



## Contest Description

Edmonton Expo Centre, Edmonton

May 3 & May 4, 2023

<b>EVENT:</b> Mechanical CADD	<b>LEVEL:</b> Secondary																		
<b>WORLDSKILLS TRADE #:</b> 5	<b>LOCATION:</b> Hall B, Edmonton EXPO Centre, Edmonton																		
<b>DURATION:</b> 11.5 Hrs. (Two days) 6.75 HOURS ON DAY 1 4.75 HOURS ON DAY 2	<b>REGIONALIZED:</b> NO																		
<b>EQUIPMENT SET UP AND TESTING</b> <b>EQUIPMENT DROP OFF</b> MAY 2: 5:00PM – 6:00PM <b>EQUIPMENT SET UP AND TESTING</b> MAY 2: 7:30PM – 8:30PM																			
<b>COMPETITION SCHEDULE:</b>																			
<b>May 3:</b>	<b>May 4:</b>																		
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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.
- Dimensioning.
- Parts List with volumes.
- Sketching and Part Measuring.
- Drawing Interpretation.
- Assembly and Detail Drawings.



- Printing documents to PDF format

## PROJECT DESCRIPTION

Please see the Mechanical CADD Project Description document for more project details (Available March 2023).

**Day 1 (6.75 Hrs.)** – Reverse engineer and re-design a mechanical assembly using measuring tools (ex. Calipers) Create professional models, detail drawings and assembly/exploded drawings with parts list (volume included). Provide PDF drawings.

**Day 2 (4.75 Hrs.)** – Model the mechanical component based on the provided part drawing. Re-create the drawing and include redesigns / additional drawing views as requested (volume included). Provide PDFs.

## EQUIPMENT & MATERIALS

### Equipment and Materials Competitors Must Supply:

Calculator	Measuring Instruments (calipers, thread gauge, scales etc.)
	Device and software to complete project as per “Bring Your Own Device” instructions
Graph Paper	Reference material (no photocopies allowed) – 1 textbook
Pencils	Power bar and extension cord (for BYOD)

**Please Note:** All other equipment must be approved by the Provincial Technical Committee (PTC).

### Bring Your Own Device (BYOD) Information

**IMPORTANT:** Competitors are required to bring their own device and software for their competition. Each competitor can choose their own device and software so their workflow and process is what they are familiar with. If competitors are bringing a computer or laptop from their school (instead of their personal computer), please ensure that the computer is unlocked so documents and possibly software can be saved/installed to the hard drive and technology support can be provided onsite. This may require access to CMOS settings.

**Note, computers must remain inside the competition area for the duration of the competition from the time the competition begins on Day 1 to when the competition ends on Day 2 (including overnight).**

**Competitors may supply their own locking cables if they wish.**

**Equipment Set-Up and Testing for all event areas that are Bring Your Own Device will be held on Tuesday May 2, 2023 at 7:30pm (following opening ceremonies/registration).**

### Equipment Set-up and Testing (for BYOD events)

Immediately following the Opening Ceremonies and registration, students who are competing in technology-based events that are a BYOD event will be given an opportunity to set up and test their



equipment to ensure their equipment is fully functional and networked (where required) prior to the start of the competition. If preferred, this equipment can be dropped off to the contest site area no earlier than one hour prior to the start of the Opening Ceremonies. Only accredited students and educators will be permitted into the competition site for equipment drop off and testing. Students who miss the equipment and setup testing opportunity will need to set up their equipment AFTER the mandatory COMPETITOR ORIENTATION time on the day of competition. Any time that is required to set up and test their equipment on the competition day will be part of their overall competition time. The competition time for these competitors will NOT be extended.

### 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 will not be permitted.

### 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.

### JUDGING CRITERIA

Point Breakdown / 100 points per day

Evaluation Criteria: Subjective and Objective

Day One: Detail Drawings for each part	70 marks
Assembly Drawing	20 marks
Layout	10 marks
Day Two: Detail Views	60 marks
Dimensions	40 marks

### TIE BREAKING PROCESS

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

### 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	DES2055: CAD 2
DES1020: The Design Process	DES2065: Technical Design 2
DES1030: 2D Design 1	DES3035: 2D Design 3





DES1040: 3D Design 1 DES1050: CAD 1 DES1060: Technical Design & Drafting 1 DES2035: 2D Design 2 DES2045: 3D Design 2	DES3045: 3D Design 3 DES3055: CAD 3 DES3065: Technical Design 3
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**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 on January 18, 2023 @ 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:** <http://edmontonexpocentre.com/attend/parking/>

**Opening Ceremonies / Competitor Registration**

Opening Ceremonies for the PSCC will take place on Tuesday May 3, 2023 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 Ceremony.

**Awards Ceremony**

The Awards Ceremony will take place on Thursday May 4, 2023 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 24- 27, 2023 in Winnipeg MB. 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/>.

During the PSCC Awards Ceremony on Thursday May 4, 2023 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 individuals 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](mailto:javierad@skillsalberta.com) prior to the start of competition on May 3, 2023.

Please prepare your students in advance to accept a position on Team Alberta and outline how your school will support their participation. Furthermore, it is very important that all fieldtrip/travel information for potential Team AB members is organized and completed prior to the selection of Team AB.

### Questions?

Please contact Kennedy Mayer at [kennedym@skillsalberta.com](mailto:kennedym@skillsalberta.com) if you have any questions regarding the Contest Description.

### COMMITTEE MEMBERS:

Lloyd Bloomfield Chair- EPSD
Mitchell Way