AND KNOWLEDGE TO BE TESTED

- Understand and use fundamental commands for producing a scaled 2D CADD drawing
- Use measuring instruments to calculate basic dimensional properties
- Use CADD software to produce 3D parametric models
- Use Geometric Dimensioning and Tolerancing (GD&T)
- Parts List with volumes
- Sketching and Part Measuring
- Detail Drawing from Assembly and Blueprint Interpretation.
- Assembly from Details.
- Parametric Modeling – Family of parts
- Weldments
- Sheetmetal
- Surface Modelling
- Animation

PROJECT DESCRIPTION

(7 Hrs.) – Competitors will be shipped a surprise item. Competitors will be required to reverse engineer and redesign a mechanical item using measuring tools (for example, calipers). Create a professional model and drawings with parts list (volume included).

SUBMISSION REQUIREMENTS

All drawing will be turned into PDF and sent via the link to submissions (as listed above.)

EQUIPMENT & MATERIALS

Skills Canada Alberta Provided Tools, Materials, and Equipment

A surprise mechanical item will be shipped to you, for you to redesign on the competition day. It must not be opened prior to the competition day.

Tools and equipment provided by Skills Canada Alberta will be shipped to your school by: April 8th, 2022. If you do not receive your shipment by this time, please contact: mikes@skillsalberta.com .

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School/Competitor Provided Tools, Materials, and Equipment*

Calculator	Measuring Instruments (calipers, thread gauge, scales etc.)	Computer with camera
Graph Paper	Reference material (no photocopies allowed) – 1 textbook	3D Mech CADD Program (ex. Inventor Pro, Solid Works,)
Pencils	USB memory stick	

*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

Point Breakdown / 100

Evaluation Criteria: Subjective and Objective

- Presentation – placed on sheets properly and annotation completed – 30%
- Dimensioning – project dimensioned properly - 30%
- Design accuracy – Volume correct for each part when required and/or Design Parameters followed – 40%

TIE BREAKING PROCESS

In the event of a tie, the winner will be determined by design accuracy, then dimensioning mark.

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.

RELATED CAREER AND TECHNOLOGY STUDIES COURSES

Descriptions of all courses are located at the following website:

<http://education.alberta.ca/teachers/program/cts/program-of-studies/mdc.aspx>

DES1010: Sketch, Draw & Model

DES1020: The Design Process

DES1030: 2D Design 1

DES1040: 3D Design 1

DES1050: CAD 1

DES1060: Technical Design & Drafting 1

DES2035: 2D Design 2

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DES2045: 3D Design 2
DES2055: CAD 2
DES2065: Technical Design 2
DES3035: 2D Design 3
DES3045: 3D Design 3
DES3055: CAD 3
DES3065: Technical Design 3

ADDITIONAL INFORMATION

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

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

Team Alberta will be selected from competition Gold medalists who will then be eligible to participate at the Skills Canada National Competition (SCNC) in a virtual format May 25-28, 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/>.

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.

COMMITTEE MEMBERS

Wade Hansma