

# Maricopa Skill Center Creates Machinist Pipeline With Tooling U-SME Online Training & Hands-On Approach

With its hybrid precision machining program, the Maricopa Skill Center (MSC), a division of GateWay Community College, is aligning a new generation of skilled workers with the local advanced manufacturing industry to meet growing workforce demands in the Phoenix area.

The targeted program delivers a blended approach to learning via online courses through Tooling U-SME and hands-on practical training in its \$3 million tooling shop, with projects designed by the National Institute of Metalworking Skills (NIMS) and inspected by industry partners.

## Targeted Training for Machinists of the Future

“There is growing demand in the Phoenix area for well-trained personnel – high-tech problem-solvers capable of running sophisticated computer equipment that serves advanced manufacturing here, particularly in the aerospace industry,” said Larry Geczy, Maricopa Skills Center precision machining instructor. “Many of our students are veteran workers who were downsized, disillusioned and unemployed, and we’ve been very successful at upgrading their skills and matching them to industry needs.”

The MSC Precision Machining Program trains workers with the skills necessary to use and maintain state-of-the-art Computer Numerical Control (CNC) machining technology for entry level employment in the aerospace industry and other advanced manufacturing. It also provides opportunity for continued education and advancement.

“We want to dispel the notion that machinists are locked into one career,” Geczy said. “There is plenty of opportunity to build skills and enter high-paying, high-tech jobs like CNC machining in the Phoenix area. We currently know of more than a dozen companies who can’t fill positions, and we are working to fill that need.”

The MSC program includes valuable and targeted input from industry partners and is broken into three blocks to ensure concept retention and reinforcement. The blocks are:

- **Academic:** 126 lessons covering all aspects of modern machining theory using Tooling U-SME online training in addition to textbook courses that are enhanced by lectures.
- **Manual Machining:** Manual sawing, drilling, milling, turning, single-point thread machining and surface grinding are required basics. Students are given a variety of machining projects designed by NIMS to be progressively harder to assure their knowledge and skills meet the demands of industry. They are then required to pass a NIMS exam.
- **CNC Machining:** Students use an online 3D CNC simulator and several hardware simulators in the shop before running their programs live. Students are again required to complete NIMS projects and take the appropriate NIMS exams.

Graduates of the program are NIMS Level I certified on CNC Mill and CNC Lathe. They also earn an OSHA 10 hour General Industry Safety Card.



*Students Norris Taft and Phi Vu work on a NIMS grinding project.*



*Peter Bernett with Alyssa Bichler, 22, the first female NIMS Level I certified graduate in the 50-year history of the MSC Precision Machining Program who is now a CNC machinist.*

## Tooling U-SME Training Aligned with Industry

To offer its students, who are typically between 40 and 50 years old, a flexible, self-paced program aligned with NIMS certification, MSC began using Tooling U-SME in 2010 as part of a 2-year grant-funded project. The school quickly exhausted the inventory of subscriptions and purchased additional ones.

Tooling U-SME is the leading provider of online innovative training and support services for the manufacturing workforce. Its online content maps to state, system or program level, and to national credentials, including the NAM Skills Certification System, covering certifications such as NIMS, AWS, SME and MSSC. The certifications validate that students have applied and retained knowledge and skills. They also set the stage for advancement opportunities that motivate workers to continue learning new material.

“Our instructors have been impressed with the Tooling U-SME modules and assessments,” Geczy said. “They are the most comprehensive in the industry. More importantly, our students find it user-friendly — an intuitive program that is available 24/7 and self-paced — and even encourages further learning. When the required 126 lessons in our program are complete another, 300 become available to those who are interested.”

Tooling U-SME’s industry-driven online content was created by a dedicated content development team with leading manufacturing experts and is used extensively by Fortune 500® manufacturers.

“Tooling U-SME has been very responsive in adapting our curriculum and meeting our specific needs,” Geczy said. “When we ask if something can be done, the Tooling U-SME answer is invariably, ‘Yes.’”

Successes with the Tooling U-SME program include:

- 152 students enrolled in Tooling U-SME through MSC
- More than 15,460 classes completed
- More than 14,500 hours in classes
- 17 percent average knowledge gain

## Student Successes

For MSC students like Martin Edge, the self-paced flexibility of the program was crucial to his rapid success.

“When Martin saw the tool shop, he wanted to get right to operating the CNC machines,” Geczy said. “We had a hard time holding him back, and we were thankful the Tooling U-SME curriculum allowed him to go as quickly as he was able so he could move on to the CNCs and graduate.”

Far from stopping there, Edge went on to study Industrial Design at GateWay Community College and is now a production manager at a local precision machining company, which produces mission critical aerospace applications.

Another MSC student to take advantage of the opportunities afforded by the precision machining program using Tooling U-SME online training is Ron Hitti, a 30-year veteran blade operator who was laid off and decided to change career paths. He excelled at the program and is now a full-time instructor at MSC.

“Ron is bringing our program further into the 21st century by developing the next-level instruction set incorporating 3D modeling and how to fully use our CNC robots for subtractive machining,” said Geczy. “He’ll also be developing modules for additive machining (3D printing), molding and casting.”

Geczy pointed out that in another sign of things to come, MSC just graduated the first of three female CNC students in its 50-year history.