



Computer-Aided Design AND Engineering Technologies

News about a Career-Technical Education Program from the Six District Educational Compact

Manufacturing Month offers opportunities



Matt Metcalf, CEO of Colonial Machine guides the worksite visit. Students from left, Brady Ingersoll, Roosevelt; Alex Johnson, Roosevelt; Gabe Leatherman, Stow-Munroe Falls; Samantha Brackett, Cuyahoga Falls; Tim Frankish, Cuyahoga Falls; Jeshurun Young, Roosevelt; Josh Alvis, Woodridge; Cole Steiner, Cuyahoga Falls; and Isaiah Bloebaum, Roosevelt.

Colonial Machine

October is Manufacturing Month. CADET students had opportunities to tour local advanced manufacturers and learn about careers.

At Colonial Machine in Kent, students saw first-hand an engineering department where complex plastic injection molds are designed and put to G Code and then cut by sophisticated CNC machines.

Students toured the high end CNC manufacturing shop, where turning centers, milling machines, EDM's (Electrical Discharge Machines) and even a 10-foot, 5 Axis machine are used to make molds. CADET students were then treated to a demonstration of how molds are polished after machining and then fit prior to use. These molds make things from clothes baskets, trash cans, blender containers to PVC pipes.



Copen Machine President Travis Copen explains the precision machining to Jeshurun Young, Roosevelt; Josh Alvis, Woodridge; Isaiah Bloebaum, Roosevelt; and Gabe Leatherman, Stow-Munroe Falls.

Copen Machine

Copen Machine in Kent hosted CADET students, who witnessed tolerances being held to .0001" while mass producing thousands of the same parts using Swiss machining technology.

Copen Machine cares for the environment by not only recycling chips but also the cutting fluids and coolants through the use of a centrifuge. Students talked with engineers who are responsible for drawing parts and producing G Code that is used to manufacture the products. In addition, they visited with Machine Technicians and Copen Machine's metrologist in the Quality Control Department.



Six District Educational Compact

Cuyahoga Falls • Hudson • Kent • Stow-Munroe Falls • Tallmadge • Woodridge

Mary Jane Stanchina, Executive Director
33 Milford Road, Suite 1, Hudson, Ohio 44236
Phone: 330-655-2247 • www.sixdistrict.com



Xavier Seib and his teachers Jeff Bee and Troy Spear.

Meet a completer

Xavier Seib likes CNC machines

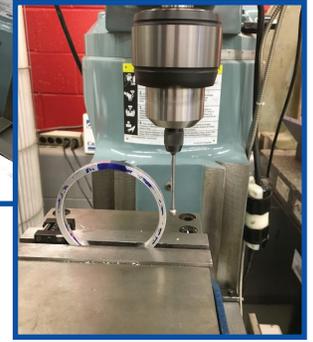
Xavier Seib, 2017 Stow-Munroe Falls graduate, is working at Niedic Imperial Electric in Akron as a lead setup and operator. He operates CNC machines he learned about during his two years in Computer-Aided Design and Engineering Technologies.

"While in the program, I got a lot of exposure to many different things, but I always liked working the machines the best," Seib says. After completing the CADET program, he attended the Akron CNC Institute where he refined his machine setup and operation skills and was placed at Niedic Imperial Electric.

Seib advises current students to "take advantage of all the opportunities that are here, because they're free! Once you leave school, you have to pay to learn them from someone else."



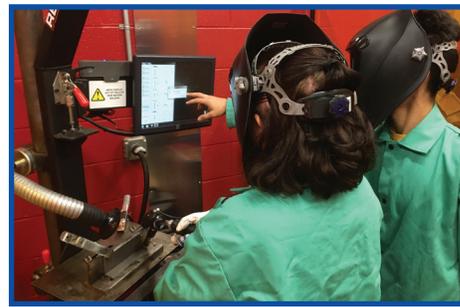
Isaiah Bloebaum, Roosevelt, uses the manual mill to make a gyroscope ring.



Final project is making a gyroscope

Students make a gyroscope as a final project for the semester. With this project they utilize manual and CNC machines in the lab, learn setups, operation, material characteristics and machinability, while applying their skills in metrology and mathematics.

A **gyroscope** is a device used for measuring or maintaining orientation and angular velocity. It is a spinning wheel or disc in which the axis of rotation (spin axis) is free to assume any orientation by itself.



Students from left, Samantha Brackett, Cuyahoga Falls, and Isaiah Bloebaum, Roosevelt.

Working with MIG welding

CADET students were introduced to MIG welding training utilizing a REAL Weld trainer. This technology allows students to develop skills and muscle memory to effectively weld prior to striking an arc. Class and personal projects can include welding utilizing this skill.



From left, Jeff Bee, instructor; Toni Neary, Haas Education Coordinator; Jenny Stupica, ConxusNEO; and Troy Spear, instructor.

CADET program receives \$10,000 grant from Gene Haas Foundation

The Gene Haas Foundation recently awarded the CADET program a \$10,000 grant. This money is to be used to fund scholarships, summer camp opportunities and offset expenses for certifications.

Two scholarships were awarded this past summer to students attending four-year institutions, who are seeking to earn engineering-related degrees.



Brady Ingersoll, Roosevelt, shows off his unusually detailed pumpkin.

Carving pumpkins the CADET way

Pumpkin carving took an advanced manufacturing turn this year when students designed and carved their own pumpkins with 60,000 PSI of water.

According to teacher **Jeff Bee**, "Details were achieved that couldn't have been achieved with regular carving techniques due to the accuracy of the waterjet. Proper fixturing techniques were explored to hold the round pumpkin still so it could be cut."

Check us out on   @rhscadet.