SPECIAL DOUBLE ISSUE

Spring 2023, Volume 1

TEACHING TODAY WI™

MANUFACTURING TODAY WI™

WISCONSIN'S 4K–12 EDUCATION CONNECTION SINCE 1997

CONNECTING & EXPLORING MANUFACTURING IN WISCONSIN

D.C. Everest Senior High Students Introduce Second Graders to the Wonders of Ag and Food Sciences

Michelle Rothmeyer
Coordinator of Communications
D.C. Everest Area School District

Since the new Tech Ed wing and Culinary Lab opened in 2020, the D.C. Everest Senior High has invited younger DCE Evergreens to participate in hands-on lessons with DCE Senior High students. "Our new automotive tech, welding, woodworking, manufacturing, ag science and culinary labs replicate 21st century workplace environments," notes DCE Career and Technical Education Coordinator Aaron Hoffman. "They're spacious, light and filled with the latest technologies." The Culinary Lab, for example, is home to industry-standard equipment that would be found in current foodservice operations. The AgriScience Lab features a vertical hydroponic garden where students grow lettuce, kale, herbs, strawberries, peas and more. "As a result, we have more DCE Senior High students interested in taking these courses and trying something new. By inviting younger students to the labs, we hope to inspire them — to show them what's possible once they are a student here," adds Hoffman.

Recently, second graders from Rothschild Elementary visited the Agri-Science and Culinary Labs for a lesson in hydroponics, the importance of local agriculture, nutrition and food safety. In the Ag Science Lab, the DCE Senior High Plant Science students led the elementary students through a series of hands-on lessons and activities they had prepped in advance. The second graders learned about the art and science of hydroponic agriculture and how to harvest lettuce (which is served in DCE cafeterias), decorated pots and planted them with seeds for a take-home project and crafted tissue flowers. "We like to make the most out of every opportunity to reach out to students of every age and share the high-tech growing system and resources with young people," adds John Glynn, AgriScience teacher. "Sharing the story of how food is produced today and how it could be produced in the future is key to having an educated consumer."

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25 Wisconsin School Districts Awarded Fab Lab Grants

Twenty-five schools around the state are celebrating more than $560,000 in fab lab grants to train students in science, technology, engineering, arts, and mathematics (STEAM) skills and prepare them for careers using advanced technologies.

A fab lab, short for fabrication laboratory, is a high-technology workshop equipped with computer-controlled manufacturing components such as 3D printers, laser engravers, computer numerical control (CNC) routers, and plasma cutters. Through its Fab Lab Grant Program, WEDC is supporting the purchase of fab lab equipment for instructional and educational purposes for K–12 students across the state.

"Fab Labs allow businesses and schools to work together to provide students with STEAM education that will translate into real-world career skills," said the WEDC Secretary. "Fab labs benefit not only the students themselves with important technology and career skills, but they're also a win for Wisconsin employers who will be able to find workers with the right skills to allow their companies to grow and thrive."

WEDC provides grants of up to $25,000 to eligible Wisconsin public school districts, or up to $50,000 to consortiums of two or more public school districts, for the creation and/or expansion of fabrication laboratories within the school district(s). The funds may be used to purchase equipment used for instructional and educational purposes by elementary, middle, junior high or high school students.

Applicants must supply matching funds equal to at least 50% of the grant amount provided by WEDC.

In addition to the grants, WEDC has developed a fab lab resources page for its website that provides districts with information on how to set up and equip a fab lab, how to implement best practices to ensure a successful fab lab, and more.

For more information on the state's fab labs, including resources for teachers, visit wedc.org/fablabs or follow #WIFabLab on Twitter.

See Page 26 for the list of schools awarded these grants and more.

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SPECIAL EDUCATION CONFERENCE

TRAUMA SENSITIVE: EDUCATING THE WHOLE CHILD

NOVEMBER 9-10, 2023

Keynote Speaker:
Steve Graner

Steve Graner is the Neurosequential Networks' NME Project Director as well as a Child Trauma Academy Fellow. Mr. Graner is best known for his creative approaches to teaching and coaching. He combines a love of the arts and sports with the passion for pedagogy.

Keynote Speakers:
Matthew & Mitchell LeBerge

Matthew & Mitchell LeBerge will share their experiences living with autism.

Matthew & Mitchell are 26 year-olds, living independently & employed in the Green Bay area.

Matthew earned an Associate Degree in Marketing with a Digital Marketing emphasis and a Technical Diploma in Website Design. Mitchell was married in July 2022 and is living with his wife, Tayer. He earned an Associate Degree in Marketing with a Digital Marketing emphasis.

TRANSITION CONFERENCE

DIVERSITY, EQUITY, DISABILITY & INCLUSION

FEBRUARY 15-16, 2024

Keynote Speaker:
Dr. Carmen Iannarelli

Dr. Carmen Iannarelli has over 20 years of experience in higher education and human services. Her educational background includes post-graduate degrees in both education and the socialsciences. Equity and inclusivity are her primary area of expertise and interest.

Dr. Iannarelli has consulted in the public and private sectors for 10 years, developing comprehensive equity, inclusion, and diversity action plans.

Early Bird Registration is now open!
Early Bird Pricing for the Special Education Conference ends October 13, 2023

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In this Issue

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Schools across the state of Wisconsin all benefit from the participation of readers like you. By sharing your teaching tips and program ideas, you provide a positive contribution to educational community in our state.

Tell us your stories!
We invite you to submit articles to:
andria@teachingtodaywi.com

Thank you, to all our past, present and future contributors!

The Agriscience Center at Luxemburg-Casco

Luxemburg-Casco School District

With the goal of providing students with the opportunity to explore agriculture career pathways, the Luxemburg-Casco School District opened a brand-new Agriscience Center in 2021. The facility provides chances for hands-on learning with both live animals and live plants.

"The Luxemburg-Casco School District is extremely fortunate to have a facility that can provide such a vast array of experiential learning opportunities for our students. This could not have been done without the support of our community and the FFA alumni."

—Superintendent, Jo-Ellen Fairbanks

The Center has two separate instructional areas: a 40-by-70-foot barn and a 30-by-50-foot greenhouse. The barn contains three box stalls, which house non-companion animals (horses, cattle, goats, etc.) during the school day. An arena area with bleachers to seat students, allowing for animals to be brought out and teaching demonstrations given to larger groups, is a primary component. of the facility.

High school-level courses that utilize the barn include Large Animal Science, Small Animal Science, Natural Resources and Wildlife Skills, Introduction to Horticulture, and Exploratory Agriscience.

Among the skills taught within the barn are how to handle animals correctly, how to properly care for them, and how to determine animal health (body condition score). Participatory, live demonstrations build upon classroom instruction.

Within the barn area is a chicken coop. Students are taught about incubation and egg production, along with the life cycle of chicks to adult chickens. Eggs yielded are utilized by the district's culinary program. The large, open space of the barn also is used to build items like planter boxes and landscape installation materials.

The Agriscience Center additionally contains a loft area for storage purposes, two restrooms and a headhouse. A headhouse is the service area attached to a greenhouse, typically housing the central temperature-control equipment and providing workspace. All of the planting takes place in the headhouse. Seedlings are hosted until they can be transferred into the greenhouse. Chemicals for plant application also are stored within the headhouse.

The greenhouse features a technologically advanced watering system with automated environmental controls. Computerized machinery controls roof shades that provide the desired light within the greenhouse, along with creating energy savings by keeping temperature levels consistent.

Greenhouse-based classes are Exploratory Agriscience I, Exploratory Agriscience II, and Natural Resources and Wildlife Skills. Students also have the opportunity for college-level courses.

Typical student activities within the greenhouse are planting, plant care, harvesting lettuce for the school lunch line, and readying hanging baskets and budding plants (mums, poinsettias, geraniums, annuals) for public floral sales. A large-scale, student-run business around agriculture is in its beginning stages.

Students learn about hydroculture gardening techniques: the method of cultivating plants without soil. A Nutrient Film Hydroponics System pumps water through a pipe into the clay potting medium, providing the plants with constant access to water while not flooding them. A Dutch Bucket System, where a nutrient solution is pumped from a water reservoir into the pots for maximum nutrient intake by the plant's roots, also is part of the student curriculum.

The adjacent outdoor space features opportunities for instruction. Among those activities are raised beds for annual flowers and vegetable production (tomatoes, peppers, cucumbers, etc.), fruit trees to practice pruning, a chicken run, and maintenance of the building's landscaping by Landscape Design students.

Enhancing the district's relationship with Future Farmers of America, FFA utilizes the Agriscience Center for its SAE Project (Supervised Agricultural Experience); SAE are hands-on, feet-wet projects that allow students in FFA to learn by doing.

luxcasco.k12.wi.us

Teaching America's Future Farmers

By Savannah Bailey, Logan Guilette, and Max Boudwin

The FFA's foundation is built on fostering a love for all things agriculture in America's youth. The LC FFA takes pride in our many activities aimed at raising the next generation of not only farmers, but veterinarians, scientists, and everything in between. On April 6th our FFA chapter held our annual petting zoo to teach kids K-2 about different farm animals. We had goats, sheep, chickens, cows, dogs, horses, pigs, and guinea pigs, all owned by FFA members. The petting zoo was a ton of fun for both the kids and members.

Our chapter also hosts an annual event for intermediate school students. For our annual Food for American event, members take time to create and pursue an agricultural-based activity in the 4th-grade classrooms. Our activity teaches the students how to raise different types of livestock animals and how to manage their finances when doing so. Not only do we hold an in-classroom activity but also a hands-on farm field trip experience. The 4th-grade classes take a day to visit two local farms to learn about agriculture and the different processes on the farms.

For the older kids, FFA helped with Pagels Ponderosa's two-day Ag Career Days Event. At the Ag Career Days, many of the surrounding middle schools came out to the farm, where agriculture-related companies talked about their business and involvement on the farm and within agriculture as a whole. Middle school students got to learn about a wide variety of industries and possible future career fields, including veterinarians, cheese makers, nutritionists, Christmas tree farming, and many more.

Wisconsin Educator Selected as 2023 National Excellence in Teaching About Agriculture Award Recipient

Jessica Rettler, a teacher at Tri-County Elementary, has been selected as one of eight recipients of the 2023 National Excellence in Teaching About Agriculture Award.

The National Agriculture in the Classroom Organization (NAITCO), U.S. Department of Agriculture's National Institute of Food and Agriculture and Farm Credit partner each year to honor teachers in pre-kindergarten through 12th grade from around the country for the innovative ways they use agricultural concepts to teach reading, writing, math, science, social studies, STEM, STEAM and more.

In December, Jessica Rettler was named the 2022 Wisconsin Agriculture in the Classroom Outstanding Educator. Rettler is a fourth-grade educator at Tri-County Elementary School in Plainfield. The Outstanding Educator Award honors K–12 educators who work to enhance student learning and achievement in core subjects while increasing student awareness and understanding of the important role agriculture plays in students' daily lives.

"I believe human survival and sustainability rely upon agricultural literacy," Jessica stated in her application. "The basic needs of air, food, water and protection from environmental dangers sustain life. Agriculture is key to those basic needs. By increasing the level of any form of literacy, we empower others to make good choices."

For the past 21 years, Rettler has integrated agricultural literacy into her classroom by staying current on past and present agricultural practices, as well as sharing personal experiences and values from her family farm. Casual conversations and well-planned lessons are a part of her daily teaching. Rettler has integrated agriculture into almost every core subject allowing her students to improve their reading, writing and problem-solving skills through partnerships with Wisconsin Agriculture in the Classroom, Adopt-A-Cow classroom program, and Hancock Agricultural Research Station.

While being a farmer and a teacher are not required to bring agriculture to the classroom, it has certainly helped Jessica's efforts. Her family's farm has provided produce for the school's lunch program which has sparked conversations and young minds alike about how food is produced and the farmers who are raising and growing it.

"I can't think of a better way to spend my life than teaching, farming and inspiring others to be healthy, happy, helpful, and good stewards of the land. We are what we eat: mind, body, and soul," said Rettler.

Rettler will receive prize packages valued at over $3000 and will receive the Excellence in Teaching About Agriculture Award Program presented by the U.S. Department of Agriculture's Ag in the Classroom program at the National Agriculture in the Classroom Conference in Orlando, June 26-30, 2023.

The Wisconsin Farm Bureau Federation's Ag in the Classroom program is designed to help K–12 students understand the importance of agriculture. The program is coordinated by the Wisconsin Farm Bureau Foundation in cooperation with the U.S. Department of Agriculture, with funding from the Wisconsin Farm Bureau Foundation, other agricultural groups and a grant from the Wisconsin Department of Agriculture, Trade and Consumer Protection. Learn more at wisagclassroom.org

Contact: Beth Schaefer, Wisconsin Ag in the Classroom Coordinator, 608.828.5644

www.tricounty.k12.wi.us

Agriculture in the Classroom Grants

Wisconsin Farm Bureau Foundation's Agriculture in the Classroom program has awarded $4,000 to educators and agriculture literacy programs. Grant dollars will support innovative core curricula initiatives that incorporate agriculture concepts while helping students meet academic standards and develop career readiness skills.

Groups, schools, and educators can apply for up to $500 as part of the Ag in the Classroom's 'Ag in All Classrooms' grant program.

Agriculture literacy programs that have been awarded funding include:

- **UW-Platteville Collegiate Farm Bureau** — "Agriculture Day on the Farm"
- **Cranberry Learning, Inc.** — "Cranberry Learning Career Profiles"
- **St. Mary St. Michael Catholic, Clarks Mills** — "Vermicomposting"
- **Washington School, Wisconsin Rapids** — "Grow our Own Produce"
- **SAGES, Fox Lake** — "Agriculture in the Art Room"
- **Madison Country Day School** — "School Garden Revamp"
- **Walworth County Fair** — "Global Gardens/Freshly Picked"
- **UW-Madison Collegiate Farm Bureau** — "2023 Ag in the Classroom Visits"
- **Waupun Parks and Recreation** — "Agriculture in the Parks"
- **Henry David Thoreau School, Milwaukee** — "Chickology"
- **St. Mary School, Richland Center** — "Herbs Galore!"
- **SAGES, Fox Lake** — "Food Science Fundamentals"
- **Green Bay East FFA Alumni & Agriscience** — "Laboratory Lessons in Livestock Breeding"

Funding opportunities for educational projects and initiatives occur year-round and can be found at wisagclassroom.org. Wisconsin Ag in the Classroom is now accepting proposals for the Fall 2023 Ag in ALL Classroom Grants. Proposals are due June 30th. Apply at wisagclassroom.org.

Dells High Ag-Science Program Thriving, Increasing Hands-On Learning

Agricultural science is an important learning component in rural Wisconsin, and Wisconsin Dells High School has continued to grow its program with a new instructor to meet demand.

A large greenhouse, fish tanks for tilapia, and on-site farm animals (such as chickens and harlequin and lionhead rabbits) are raised at the school with the help of students in the program and instructor Nathaniel Nolden.

Because of the continued interest and expansion of the program, the School District of Wisconsin Dells approved adding a teaching position in agricultural science for the 2023-24 school year.

"There are two things factored into our need for expanding this department," said School District of Wisconsin Dells administrator Terry Slack. "One is our facilities are better equipped to teach ag-science than they were at the previous building. Second is the work that Nathaniel Nolden, our current instructor, has done."

Slack added that requests for enrollment in agricultural science courses have "gone up an incredible amount", creating the opportunity for another instructor in the department. He said that adding the new teacher will allow for more specialization in instruction.

"It's another example of the high school being really committed to project-based learning, where kids are doing with their hands, not just from a lecture-based perspective," said Slack.

