



2026 Territorial Skills Competition Contest Description

Mechanical Engineering CAD

Secondary & Post-Secondary

Date: April 16, 2026, 8:00 A.M.

Location: Yukon University, Gym

Duration of contest: 6 Hours

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1. SKILLS FOR SUCCESS FOR CAREERS IN SKILLED TRADES AND TECHNOLOGY

The Government of Canada has updated the previous Essential Skills framework to the new Skills for Success model in response to the evolving labour market and changing skill requirements. This model outlines nine fundamental skills Canadians need to thrive in work, education, training, and daily life.

Skills/Compétences Canada aims to highlight the importance of these skills, vital for success in trade and technology careers. Competitors can see how Skills for Success are integrated into contest descriptions, projects, and project documents. Recognizing these skills during the competition helps competitors match tasks with specific skills necessary for success and understand how these skills apply within their trade or technology programs and future careers.

The nine key Skills for Success, validated for workplace success, are:

1. Numeracy
2. Communication
3. Collaboration
4. Adaptability
5. Reading
6. Writing
7. Problem Solving
8. Creativity and Innovation
9. Digital

2. CONTEST INTRODUCTION

2.1. Description of the associated work role(s) or occupation(s):

https://www.skillscompetencescanada.com/en/skill_area/mechanical-cadd/

2.2. Purpose of the Challenge

The purpose of the competition is to test your mechanical Engineering CAD skills. You will do two separate projects, one in the morning and one in the afternoon. They are each targeting different skill sets and are evaluated independently. Each year is a new project. The morning will be oriented to part modelling and the afternoon will be focused on assemblies. Drawings are required for both sections and will be the primary documents marked. Combined, these projects cover the core skills of using mechanical CAD software.

2.3. Duration of Contest

Competition duration will not exceed 6 hours. Competitors will begin at 9:00AM and have until 4:00PM to complete all of their tasks, including tidying their work station. Competitors will be given an hour break for lunch provided by Skills Canada Yukon.

2.4. Skills and Knowledge to be Tested

- Part modelling skills
- Assembly modelling skills
- Parametric modelling skills
- Part design skills
- Making and interpretation of technical drawings
- Problem solving skills
- Basic mechanical calculations

2.5. Tasks that may be performed during the competition

- Part modelling given a drawing package
- Generating a drawing package from CAD files
- Making a 3D assembly from .STEP files
- Generating exploded and section views of an assembly in a drawing
- Understand general mechanical principles to be able to infer how parts should be assembled
- Rendering of parts or assemblies
- Animations of assemblies
- The ability to design a part or assembly based on specifications

Morning (3 hours) – Part Modelling

You will be given a drawing package, detailed instructions, and a View and Annotation guide. You will model the parts in the drawings and then make your own drawing package following the view and annotation guide. You will also make a rendering following the instructions provided.

Afternoon (3 hours) – Assembly Modelling

You will be given detailed instructions, .step files, a View and Annotation guide and possibly some drawings. Using what drawings you have available, they will be incomplete, you are to make the assembly using the provided parts. Study the part files and use your mechanical intuition to figure out how the assembly fits together.

Once your assembly is complete, make a drawing package following the View and Annotation guide as well as an animation following the instructions provided.

3. EQUIPMENT, MATERIAL, CLOTHING

3.1. Equipment and material provided by Skills Canada Yukon:

- Desk and power supply
- A wireless internet connection
- Laptop with Solidworks installed* (Only by request, a limited number may be available, contact Skills Yukon ahead of time to arrange this.)

3.2. Required Clothing Provided by the Competitor

- Monitor
- Keyboard
- Mouse and mousepad
- Plus any additional peripherals

4. **HEALTH & SAFETY**

4.1. **Safety Orientation**

During orientation, Competitors will participate in a Safety workshop and they will be expected to work and maintain a safe working area during the competition.

List of required personal protective equipment (PPE) provided by Skills Canada Yukon:

- Hearing protection to minimize environmental distractions *optional

NOTE: Competitors who do not have the required protective equipment/clothing will not be allowed to participate in the competition

4.2. **Field Level Risk Assessment**

SCY will complete a Field Level Risk Assessment for every competition area in addition to a full walkthrough with a representative from Yukon Workers Safety and Compensation Board to identify potential hazards and create solutions. The primary goal of an FLRA is to identify and mitigate potential risks to ensure the safety of competitors.

5. **ASSESSMENT**

5.1. **Point Breakdown**

TASK	/100
Part Modelling	/50
Assembly	/50

5.2. **Qualifying for the Skills Canada National Competition**

Competitors can secure a win in their specific competitions by demonstrating exceptional skills and abilities, and meeting or exceeding established evaluation criteria. However, qualification for the Skills Canada National Competition is not solely determined by winning at the territorial level.

The decision to advance further depends on additional factors, such as the National Technical Committee's (NTC) assessment and/or the judges' discretion,

which may take into account specific criteria beyond just event performance. These additional criteria could encompass a competitor's adherence to safety protocols, ethical conduct, teamwork, or overall professionalism, ensuring that those who represent the Territory at the national level not only excel in their technical skills but also embody the values and standards upheld by Skills Canada.

***Please note:** Not all territorial contest areas are eligible for the Skills Canada National Competition. Please refer to the SCNC website to determine if your skill area/level is eligible to compete.

6. ADDITIONAL INFORMATION

6.1. Competition Rules

Refer to the competition rules of the Skills Canada Yukon Territorial Competition which can be found on our website.

6.2. Ties

Tiebreaker #1: In the event of a tie, the candidate with the highest safety score will be declared the winner.

Tiebreaker #2: If a tie still remains, the competitor with the highest score in the Part Modelling will be declared the winner.

6.3. Accessibility & Accommodations

Skills Canada Yukon is committed to providing a barrier-free environment which allows everyone to participate in our programs and competitions. We strive to be fully inclusive to all manner of disabilities and identities. SCY provides the opportunity for any competitor to disclose a disability on our competition registration form. Requests for accommodations must be made at least 3 weeks prior to the competition date.

7. NATIONAL & TERRITORIAL TECHNICAL COMMITTEES

7.1. The Yukon National Technical Committee member for Mechanical Engineering CAD is David Lister. Email: me@davidlister.ca

7.2. Please contact yukon@skillscanada.com with questions or concerns related to the competition.