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## Whitewater High School Tech Ed Automotive Students Receive ASE Certifications

Wednesday morning at Whitewater High School was a special day for eight tech ed students taking automotive classes.

Their teacher, Justin Buntrock, said the students, all of whom had passed an examination certifying them in various aspects of automotive service and repair, were the recipients of specially purchased customized mechanic shop shirts, each sporting the name of the student, the "Whitewater automotive" program logo, and an ASE (National Institute for Automotive Service Excellence) patch.

The shirts, which were distributed to the students Wednesday morning, served as an incentive to encourage them to take the certification exams, Buntrock said.

Whitewater High School Principal Brent Manky came up with the idea, Buntrock noted, adding that the opportunity to earn the shirts was well-received by his automotive students, who viewed them as a source of program and school pride.

### The value to ASE certification

According to Buntrock, eight of his students had each taken and passed one of two exams in December.

Students in his "Automotive 1" class, including Nolan Legge, Gavan LaFlash, Nate Holden, AJ Canipe and Logan Voegeli, took and passed an exam to certify them in the service and maintenance of brakes. Taking the Automotives 1 class and passing the brake-related ASE exam were the two requirements for certification.

Students in his "Automotives 2" class, including Scotty Krebs, Justin Johnson and Jacob Raglin, had previously taken Automotives 1, and last semester, they took and passed an ASE exam in "MLR," or maintenance and



Whitewater High School Automotive 1 and 2 students AJ Canipe, from left, Jacob Raglin, Logan Voegeli, Nolan Legge, Nate Holden, Justin Johnson, Gavan LaFlash, Scotty Krebs, and tech ed automotive teacher Justin Buntrock gather in the automotive shop after the students receive their customized mechanic shop shirts. The shirts were presented Wednesday to eight students who in December achieved ASE certification.

light repair, Buntrock said, describing the exam taken by students in Automotives 2 as "more rigorous."

Students who take the automotive classes offered at Whitewater High School learn auto mechanics and shop-based skills, Buntrock said.

"The ASE certification is a nationally recognized certification and an industry standard for most mechanics in the industry," Buntrock noted in a recent email.

He described the exams taken by his students as "very content heavy on theory and automotive repair skills and knowledge."

Buntrock said he steers his students toward achieving the ASE certifications because, "it's just a really good opportunity to

get a foot in the door to start a career in the automotive field," further describing the certifications as "a good resume builder."

Among the students who take his classes, he said, "some will go into the workforce or will go to school for an automotive career, and the ASE certification is an almost guaranteed in."

Still, he said, not every student who takes automotive classes is planning a career in the industry, but those who take his classes and earn certification will have opportunities to save money because they will be able to perform some of their own work on their vehicles.

"It benefits them in real-world life," he said, adding that he likes to say: "life skills and

career readiness."

The ASE provides both, he said.

While all of his students are given an opportunity to take the ASE exams, not everyone passes them, he stated.

This year, in his Automotives 1 class, 11 students took the brakes exam and five achieved certification.

In his Automotives 2 class, six students took the MLR exam and three achieved certification.

Students can try again anytime before June, he said.

Some students are drawn to the certification opportunities because they are likely considering a career in the field or have automotive backgrounds in their families.

It's a history that Buntrock shares.

### A new automotive teacher

Buntrock joined the Whitewater High School staff at the beginning of last school year. Prior to that, he said, he served for five years as an automotive shop teacher at the Fort Atkinson High School.

He made the move because he saw an opportunity to become involved with program development, which, he said, offered some rewarding challenges, and the school had a larger automotive shop.

While serving in the School District of Fort Atkinson and in an earlier interview with Fort Atkinson Online, Buntrock said his interest in the automotive industry was nurtured by his father, whom, he said, wanted he and his brother to have self-sufficiency when it came to their vehicles.

"My old man was a mechanic for about

**Continued on Page 12**

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## Cudahy High School Junior Takes on Impressive Welding Project



Clare Canfield  
School District of Cudahy

In a remarkable display of skill and dedication, Dakota Schroeder, a talented

junior at Cudahy High School, took on a challenging welding project under the guidance of her Metals teacher, Mr. Backes. Demonstrating an impressive level of crafts-

manship, Dakota worked on refurbishing a corroded work truck owned by another teacher, who uses it for his summer concrete pouring business.