School principal Allison Hoch described the agricultural science program as "outstanding" and said that students will have increased opportunities for school credit — taking care of the farm animals at the Brew Farm, a large barn and farm area on the far north end of the school's campus that Nolden said was donated by the Todd Nelson family.

"Students are responsible for the daily barn chores, and we will add student interns this summer for the animals and gardening daily work," said Hoch. The program allows students to live on farms within district boundaries.

The new farm has created a business venture for agricultural science students. Eggs produced in the program are sold each week under the brand "Brew Farm Food." Other animals raised onsite include ducks, goats, and pigs. The school raises roughly 80 animals, according to Nolden.

"We say we're the best value in town for eggs right now," said Slack, pointing out the high price of eggs at stores. "We're typically selling out with what the chickens are producing."

The school has brought in cattle for a day at a time from nearby farms. Slack said the district will discuss adding cattle to its array of farm animals.

Plants and vegetables maintained by students in the program are expected to increase this spring. The school's vegetable garden will produce tomatoes, sweet and indigenous corn, asparagus, peppers, cucumbers, beans, pumpkins, and other food items.

"Another big thing that has influenced the success of the AgriScience program has been increased learning opportunities for the students," said Nolden in an email. "WI Dells has some amazing components to the Ag program."

"Getting as many students involved in projects has helped spread awareness of what we have to offer," said Nolden in his email.

Hoch said that tomatoes from the garden are sold to High Rock Cafe on Broadway in Wisconsin Dells and flower plants grown in the greenhouse are sold at a May fundraiser. The Wisconsin Dells Rotary Club has been helpful in the school's garden programs, according to Nolden.

The school's greenhouse features hydroponic production and a soil growing area. Surrounding the greenhouse and in another area of the WDHS campus is 1.5 total acres of growing space, managed by students during the growing season (spring, summer, and fall).

These facilities increase opportunities for hands-on learning, which Nolden said is more important than anything else he can offer. He said that students learn the most when interacting with what they are learning. Getting adjusted to hands-on learning has been challenging for some agricultural science students, according to Nolden, but he added that these activities keep students engaged and coming back.

"Students often ask me how they are able to take on these roles of responsibility because they are seeking these types of hands-on experiences and learning," said Nolden in his email.

Lettuce, herbs, and tilapia are raised via an aquaponics setup year-round in an animal laboratory adjacent to the agricultural science classroom. A chicken coop and an area featuring the different rabbit species are in the facility as well.

"Aquaculture is our most taken class in the department because the students love interacting with the aquaponics system," said Nolden in his email.

Nolden said that Dells area community members involved with agriculture have offered expertise to enhance the agricultural science courses. He also said that faculty at the school have been "incredibly supportive" of the program.

"He's very articulate, both on the plant science side, as well as the animal science," said Slack of Nolden.

Hoch and Nolden discussed how high school students and elementary school students in the district are participating in Food For America programs, which are mentor-like programs in which the high school students in the agricultural science program teach the elementary school students agriculture techniques depending on grade level. Students from kindergarten through fourth grade are eligible for the programs.

"These programs have increased the awareness of students at the high school level because they love these opportunities," said Nolden in his email.

Recycling and composting are other techniques used in the program. Nolden said that shredded paper is converted into animal beds and students and staff have began using coffee grounds for compost.

Story by John Gittings for the Wisconsin State Journal. Reprinted with permission.

sdwd.k12.wi.us/wdhs

Introducing Second Graders to the Wonders of Ag and Food Sciences Continued from Page 1

In the Culinary Lab the secondary students shared lessons about nutrition, food safety and food prep while the elementary students frosted cookies — prepared in advance by the culinary students — and topped them with fresh fruit. "Teaching all students how to use locally sourced ingredients to provide for themselves and for their families is one of our main goals," notes Miranda Ritger, Face and Consumer Education teacher. "Providing an emphasis on nutrient dense and healthy meals is one of the ways we can make an impact on all students' lives while they are learning healthy habits that prepare them for their future."

The interactive learning session is one of many hosted by the DCE Senior High and part of a larger initiative to provide students with opportunities to take what they learn in the classroom and share that knowledge with others, as well as apply those skills outside of the classroom. Since the new labs opened at the DCE Senior High, smaller mobile versions of hydroponic labs have cropped up at a number of the DCE elementary schools — an initiative that provides a continuum of lessons along the same vein as that provided at the secondary level. The school's robust ag science curriculum includes forestry, large and small animal sciences, introduction to veterinary medicine, small engines and power sports (two courses that allow students to learn about the basics of equipment repairs and maintenance) and plant science courses. Many students enrolled in these courses also participate in FFA and lead the annual fourth grade field trips at a local dairy farm where they teach the elementary students about where their food comes from and career opportunities available in the ag science field.

As for the Culinary Lab, the new space has vastly expanded opportunities for students to advance their culinary skills. Today, more culinary courses are available, students can tackle more challenging recipes, learn from real-world chefs who visit the lab and acquire skills and certifications that set them apart from their peers. DCE students can earn a ServSafe Certificate by completing the school's nationally recognized curriculum created by the National Restaurant Association. Just as importantly, they can acquire important life skills and learn how to cook health-minded meals in a safe manner. Students also prepare cuisines from around the globe, which broadens their exposure to diverse flavors, ingredients, cultures and traditions. The students often prepare meals and baked goods that are donated to community organizations and frequently cater events hosted by the District.

During the second graders' visit a DCE senior who is an enthusiastic ambassador for the school's Youth Apprenticeship initiative and construction program stopped by the Ag Science Lab and visited with the elementary students. While talking to one of the second graders, she learned about his interest in construction and asked one of the instructors if she could show the young boy the woodworking lab — the very space that inspired her to become a Youth Apprentice in the field. And off they went — all smiles. Ultimately, by providing DCE Senior High students with the opportunity to mentor others and apply their skill sets outside of the classroom they not only play a role in inspiring young Evergreens but in providing important services to the community.

www.dce.k12.wi.us

Careers in Agriculture

Agribusiness Systems

Buyers and Purchasing Agents, Farm Products

Purchase farm products either for further processing or resale. Includes tree farm contractors, grain brokers and market operators, grain buyers, and tobacco buyers. May negotiate contracts.

Farm Labor Contractors

Recruit and hire seasonal or temporary agricultural laborers. May transport, house, and provide meals for workers.

Farmers, Ranchers, and Other Agricultural Managers

Plan, direct, or coordinate the management or operation of farms, ranches, greenhouses, aquacultural operations, nurseries, timber tracts, or other agricultural establishments. May hire, train, and supervise farm workers or contract for services to carry out the day-to-day activities of the managed operation. May engage in or supervise planting, cultivating, harvesting, and financial and marketing activities.

Animal Systems

Animal Breeders

Select and breed animals according to their genealogy, characteristics, and offspring. May require knowledge of artificial insemination techniques and equipment use. May involve keeping records on heats, birth intervals, or pedigree.

Animal Caretakers

Feed, water, groom, bathe, exercise, or otherwise provide care to promote and maintain the well-being of pets and other animals that are not raised for consumption, such as dogs, cats, race horses, ornamental fish or birds, zoo animals, and mice. Work in settings such as kennels, animal shelters, zoos, circuses, and aquariums. May keep records of feedings, treatments, and animals received or discharged. May clean, disinfect, and repair cages, pens, or fish tanks.

Animal Scientists

Conduct research in the genetics, nutrition, reproduction, growth, and development of domestic farm animals.

Farmworkers, Farm, Ranch, and Aquacultural Animals

Attend to live farm, ranch, open range or aquacultural animals that may include cattle, sheep, swine, goats, horses and other equines, poultry, rabbits, finfish, shellfish, and bees. Attend to animals produced for animal products, such as meat, fur, skins, feathers, eggs, milk, and honey. Duties may include feeding, watering, herding, grazing, milking, castrating, branding, de-beaking, weighing, catching, and loading animals. May maintain records on animals; examine animals to detect diseases and injuries; assist in birth deliveries; and administer medications, vaccinations, or insecticides as appropriate. May clean and maintain animal housing areas. Includes workers who shear wool from sheep and collect eggs in hatcheries.

Environmental Service Systems

Environmental Engineering Technologists and Technicians

Apply theory and principles of environmental engineering to modify, test, and operate equipment and devices used in the prevention, control, and remediation of environmental problems, including waste treatment and site remediation, under the direction of engineering staff or scientists. May assist in the development of environmental remediation devices.

Environmental Engineers

Research, design, plan, or perform engineering duties in the prevention, control, and remediation of environmental hazards using various engineering disciplines. Work may include waste treatment, site remediation, or pollution control technology.

Environmental Science and Protection Technicians, Including Health

Perform laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health, under the direction of an environmental scientist, engineer, or other specialist. May collect samples of gases, soil, water, and other materials for testing.

Hazardous Materials Removal Workers

Identify, remove, pack, transport, or dispose of hazardous materials, including asbestos, lead-based paint, waste oil, fuel, transmission fluid, radioactive materials, or contaminated soil. Specialized training and certification in hazardous materials handling or a confined entry permit are generally required. May operate earth-moving equipment or trucks.

Pest Control Workers

Apply or release chemical solutions or toxic gases and set traps to kill or remove pests and vermin that infest buildings and surrounding areas.

Refuse and Recyclable Material Collectors

Collect and dump refuse or recyclable materials from containers into truck. May drive truck.

Water and Wastewater Treatment Plant and System Operators

Operate or control an entire process or system of machines, often through the use of control boards, to transfer or treat water or wastewater.

Water/Wastewater Engineers

Design or oversee projects involving provision of potable water, disposal of wastewater and sewage, or prevention of flood-related damage. Prepare environmental documentation for water resources, regulatory program compliance, data management and analysis, and field work. Perform hydraulic modeling and pipeline design.

Food Products and Processing Systems

Agricultural Technicians

Work with agricultural scientists in plant, fiber, and animal research, or assist with animal breeding and nutrition. Set up or maintain laboratory equipment and collect samples from crops or animals. Prepare specimens or record data to assist scientists in biology or related life science experiments. Conduct tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects.

First-Line Supervisors of Farming, Fishing, and Forestry Workers

Directly supervise and coordinate the activities of agricultural, forestry, aquacultural, and related workers.

Food Science Technicians

Work with food scientists or technologists to perform standardized qualitative and quantitative tests to determine physical or chemical properties of food or beverage products. Includes technicians who assist in research and development of production technology, quality control, packaging, processing, and use of foods.

Food Scientists and Technologists

Use chemistry, microbiology, engineering, and other sciences to study the principles underlying the processing and deterioration of foods; analyze food content to determine levels of vitamins, fat, sugar, and protein; discover new food sources; research ways to make processed foods safe, palatable, and healthful; and apply food science knowledge to determine best ways to process, package, preserve, store, and distribute food.

Graders and Sorters, Agricultural Products

Grade, sort, or classify unprocessed food and other agricultural products by size, weight, color, or condition.

*Source: O*NET Online — www.onetonline.org*

Wauwatosa West Junior Named Delegate to Prestigious Medical Congress

Congratulations to Wauwatosa West junior Reese Bertram for being named a Delegate to the Congress of Future Medical Leaders! The Congress is an honors-only program for high school students who want to become physicians or go into medical research fields.

The Congress of Future Medical Leaders will be held June 21–23, 2023, just outside Boston, on the University of Massachusetts Lowell campus. The purpose of this event is to honor, inspire, motivate and direct the top students in the country interested in these careers, to stay true to their dream and, after the event, to provide a path, plan and resources to help them reach their goal.

Reese's nomination was signed by Dr. Mario Capecchi, winner of the Nobel Prize in Medicine and the Science Director of the National Academy of Future Physicians and Medical Scientists. She was selected to represent Wauwatosa West High School based on her academic achievement, leadership potential and determination to serve humanity in the field of medicine.

During the three-day Congress, Reese will join students from across the country and hear Nobel Laureates and National Medal of Science recipients discuss leading medical research; be given advice from Ivy League and top medical school deans on what to expect in medical school; witness stories told by patients who are living medical miracles; be inspired by fellow teen medical science prodigies; and learn about cutting-edge advances and the future in medicine and medical technology.

wauwatosa.k12.wi.us

Oconomowoc High School Students Take Virtual Field Trip Inside the Human Heart

Fifty Oconomowoc High School students participated in a virtual field trip called "Live From the Heart," hosted by the Chicago Museum of Science and Industry. The students, grades nine through 12, are all currently enrolled in one of the four Project Lead the Way Biomedical Science classes offered through the district.

The "field trip" was a live, interactive video conference feed from a real open heart surgery taking place at Advocate Christ Medical Center in Illinois. During the live stream of the open-heart bypass surgery, students were able to view the procedure, hear a detailed description/analysis from the surgical team, learn about the various careers related

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Sun Prairie Students Getting a Head Start in Health Care

Ten students at Sun Prairie West High School wrapped up their dual enrollment course at the end of last semester to become a Certified Nursing Assistant (CNA).

They are training to be CNAs and are earning college credit while still in high school.

Family and Consumer Sciences teacher Jordan Leider said. "In order to be certified by the state to run a class like this, we needed the hospital beds, sinks, and a certain level of equipment. We also have full-sized geriatric manikins."

Students learn and practice important skills needed in the workforce to be able to attend to a patient's everyday needs. This includes repositioning a patient in their bed, bathing, dressing, transporting a patient, taking blood pressures, temperatures, feeding and maintaining the patient's hygiene. The students practice these skills on each other in class.

"This class requires commitment and dedication," CNA student Ashwath Vijayaraghavan said. "You can't just give 50 percent effort. If you want to actually pursue a career in this, you have to be dedicated."

The students complete mandatory labs and clinicals in order to pass the class. Labs run for three hours at a time after school and give students the opportunity to practice their skills learned in the online instruction.

Following labs, each student completes 24 hours of clinicals at a rehabilitation clinic under the supervision of a college nursing instructor and staff nurses. Students complete these hours on weekends or weeknights.

"Clinical experience is vital at a young age," Leider said. "Our district covers a majority of the costs of the course including tuition, books and test reimbursement. This can save students close to $1,000 out of pocket and set them up with a job/career option starting $20 plus an hour in a very high-need position."

All 10 students did well this last semester and passed their labs and clinicals. They can now register to take the state exam that would officially certify them as a nursing assistant. The students have up to a year from the end of this semester to take their state exam.

Some students said they joined the class to begin their health care journey because they want to be better equipped to help people.

"I want to go to medical school for pediatrics to work with kids because I want to help them and just help the world be a better place," CNA student Nathan Tedjakusuma said.

Tedjakusuma's classmate, Bella Navarrete, had a similar response.

Aisha Kebbeh uses a gate belt to transfer classmate Olivia Norton from the hospital bed to wheelchair

"I joined this class because I want to be a trauma nurse or surgeon in an emergency room," Navarrete said. "I like hands-on work and helping people."

According to Leider, not many schools offer a dual enrollment program to become a CNA as young as 16 years old.

"A lot of schools that have it will send their kids over to a technical college rather than have the college come to them," Leider said.

Multiple students agreed and said they have many friends in other school districts that wish they had a class like this.

"I feel very fortunate that we get to do this," CNA student Anya Yang said. "I have friends that go to other schools that want to do something like this but it isn't offered so I feel really lucky."

The nursing assistant class is a prerequisite for any students wanting to get into their nursing programs. It's also a stepping stone to many other health care professions. The students in the class have a diverse range of goals and aspirations for themselves in the future, from careers in sports medicine and nurse practitioner, to trauma surgeon and pediatrics.

