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1. General Contest Information

1.1: Purpose of Contest

To test the skill and knowledge of each student in the area of computer numerical programming using Mastercam software application package. This competition will be focused on creating a program for a Vertical CNC Milling Machine.

1.2: Objective/Description of event

PRACTICAL 100% The competitor will receive detailed drawings of parts that will have to be programmed for a Vertical CNC Milling Machine. The competitor will have to create the geometry necessary to machine the parts based on the drawings provided.

The competitor should be able to create:

- 2D Wireframe
- Solid

Tool path types for Competitors:

- Face
- Contour
- Pocket
- Spot Drill
- Drill
- Dynamic Mill
- Area Mill
- Remachining (rest material removal)
- Model Chamfer

1.3: Technical Committee

Chair: Brian Moelker moelkerb@limestone.on.ca

1.4: Contest Schedule

Date and Location: Thursday, February 26, 2026 – St. Lawrence College

8:30 – 9:00 Sign into competition
9:00 – 9:15 Orientation
9:15 – 11:30 Competition
11:30 – 12 Lunch
12:00 – 3:00 Competition
*Competitors must be on time for their contest or may be disqualified at the discretion of the Technical Committee.

Closing ceremony: Thursday, February 26th hosted at St. Lawrence College at 5:30pm

2. Skills and Knowledge to be Tested

2.1: Specific Requirements

The contest will have a rubric scoring system. The overall score will be the sum of the points awarded for each of the components. Points are awarded as the competitor(s)/project successfully meets/completes certain performance criteria. Performance criteria are structured, when possible, to provide a range of tasks from easy to complex for each category.

3. Judging Criteria

3.1: Rubric

A. Geometry Creation • Wireframe accuracy and detail • Solid accuracy and detail	 **17** **18**	**35**
B. Job setup • Stock and tool settings		**5**
C. Toolpath creation • Cutter selection (Select the appropriate tools from the list provided) • Specific strategies to minimize additional geometry and toolpath creation, i.e. chamfers do not need to be drawn, and multiple pockets done in one operation • Appropriate toolpath parameters, i.e. depth cuts, finish passes, final depth and retract distances, etc. Part should be verified and free of collisions using Mastercam Simulator Note: For toolpath selections you are allowed to use both wireframe and solid selections.	 **5** **22** **22** **6** **5**	**60**
Total, Mark out of 100	**100**	**100**

3.2: Tie Breakers

Any tie in the competition will use the toolpath mark, followed by the geometry mark.

4. Equipment and Materials

4.1: Supplied by Competitor

- USB Stick (not to be used during contest, see project section for details)
- Refillable water bottles and water stations will be on/ near the contest site.
- All general health and safety guidelines and protective equipment as noted in the Safety section
- Competitors must be dressed in a clean and appropriate manner with no logos other than that of their school/school board.

4.2: Supplied by Competition

- Computer
- Mastercam software 2025
- Drawings and required materials

IMPORTANT *Only Mastercam software is allowed.

Please note: Competitors are not to bring their own computer to the Limestone Skills Competition. Notes, additional materials, or assisting devices are not permitted unless listed above.

Prior to attending the Limestone Skills Competition, students should be familiar and competent in the use of the tools and equipment listed above as well as safety precautions that should be observed.

5. Safety

5.1: PPE

- Steel Toed Boots
- Safety Glasses

5.2: Behaviors

Safety is a priority at the Limestone Skills Competition. At the discretion of Technical Committee, any competitor can be removed from the competition site for not having the proper safety equipment and/or not acting in a safe manner.