Mr. Backes, recognizing Dakota's exceptional talents, did not hesitate to choose her for this significant task. Dakota, thrilled by the opportunity, credits her confidence and skills to the support and encouragement she has received from Mr. Backes. The project involves meticulous work, including sanding down the truck's paint and tack welding large pieces of sheet metal.

This endeavor is not Dakota's first foray into the world of metalwork. Over the past few years, she has crafted various metal items, selling them for a total of around \$200. Her ambition and skill have not gone unnoticed, as she is currently in the process of interviewing for an internship, aiming to continue this professional journey through her senior year. Dakota's ultimate goal is to become a full-time welder after graduation.

However, Dakota's talents and interests are not confined to welding alone. She is also an active participant in several extra-

curricular activities at Cudahy High School, including jazz band, track and field, powerlifting, and theater. Her involvement in such a diverse range of activities highlights the school's commitment to offering a broad spectrum of opportunities to its students.

Dakota Schroeder stands as a shining example of how Cudahy High School not only encourages its students to explore their passions but also prepares them for life beyond high school. Her story is an inspiration to her peers and a testament to the dedication and skill fostered within the walls of Cudahy High School.

[www.cudahysd.org](http://www.cudahysd.org)

## \$3,000 in STEAM Grants Awarded to Three Area School Districts

Three school districts in the Central Wisconsin Electric Cooperative (CWEC) service area each received \$1,000 in STEAM grants to be used for projects and initiatives related to science, technology, engineering, art, and math.

The STEAM grants were introduced by CWEC in the second half of 2022 because the co-op values education and training and understands that classrooms may have limited funding to pursue the projects needed to educate students in local communities.

School districts that received the initial grants are as follows.



Bowler High School students Braydon Pukall, Tristan Thiex, Brady Strassburg, and Beau Brunner, who participate in Challenge USA, along with their advisor Timothy Ploeger, with a chassis they built for the Super-Mileage Vehicle competitions they compete in.

### Bowler High School

#### Super-Mileage Vehicle

The district received \$551.84 for a super-mileage vehicle project. The project is a student activity that provides various educational venues in and outside the classroom, said Timothy Ploeger, project supervisor, and Tech. Ed. teacher at Bowler High School. The

project has students designing, fabricating, and testing a small one-person vehicle with a focus on high mileage during various challenge events around Wisconsin.

The challenge events are part of Challenge USA, which began in the early 2000s. Ploeger estimated that 25–30 schools currently participate in the events, and that number is growing. Ploeger said the project is funded by solicit-

ing sponsorships from area businesses, so the STEAM grant is appreciated.

"It will really help us out a lot. We can maybe get some new engines or batteries that need to be replaced, so that will go a long ways towards that," Ploeger said.

"We started as a club back when we first started it," Ploeger said. "It was an after-

school thing. Some of those nights we'd be here pretty close to midnight. Now it's a class we're trying to develop as we go. We design, we do the engineer's design which is the process where we develop a prototype and build a car out of PVC so we can see any errors before we get to metal."

Ploeger said the most useful skill students will learn from the project is problem-solving.

"No matter what career a person goes into they will have to problem-solve," Ploeger said. "In the course of this project, there will be loads of problem-solving and with that the frustration of things not working out as planned. The students will learn to plan, learn from their mistakes, and make improvements to the vehicle. After the last event, students will learn to reflect and determine what went well and where improvements could be made."

[www.bowler.k12.wi.us](http://www.bowler.k12.wi.us)

### Tigerton School District

#### Energy Bike

The Tigerton School District received \$1,000 for the construction of an energy bike.

The energy bike, which will consist of a pedal bike to power a generator, will provide students in the district a concrete example of how electricity is produced.

Chad Pritzl, high school science teacher at Tigerton High School who is also overseeing the energy bike project, said he originally got the idea for the energy bike while he worked for a different school district.

"We brought it to school as a demonstration and I thought it was a really neat experience for the students to see the work required to produce electricity," Pritzl said. "That connection is lost I think. And this really brings it home."

To complete the project, Pritzl said a variety of things will need to be purchased, such as a generator, so the grant will help pay for those costs.

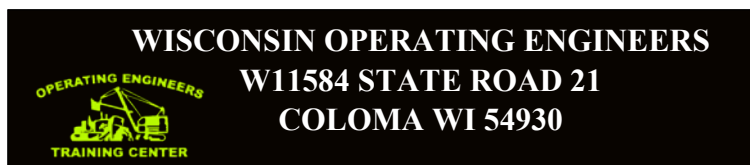
In addition to learning about how electricity is generated, Pritzl said students will also learn about energy efficiency and energy storage in batteries.

