Haas Automation is a sponsor of the 2022 SkillsUSA CNC Machining Competitions. We are committed to providing materials for Regional and State competitions throughout the United States for the 2022 CNC Machining Competitions.

In addition, we are providing a list of resources to help prepare students to enter the CNC Machining competitions, and the workforce of our industry, feeling well-equipped for success. For resources, please see the following pages, or visit our website at haascnc.com.

For Regional- and State-level SkillsUSA testing materials, please contact your local Haas Factory Outlet distributor, or the SkillsUSA State Director in your state.

About the Competition:

Regional, and State-level CNC Milling Specialist, CNC Turning Specialist and CNC Technician competitions will test two major skills areas (1) a CNC theory test, and (2) G&M code programming.

CNC Theory Test:

The CNC theory test is set of multiple-choice questions closely related to the CNC subject area of focus for the competition, i.e. milling, or turning. Competitors must select the best answer that applies, reading each question carefully before selecting an answer. Contestant numbers must be written on the test in the space provided on each page, or the competitor will receive 0 points.

Programming:

The g & m code programming test will provide competitors with access to a part drawing, operation sheet, tooling list and an NC code template file. The NC code template file is incomplete, and it is the competitor's job to use the provided documents to complete this NC code file so that if run, the program would produce a machined part that is accurate to the part drawing provided. The drawing will be complete with multiple views making it easy for competitors to visualize the part and understand its geometry. The operation sheet will provide a sequence for each operation as well as basic tooling information and instruction. Contestant numbers must be written within the NC Code file, as well as within the document name when saving. If this step is missed, the competitor will receive 0 points. Remember, save early, save often.

Competitors will be provided with all testing documents mentioned above, but competitors must provide the following items in order to successfully compete.

- (Required) Laptop, or computer with access to text editor i.e. Notepad or Word Pad
- (Required) Pen or pencil for notes, or written calculations
- (Optional) Basic calculator

NOTE: Judges have access to a theory test key, a working copy of the NC Code file and a programming score card each which can be used to calculate the appropriate points for the SkillsUSA State Score Card.

Haas Automation, Inc. | 2800 Sturgis Rd. Oxnard, CA 93030
Sponsor of SkillsUSA CNC Competitions
CNC Milling Specialist | CNC Turning Specialist | CNC Technician | 5-Axis CNC Programmer

Recommended Competitor Preparation

Set yourself up for success by committing to continuous learning. Haas Automation, and other supporting partners, offer an array of opportunities for everyone to learn about principles of CNC machining practice. Get ahead by preparing yourself as a competitor, before and after competitions.

Haas Certification Program

These online courses are designed to provide the basic knowledge necessary to get started as a CNC machine operator or CNC machinist. They offer an introduction to basic CNC machine operation, proper machine safety, and fundamental machining processes. For more information, and to sign-up for the free online courses, visit: learn.haascnc.com

Haas Programming Workbooks

These programming workbooks provide the basic principles necessary to program Haas Mills, and Haas Lathes. Numerous exercises throughout the workbook enable users to build their skills at their own pace. Answer Books are also available. To download, visit the Haas Learning Resources webpage: https://www.haascnc.com/myhaas/Haas_Learning_Resources.htm

Haas Video Library

The Haas Video Library gives you access to thousands of videos recorded specifically to help Haas CNC users everywhere to grow their skills and understanding of CNC machining to maximize their abilities. Access videos directly from the Haas Video Library, via the Haas YouTube channel or using the Quick Picklist of the Haas Learning Resources page which organizes a handful of videos from entry- to advanced-level to help get you started. For the complete Video Library, visit: https://www.haascnc.com/video.html Or, for the shortened Quick Picklist, visit: https://www.haascnc.com/myhaas/Haas_Learning_Resources.html

CAM Programming Training

In 2022 the 5-Axis CNC Programmer competition is the only to require CAM. Various CAM partners provide access to software and video training programs. Please visit training partner's websites for more information at https://help.autodesk.com/view/fusion360/ENU/courses/ or https://university.mastercam.com/