

# 2021 PROVINCIAL SKILLS CANADA COMPETITION



## CONTEST DESCRIPTION

<b>CONTEST AREA: PRECISION MACHINING</b>			<b>LEVEL: Secondary</b>
<b>COMPETITION SCHEDULE:</b>			<b>LOCATION: COMPETITOR'S SCHOOL. SEE COMPETITION FORMAT INFORMATION BELOW</b>
Livestream Test	Monday, April 12	11:00AM-12:00PM	
Orientation	Friday, April 16	8:30-9:00AM	
Competition	Friday, April 16	9:00-12:00PM Lunch 12:00-12:30PM 12:30-3:30 pm	
<b>DURATION: 6 HOURS</b>			<b>REGIONALIZED: No</b>
<p><b>COMPETITION FORMAT: (VIRTUAL/ IN SCHOOL)</b></p> <p>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><b>WEBEX LIVESTREAMS:</b></p> <p><b>Tech Check:</b> A "Tech Check" will take place prior to the competition with the purpose of giving the competitor an opportunity to ensure they have all of the necessary technology in place to join in their virtual orientation meeting the morning of their competition. On the competition day, there will be no time to work out technology issues. This is the opportunity work out any unforeseen issues and to start your competition day off prepared. There may also be an opportunity to ask questions regarding the competition day if time allows. <b>An email with the WebEx link will be sent out in advance of the competition.</b></p>			

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**Competition Orientation:** The competition will begin with a virtual orientation. Competitors will join the assigned videoconference link that will be emailed to all registered competitors for the competition orientation. Camera's MUST be on and competitors visible on the camera during the orientation.

**SHIPPING PROJECT FOR JUDGING:** Competitors will be required to ship their finished projects for judging along with any unused material AND loaned tools. Skills Canada Alberta will provide packaging and shipping labels. Competitors will be required to ship their projects within 36 hours. Additional shipping information will be shared in advance of the competition.

## **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 (<https://skillsalberta.com/additional-2021-competition-resources/>) in advance of the competition and ensure they are able to meet all safety requirements. During the orientation, the safety checklist will be formally reviewed.

**AWARDS CEREMONY INFORMATION:** Please join us for a live virtual awards ceremony on May 13<sup>th</sup> 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.**

## CONTEST INTRODUCTION

A machinist uses machine tools to manufacture parts from raw material for a variety of industries. Nearly all consumer goods have been machined or are manufactured from tools or equipment which has been manufactured by a machinist.

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## PROJECT DESCRIPTION

<p><b>Conventional Engine Lathe</b></p> <ul style="list-style-type: none"> <li>• Safe operating procedures</li> <li>• Applied Metrology</li> <li>• Cylindrical &amp; Taper Turning / Grooving / Cylindrical Threading operations</li> <li>• Three and Four-jaw chuck work</li> </ul>	<p><b>Conventional Vertical Milling Machine</b></p> <ul style="list-style-type: none"> <li>• Safe operating procedures</li> <li>• Applied Metrology</li> <li>• Face / Pocket / Form milling</li> <li>• Drilling / Counter Boring / Reaming operations</li> </ul>

## Skills Canada Alberta Provided Tools, Materials, and Equipment

Lathe and Mill Cutting tools (if required)	Project Material	
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## School/Competitor Provided Tools, Materials, and Equipment\*

CSA approved Safety Glasses	Measurement Tools	Conventional Milling Machine
CSA approved footwear	Hand Tools	Outside Dia turning tool (carbide)
Ear Plugs	Conventional Metal Lathe	Outside Dia threading tool, Imperial and Metric (carbide)
Outside Dia Grooving tool (carbide)	Boring Bar (carbide)	Face mill (carbide)
1/2 end mill (HSS)	Dovetail Cutter (HSS)	0.200 Dia drill bit
90 degree countersink files and deburring tools	3/8 rollers	1/8 number stamps

\*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

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certain item, please contact [mikes@skillsalberta.com](mailto:mikes@skillsalberta.com) to inquire if additional arrangements can be made.

**Projects, unused material, and loaned tools MUST be sent back to Skills Canada Alberta.**

## VIRTUAL COMPETITION RESOURCE SUPPORT FORM

A \$40 competition resource subsidy is available to all competitors. It is intended for items that were purchased to support competitors (e.g. food supplies, materials, technical equipment, tools, etc.). The form can be accessed at the following link: <https://skillsalberta.com/additional-2021-competition-resources/>

## SHIPPING INFORMATION

Any tools and equipment provided by Skills Canada Alberta will be shipped to your school by: April 14<sup>th</sup>. If you do not receive your shipment by this time, please contact: [whitneyk@skillsalberta.com](mailto:whitneyk@skillsalberta.com).

## JUDGING CRITERIA

	Mill	Lathe
Project Completion	2.5%	2.5%
Compliance with Occupational Health and Safety regulations	2.5%	2.5%
Compliance with dimensions, tolerances, and fits as specified in plans	40%	40%
Compliance with appropriate surface finish and deburring	5%	5%
	50%	50%
	Total 100%	

### Note:

**If a second work piece blank is required, the contestant will lose 20% from the "Compliance with dimensions, tolerances and fits as specified in plans" section.**

## TIE BREAKING PROCESS

In the event of a tie, surface finish will be used to decide the winner.

## 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.

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## RELATED CAREER AND TECHNOLOGY STUDIES COURSES

Descriptions of all modules are located at the following website:

<http://education.alberta.ca/media/2205360/fab.pdf>

- FAB 1130: Principles of Machining
- FAB 2130: Precision Turning 1
- FAB 3130: Precision Turning 2
- FAB 2140: Precision Milling 1
- FAB 3140: Precision Milling 2

## ADDITIONAL INFORMATION

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

### Competitor Registration

Competition Registration will open online at <https://portal.skillsalberta.com/> on January 12, 2021 at 8:30AM for the Regional Skills Canada Competition and on January 14, 2021 at 8:30 AM for the Provincial Skills Canada Competition (PSCC)

### Lunch

Lunch will be provided by Skills Canada Alberta

### Virtual Awards Ceremony

The Virtual Awards Ceremony will take place **Thursday, May 13<sup>th</sup> at 6:30PM**. A link will be made available on the website with additional information.



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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 2021 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

Darren Roth (Committee Chair)	Calmar Secondary School	
Gary Lindquist	SAIT	
Phillip Townsend	NAIT	
Reece Burdeniuk	Argus Machining Co.Ltd.	