Courtesy of the WI DPI and the original story by Jeromey Hodsdon ran in the Sun Prairie Star on January 13, 2023.

sunprairieschools.org

Oconomowoc High School Students Take Virtual Field Trip Inside the Human Heart

Continued from Page 8

to the operating room, and ask real-time questions to various members of the surgical team.

The students were captivated by the experience. Chelsea, a 12th grade student, said, "I enjoyed hearing the descriptions of the surgical team talking through and showing what they were doing. I was in awe while watching the vein get sutured to the heart. Watching the scope view of the vein extraction was amazing. I had no idea how intense and physically demanding surgery can be for the surgical team!"

Olivia, another 12th grade student who took part, said, "Learning about the various occupations involved in heart surgery was very interesting. I had no idea what a perfusionist was, but after attending the field trip, I will be considering that career while going on to college."

The field trip was facilitated by the health sciences teachers and administrative assistants at Oconomowoc High School. The high school has been offering this opportunity to students for a few years and hopes to continue as long as it's on offer.

Courtesy of the WI DPI

www.oasd.k12.wi.us

Bella Navarette provides oral care to fellow CNA student Anya Yang

Careers in Energy

Engineering

An engineer is someone who likes to solve problems. They can help make the nation's electricity usage more efficient and more reliant on clean fuels.

Architects

Plan and design structures like homes, offices, theaters, factories, and other buildings.

Civil Engineers

Use engineering to plan and design construction projects, like roads, bridges, airports, water and sewage systems, and other facilities.

Electrical and Electronic Engineering Technicians

Work under the direction of engineers. Design, build, or repair electrical equipment, like circuitry or components. As companies look for ways of reducing utilities costs, new employment opportunities may arise for engineering technicians who can recommend solutions for improving production efficiency.

Electrical Engineers

Use engineering to research, design, develop, or test electrical equipment and systems. May oversee the manufacturing or installation of systems. Talents may be applied to connecting wind farms and solar panels to the grid. Career specialties include energy engineers and photo-voltaic (solar cell) systems engineers.

Electronics Engineers

Use engineering to research, design, develop, or test electronic components and systems for commercial, military, or scientific use. May design electronic circuits for things like telecommunications or aerospace controls.

Industrial Engineering Technicians

Work under the direction of industrial engineers to design processes to make better use of resources at work sites. Design the layout of an industrial or manufacturing workplace to make production more efficient.

Mechanical Engineers

Use engineering principles to design tools, engines, and other mechanical equipment. Oversee installation, operation, and equipment repairs. Can identify efficiency opportunities in commercial and industrial facilities and calculate estimates of savings.

Nuclear Engineers

Conduct research on nuclear energy and nuclear waste disposal. They work on problems related to how nuclear energy is used, and how to dispose of nuclear waste.

Stationary Engineers and Boiler Operators

Run or maintain equipment that provides utilities to building such as power plants, schools, hospitals, and residential buildings.

Installation and Repair Careers

Installers and repairers are essential to the energy industry. They install, inspect, test, and repair electrical or mechanical equipment.

Control and Valve Installers and Repairers

Install, repair, and maintain devices that regulate processes in buildings. This includes things such as electric meters, gas regulators, thermostats, and safety valves.

Electrical and Electronics Repairers of Commercial and Industrial Equipment

Repair, test, adjust, or install electronic equipment such as industrial controls, transmitters, or antennas.

Electrical Power-Line Installers and Repairers

Install and fix cables and wires that are used in electrical power or distribution systems. May put up poles and transmission towers, identify and fix defects.

Heating, Air Conditioning, and Refrigeration Mechanics and Installers

Work on heating, cooling, and ventilation systems in home and office buildings. May repair or install HVAC equipment. As demand for energy-efficient equipment grows, HVAC mechanics can become involved in the installation and maintenance of small scale renewable technologies.

Industrial Machinery Mechanics

Repair, install, or adjust manufacturing equipment. May take machinery apart when there is a problem and repair or replace broken equipment. As demand for energy increases, new employment opportunities can arise for machinery mechanics that can repair, install, or maintain wind farms and pipeline distribution systems.

Installation, Maintenance, and Repair Helpers

Assist maintenance workers with installation, maintenance, and repair work. May supply tools or clean work areas. Some workers may be employed in the energy industry in maintaining and repairing plumbing, heating, or residential and commercial electrical systems to make use of solar-derived hot water.

Powerhouse, Substation, and Relay Electrical and Electronics Repairers

Inspect and maintain electrical equipment in power generating stations, substations, and in-service relays. This occupation can be involved in solar installation and maintenance.

Solar Photovoltaic Installers

Install and maintain solar photovoltaic systems on roofs which convert energy from the sun into electricity for homes and businesses. PV Power Systems engineers drive the development and implementation of highly efficient grid-connected systems for Concentrated PV technologies. Electrical Engineers can be LEED-certified and work on sustainable projects or with an architectural firm.

Supervisors of Mechanics, Installers, and Repairers

Directly supervise the activities of workers who maintain or repair various machines, equipment, vehicles, or buildings. May be employed in electrical generation facilities to coordinate the activities of inspectors, machine setters and operators, and plant operators.

Wind Turbine Service Technicians

Inspect, adjust, or repair wind turbines. They may correct electrical, mechanical, and hydraulic problems.

Production Careers

Production workers in energy are mostly employed in power plants, often combining the duties of operators and technicians. Due to their high technical skills and union contracts, these workers can earn double the salary of what their counterparts in other industries earn.

Chemical Equipment Operators

Operate equipment to control chemical changes or reactions during a production process. May work on devulcanizers, steam-jacket kettles, or reactor vessels.

Chemical Plant and System Operators

Operate systems of machines that control entire chemical processes.

Gas Plant Operators

Distribute or process gas for utility companies by controlling compressors to maintain specified pressures on gas pipelines.

Nuclear Power Reactor Operators

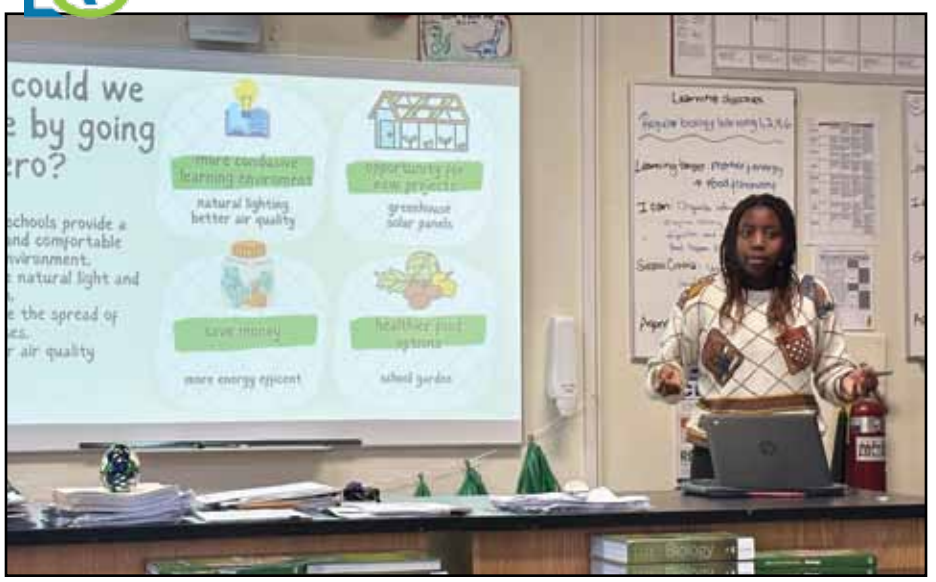
Operate or control nuclear reactors. May start and stop equipment, monitor controls, and record data. Use emergency procedures when necessary.

Petroleum Pump System and Refinery Operators

Operate systems that refine petroleum. May specialize in certain types of systems, gauging or testing oil in storage tanks, or regulating the flow of oil into pipelines.

*Source: O*NET Online — www.onetonline.org*

Tiny Number, Big Goal: Net Zero Emissions



Jonalee Kuhn, Communications Manager
Racine Unified School District

Walden III Middle & High School has been a Green School for years. In fact, it was the first school in Racine County to join the Green School Initiative. Now the school's Green School group believes they can do even more. They are striving to make the school net zero, meaning the school would produce as much energy as it consumes. This would not only benefit the environment, but it could also result in huge cost savings. According to the U.S. Department of Energy, zero energy schools use 65-80 percent less energy than conventional schools, saving a significant amount of money on utility expenses.

This February the students in Walden's Green Group met with City of Racine representatives and an architect group to discuss their plans for going green.

"The meeting went really well," said Jamillah Jallow, president of Walden III's Green Group. "It was nice to hear that the city has similar goals in regard to being more environmentally friendly and sustainable. The people that came also had many resources and information that was helpful to us."

And that's exactly what the students need to propel their current projects forward and get their new projects up and running to one day achieve this net zero goal. The group already has a greenhouse in the works and has started growing plants in its newly acquired hydroponic grow towers, both of which can help make healthier food available to the community. Solar panels and an outdoor classroom are among the other projects they hope to launch, but funding is a major obstacle.

"We are fundraising and applying for grants for hydroponics system supplies, seeds, a greenhouse, solar panels and an outdoor classroom," Jallow said. "We are growing plants in the hydroponics system to hopefully sell and use the profits to help fund our projects."

Ultimately, Jallow says the outdoor classroom space is likely a five-year goal,

but she is dedicated to making it a reality.

"Sustainability and environmentalism have always been huge factors in my life. From an early age my family and I have practiced the three R's to a tee," she said. "I knew I could use my voice as a young person to stand up for what I believe in and make a change."

Walden's Green School group also does weekly recycling, annual tree plantings and more to help improve the environment, create a sustainable school campus and greener community.

rusd.org/schools/walden-iii-6-12

Herb Kohl Educational Foundation Announces 2023 Scholarship and Award Recipients

The Herb Kohl Educational Foundation today announced 306 Wisconsin students, teachers, and administrators are the recipients of the organization's 2023 Student Excellence and Initiative, Teacher Fellowship and Principal Leadership awards.

Student Excellence and Initiative Scholarships of $10,000 will be awarded to 190 graduating high school students who have demonstrated academic excellence and have displayed a broad range of activity and leadership in their community. Teacher Fellowship awards of $6,000 will be presented to 100 teachers who were nominated for their leadership and service in and outside the classroom, their ability to inspire a love of learning and to motivate their students. Principal Leadership awards of $6,000 will be given to 16 principals for setting high standards for instruction, achievement and character, and creating a climate to best serve students, families, staff and community.

Award recipients are selected by a statewide committee composed of civic leaders and representatives of education-related associations and the program's co-sponsors.

Wisconsin's Teachers of the Year are selected from the 100 educators awarded Teacher Fellowships.

The Kohl Foundation award program was established by Herb Kohl, former U.S. Senator, philanthropist, and businessman. Since 1990, the foundation has awarded nearly $34 million to Wisconsin educators, principals, students, and schools.

2023 Herb Kohl Educational Foundation Teacher Fellows

CESA 1

Katelyn Albright, Whitefish Bay — *Whitefish Bay Middle School*, Whitefish Bay

Laura Blanchet, Butler — *University School of Milwaukee*, Milwaukee

Samantha Braun, Waukesha — *New Berlin West Middle/High School*, New Berlin

Dawn Clayton, Kenosha — *Hillcrest School*, Kenosha

Kristin Cudzewicz, Greenfield — *Butler Middle School*, Waukesha

Alisa Damitz-Dart, Oak Creek — *Jones Elementary*, Cudahy

Virginia Fox, Milwaukee — *Elm Creative Arts Elementary*, Milwaukee

Yael Gal-Ben Yitschak, Bayside — *Nicolet High School*, Glendale

Allyson Gonzalez, Waukesha — *Les Paul Middle School*, Waukesha

Angela Harris, Milwaukee — *Dr. Martin Luther King Jr Elementary*, Milwaukee

Ellyn Heicher, New Berlin — *Hales Corners Lutheran Schools*, Hales Corners

Claudia Heller de Messer, Milwaukee — *Milwaukee Parkside School*, Milwaukee

Saghar Homayounpour, Port Washington — *New Berlin West Middle/High School*, New Berlin

Karin Houston, Waukesha — *New Berlin West Middle/High School*, New Berlin

Samantha Jayne, Milwaukee — *New Berlin West Middle/High School*, New Berlin

Kimberly Knuppenburg, Germantown — *Grace Evangelical Lutheran School*, Menomonee Falls

Rachel Kumferman, Waukesha — *McKinley Elementary*, Wauwatosa

Nicole Labat, Milwaukee — *Lad Lake Synergy School*, Milwaukee

Kevin Lewandowski, Menomonee Falls — *Arrowhead High School*, Hartland

Darren Lipman, Milwaukee — *Carmen High School South Campus*, Milwaukee

Jennifer McCauley-Dupies, Milwaukee — *Greendale High School*, Greendale

Devin McKinnon, West Allis — *Eisenhower Middle/High School*, New Berlin

Francisca Meraz, Milwaukee — *South Division High School*, Milwaukee

Lalitha Murali, Glendale — *Glen Hills Middle School*, Glendale

Jennifer Myren, Franklin — *Franklin High School*, Franklin

Alison Napieralski, Greendale — *Elmwood Elementary*, New Berlin

Hilary Prokop, Pewaukee — *Kettle Moraine High School*, Wales

Samantha Pustina, Mount Pleasant — *Renaissance School*, Racine

Diane Raner, Greenfield — *Hamilton High School*, Milwaukee

Martha Reyes, Milwaukee — *Highland Community School*, Milwaukee

Mary Jane Rios, Milwaukee — *Saint Augustine Preparatory Academy*, Milwaukee

Robert Salb, Brookfield — *Saint Augustine Preparatory Academy*, Milwaukee

Allison Schamburek, New Berlin — *Waukesha South High School*, Waukesha

Barb Shaver, Delafield — *Wales Elementary*, Wales

Erin Sivek, Milwaukee — *Milwaukee Academy of Chinese*, Milwaukee

Savannah Thompson, Milwaukee — *Marshall High School*, Milwaukee

Heather Volkman, Waukesha — *Immanuel Lutheran Church, School & Child Care*, Brookfield

Catherine Voss, Oak Creek — *North Division High School*, Milwaukee

Lisa Werner, Mukwonago — *Saint Bruno School*, Dousman

Annemarie Wood, Greenfield — *Saint Mary Parish School*, Hales Corners

CESA 2

Angela Bazan, McFarland — *McFarland High School*, McFarland

Brenda Davis, Monroe — *Monroe High School*, Monroe

Eliav Goldman, Madison — *Toki Middle School*, Madison

Margaret Green, Fort Atkinson — *Career & College Academy*, Elkhorn

Leah Houston, Monroe — *Parkside Elementary*, Monroe

Amy Kazda, Madison — *Metro School*, Madison

Michael Kwas, Stoughton — *Saint Ambrose Academy*, Madison

Katherine Lehto, Monroe — *Monroe High School*, Monroe

Mary Straub, Mukwonago — *Waterford High School*, Waterford

Brenda Wenzel, Janesville — *Lincoln Elementary*, Janesville

Steffenie Williams, Madison — *St. James School*, Madison

CESA 3

Ashley Calderon-McHugh, Mineral Point — *Mineral Point Unified*, Mineral Point

Kirsten Reichmann, Wauzeka — *Wauzeka High School*, Wauzeka

Cheryl Schober, Platteville — *Platteville High School*, Platteville

CESA 4

Brian Baker, Onalaska — *West Salem Middle School*, West Salem

Hillary Bark, Ferryville — *De Soto High School*, De Soto

Heather Breske, Holmen — *Holmen High School*, Holmen

Lori Lazzari, Holmen — *Saint Patrick Catholic School*, Sparta

CESA 5

Bridgette Baldwin, Madison — *Bridges Elementary*, Prairie du Sac

Allan Ballweg, Mazomanie — *Sauk Prairie High School*, Prairie du Sac

Damion Beth, Baraboo — *Baraboo High School*, Baraboo

Jessica Daugherty, Madison — *Rio Middle/High School*, Rio

Tricia Groskreutz, Westfield — *Coloma Elementary*, Coloma

Amy Henning, Waunakee — *Sauk Prairie High School*, Prairie du Sac

Tiffany Klump, Mauston — *Mauston High School*, Mauston

Matthew Koscinski, Middleton — *Sauk Prairie High School*, Prairie du Sac

Christopher Lavold, Mauston — *Mauston High School*, Mauston

Heather Slosarek, Prairie du Sac — *Sauk Prairie High School*, Prairie du Sac

CESA 6

Erin Fitch, Waupun — *Markesan Intermediate*, Markesan

Alissa Huff, New London — *New London Middle School*, New London

Olivia Koepke, Combined Locks — *Kimberly High School*, Kimberly

Continued on Page 13

Herb Kohl Educational Foundation Announces 2023 Scholarship and Award Recipients Continued from Page 12

