

MONROE COUNTY COMMUNITY COLLEGE

TECH UPDATE

NEWS FROM THE APPLIED SCIENCE AND
ENGINEERING TECHNOLOGY DIVISION

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**MCCC
Nuclear Engineering
Technology Program
Celebrates 10 Years**

Nuclear Engineering Technology Program Celebrates 10 Years

The Nuclear Engineering Technology program reached a milestone this year when the college celebrated the 10-year anniversary of the program. The program was developed at the request of DTE Energy when the nuclear power industry recognized a need to replace an aging workforce. Classes began in 2008 in a joint venture with Lakeland Community College in Kirtland, Ohio. With the experience from the joint venture, MCCC began its own program in the fall of 2011. The curriculum was developed by subject matter experts from DTE Energy's Fermi 2 nuclear power plant and Energy Harbor's Davis Besse generating station and was structured to meet the industry requirements set down by the Nuclear Energy Institute. One feature of the program is the opportunity to earn the Nuclear Uniform Curriculum Program certificate. This nationally recognized certificate is awarded at graduation to students with high academic performance.

The NUET program prepares students for engineering technician positions in the nuclear power industry. The program's partnership with DTE Energy and First Energy provides support and oversight of the program, as well as summer intern positions for students. To date, the program has had more than 50 graduates go on to work in positions at local nuclear plants and contract positions for refueling outages all over the country. Many graduates have continued their education to obtain four-year degrees in management or engineering and other work in a variety of positions in the industry. MCCC NUET graduates are definitely in high demand.

The program is accredited in the area of instrumentation and control by the Institute of Nuclear Power Operations and Nuclear Energy Institute.

A video highlighting the history of the NUET program at MCCC was produced in celebration of the anniversary and is available at <https://www.monroeccc.edu/programs/nuclear-engineering-technology>.

For information on the program, contact Martin Dubois, associate professor of mechanical engineering technology at mdubois@monroeccc.edu



ASET Division Participates in College Night

MCCC hosted College Night 2021 in October in the Welch Health Education Building on the MCCC Main Campus.

Admissions representatives from more than 50 colleges and universities were available to answer questions and provide information about their respective institutions.

The ASET Division displayed course guides for all the

applied science and engineering technology programs offered at MCCC. Registered apprenticeship information was also available for students interested in skilled trades. The MCCC Makerspace, which is located in the Career Technology Center, displayed a 3D printer for families to watch a small animal mold being made.

COLLEGE NIGHT

MCCC Makerspace Open for Business



The MCCC Makerspace is a resource and gathering place where members of the community can come together to share skills and equipment while imagining, exploring, creating and designing with people of shared and diverse interests.

After a busy summer of PPE production followed by a short hiatus due to lingering COVID-19 concerns, the Makerspace reopened in the Fall 2021 semester. While partly a resource for students, the Makerspace at MCCC is open to all members of the community. Whether it be an alumnus looking to 3D print something for a hobby, a student working on an engineering or art project, or a local entrepreneur who needs help creating a prototype for a business idea, the Makerspace is here to help make those ideas a reality. In addition to various types of 3D printing, the Makerspace is also home to a CNC Laser, small CNC Milling Machine, CNC Router, vinyl cutter, computer lab, electronics repair equipment, and other various hand and power tools.

The Makerspace has also hosted various online and in-person workshops, which are expected to increase for Winter 2022 Semester. Some of Fall Semester's activities included a small business seminar with Matt Lahote, a virtual presentation on entrepreneurship with Launch 734, two in-person holiday decorations workshops, a virtual 3D printing workshop and an in-person 3D printing workshop. The Makerspace also produced a 3D-printed miniature Ford Mustang as a gift for former MCCC faculty member and automotive and racing icon Jack Roush during his visit to MCCC in November (*see related story on page 9*).

For more information, or to schedule a time to visit the Makerspace, please contact the coordinator, Mike Reaume, at mreaume@monroecc.edu or visit www.monroecc.edu/aset/makerspace.

