

Contest Description

Edmonton Expo Centre, Edmonton

May 7 & 8, 2025

EVENT: Mechanical CADD	LEVEL: Secondary																		
WORLDSKILLS TRADE #: 5	LOCATION: Hall E, Edmonton EXPO Centre, Edmonton																		
DURATION: 11.5 Hrs. (Two days) 6.75 HOURS ON DAY 1 4.75 HOURS ON DAY 2	REGIONALIZED: NO																		
MAY 6: 4:00PM – 5:30PM EQUIPMENT DROP OFF, SET-UP AND TESTING																			
COMPETITION SCHEDULE: May 7:	May 8:																		
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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.

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

- Geometric Dimensioning and Tolerancing (GD&T)
- Generate a parts list with volumes
- Sketching and part measuring
- Drawing interpretation
- Manufacturing process basic knowledge (ie Machining and turning, sheet metal, additive manufacturing, injection molding).
- Parametric modelling
- Creation of assembly and detail drawings
- Creation of assembly motion animations
- Export of animations to .avi, .mp4, or .wmv formats
- Export files to STEP and STL formats
- Printing drawing documents to PDF format

PROJECT DESCRIPTION

Day 1 (6.75 Hrs.) – Reverse engineer and re-design a mechanical assembly using measuring tools (e.g., calipers). Create professional models, detail drawings, motion animation, and assembly/exploded drawings with a parts list (volume included). Provide PDF drawings and .mp4, .avi, or .wmv animation files.

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:

Computer and Software, as per “Bring Your Own Device” instructions
Ethernet USB Adapter (if computer does not have an ethernet port built-in)
Calculator
Graph Paper
Pencils
Measuring Instruments (calipers, thread gauge, radius gauges, protractor, scales etc.)
Reference material (no photocopies allowed) – 1 textbook
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 that meets or exceeds the stated requirements for their competition. Each competitor can choose their own device and software so their workflow and process are 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 allowing for USB sticks, documents and possibly software to be saved/installed to the hard drive and IT support can be properly provided onsite. This may require administrator privileges to access the CMOS settings. All USB sticks provided for competition use will be cleared and inspected prior to being used.

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 6, 2025, at 4:00pm (before opening ceremonies/registration).

Equipment Set-up and Testing (for BYOD events)

Before 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. 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	50 marks
	Assembly Drawing	20 marks
	Animation	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 by highest 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	DES3045: 3D Design 3
DES1050: CAD 1	DES3055: CAD 3
DES1060: Technical Design & Drafting 1	DES3065: Technical Design 3
DES2035: 2D Design 2	
DES2045: 3D Design 2	

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

Denis Godin

Michael McManus