Jonathan Larson, Appleton — *Little Chute High School*, Little Chute

Jeremy Reider, Little Chute — *Little Chute High School*, Little Chute

Brianna Weyers, Kaukauna — *Richmond Elementary*, Appleton

Rebecca Whittle, Neenah — *Appleton West High School*, Appleton

Gabrielle Zastrow, Watertown — *Dodgeland Elementary*, Juneau

CESA 7

Mary Anderson, Belgium — *Cedar Grove-Belgium Middle School*, Cedar Grove

Melanie Clarke, Appleton — *West De Pere High School*, De Pere

Laura Karlen, De Pere — *West De Pere Middle School*, De Pere

Kelly Koller, Sobieski — *Bay View Middle School*, Green Bay

Kai Mills, Sheboygan — *Sheboygan South High School*, Sheboygan

Annie Stewart, De Pere — *Father Allouez School*, Green Bay

Amy Stover, Green Bay — *Notre Dame de la Baie Academy*, Green Bay

Katelyn Winkel-Simmerman, Port Washington — *Cedar Grove-Belgium Middle School*, Cedar Grove

Kimberly Zutz, Valders — *New Holstein District*, New Holstein

CESA 8

Deana Anderson, Norway — *Pembine Elementary*, Pembine

Rebecca Gerow, Argonne — *Crandon Elementary*, Crandon

Amy Marvin, Crandon — *Crandon Elementary*, Crandon

CESA 9

DeLynn Charon, Woodruff — *Lakeland STAR School/Academy*

Brenda Saltenberger, Eagle River — *Northland Pines Elementary*, Eagle River

CESA 10

Jan Bauer-Farmer, Medford — *Medford Middle School*, Medford

Malinda Gumz, Stetsonville — *Medford Middle School*, Medford

Julie Kacures, Mondovi — *Gilmanton High School*, Gilmanton

Kathleen Schumacher, Stetsonville — *Stetsonville Elementary*, Stetsonville

Andrew Farley, Brookfield — *Brookfield East High School*, Brookfield

Todd Irvine, Muskego — *Muskego High School*, Muskego

Joe Russell, Wauwatosa — *Washington Elementary*, Wauwatosa

Shenora Staten-Jordan, Milwaukee — *Messmer Catholic Schools*, Milwaukee

Shantee Williams, Glendale — *Hawthorne Elementary*, Milwaukee

CESA 11

Brian Collins, Balsam Lake — *Unity High School*, Balsam Lake

Kelly Hackbarth Miller, Hudson — *Hudson Middle School*, Hudson

Marley Hoefs, Grantsburg — *Saint Croix Falls High School*, Saint Croix Falls

Amy Klein, St. Croix Falls — *Saint Croix Falls Elementary*, Saint Croix Falls

Samantha Peterson, Hudson — *Hudson Middle School*, Hudson

CESA 12

Erika Suo, Iron River — *South Shore Elementary*, Port Wing

2023 Herb Kohl Educational Foundation Principal Leaders

CESA 1

Meg Boyd, Milwaukee — *Edgewood Elementary*, Greenfield

Taheréh DeLeón, Waukesha — *Hawthorne Elementary*, Waukesha

Jason Dropik, Franklin — *Indian Community School*, Franklin

CESA 2

Kelly Demerath, Elkhorn — *Career & College Academy*, Elkhorn

Nikki Harcus, Madison — *Westside Elementary*, Sun Prairie

James Pliner, Madison — *Oregon High School,* Oregon

CESA 5

Chase Gildenzoph, Plover — *Coloma Elementary*, Coloma

CESA 6

Renae Braun, Kaukauna — *Fox Valley Virtual School*, Menasha

CESA 7

Brian Carter, Appleton — *Cormier School and Early*, Green Bay

Kathleen Van Pay, De Pere — *Heritage Elementary*, De Pere

CESA 11

Mark Chapin, River Falls — *Meyer Middle School*, River Falls

Congratulations to this year's Wisconsin Principals of the Year!

The principal of the year program highlights the good things that are being done by school leaders every day, all across the state of Wisconsin. Principals of the Year are asked to share their successes and practices with colleagues in events and workshops during the year.

The Wisconsin Principals of the Year are selected from the Principal Leadership Award winners as the elementary and secondary principals with the highest scores. For more information and how to apply go to https://awsa.memberclicks.net/principal-of-the-year

Misa Sato is the 2023 National Assistant Principal of the Year!

Misa Sato has been an assistant principal at the 1,400-student Reagan High School since 2018.

Last fall, the Association of Wisconsin School Administrators named Misa Sato as its 2022-23 Wisconsin Associate Principal of the Year. She can add the 2023 National Assistant Principal of the Year to her list of achievements.

Sato, who has served as assistant principal of Reagan High School for the past six years, has focused on fostering a school culture based on respect and high expectations. At the same time, her leadership has emphasized student and staff well-being, with every student in her school knowing that the school values their contributions.

"I want to personally congratulate Ms. Sato for being recognized with this prestigious award," said MPS Superintendent Dr. Keith P. Posley. "MPS is filled with many exceptional teachers and administrators, and we can now proudly say that we have the best associate principal in the state. Ms. Sato has dedicated herself to maintaining high standards and carving out pathways for students to succeed in high school and beyond."

Over the years, Reagan High School has seen dramatic gains in student achievement. It was awarded the Wisconsin RtI Center Gold Award in Reading, Behavior, and Math in 2021 and 2022, and students are outperforming their peers statewide on a number of key measures. And, with Sato's leadership, the school's career-related program has grown from seven to 155 students.

"During her time at Reagan High School, the school has seen dramatic gains on key measures of school success. Ms. Sato rightfully deserves joining a list of outstanding school leaders who have earned this prestigious award," said Jim Lynch, executive director of AWSA.

"Misa has the ability to channel her high energy into focused efforts," said Mike Roemer, Principal of Reagan High School. "Listening to upperclassmen and alumni, Misa invested heavily in the development of a unique career-related program that would offer career-critical skills within the challenging IB curriculum. Interested upperclassmen can now explore careers while being guided by experts in a given field. Most recently, Misa has added an education pathway to this program, with a goal of creating a pipeline for future educators."

According to an article by Education Week, Mike Roemer, Reagan High School's principal, called Sato "a rock star." He and fellow assistant principal Kelly Carpenter cited Sato's exceptional interpersonal, relationship-building, and listening skills, as well as her empathy, as hallmarks of her leadership. "When you're a principal, that's the most important thing: your supporting cast," Roemer said. "She's a rock star. Do you know how lucky I am?"

The Wisconsin Associate Principal of the Year program recognizes an assistant principal whose leadership has resulted in improved student learning, instructional collaboration, and a safe and positive school environment. Nominations come from fellow administrators, school board members, teachers, students, or parents. The selection criteria include a commitment to personal excellence, collaborative leadership, personalization, curriculum, instruction and assessment, and serving as an established and respected member of the community.

Sato was formally recognized at the Associate Principals Conference in January. She will also receive $1,000 for use on a project of her choice at her high school.

ronaldreaganhs.org

2023 Elementary Principal of the Year Nikki Harcus

The Association of Wisconsin School Administrators has named Nikki Harcus as its 2023 Wisconsin Elementary Principal of the Year.

Harcus has served as principal of Westside Elementary School in the Sun Prairie Area School District for the past seven years. Under her leadership, the school has adopted a core value of believing all students can achieve at high levels and that all staff can create the conditions to make it possible.

Westside has become a true professional learning community, where all staff are committed to acting as positive members of a team that shares responsibility for student learning. These teams use formative assessments aligned to essential standards to ensure instruction is targeted and responsive to students' individual needs.

As one example of Harcus' commitment to shared leadership and collective efficacy, Westside has brought together staff, students, families, and community partners to build a highly effective Community Schools Program. Based on the results of a caregiver needs assessment, the school and its partners have launched a "walking school bus" to increase attendance, opened an onsite food pantry and clothing closet, started a family assistance fund, and grown the after-school program.

"On behalf of AWSA, I would like to congratulate Nikki Harcus for her selection as the 2023 Wisconsin Elementary Principal of the Year," said Jim Lynch, executive director of AWSA. "During her time at Westside Elementary, she has empowered and supported teachers to create a professional learning community truly focused on student learning and results. This honor reflects Ms. Harcus' outstanding leadership of her school community."

Harcus holds a master's degree in educational leadership and policy analysis and a bachelor's degree in early childhood education. Before serving as principal of Westside Elementary, Harcus was an assistant principal, instructional coach, literacy coach, and second-grade teacher.

sunprairieschools.org

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– ***Sarah Fredricks,*** 6th grade science teacher at Cheney Middle School, West Fargo

MINNESOTA STATE UNIVERSITY MOORHEAD

2023 Secondary Principal of the Year Andrew Farley

The Association of Wisconsin School Administrators has named Andrew Farley as its 2023 Wisconsin Secondary Principal of the Year.

Mr. Farley has served as principal of Brookfield East High School in the Elmbrook Schools for the past nine years. During that time, he has built a school culture rooted in positivity, opportunity, collaboration, relationships, and a commitment to the growth of students and educators as learners and leaders.

This process started about eight years ago, when teachers, staff, and administrators came together to define the school's mission, vision, and core values. They focused on commitments to maximizing the impact on students, learning, teamwork, service, and providing relevance for student success at Brookfield East and beyond.

"Mr. Farley has had a tremendous impact on the staff, students, and families at Brookfield East for nearly a decade," said Dr. Mark Hansen, superintendent of the Elmbrook Schools. "Through a strong school culture built on academic and human excellence, Brookfield East is flourishing."

To ensure the school continues its path of excellence, a Principal's Cabinet made up of approximately 60 students regularly reviews the core values to develop ideas and action plans to ensure Brookfield East is meeting the needs of all learners. The cabinet played a leading role in the school adopting a daily resource period to help students manage their stress and workload.

Under Farley's leadership, the school has also aligned systems, structures, and priorities to ensure all students are college, career, and life ready. This has led to 85 percent of students selecting a two- or four-year technical college or university pathway after graduation.

"On behalf of AWSA, I am honored to recognize Andrew Farley with the Wisconsin Secondary Principal of the Year Award," said Jim Lynch, executive director of AWSA. "During his time at Brookfield East, Mr. Farley has fostered an incredible school culture. This award is a reflection of his outstanding efforts to constantly improve teaching and learning throughout the school."

Farley holds a master's degree in educational leadership and a bachelor's degree in secondary education/history. He also has experience as an associate principal and social studies teacher.

Article credit and for more information about Wisconsin's Principals of the Year contact:

Jim Lynch, AWSA Executive Director
jimlynch@awsa.org
(608) 241-0300

elmbrookschools.org

Milwaukee Public Schools English Language Arts Teacher Named 2022–23 Global Educator Of The Year

Erin Sivek, an English language arts educator at International Newcomer Center (Milwaukee Public Schools), has been named the Wisconsin Department of Public Instruction's 2022–23 Global Educator of the Year.

Sivek was presented the Global Educator of the Year Award during Milwaukee Public Schools' World Fair, held at Panther Arena in Milwaukee. She received the honor for facilitating global learning in ways that respect and value her students' home languages and cultures.

"The impact Ms. Sivek has on her students is impressive, and I am excited to be able to honor her with dedication and creativity with this year's Global Educator award," said the State Superintendent . "As an educator who honors her students' heritage and lived experiences by cultivating a classroom culture for collaborative global learning, Erin also designs and implements an innovative curriculum. I am so proud to see her hard work recognized in this way!"

As her students learn through their new language, English, and discover their new community, Milwaukee, Sivek creates rich opportunities for them to learn about the world from one another. A professional colleague highlighted Sivek's success with connecting student learning to life beyond the classroom through guest speakers, field trips, and participation in campus and community events. Sivek has received national and international recognition and support for her work.

https://mps.milwaukee.k12.wi.us/en/Programs/International-Newcomer-Center.htm

Nominations for this award can now be submitted to the Department of Public Instruction.

Please nominate deserving candidates by sending their full name, email address, school name, and a brief rationale for the nomination (no more than 200 words) to pamela.delfosse@dpi.wi.gov. Nominees will receive an application form via email. The deadline for submitting a letter of nomination and a complete application is January 12, 2024.

https://dpi.wi.gov/international-education/global-ed-award

mps.milwaukee.k12.wi.us

Nominations for 2023–2024 Global Educator of the Year Award

Nominations for this award can now be submitted to the Department of Public Instruction.

Please nominate deserving candidates by sending their full name, email address, school name, and a brief rationale for the nomination (no more than 200 words) to pamela.delfosse@dpi.wi.gov. Nominees will receive an application form via email. The deadline for submitting a letter of nomination and a complete application is January 12, 2024.

Anyone may nominate an educator for this award: teacher, parent, colleague, friend, student, etc. Self-nominations are permitted and encouraged.

For questions about this information, contact Pamela Delfosse (608) 267-9265

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Exploring Manufacturing in Wisconsin

Advanced Manufacturing Technical Education Equipment Grants to Serve More Than 2,200 Students

The Department of Workforce Development (DWD) announced the award of more than $473,000 in Technical Education Equipment Grants to 14 school districts.

Funded through the Wisconsin Fast Forward Program, the grants will help school districts expand their advanced manufacturing education programs and connect more than 2,200 students to high-wage, high-demand, and high-skill careers.

High school students will train in advanced manufacturing fields to prepare for stable careers while they obtain dual enrollment credits, industry-endorsed certificates, and technical endorsements on high school diplomas. Advanced manufacturing refers to a variety of manufacturing activities that depend on the use and coordination of information, automation, computation, software, sensing, and networking, and/or use of cutting-edge materials and emerging production capabilities enabled by the physical and biological sciences (e.g., nanotechnology, chemistry, and biology). This involves developing new ways of manufacturing existing products, and manufacturing new products that emerge from advancing technologies.

Schools will use the technical education equipment grants to install new equipment, including computer numerical control (CNC) machines, robotic welders, fiber laser cutting machines, 3D printers, and more.

The new awards include:

Cornell School District — $50,000

Cornell School District, located in Chippewa County, will use grant funds to purchase a Bystronic Xpress 50 Press Brake, which will offer students real world experience on how to bend pre-cut sheet metal properly and efficiently. Students will become experienced operators of press brake tools and laser cutting technology to meet local industry needs.

Nicolet Union High School District — $21,190

Nicolet Union High School District, located in Milwaukee County, will use grant funds to purchase a CNC plasma machine package, CNC milling machine, and an automated band saw. This will allow the school district to expand its manufacturing lab and increase the number of students trained, while maintaining a high level of programming, which will give students industry standard future ready skills.