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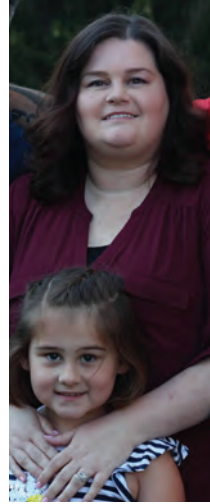
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Several Join ASET Division Team

Kristina Henry was hired in June for a newly created position – experiential learning coordinator. She coordinates related technical instruction curriculum plans as outlined in the State of Michigan Department of Labor’s registered apprenticeship standards. Henry also assists students across campus in locating internship opportunities to gain valuable field experience in their designated programs of study. After 25 years of employment with Michigan Works!, she brings a great deal of workforce development experience to the college. Recently, her son, Jake, obtained his State of Michigan Journeyman Electrician status and is a member of the IBEW Local 8 Union. In addition to working full-time, Henry is a full-time mom to not only Jake, but also to two dogs, two goats and a new kitten.

Tony Napier joined MCCC in January as the automotive lab technician. He began his career in the U.S. Army as a track vehicle mechanic. He earned his mechanical engineering degree from Owens Community College. Prior to joining MCCC, he worked at Gear Manufacturing in the company’s prototype lab. Through the years Tony has worked for one of the first companies to make color plasma touch screen prototypes, a large trucking company, a company that made blow mold parts for Ford and was also a substitute teacher for a year.



Jennifer St. Charles joined the division in August as the administrative assistant. She came to MCCC after spending more than 15 years with the Kroger Company. She held various roles within the company varying from cashier at store level to administrative assistant at the dairy manufacturing plant in Livonia. St. Charles holds an associate degree in business office management from Henry Ford College. She is currently working to complete her bachelor’s degree in business administration. Outside of work, St.

Charles enjoys spending time with her family and traveling.

Dr. Emrah Kazan, senior lecturer and faculty at Wayne State University, joined the division in the Winter 2022 semester as a faculty member in the Construction Management program area. Dr. Kazan is a civil engineer by training and has several years of teaching experience in the construction management/civil engineering at WSU. He is also the author of several papers in referred journals and a researcher in the area of occupational safety.

ROBOTICS TEAM GEARS UP FOR 2021-22 SEASON

After taking a year off due to COVID-19, the MCCC Robotics Club is back for the 2021-22 season of the VEX-U robotics competition. Competing against major universities, Team MCCC is one of only four community college teams in the U.S. The first competition is January 29 at MCCC, and the team will be hosting squads from Western Michigan University, Michigan State University, the University of Toledo and Purdue University.

In addition to the VEX-U competition, Team MCCC is affiliated with the larger VEX Team 3547:VIRUS organization (through the Office of LifeLong Learning), which is made up of about 60 students from third grade through high school. Members of the MCCC Robotics Club volunteer to help set up and run robotics competitions and mentor the younger students in robotics.

New members are welcome to join the Robotics Club and Team MCCC at any time. For more information, contact advisor Mike Mohn at mmmohn@monroecc.edu.



Team MCCC members Matthew Nelson, Samuel Mohn and Justin Schley.

Apprenticeship Information Session Held



MCCC hosted employers at the Career Technology Center in August for an Apprenticeship Information Session that highlighted the college's course offerings that meet related technical instruction needs for registered apprenticeships. Current and prospective employer sponsors met with MCCC staff and instructors and toured the Career Technology Center, and the Department of Labor presented information on how apprenticeships can be started. Those in attendance included representatives from UA Local 671, Gerdau, Autokiniton, Axis Engineering, TWB, Trenton Forging, SEMCA, Ford Stamping & Assembly Plant, Ford Michigan Assembly & Paint, WIN, National Galvanizing, Michigan Works! Monroe, and Phoenix Mold & Engineering.

Thank You to MCCC's 2021 Registered Apprenticeship Sponsors!