Arrowhead Union High School District — $20,750

DWD issued a grant of $20,750. Arrowhead Union High School District, located in Waukesha County, will use grant funds to purchase a CNC Vesta-660 Machining Center. It will give students hands-on training using industry grade equipment, build programs of study along career pathways in Engineering and Manufacturing, and build students' workforce readiness skills to meet the needs and demands of employers in their region.

School District of West De Pere — $34,760

The School District of West De Pere, located in Brown County, will use grant funds to purchase an APT Robot Weld Cell Certification Cart and additional end of arm tooling. The project will integrate the APT Robot into the curriculum to train capstone manufacturing students and upper-level robotics students in material handling and ArcTool welding applications. Students will be exposed to a wide range of hands-on training and will increase the number of students qualified to sit for certification assessments through NOCTI and Smart Automation Certification Alliance.

Grafton School District — $35,097

Grafton School District, located in Ozaukee County, will use grant funds to purchase a Boss FC ACCU-CUT Fiber Laser Cutting Machine, which will enable Grafton SD to specifically target the advanced manufacturing skills set of Computer Aided Manufacturing. This will allow them to meet the National Institute of Metalworking Skills (NIMS) standards for CNC Machining and train students towards obtaining the Safety, Measurement and Material NIMS certification. The equipment will provide students with the experiences needed to program, setup, run a CNC Laser, and fill employment needs of Grafton manufacturers.

Continued on Page 24

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IN THIS ISSUE

Wildcat Manufacturing Gives Belleville Students an Edge for Careers in the Manufacturing Industry

Marie Perry, Communications Director School District of Belleville

In 2022, under the direction of then Project Lead the Way (PLTW) Technology Education teacher and STEM Coordinator Edward Neumann, Belleville High School (BHS) launched a new program called Wildcat Manufacturing. It was part of a redesign of the high school's STEAM course offerings that made room for five PLTW offerings — Computer Integrated Manufacturing, Computer Science, Engineering Design & Development, Principles of Engineering, and Introduction to Engineering Design that allowed students to earn college credit.

Wildcat Manufacturing was the brainchild of Edward Neumann who started his career as a Technology and Engineering instructor in 1999 and became a Master Teacher in Project Lead the Way's Engineering Design and Development in 2014. Neumann taught for Belleville High School and directed its PLTW programs from 2015 until his untimely death on December 25th, 2022. Ed was not just a Master Teacher, but a passionate educator believing in helping all his students find their pathway to success and his arms and heart were big enough to mentor many of his fellow teachers along the way. Ed was very forward thinking and did his best to help prepare his students for their futures beyond the classroom. To this end, he created a state-of-the-art STEAM lab for the Belleville High School and through additional Fab Lab grant money from Wisconsin Economic Development Corporation in 2021, he provided a great palette of opportunities for his students to flourish in their entrepreneurial endeavors. In November of 2021, Ed Neumann received school board approval for his Wildcat Manufacturing course proposal. Ed had conducted student interest surveys to gauge student desire for a program like this prior to its onset. He modeled his class on two similar courses– Wisconsin's Cardinal Manufacturing and Indiana's Eagle Manufacturing.

In Ed's mind, Wildcat Manufacturing was the next logical step to help students receive cutting-edge experience in the trades. It would be a new student-run business where students could get a feel for what it takes to run a manufacturing business out of the high school's home-grown STEAM lab to gain work experience before graduating from high school. The program touts on its web page: "Started in 2022, we are a student-run business that can custom make almost anything."

District Administrator Nate Perry is pleased with what Wildcat Manufacturing offers 10th-12th grade students in the School District of Belleville:

"The class focuses on all aspects of today's manufacturing industry. Students use previously learned skills from a variety of Art, Business, Trades and Engineering courses and apply soft skills through collaborative partnerships both in and

out of school. The student-run company is responsible for quoting jobs, ordering material, manufacturing parts, quality control, shipping, receiving, invoicing, customer service, accounting, keeping track of hours, maintaining equipment, and all other aspects of 0running a business. The class generates funds to help

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Tool, Die & Machining Association of Wisconsin: A Rich History, a Strong Future!

Written by Laura Gustafson, TDMAW Executive Director

The Tool, Die & Machining Association of Wisconsin (TDMAW) was founded in 1937. It was initially formed by a group of Milwaukee-area tool and die makers who saw the need for a professional organization that could promote the interests of their industry. The founding members were primarily small business owners who recognized the importance of networking and collaboration in the highly competitive field of tool and die making.

As the years passed, the group grew from a handful of businesses to over 100 Wisconsin-based, privately held manufacturing companies. The TDMAW became more inclusive and began to allow key employees and industry sponsors to attend meetings and events, all working together to find ways to grow and strengthen Wisconsin manufacturing. They looked for ways to assist each other and offered members educational and professional development opportunities, as well as fun social and networking events, where relationships could continue to develop.

Now, 86 years later, TDMAW still stands strong as the premier tool & die organization in our state. The association has remained true to its roots by continuing to focus on the needs and concerns of small and mid-sized tool and die and machining companies. We recently launched the TDMAW Forward Foundation, a charitable organization formed with the intent of advancing manufacturing and manufacturing education through the distribution of grants used for scholarships, curriculum enhancements, equipment, and the support of programs that will strengthen our industry, in the long run.

Another key role of the TDMAW is to promote the interests of its members at the state level. The association has been an active advocate for the tool and die and machining industries, working to promote policies and initiatives that support growth and competitiveness.

The Tool, Die & Machining Association of Wisconsin is not for 'business owners only' any longer. We have made room for individuals with an interest in manufacturing, through our Individual Membership, and we are working to support students through our affordable Student Membership. It is our hope that students who become involved with TDMAW will make connections with industry leaders (our members) who can assist them by sharing lessons learned, answering questions, and offering plant tours and job opportunities! Student members receive a complimentary subscription to TDMAW's Surgeons of Steel quarterly magazine and are invited to all our

monthly meetings and social events.

TDMAW encourages instructors and students to contact us if there is any way we can help or questions we can answer. Most of our TDMAW members are open to hiring promising tool & die makers and would be interested in speaking with students interested in launching their manufacturing careers. Reach out to our headquarters at ToolMaker@TDMAW.org to learn more.

Today, the TDMAW remains a vital and active organization, committed to supporting the growth and success of the tool and die and machining industries in Wisconsin and beyond. With a rich history and a strong commitment to its members, the TDMAW will no doubt continue to play an important role in the industry for many years to come.

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Advanced Manufacturing Technical Education Equipment Grants Continued from Page 19

Cedar Grove-Belgium School District — $50,000

Cedar Grove-Belgium School District, located in Sheboygan County, will use grant funds to purchase a Haas ST-10 CNC Lathe, which will help students experience a real-world manufacturing environment and gain exposure to today's automated fabrication technology. Using the equipment, the school district will be able to support high demand careers of CNC machine operators and provide tangible skills development.

School District of Superior — $50,000

The School District of Superior, located in Douglas County, will use grant funds to purchase a Fortune/Eisen Model S-2A Vertical Turret Mill and Fortune Model 1440G Lathe. The School District will offer two new manufacturing courses starting in 2023-24 using the equipment and expose students to career opportunities in manufacturing, and other skilled trades. The purchase of equipment will also allow National Institute of Metalworking Skills Credentials to be embedded into three courses within the manufacturing pathway.

Elmbrook School District — $14,542

Elmbrook School District, located in Waukesha County, will use grant funds to purchase V5 Robotic Kits, Rev Robotics Edu V2 Kits, and Arduino Kits for the Robotics and Automation Center, which will provide opportunities for students to engage in engineering, robotics, electronics, and manufacturing career pathways, including coursework, career-based experiences, and industry certifications that directly connect to employability.

Muskego-Norway School District — $50,000

Muskego-Norway School District, located in Waukesha County, will use grant funds to purchase an ARC Welding Robot that will provide students with the knowledge and confidence to operate a variety of material handling and ARCMate robots to support local employer's needs to develop more efficient and profitable welding processes. This training will provide the students with real-world, hands-on technical training in advanced automation and industry 4.0 technology.

Watertown Unified School District — $42,530

Watertown Unified School District, located in Dodge and Jefferson Counties, will use grant funds to purchase a Metal Fiber Optic Laser CNC Table for the metals lab, which will allow STEM students to use more efficient fabrication methods and increase students' exposure to advanced manufacturing training and careers beyond graduation. In addition, this equipment will be utilized by a nearby college for adult welding courses during the evening as well as potential training opportunities for local employers.

Pardeeville Area School District — $8,885

Pardeeville Area School District, located in Columbia County, will use grant funds to purchase a Baileigh Metal Lathe to expand the Technology and Engineering Education program. With this purchase, students will gain access to more technical education classes and a solid foundation of technical skills, preparing them for youth apprenticeships, college classes, and/or College Academies while still in high school.

Whitewater Unified School District — $10,500

Whitewater Unified School District, located in Walworth County, will use grant funds to purchase Formlabs Form 3+ SLA 3D Printer and LJ Create Training Systems - Equipment - Injection Molding Trainer. This will provide high school students hands-on industry relevant experiences using design software and manufacturing equipment, by exposing students to a variety of plastics related design and manufacturing curriculum.

Mukwonago Area School District — $34,925

Mukwonago Area School District, located in Waukesha County, will use grant funds to purchase an Amatrol Skill Boss Smart Factory that will enable students to practice over 60 authentic skills in electronic, electrical, fluid power, and mechanical systems. This equipment will allow students to earn associate level one and three certifications through the Smart Automation Certification Alliance, as well as level one and two certifications through the National Institute of Metalworking Skills.

School District of Gilman — $50,000

School District of Gilman, located in Taylor County, will use grant funds to purchase Amatrol Process Control Learning (PLC) Systems, which will be used to develop a one-of-a-kind K-20 in process control. The school district will use industry-relevant equipment to offer learning and career exploration in the fields of PLC programming, electrical systems, sensors, automated processes, relay control, process control, pneumatics, and smart sensors. They will focus on micro credentials through the Smart Automation Certification Alliance and the local technical college. As a result, students will be workforce ready with industry recognized certifications.

Courtesy of Wisconsin's Department of Workforce Development

Wildcat Manufacturing Continued from Page 22

further our art, business, trades, and engineering courses and pay a percentage back to students for working hard and smart. Depending on a student's strengths in Art, Business, Trades and/or Engineering courses, they apply for a specific position within the company."

It is this can-do attitude that continues to drive Mr. Neumann's former students to excellence. They began their second semester this year with advisors James Pickett and Nico Berthelon, but with the deep desire to still do Mr. Neumann's memory proud. Pickett joined the Belleville Education team in 2022 as a Business and Marketing teacher. Berthelon stepped into Mr. Neumann's teaching role and has done a magnificent job. Berthelon says, "Currently we have been working on primarily custom projects, but we are looking to expand to more batch work while continuing with custom work on the side."

These two teachers have been guiding BHS PLTW students forward in their passions to study manufacturing and engineering. This year students have produced custom orders including street number signs for homes and trophies for fantasy football leagues and trivia contests. Larger projects have included 4' police crests for the local police department, a little free library, 3' sign for a local business, and a 6' sign for a local farm. More unique orders include: plastic placards for a solar energy company, 3D printed lunch tray handles for a student with disabilities, and custom bases for bio-hazard waste containers.

Pickett notes,

"As a student-run business, in its first year of operation, we have focused on custom jobs. Almost all of our projects have been made to the specifications of the customer. Our students go through the entire process of running a business; designing products, making price quotes, communicating with customers, creating finished products, marketing our products and business, and everything in between. Wildcat Manufacturing is a very unique class where students work alongside the teachers to help our business grow, but ultimately, the students are the ones who drive the success of the class."

Interested in having a custom project done? Belleville's Wildcat Manufacturing students can be reached at:

Website: www.wildcatmanufacturing.com
Instagram: @wildcatmfg
Facebook: Wildcat Manufacturing
Email: mfgclass@belleville.k12.wi.us

www.belleville.k12.wi.us

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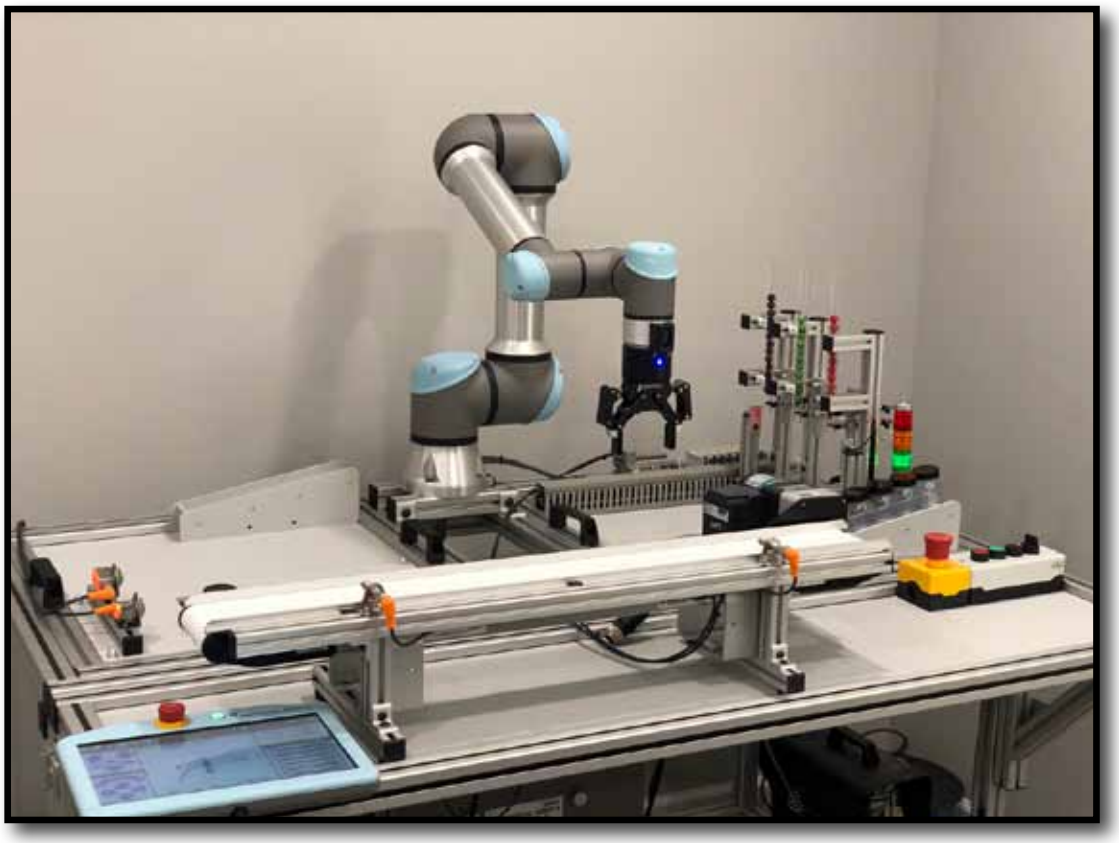

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West Bend East and West High Schools Manufacturing Classes

Nancy Kunkler, Communications Manager
West Bend School District

The Introduction to Manufacturing class at West Bend East and West High Schools in West Bend, Wisconsin gives students a view of what is offered as they learn how to work with metals and plastics and create items such as a hammer, key chain, and thread gauge. This "taste" of what manufacturing classes and experiences has to offer is quite good as a number of students choose to add to their discovery of manufacturing and take advantage of the great depth in the East and West High Schools' program. In fact, completing the classes can put them on a direct path to a technical college degree and/or a high-paying job upon graduation.