- Axis Engineering for CNC Machinist, Tool & Die, Machine Repair
- City of Monroe for Electrician
- Flat Rock Metal for Electrician and Machinist
- Ford Flat Rock for Electrician, Plumber Pipe Fitter, Mechanic and Welding
- Ford Livonia for Welding
- Ford Stamping for Tool and Die
- Ford Woodhaven for Electrician, Plumber Pipe Fitter and Welding
- Gerdau for Millwright
- National Galvanizing for Maintenance Repair
- Phoenix Mold & Engineering for Tool & Die
- Premier Industries for Machinist
- TWB for Mechatronics
- Wurtec for Machinist

Welcome First Year Apprentices (2020)!

- Michael Grignon
- Kyle Lietzke
- Gregory MacBeth
- Ben Notario
- Louis Ouellette
- Bradford Perry

Welcome First Year Apprentices (2021)!

- Zane Crawford
- Dennis Feeman
- James Haley
- Jessica Poniatowski
- Andres Trejo
- Tanner Wells

More Than \$100,000 Awarded to Monroe Companies via Going PRO Talent Fund

The Going PRO Talent Fund awards funds to employers to assist in training, developing and retaining current and newly hired employees. For Fiscal Year 2021, a combined \$101,723 was awarded to the following Monroe County companies: Autokiniton Global Group Axis Engineering, Fluid Equipment Development Company, Premier Industries, TTG Automation LLC and TWB Company LLC. Training funded by the Talent Fund must be short-term and fill a

demonstrated talent need experienced by the employer. Training must lead to a credential for a skill that is transferable and recognized by industry. Eligible training expenditures include the actual costs for classroom training (including textbooks and lab fees), new employee on-the-job training and first year Department of Labor Registered Apprenticeship training.

APPRENTICESHIP UPDATES

MCCC Celebrates National Apprenticeship Week

MCCC celebrated National Apprenticeship Week by hosting a local event for current and prospective sponsors. The gathering highlighted the benefits of registered apprenticeship programs in recruiting qualified workers, training a highly-skilled workforce, and retaining the talent needs of employers across diverse industries.

Business leaders, organized labor unions and other important partners were in attendance to demonstrate their support for registered apprenticeship programs. Through partnerships with SEMCA and Michigan Works!, attendees were made aware of grant opportunities that could help fund employee training.

Dr. Kojo Quartey, president of MCCC, welcomed participants, and SEMCA's chief operating officer, Kate Brady-Medley, served as the keynote speaker. There was also a panel discussion on a variety of topics, including existing programs in place, college curriculum, employer experience, how to start and maintain an apprenticeship program, and available grant funding for sponsors.

Panel participants included Parmeshwar "Peter" Coomar, dean of the MCCC Applied Science and Engineering Technology Division; Chelsea Lantto, president of Trenton Forging; Donna Moser, management systems facilitator, Gerdau; Lori Spicer, talent development coordinator, SEMCA; Marc DeCoster, apprenticeship and training representative, U.S. Department of Labor/Office of Apprenticeship; Janene Erne, regional apprenticeship administrator, Workforce Intelligence Network, and Kristina Henry, experiential learning coordinator at MCCC.

Registered apprenticeships are work-based learning and post-secondary training "earn and learn" models that allow students to gain required skills that meet the U.S. Department of Labor Office of Apprenticeship standard. At MCCC, in cooperation with employer sponsors, apprentices can enroll in courses to complete the related technical instruction plan for their apprenticeship program.



MCCC works with employers and union sponsors to create appropriate training plans that meet the employer's workforce needs. "Sponsors get the highly skilled workforce they need, students receive the training they need for great paying, technical jobs," said Henry, "and often students use the credits earned in their apprenticeship program towards completing a certificate or degree from MCCC."