The goal of the East and West High Schools' Introduction to Manufacturing class is to teach students how the raw materials are made and how to process them. Students also gain experience with cutting, grinding, and machining. They learn to use manual equipment such as milling machines, lathes, and drill presses while also learning to work with CNC-controlled milling machines.

When they move on to Advanced Manufacturing and Design and Automation in Manufacturing classes, the learning moves to a new level by increasing the knowledge of basic machine tools, such as the mill, lathe, and drill press and adding more. The students also learn new processes such as plasma cutting, machining, injection molding, and casting. They also learn the basic process of programming a CNC machine using G and M codes.

After completing the manufacturing classes, students are eligible to take the Manufacturing Capstone course, which is designed to give students exposure to the production pathway of manufacturing. Students work in small groups to simulate small business enterprise and production manufacturing, even selling their products.

While in high school taking these courses, students can earn transcripted credit through a local technical college. In several cases, students have earned numerous credits towards a technical degree before graduating from high school.

Students are invited to display their skills and enjoy competition through participation in the Skills USA and Bots IQ clubs. Bots IQ allows students to create a robot using engineering, manufacturing, and design. They compete against other student-made robots in order to see which robot survives.

The main goal of Skills USA is to help establish a skilled workforce. It partners students, teachers, and industry officials to hold competitions related to a variety of areas in technical education.

The numerous partnerships that staff of East and West have established help immeasurably. Whether it is donating materials or funds, offering training, or supplying expertise and guest speakers, manufacturing and engineering partners are key to this successful program.

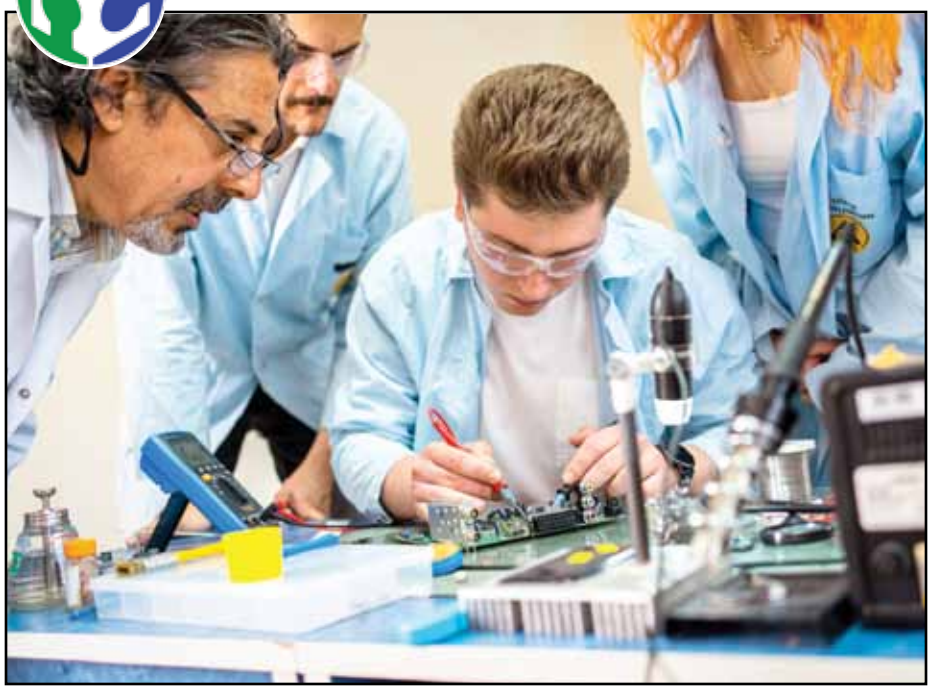
East and West students in 11th or 12th grade can complete a Youth Apprenticeship that integrates school-based and work-based learning to instruct students in employability and occupational skills defined by Wisconsin industries. Students are simultaneously enrolled in academic classes to meet high school graduation requirements, in two youth apprenticeship related courses, and are employed by a participating employer under the supervision of a skilled mentor. Upon successful completion of the one- or two-year program, students will receive a high school diploma, technical college credit, and a state certificate of occupational proficiency in the related industry.

As an integral part of the robust Career and Technical Education program of West Bend East and West High Schools, manufacturing classes offer students not only an understanding

of the important role of manufacturing, but also ensure these students have the skills to apply in a variety of skilled trades or post-secondary education.

west-bend.k12.wi.us

25 Wisconsin School Districts Awarded Fab Lab Grants



Twenty-five schools around the state are celebrating more than $560,000 in fab lab grants to train students in science, technology, engineering, arts, and mathematics (STEAM) skills and prepare them for careers using advanced technologies.

Barneveld School District – $20,000

Barneveld School District was awarded $20,000 to purchase a Laser Engraver. This project will benefit the school district by allowing students access to modern manufacturing equipment that can prepare them, expose them, and get them interested in the skilled trades and STEAM-related careers.

www.barneveld.k12.wi.us

Cedar Grove-Belgium School District – 25,000

The Cedar Grove-Belgium District is implementing the Rocket Academy which will fully immerse students in a robust manufacturing and trades education. Students will receive hands-on experience relevant to today's local industries. By investing in state-of-the-art tools, equipment, and technology, students will receive practical training on machinery used throughout our local industry.

www.cgbrockets.com

CESA 3 – $49,650

Cornell School District – $25,000

The grant will be used to purchase a press brake. "If they weren't exposed to (tech programming), they didn't even think about it. Most of these kids had never seen a laser cutter. The equipment we're bringing in is industry standard. They are getting real world experience." The brake will bend metal pieces for students, and it should arrive later this spring.

www.cornell.k12.wi.us

Elmbrook School District – $25,000

elmbrookschools.org

Elmwood School District – $24,780

elmwood.k12.wi.us

Gresham School District – $25,000

This is the second year Gresham is receiving this award. Funds will be used for students to be certified in measurement from Snap-On and a horizontal bandsaw will be purchased.

www.gresham.k12.wi.us

Continued on Page 34

A New Student Led Business — Inside Superior's Spartan Manufacturing

David Coy
Communications/PR Specialist
School District of Superior

Spartan Manufacturing, the newest two-hour class at Superior High School, is set to host its first set of students in the fall of 2023. Spartan Manufacturing Coordinators Adam Kuhlman and Spike Gralewski are currently working with students on a soft launch - producing small projects and organizing new leadership roles for the program.

"Hopefully, student engagement will go up and they'll see value not only in the classroom but value in the trades," said Kuhlman.

This new student-led program is an opportunity to introduce juniors and seniors to the manufacturing field and all the possibilities a career in the trades could offer.

What is Spartan Manufacturing?

Superior High School offers a wide range of classes any student can experience. In the industrial technology wing, students can take courses like Metals 1 or Woods 1. Still, after their junior year, many are often left without a capstone experience.

Spartan Manufacturing changes that by offering a student led-student run manufacturing business. Students will have control over everything. Juniors and seniors will meet with companies and customers to organize projects, produce products, create relationships for the program, and plan marketing strategies.

"We wanted to attract and retain those students," said Gralewski. "I think it is important for the students to get a taste of the real world in the classroom. Once you get out in the real world, things change. A lot of the time, it feels like we are just teaching the hard skills — the technical stuff. We really want Spartan Manufacturing to also teach those students soft skills — like looking someone in the eye, shaking hands, and having a decent conversation with someone. That's why we want this program to be student-led. They are part of every step in the process."

All the money raised from the projects will return to the program. Students will tally their hours and get paid in the form of scholarships. This will help the students who move forward in a specific career, trade school, or college/university. There will be some profit-sharing options as well.

"It gives students independence. It gives them responsibility," said SHS junior Sam Meller. "It's not just a project for themselves, but something for another business."

Students will have various responsibilities within the program. Those who want to be in a leadership position must fill out an application and meet with the coordinators for an interview. Spartan Manufacturing will be home to Project Managers, Sales Managers, Marketing Managers, and more.

"I think the business aspect, marketing a product, learning how to sell it, and getting customers is what interests me the most," said Meller. "I think it's important because maybe down the road, I'll start my own business, or whenever I get a job, I will need to use these skills."

Community Partnership

There's currently a trade labor shortage in the Northland, and Spartan Manufacturing hopes to guide the next generation of welders, business leaders, and manufacturers. The team is looking to partner with the local community and make products that will be available in local stores/businesses.

"We have done a lot of outreach to see what local businesses need," said Kuhlman. "We want it to be organic and belong to everyone. It's not just me and Mr. Gralewski's program. It's something that belongs to everyone."

The program has already partnered with a nearby manufacturer to produce a specific part for their pump.

"How do you get kids into the woodworking and metal shops at the high school level?" said Todd Maki, the company's Chief Operating Officer. "When I met with Adam and Spike, they had a lot of excitement, which excites me. We are trying to outsource some of the stuff that is consistent and built the same way. If we can do that with Spartan Manufacturing and allow the kids to build this item that goes into our pump, it's a nice easy start. But I don't want to stop there. I want to keep bringing new things in and getting more complex. I think they will be excited to work on that stuff."

The Future is Bright

The goal is to help the Superior community and meet the needs of potential employers. Spartan Manufacturing wants to grow the students' skill level and be job ready by graduation.

"Not every job needs a four-year college degree," said Kuhlman. "If we can get kids in the trades, getting them earning money right away will benefit the local community. If we can meet the needs of our businesses and set up our students for success, then we are doing well."

The class is now open to all SHS students, and the leadership team is already starting to form. If you want to learn more about the program, check out the website (https://spartanmfg.org/). You may also follow the team on Facebook (https://www.facebook.com/SpartanMFG). For an inside look, watch the "What is Spartan Manufacturing?" video on YouTube (https://www.youtube.com/watch?v=sUXle83L1HM).

www.superior.k12.wi.us

The Benefits of Teaching a Student-Run Business

Excerpts from "DREAM BIG. HAVE FUN." A book by and about Cardinal Manufacturing, School District of Eleva-Strum. Download the book at www.cardinalmanufacturing.org under the resources tab.

"A student run business offers so many benefits to all those involved, but the focus is always on the benefits to the students. Any activity that can make the material students are learning more engaging and relevant to their everyday life and their future is a big plus. A student run business provides the most realistic risk and reward experiences for students while still taking place in a classroom environment providing real learning. In addition to all the real world measurable benefits, working in a student run business environment is the most fun way to teach students and provides a situation where everyone involved is winning."

— Craig Cegielski,
Cardinal Manufacturing Founder

Experienced teachers who have worked in a successful student run business model will tell you that it is the most fun and rewarding way to teach. While it requires dedication and focus to get started, the investment of extra effort at the beginning pays off with many rewards.

Excellent Student Engagement and Behavior

Application of Subject Matter

When a student is engaged and interested in the subject matter, they learn more thoroughly, retain more information, and are more successful when applying the knowledge. A student run business provides real life situations where learned skills are used and needed every day. This includes technical skills related to the business and foundational academics such as reading and math. Making learned material relevant to everyday life right away is a major benefit to having a student run business at your school.

Improved Behavior

Participating in the student run business is a privilege. Students must apply for and maintain standards for continued participation in the business. Motivated students behave better in all classes to avoid losing access to the activities in which they want to participate.

Leveraging Teachable Moments

While there are specific lessons and objectives of a student run business, those lessons are seamlessly integrated into the day-to-day operation of the student run business. Teachers and instructors are naturally reinforcing the lessons and material to students in relevant situations. It is a much more natural and enjoyable way of teaching and learning.

Opportunities to Reach All Students

All teachers have students who for one reason or another are not showing their full potential at school. A student run business provides more latitude than a traditional classroom for all students to shine and where teachers can focus attention on individual student strengths. The hands-on learning

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The Benefits of Teaching a Student-Run Business Continued from Page 28

approach is very effective for any student, no matter their academic history. Student success is very rewarding for both the student AND the teacher.

About Cardinal Manufacturing

From a simple repair job to custom designed and machined parts, Cardinal Manufacturing meets a wide variety of needs for local individuals and businesses as well as for companies located outside of our immediate area.

Cardinal Manufacturing began in the Eleva-Strum School District during the 2007-2008 academic year when instructor, Craig Cegielski, approached the School Board about the potential of pursuing an in-school manufacturing business similar to one he started in his prior position in the school district of Antigo, WI.

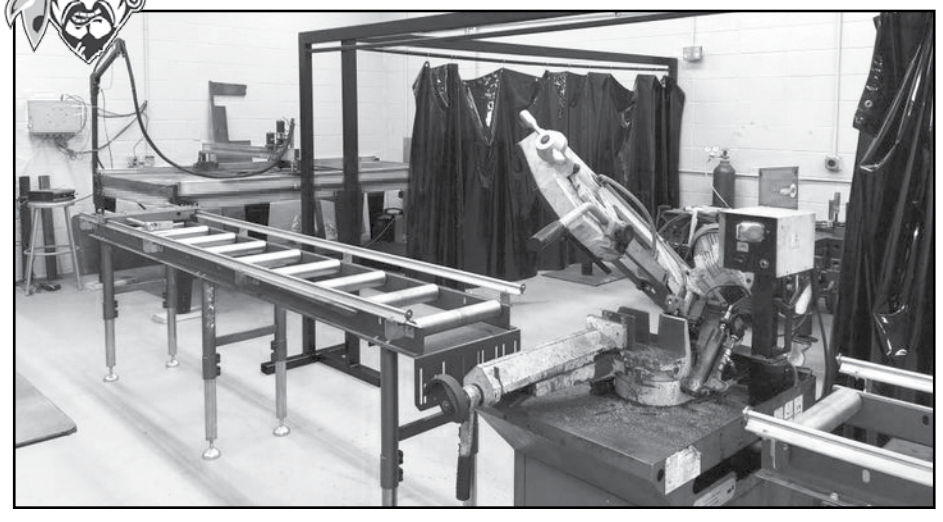
The school board approved and since that time Cardinal Manufacturing has gone from its infant stages to a company with significant annual sales and national notoriety. The growth of the program has attracted national and international attention and Cardinal Manufacturing has attended national tradeshows and hosted celebrity guests.

Cardinal Manufacturing has served hundreds of customers from private individuals to clients throughout the state of Wisconsin and other parts of the country. A number of students have gone directly to skilled employment positions after high school, but most choose to go on to post-secondary education through technical college or the university system.

To learn more, view workshop opportunities, and to see the latest news from Cardinal Manufacturing go to www.cardinalmanufacturing.org

esschools.k12.wi.us

Fitting the Growing Manufacturing Needs of the Future in Fall River



Brian Anderson
Technology Education Teacher
Fall River School District

I have been the Technology Education Teacher at the Fall River School District since August of 2000. When I took the position with our district, we had a two thousand square foot shop area that housed our woodworking, welding, and small engine programs. In addition to the shop area, we also had a classroom that was straight out of the 1960s.

In the first 15 years, we slowly added engineering software on ten computers. We secured the donation of a metal lathe and milling machine to expand our program to machining as well as welding and fabrication. We also purchased a computer numerical control (CNC) wood router, and CNC plasma cutter to give students experience in programming CNC machines. In addition to the renovated shop areas, the district did purchase the community's retired fire station. We then were able to utilize part of that building to move our small engines and automotive workshop to this new space which increased our square footage for our manufacturing area, but we were still in need of a dedicated shop area for wood fabrication.