Demonstrating What Manufacturing is all About



Each year, Manufacturing Day is held on the first Friday in October in order to show students, parents and the public what modern manufacturing is all about. New advanced manufacturing technologies bring about whole new careers requiring

a skilled workforce interested in pursuing them. Due to COVID-19, Manufacturing Day 2021 in Monroe County was held virtually. Students were able to experience live virtual tours of different facilities as well as participate in Q & A sessions with manufacturing professionals. Trenton Forging welcomed a large group of high-schoolers who were able to listen to a presentation from the company's president Chelsea Lantto and attend a tour of the facility with Cameron Bobruk, HR manager.

ASET Division continues to work on grants

The ASET continued to work on the fourth year of its NSF funded Advanced Welder Education grant by providing summer workshops for high school educators to train them on Basic and Advanced level welder certification classes and provide pathway to college level classes at MCCC (read more below in the Welding Technology program Updates section). Faculty Mark Jager continues to work on a second NSF funded grant with University of Michigan, Industrial and Operations Engineering department, principal grantee, also in the area of welder education.

The ASET is also working with Oakland Community colleges and several sister community colleges on a Department of Labor funded Closing the Skills Gap grant to recruit numbers of registered apprentices. Additional grants in the pipeline includes H1B Infinity grant to graduate students with industry recognized credentials and MILEAP grant both with SEMCA/WIN as principal grantee.

NSF Grant Makes Training Opportunities Possible



A weeklong training workshop for high school welding instructors from all over Michigan took place recently at Monroe County Community College as part of the college's National Science Foundation Grant.

The training was hosted by the MCCC Applied Science and Engineering Division and led by MCCC welding faculty Stephen Hasselbach and Mark Jager.

MCCC has partnered with high school career and technical education instructors to help them implement entry-level welding (AWS-QC-10) standards at their schools to help MCCC develop a direct articulation credit pathway so that students can earn up to 10 credits toward MCCC's welding program while still in high school.

Since receiving the NSF grant in 2018, MCCC has hosted three of these summer workshops with over 20 individuals from secondary education program and the welding industry (see related article on page 6).

Welding Technology Program Advisory Committee Meeting Planned

The Welding Technology program is preparing to host another Advisory Committee Meeting with local industry professionals and surrounding high schools with welding programs. These meetings are necessary to remain current with industry trends and to strengthen partnerships between secondary, post-secondary education, and industry.



New Equipment Being Purchased

The Welding Technology program is in process of bidding for a new CNC Plasma Table to support welding and fabrication classes. This new equipment will replace troublesome outdated equipment that no longer functions and is no longer relevant to what is currently used by industry professionals. Students utilize the CNC Plasma Table to fabricate projects as well as prepare for welding competitions. Items cut on the table also support many other areas around campus as requests are made for parts that can be designed, cut, and welded from the table.

MCCC Participating in Collaborative Research for Improving Welding Technology Programs in Michigan

Monroe County Community College along with Macomb Community College, Wayne State University and the University of Michigan are collaborating to study and improve the educational experiences, outcomes, and career pathways of welding technology (WT) students. The ATE Targeted Research track study will examine the experiences and perceptions of WT students, faculty, administrators, and employers to: (1) identify what factors impact the career pathways of WT students and their decisions to matriculate into four-year programs and various career pathways and (2) create deliverables that support the retention and matriculation of WT students to welding careers.

Since August, 2021 the MCCC Project team have conducted interviews with educators, industry partners and students to assess the current status of WT pathways for students and how they can best perform in the welding industry. After the interviews, members will use research-based evidence to assess students' experiences; generate data as a basis for changes in instruction, student support, and program improvements; and communicate results with students, administrators, industry partners, and additional stakeholders.



Manufacturing Technology Program Purchases Two New CNC Mills

The Manufacturing Technology Program at MCCC recently added two CNC ProtoTRAK knee mills, increasing its milling capacity by 25 percent.

CNC, Computer Numerical Control, is the process of using a computer-driven machine tool to produce a part out of solid material in a desired shape. CNC machines make parts around the world for almost every industry. They create things out of plastic, metal, aluminum, wood and many other hard materials. While studying in MCCC's Manufacturing Technology program, students learn the software on real machines used in real world settings, and begin programming right away.