The major turning point was in 2017– 2018 with the passing of a school wide referendum which allowed us to complete the transformation and totally renovate and update our Technology & Engineering Education spaces and then were able to move our wood manufacturing and construction into a new one thousand square foot shop space. To fit the classroom into what we term our "Fab Lab" we installed 20 computers loaded with updated engineering and CNC software, purchased a laser printer, six 3D printers, and a vinyl cutter. We were also able to add and upgrade welding units, so that our students could gain experience in SMAW, GMAW, and GTAW welding processes. We also were able to purchase Bluco fixturing tables to give students real world fabrication experiences. In addition to referendum funding, we also applied and were awarded $25,000 for a Fab Lab grant which we used to purchase a HAAS CNC Milling machine.

As we continue to update and improve our school facilities, we are also working hard to build a curriculum that allows students to experience as many manufacturing processes as possible. Whether it is designing and producing awards for athletics or academics, rocket parts with the eighthgrade science class, or individual student projects, the goal is always to excite students about manufacturing and its possibilities.

Recently, we had a unique honor to be a partner in producing the "Coolest Thing Made in Wisconsin" Trophy. Our job was to design and produce the acrylic Wisconsin state shape to fit into the frame that had already designed. The task was a real-world challenge that consisted of producing a part to a company's specifications. We succeeded at our task and were invited to be part of the ceremony when the trophy was presented to the winning Wisconsin manufacturer. This was truly an exciting experience for both my students and myself!

In technology education, updating equipment and technology brings about many challenges, especially as the only technology education teacher in the school district. I have learned to trust and rely on my students for assistance, and we work through these challenges side by side, which are great learning opportunities. We strive each day to challenge our students to improve their understanding of each process and piece of equipment. Our goal for the future is to continue successfully partnering with local businesses and building our program to fit the growing manufacturing needs of the future.

www.fallriver.k12.wi.us

Seymour Celebrates Their New Tech Ed Addition

Kellie Bohn, District Administrator
Seymour Community School District

The completion of this beautiful facility is the culmination of activities that began during the 2017–18 School Year. Prior to that year, enrollment in the Tech Ed programs was floundering and the district struggled to hire and retain staff. Staci Sievert, who was a current staff member at that time in the Social Studies department, offered to get her certification and teach the Tech Ed classes.

It was also during the 2017–18 school year that Director of Teaching and Learning, Jenny Pierre, and High School Principal Tom Mueller, brought local business and community partners together to collaborate with school staff on how best to develop the local workforce to support our local communities. These discussions helped to create the foundation for the Tech Ed curriculum and program development, guided the purchase of new equipment, and played an instrumental role in the eventual passage of the building referendum. Says Business Manager Pete Kempen, "This project is a true example of community partnership. Community members helped us to identify the need and then develop the solutions. It was a tremendous collaboration between our school district and the business community."

The School Board supported the increase in enrollment in the program and found room in the budget to increase and update the equipment. With the class sizes and the equipment inventory both growing, the lack of work and storage space became problematic. Classes had to be scheduled with time to allow significant switching of materials and equipment. Supported by the encouragement of the SCSD School Community, the District went to referendum in April of 2021.

Planning for the new addition started almost immediately after the passage of the referendum with the majority of the Construction happened this past summer, with the goal to have students working in the learning spaces on the first day of school.

The staff and students are excited to be working in their new facility. "This new facility makes it possible for us to offer our students learning experiences that are second to none," states District Administrator Kellie Bohn. "We so appreciate our community's ongoing support of our schools and our students."

Our teachers:

Name: Eric Bergsbaken
Specialty: Automotive
Experience: Two years at Seymour, prior teaching experience at Reedsville
Quote: *"The size and capacity of our new facility provides great opportunities for students in the area of automotive. In addition to the Thunder Service Center, we will now be able to offer our students experiences with Diesel and Ag Mechanics, which is an area of personal expertise for me."*

Name: Jody Schneider
Specialty: Electricity, Fab Lab, Construction, Robotics
Experience: 24 years as an electrical contractor, and a State Master License as an electrician; Five years teaching at Seymour.
Quote: *"The extra space and updated equipment provide a totally different experience for students. The possibilities are endless; we have space to continue to grow and develop our programming."*

Name: Mike Holmgren
Specialty: Machining, Welding, Metals
Experience: First year teaching at Seymour; prior teaching experience at Hortonville.
Quote: *"I look forward to continuing to learn alongside the students, as our field continues to develop. Growing a program in this new facility certainly played a role in my choice to teach in Seymour."*

Name: Staci Sievert
Specialty: Wood manufacturing
Experience: 28 years teaching in Seymour: 22 years in Social Studies, and six in Tech Ed.
Quote: *"The new tech ed facility is wonderful because it allows all of our curriculum areas — automotive, electrical, machining, welding, wood manufacturing, home construction and CAD (computer aided design) to have their own designated spaces. This will be great for our students to be able to go more in-depth in the areas of their choice."*

seymour.k12.wi.us

Seymour Community School District received a $25,000 fab lab grant to expand its existing fab lab facilities used by students, community members, and businesses alike.

"Seymour is our home, and we want to see the community and school grow," said Kurt Schuh, owner of a local construction company and a Seymour native. Schuh's company, a second-generation family-owned business located in Seymour, supports the fab labs program by donating supplies, providing work-site tours, and mentoring students.

Rylee Geiger, a senior at Seymour High School, will be attending college next year to study automation engineering.

"The fab lab has allowed me to step out of my comfort zone and put myself in challenging situations where I need to be precise and attempt to expand my imagination by looking at things from multiple perspectives," Geiger said. "By designing things, I am putting tests and experiments into play to see how well everything looks, and if some things don't go to plan, there are plenty of other ways that I was taught to fix the mistake. The fab lab has allowed me to explore my interests in designing and allowed me to experience how to make these ideas into working projects to my liking."

Mishicot High School's Manufacturing Program

Our HAAS CNCs are located in the Metals workshop. CNC students learn how to run the mini mill from the designing to the manufacturing process.

Kyle Junk, Technology Education
School District of Mishicot

The School District of Mishicot is located on the coastline of Lake Michigan, about 20 minutes southeast of Green Bay. Our school district is located in Manitowoc County and serves approximately 900 students ranging from early childhood to grade 12.

Our current program follows two career pathways, manufacturing and architecture and construction. Students can take a variety of courses ranging from electricity - to machine tools - to wood manufacturing - to welding.

Students have the opportunity to earn 3 different dual credit courses through our local technical college in Welding, Metals Manufacturing, and Machine Tool. They are also able to earn the Haas Basic Mill Operator Certification in our CNC Machining course. Students are able to successfully master skills in precision measurement, precision machining, CAD/CAM, AC/DC circuits, and welding and can start in these areas as early as 6th grade in our middle school enrichment and tech ed courses.

We have experienced growth in all of these programs over the last 5 years, going from having one instructor teaching both pathways with no middle school program, to now having three instructors teaching in our 3 lab spaces: Metals workshop, Woods Workshop, and Fab Lab.

Current students and staff have the opportunity to be involved with a state-of-the-art fab lab in which this area includes three epilog laser engraving machines, Tormach CNC mill along with many other fabrication equipment. To go along with the fab lab, manufacturing students have the opportunity to expand their knowledge and experience in both the metals shop and wood shop where exposure to both modern woodworking and metalworking equipment. Some of the equipment found in these areas are the following; Haas mill and lathe, CNC routers, CNC plasma tables, new manual metal lathes and mills.

Student at work, setting up the CNC mill located in the Fab Lab for an Intro to Manufacturing project.

Through classes like Mishicot Enterprise, a student-led business, students get to serve individuals and businesses from the area; providing hands-on learning experiences for students interested in entrepreneurship. Some projects are more challenging than others. Students apply their problem-solving skills to work around machine issues, design errors, quality control

Continued on Page 32

What Would You Like to Do in Manufacturing?

Aerospace Engineering Technicians
Operate, install, and maintain equipment that tracks air and space vehicles.
Wages — $31.31/hour

Aircraft Structure and Systems Assemblers
Assemble, fit, and install parts of aircraft.
Wages — $26.11/hour

Biofuels Processing Technicians
Work on various parts of the production of biofuels, such as ethanol.
Wages — $30.26/hour

Cabinetmakers and Bench Carpenters
Build wooden objects such as cabinets or furniture.
Wages — $19.40/hour

Chemical Equipment Operators
Operate equipment to control chemical changes or reactions during a production process.
Wages — $19.31/hour

Chemical Plant and System Operators
Control entire chemical processes through a system of machines.
Wages — $22.73/hour

Chemical Technicians
Work in labs and assist with analyzing chemicals and other substances.
Wages — $23.06/hour

Coating, Painting, and Spraying Machine Operators
Operate machines to coat or paint products.
Wages — $19.26/hour

Computer Numerically Controlled (CNC) Machine Tool Programmers
Develop programs to control the processing of metal or plastic parts by machines.
Wages — $28.90/hour

Crushing, Grinding, and Polishing Machine Operators
Operate machines that crush, grind, or polish materials like coal, glass, grain, stone, food, or rubber.
Wages — $20.03/hour

Cutting, Punching, and Press Machine Operators
Operate machines to saw, punch, bend, or straighten metal or plastic material.
Wages — $18.14/hour

Drilling and Boring Machine Operators
Operate machines to drill, bore, ream, mill, or countersink metal or plastic pieces.
Wages — $16.47/hour

Electrical Engineering Technologists
Assist electrical engineers in a variety of activities.
Wages — $27.47/hour

Electrical and Electronic Engineering Technicians
Apply electrical and electronic theory to design or build electrical equipment.
Wages — $30.42/hour

Electrical and Electronics Drafters
Prepare diagrams that are used to create, install, or repair electrical equipment.
Wages — $28.15/hour

Engine and Other Machine Assemblers
Construct, put together, or rebuild all types of machines.
Wages — $17.77/hour

Extruding and Drawing Machine Operators
Operate machines to push thermoplastic or metal materials into tubes, rods, hoses, or structural shapes.
Wages — $18.52/hour

Fabric and Apparel Patternmakers
Make precision fabric patterns.
Wages — $26.77/hour

Forging Machine Operators
Operate forging machines to shape or form metal or plastic parts.
Wages — $20.75/hour

Furnace, Kiln, Oven, Drier, and Kettle Operators
Operate specialized heating equipment.
Wages — $19.53/hour

Gas Plant Operators
Distribute or process gas for utility companies.
Wages — $32.27/hour

Geothermal Technicians
Install or maintain geothermal (ground source heat) systems.
Wages — $22.18/hour

Hydroelectric Plant Technicians
Monitor activities involved in hydropower generation.
Wages — $30.26/hour

Industrial Engineering Technicians
Help industrial engineers to design processes to make better use of resources at work sites.
Wages — $24.71/hour

Industrial Machinery Mechanics
Repair, install, or adjust manufacturing equipment.
Wages — $26.12/hour

Inspectors, Testers, Sorters, Samplers, and Weighers
Look for defects or problems in raw or manufactured materials.
Wages — $19.06/hour

Jewelers and Precious Stone and Metal Workers
Design, create, or repair jewelry.
Wages — $18.04/hour

Lathe and Turning Machine Operators
Operate lathe and turning machines in production processes.
Wages — $19.35/hour

Machinists
Set up and operate a variety of machine tools to produce precision parts.
Wages — $23.40/hour

Source - https://www.onetonline.org

Mishicot High School's Manufacturing Program Continued from Page 31

Our HAAS CNCs are located in the Metals workshop. CNC students learn how to run the mini mill from the designing to the manufacturing process.

and different materials applications.

The School District of Mishicot has also had the gracious opportunity to become partners with a nearby machine services company over the past several years. They have donated two Haas pieces of equipment along with tooling. Without this generous donation, Mishicot High School students would not have the opportunity to be exposed to modern manufacturing technology and equipment. Along with assisting in expanding our manufacturing program, the company has been strongly involved in YA opportunities for Mishicot Students along with always willing to give class tours.

We, as Mishicot Technology Education educators, encourage our students to be part of our Mishicot community. Students collaborate on two remarkable events every year: Mishicot Pumpkinfest and Visual Arts and STEM night at OH Elementary School. They showcase their projects from classes like Intro to Manufacturing, Woods Manufacturing and Advanced Woodworking. Students show to the community their learning experiences through designing, laser engraving and CNC machining among others.

As a program our goal is to continue sparking interest in the world of manufacturing. As a team we will continue to create partnerships with local manufacturing companies and expand our college credit options. Our goal is to expand our footprint moving forward in our manufacturing area to accompany new manufacturing equipment and to continue opening doors for student opportunities.

mishicot.k12.wi.us

D.C. Everest Enterprise Students Partner with South Area Fire and Emergency Response (SAFER) District to Construct Training Equipment

Michelle Rothmeyer
Coordinator of Communications
D.C. Everest Area School District

On May 3, D.C. Everest Senior High students enrolled in the DCE Enterprises course delivered a custom-made reinforced steel door and frame to members of the SAFER Fire District (South Area Fire and Emergency Response). The door and frame assembly will be used by members of SAFER to train firefighters on how to breach a door in the event of an emergency.

In order to be fiscally responsible, SAFER Battalion Chief Mark Meyers and his team had been brainstorming ideas concerning creating a door and frame assembly. They had considered constructing the item themselves and located production plans online. However, they quickly realized the task was outside their area of expertise. As they explored local options, one of the SAFER members mentioned the student-led D.C. Everest Enterprises program.

The DCE Enterprises program is a year-long course, added to the curriculum in 2020, that allows students to run a custom metal fabrication business. Students are in charge of every aspect of the small business, from managing the supply chain, to bookkeeping, billing, production and fabrication, finishing, and shipping. Students who enroll in the course are exposed to all facets of the business but can focus on what most interests them — product design, CNC manufacturing, finishing and coating, welding and fabrication, shipping and receiving, website development, advertising, marketing or finance.

Now in its third year, the student-led enterprise has developed a strong presence in the community and abroad. They produce— for example — custom metal signs, decorative waterfalls, fire pit grates, picnic tables, trailers, benches and aluminum truck topper cargo hauling baskets.

This year, their product line has expanded to include a custom-made reinforced steel door and frame for SAFER.

One of SAFER's employees is a former student of Steve Kmosena, DCE technology education teacher, who launched the DCE Enterprises course. The SAFER employee met with Kmosena and they reviewed the plans and the specifications — the door has to be able to withstand brute force, according to Meyers — to determine whether DCE

Enterprises had the capacity for the project. The students then began working on a bid for the project, contacting SAFER for clarification as needed. Once the bid was presented to SAFER and approved, the project was launched. Before the design was finalized, SAFER visited the site of DCE Enterprises to review the door and frame to see if any changes were necessary. "It was an awesome visit," noted Meyers. "The students were so enthusiastic. We are very grateful for the process. It's saving us money, we have

Continued on Page 34

25 Wisconsin School Districts Awarded Fab Lab Grants

Continued from Page 26

Hayward Community School District – $25,000

hayward.k12.wi.us

Lac Courte Oreilles Ojibwe School – $19,920

See story this page

www.lcoosk12.org

Markesan District Schools – $25,000

markesan.k12.wi.us

Montello School District – $25,000

montelloschools.org

Nicolet Union High School District – $25,000

www.nicolet.k12.wi.us

Northland Pines School District – $25,000

www.npsd.k12.wi.us

Omro School District – $17,485

www.omro.k12.wi.us

Prentice School District – $3,850

prentice.k12.wi.us

School District of River Falls– $25,000

See story on page 38

www.rfsd.k12.wi.us

Albany School District – $9,904

"Being selected for this grant will help us expand our STEAM offerings. Serving the needs of all students and developing the required skills, attributes, and dispositions to be successful is our primary focus. With this grant, we will be better equipped to design a cutting-edge program that connects to all students and the greater community," said Kurt Soderberg, superintendent of the Albany School District.

www.albany.k12.wi.us

School District of Belleville – $16,600

See story on page 22

belleville.k12.wi.us

School District of Black Hawk – $25,000

blackhawk.k12.wi.us

School District of Fort Atkinson – $25,000

www.fortschools.org

School District of Mishicot – $25,000

See story on page 31

mishicot.k12.wi.us

Seymour Community School District – $25,000

See story on page 30

seymour.k12.wi.us

Sparta Area School District – $6,197

www.spartan.org

Weyauwega-Fremont High School – $16,667

wegafremont.k12.wi.us

Lac Courte Oreilles Ojibwe First Tribal School in State to Receive Fab Lab Grant

Lac Courte Oreilles Ojibwe School is the first Tribal school to be awarded a fab lab grant from WEDC. They've been awarded $19,920 to establish a fab lab facility and support their existing STEAM courses. The school plans to use the grant to purchase four 3D printers, three Cricut machines, two laser engravers, two STEM lab sensor kits, and a decal machine. Students will now be learning how to program and operate these new machines. The school is also planning to integrate student-led, instructor-facilitated learning in its fab lab space and to provide fab lab classes for community members.