CNC machines use digital instructions made on Computer Aided Manufacturing (CAM) or Computer Aided Design (CAD) software like Mastercam. The software writes G-code that the controller on the CNC machine can read. The computer program on the controller interprets the design and moves cutting tools and/or the workpiece on multiple axes to cut the desired shape from the workpiece. The automated cutting process is much faster and more accurate than a manual movement of tools and workpieces.

The new ProtoTRAKs that will be used by students at MCCC will accept G-code programming as well as the easiest to use conversational language controls now on the market. Conversational programming offers a quick, effective way to program parts based on user input.



Gene Haas Foundation awards \$10,000 Grant for Manufacturing Technology Program



The Gene Haas Foundation recently awarded \$10,000 to The Foundation at MCCC benefitting the Manufacturing Technology program at Monroe County Community College as a grant to support scholarships and student competition teams. This is the third consecutive year the Haas

Foundation awarded a grant to The Foundation, and this year's amount is the largest yet awarded to MCCC. Up to \$2,500 of the grant may be used towards sponsorship of a competition highlighting the CNC/Manufacturing program such as SkillsUSA and SAE teams. Scholarships are to be awarded to students who are currently enrolled or will be enrolling in the Manufacturing Technology program. Troy Elliott, assistant professor of product and process technology, played an instrumental role in applying for and securing this grant.

AUTOMOTIVE PROGRAMS UPDATE

First Electric Vehicle Show at MCCC Is a Success

The automotive programs at Monroe County Community College organized an Electric Vehicle Car show this fall in the parking lot facing the Career Technology Center that was extremely well received by the community. In addition to several private owners, several companies participated including utility companies DTE Energy and Consumers Power, and electric vehicle charging reseller Charge Point. Electric and hybrid vehicles displayed included a Mustang full electric vehicle, a Roush Industries developed electric truck and a Polestar electric vehicle, a RAV hybrid, a Chevrolet Bolt, a Jeep Wrangler hybrid and several TESLA model cars. TESLA Motors also provided attendees an opportunity to drive their vehicles. Local car dealers who participated included Wolverine Toyota, Allen Chevrolet and Monroe Dodge. Lake Erie Transit also displayed their hybrid bus currently in service. About 75 attendees attended with 40 people signed up to test drive TESLA vehicles.

To read more see <https://www.monroecc.edu/news/2021/electric-vehicle-show-set-for-oct-23-at-mccc?type=main> or read the Monroe News article about the event at IT'S ELECTRIC! / MCCC's first annual electric vehicle show a hit (monroenews.com)



Lake Erie Transit worker Bob Zalewski is with electric hybrid bus

Dan Scherer, Monroe resident, retired from Meijer, is with 2012 Tesla of his with over 196,000 miles.



Jack Roush founder of Roush Industries, motor sports industry icon and former MCCC instructor visits MCCC, Automotive Program

Jack Roush, founder of Roush Industries, visited MCCC on November 15. This was the first time he had visited the campus in almost 50 years. During his visit, Roush recalled his teaching time at MCCC as being one of his most pleasant experiences among all the things he has done in his life. After taking a tour of the automotive program lab and facilities and the Career Technology Center, he spoke with MCCC students, staff and former and current instructors of the ASET Division, sharing stories from his careers as both an automotive entrepreneur and motorsports pioneer. He also spent time with attendees to pose for pictures and sign autographs.

The MCCC automotive lab has received assistance over the years from Roush Industries including donations of equipment, providing adjunct faculty teaching in the automotive program and the employment of ASET Division program graduates.

To read more visit <https://www.monroecc.edu/news/2021/american-motorsports-icon-jack-roushto-visit-speak-at-mccc?type=main> or read the Monroe News article about the event at <https://www.monroenews.com/story/news/2021/11/20/life-fast-lane-jack-roushturns-mccc-meet-and-greet/8681608002/>.

For more information
about all ASET Division
programs & courses
please go to:

www.monroecc.edu/ASET



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