The equipment purchased by Lac Courte Oreilles Ojibwe School will benefit their student body throughout their elementary, middle, and high school, as well as Waadookodaading, the Ojibwe language institute. The school is dedicated to culturally responsive and sustaining STEAM education. Students have had the opportunity to participate in a variety of educational programs and career-building experiences, including the Student Space Flight Experiments Program, where a winning team of Lac Courte Oreilles Ojibwe School students was able to send an experiment to the International Space Station.

"This grant is huge for us," said Tammy Moncel, science teacher at Lac Courte Oreilles Ojibwe School. "We're seeing a huge need and interest in fabrication and technology-based skills. The students are really excited about these opportunities."

Lac Courte Oreilles Ojibwe School was one of 12 first-time fab lab grant recipients.

Courtesy of the WEDC

www.lcoosk12.org

D.C. Everest Enterprise Students Partner with South Area Fire and Emergency Response (SAFER) District

Continued from Page 33

a great training prop that will serve us well and we had an opportunity to work with area students who are part of an impressive program."

When the SAFER team arrived to see the final product, they had the opportunity to speak with a few of the students who helped manufacture the door and share with them the role the steel prop will play in the rescue personnel's training sessions. A few firefighters even demonstrated what the training sessions will consist of while the students stood nearby and watched. "All too often, the "next" generation is viewed in a negative light. We regularly hear comments such as today's students only know how to play video games or kids these days are lazy. This project and this program provides evidence that our future is bright," concluded Aaron Hoffman, DCE Career and Technical Education Director. "These students have been heavily involved in every facet of the design and construction of this door and, quite honestly, they've done amazing work. We strive to create the best environment for students and support them along the way, and every time they take things further than we thought possible. We're really proud of the students."

A sample of Evergreen Enterprise products is available on the DCE Enterprise website and customers are encouraged to submit custom product ideas as well. "If we can make it or fix it, we're going to do it," notes Mr. Kmosena.

For more information, visit:

- **Facebook:** DCE.Enterprise
- **Twitter:** @DceEnterprise
- **Website:** dceenterprise.weebly.com

www.dce.k12.wi.us

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JBC Machine is committed to continuing education and training for our employees. As of 2021, we have graduated six employees through the apprenticeship program with Fox Valley Technical College, making them journeyman machinists. In addition, we constantly cross train every employee to ensure no matter who machines your parts, we will produce the same quality results that we are known for every time.

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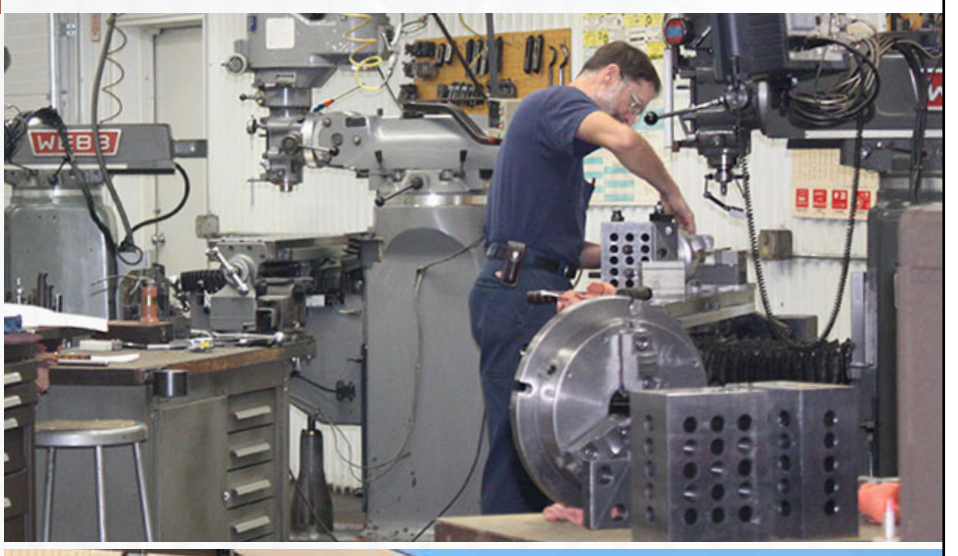
- Full benefits, including medical, dental, and retirement plans
- Paid vacation and holidays
- Safety glasses and safety shoe allowance
- Tuition assistance for job-related courses



Explore our Company and Your Career Potential at: **jbcmachine.com/careers**

From Wild Child to Welder

If there's one thing Winneconne High School alum Jack Stanek and his former teachers would agree on, it's that when Jack reached sixth grade, he was a wild child. "I spent more recesses in detention," admits Jack. Today, he works as a welder for Innovative Machining, Neenah, WI. He lives in the home he bought last year at the age of 20 and is every bit the model citizen. What brought on this transformation?

In part, Jack got to know himself. In sixth grade, "I started to get bored. In a lot of classes, I started to have too much time on my hands," he says, "I started getting into a lot of trouble."

In fact, he recognized a pattern: "This is going to sound really, really weird," he says. "But every time I set a goal, I'd finish a goal, I'd get bored, and then I'd get in trouble."

Luckily, Jack was surrounded by wise and patient adults. A group of them sat him down and guided him toward defining his purpose, his "why." For example, as the adults explained to him, if you want to be a healthier person, your goal is not to lift 300 pounds at a bench press; your goal is to stay healthy so you can roll around on the floor with your grandkids one day. "I needed something that would keep me busy and would be endless," says Jack.

As he continued through middle school, he took classes in technology and agriculture, but when he got to the high school STEAM curriculum, that was it. According to his former tech ed teacher Chris Arps, once he was able to see what the world has to offer and the skill sets needed, "I think that's what lit his fire. . . . I think he took every single tech class that we offer here. . . . He loved the challenge."

"[Mr. Arps] knew if I was bored, I was out of there," says Jack. "I really got good at [welding]. I did a lot of stuff that other students couldn't. And then when I started teaching other students what I was doing, . . . I was realizing how much time and ideas and devotion I had to it and there was no end to it. There is never too much knowledge and I love that. I love that there's never a stop with any form of welding and then I could teach that. And that just made it even better teaching."

"I would say grades are irrelevant to him. It's more about the knowledge," Mr. Arps continues. "[He's thinking more] what am I going to get out of the class? And how does it relate to the real world?"

Jack continued to pursue all the elements of a career pathway: In addition to his CTE courses, he earned industry-recognized credentials, dual credit, was an officer for his SkillsUSA chapter, and was a youth apprentice his senior year (2020) at a company that hired him as a fabricator after he graduated. He distinguished himself by working with some welding inspectors to do a vertical down structural test — a task thought to be nearly impossible. As a result, the American Welding Society is going to be changing some rules.

Jack's take on it: "I did some cool stuff, yes. But I think the more impressive thing was me growing as a person. And that's not going to stop."

Courtesy of the WI DPI

hs.winneconne.k12.wi.us

Luxemburg-Casco School District Grows Commitment to Technology, Machining Courses Through Equipment Additions

The Luxemburg-Casco School District has further enhanced its commitment to the growth of technology- and machining-related courses offered to its high-school students. The district received five new pieces of equipment at the start of the 2022–23 academic year.

Mike Snowberry, the district's director of learning services, believes that L-C now has the largest amount of machining equipment in the area for a school of its size. He is excited by the addition of these new pieces of learning technology and the impact they will have on students. "They expose students to different industries and career clusters," says Snowberry.

Continued on Page 37

Luxemburg-Casco School District Grows Commitment to Technology, Machining Courses Through Equipment Additions Continued from Page 36

The embroidery machine provides students with hands-on opportunities to design and create products.

"Beyond that, they offer the experience of learning how to design something, then seeing the practical solution by making it, particularly for students with an interest in creativity." The new equipment consisted of a FANUC Robotic Arm, two Haas mini-CNC mills, an injection molder and an embroidery machine.

The robotic arm — the Fenceless ER-4iA — is the largest one in the industry and not many people know how to run it, according to Snowberry. Along with its CERT education training and advanced software, the equipment is valued at $38,000.

The mini-CNC mills, which complement the district's existing CNC (computer numerical control) equipment, are a good way to introduce students to metals. Through their use, students are able to discover the many ways that they can create a product.

The injection molder, along with the Amatrol Plastics Technology Learning System, carries a value of $17,500.

The embroidery machine has potential use by the Spartan School Store, which sells school-branded apparel. It also provides students with the opportunity to design and create a product, then make it.

All of the new equipment will complement the district's existing machinery: 3D printing, 2-dimensional CNC machining, graphic arts, laser engraving and drones. It will continue to broaden the offerings available to students, including those who wouldn't normally pursue a technology-related career path.

"A large number of students in Fab Lab courses are not traditional technology-education students," says Snowberry. "Our belief is that some of these non-traditional students may decide to pursue careers as CNC machinists, if they are exposed to such technology in high school."

Four area businesses collectively supported the new equipment purchases with donations totaling $30,000. They also have made in-kind donations of equipment to the district.

"We can't thank area businesses enough for their ongoing support," adds Snowberry. "They see how these programs energize students and provide career-exploration pathways. These community partnerships are critical to the success of our Fab Lab curriculum."

The district also contributed $20,000 towards the purchase of the mini-CNC mills. L-C additionally received a Technical Education Equipment Grant of $25,000 from the Wisconsin Department of Workforce Development (DWD) in April 2022. The Fast Forward grant funds received by L-C were utilized toward the purchase of the robotic arm.

The Fab Lab courses are increasingly popular with L-C students, and the district consistently receives more requests to enroll than the number of seats available. In this year's first semester, there were six sections of Fab Lab 1, totaling 102 students, up from four sections and 74 students during the 2021–22 academic year.

The ultimate outcome is broad exposure by L-C students to available career pathways and heightened skills for post-secondary education or work, along with a more robust potential workforce for area businesses. The result is a win for everyone.

luxcasco.k12.wi.us

RFHS Robotics Club: Business and Games

School District of River Falls

Students at River Falls High School are helping solve today's global challenges. Over a period of 6 weeks, 19 students in the Robotics Club design, build, program, and test their robot as they prepare for their inaugural "game" — a FIRST® Robotics Competition. This year's event, Charged Up, challenged teams to reimagine the future of sustainable energy, focusing on ensuring access to affordable, reliable, sustainable, and modern energy for all.

RFHS Robotics Club is much more than a robot competition. "Students are essentially running a business," says Ryan Brill, RFHS teacher and head mentor. Student Arlo L'Allier agrees: "We're not only just having fun and competing, but really learning to work on a team, gaining technology-based knowledge and learning how to problem solve."

Arlo emphasizes that the Robotics Club is not just for those who are technically- inclined: "I know nothing about computer programming, but we have people on the team who are good at that. We have a couple of students who are on the media side — talking to businesses, taking videos, documenting, designing logos. There's a spot for every single type of person to be a part of the team."

Brill says the Robotics club is just one piece in the bigger picture of creating a district-wide program. "I hope we can use this as a springboard to start district-wide robotics, and it can be a stepping stone for more robotics-based and STEM-based opportunities for students of all ages."

In the past two years the district received grants and generous donations for three mills, two lathes, and most recently, a grant for a larger mill. These machines are used in the Career & Technical Education (CTE) classes at the high school, many taken by students who join the robotics club. Students then see a real-world connection as they build their robot. "We are able to take skills we learn in other classes — programming, CNC machining, engineering design, and use them in the robotics club," says Arlo. "All those skills are brought together in a culminating project that is fun."

Assistant Mentors Jared GrothOlson, Mike Lord, and Rob Peter help guide and mentor the students. The RFHS Robotics Club has been funded by the generous donations of nearly 20 community partners.

Wiley's Common Grounds had a special guest in the shop last week!

Bill the Robot!

Bill was developed and built by the

RoboCats — the RFHS Robotics team. Advisors Mr. Brill and Mr. GrothOlson joined the team as they demonstrated how the robot could move and pick up items. Students were even given the opportunity to test it out! What's next? Possibly a robot that makes and serves coffee?

www.rfsd.k12.wi.us

Internships — A Valuable Option

Robert Judson, Marketing Specialist
Metal Craft and Riverside Machine and Engineering

"It's our job to figure out how to do the impossible — to get creative and to accomplish what others say can't be done."

Learning a trade can be a great option for students who are interested in gaining practical skills and entering the workforce quickly. Trades such as CNC machining, plumbing, electrical work, welding, and carpentry are in high demand and can provide students with stable, well-paying careers. In addition, many trade schools, technical colleges, and apprenticeships offer hands-on training and real-world experience, which can be invaluable to students. Learning a trade can also be a cost-effective alternative to traditional four-year degree programs, as many trades offer competitive salaries without the high costs of college tuition. Overall, learning a trade can be a great option for students who want to gain valuable skills, enter the workforce quickly, and secure a stable career. With so many options out there, what is the best way a young person or student can find out what trade fits them the best? Finding a great internship may be a great option.

Internships like the ones we offer at Metal Craft and Riverside Machine and Engineering are important to students because they provide them with valuable hands-on experience, help them explore career opportunities, and prepare them for the workforce. Internships allow students to apply what they have learned in the classroom to real-world situations and gain practical experience in their chosen field. They also provide students with the opportunity to network with professionals in the industry, which can lead to future job opportunities. Internships can help students make informed decisions about their future careers, develop important skills, and stand out when applying for future jobs. Overall, internships provide students with a competitive edge in the job market and help them prepare for their future careers.

- Help students explore career opportunities in the manufacturing industry
- Prepare students for the workforce by developing important skills such as problem-solving, teamwork, and communication
- Help students make informed decisions about their future careers by exposing them to various job roles and responsibilities within the industry
- Help students stand out when applying for future jobs by giving them practical experience in the field.

One of the most significant benefits of internships in manufacturing is the chance to gain practical experience. Many students have little experience working in manufacturing, and internships provide them with the opportunity to learn about different manufacturing processes, techniques, and technologies. This experience can help them develop important skills that they can use in future careers, such as problem-solving, teamwork, and communication.

An Internship in manufacturing can also help students prepare for the workforce by providing them with valuable skills and experience that they can use in future jobs. By working in a manufacturing facility, they can develop a strong work ethic, learn how to work in a team, and gain experience using different types of machinery and equipment. These skills can help them stand out when applying for future jobs and make them more valuable to potential employers.

In conclusion, internships are vital because they provide young people with hands-on experience, that help them explore career opportunities, and prepare them for the workforce. Manufacturing is a critical sector of the economy, and providing students with opportunities to gain experience in this field can be an excellent way to help them prepare for their future careers. By working in a manufacturing facility, students can develop important skills that they can use in future jobs, learn about different job roles and responsibilities, and gain practical experience that can help them stand out in the workforce.

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