Pritzl said he will use his science background and team with Tim Schmidt, who teaches Tech. Ed. at Tigerton High School, to complete the project with students.

"Hopefully we can have a few students

**Continued on Page 12**

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# Ashwaubenon High School Students Build Race Car with Help From BSMW



Each year, Ashwaubenon High School students participate in the Wisconsin Formula Student USA initiative, conceived by technology and engineering instructors Mike Besel and Jeremie Meyer. Over eight months, these students learn to design, build, and race Formula First-inspired cars. This practical approach advances their understanding of engineering, CAD, fabrication, welding, and CNC machine operation. Though individual tasks are

assigned, team spirit and efficient communication are essential.

Badger Sheet Metal Works (BSMW), a regular steel donor for class projects, has supported the Formula Student program for several years. This year, BSMW had the privilege of being lead sponsor, aiding the students in their unconventional choice of crafting a jeep-styled race car they named "P10." BSMW cut, shaped, and custom powder coated the parts. The team's design prowess earned praise

from Jeff Lindsley, General Manager at BSMW, who was blown away with the concept.

"They did excellent work with the design," said Lindsley. "After Jeremie sent us the 3D model, I knew we were going to be all in." Speed's always a goal with these cars, but aesthetics were also important with this project.

Community involvement, a pillar of company philosophy, motivates the sponsorship of Ashwaubenon High School. BSMW aims to inspire interest in manufacturing and fabrication careers among students at a time when they aren't entering the industry as much as they used to.

"Manufacturing is not going away, and we hope to contribute to the development of future craftsmen in our industry," said Lindsley.

BSMW's involvement with students went beyond sponsorship; leadership often visited the classroom during the project, interacted with the students, and answered questions about fabrication careers. The company often hires graduates from local tech schools, like NWTC and



champions gender inclusivity in an industry that many assume only caters to men.

[ashwaubenon.k12.wi.us](http://ashwaubenon.k12.wi.us)



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# Wausau East Transportation Program Thrives through Community Partnerships



*Diana White, Coordinator of Communications and Marketing  
Wausau School District*

Wausau East High School, located within the Wausau School District, is home to an 8,000-square foot automotive shop that gives students, 115 to 130 on average per year, the opportunity to learn all three career areas within the transporta-

tion pathway: Auto Technicians, Auto Collision, and Diesel Mechanics.

The shop, built after the passing of a community-wide referendum in 2015, features three two-point hoists, two four-point hoists, one heavy duty four-post hoist for semi/diesel, a low rise hoist for auto collision, a paint booth and paint mixing room, as well as state-of-the-art wheel alignment equipment, a tire balancer, and an attached classroom. It also has its own semi truck that students can work on.

This opportunity, for Wausau School District students, would not be possible without the support of a number of amazing community partners. One of those partners is the WATEA. WATEA is a professional organization made up of industry partners who support the transportation pathway in all areas of education. One example of how they do that is that they provide vehicles for students to work on. Once repaired, those vehicles get donated back into a community program called 'Wheels to Work,' providing people with the transportation they need to get to and from their jobs.

They also help develop new programs like Auto Collision & Repair training for post graduates. This program is in partnership with the local technical college and Wausau East High School. Classes, taught by college instructors, are held at the high school.

Their support includes a golf fundraiser in July, which helps with scholarships and funding for educational programs. Then, each February,

they host a Transportation Career Expo which is open to all schools in Central Wisconsin that gives students and parents the chance to meet with industry professionals and explore careers in transportation.

It's this kind of support of our transportation program, and the transportation pathway in general, that's allowing our students to get real

hands-on experience — preparing them for life after high school.

Our area technical colleges are also stepping up in a big way to support students. Through a partnership with one of the colleges, students can learn all about Diesel Mechanics. What makes this opportunity unique, in particular, is that the college's diesel instructor meets virtually with students every week. Then, the instructor makes it a point to actually visit Wausau East High School to work with students in the class on trucks. In addition, once a year, students actually get to travel to train in the college's facility.

"It's a way for the students to get another instructor's perspective with this and interact with a real live college instructor. The kids are getting a lot more with this than just a regular dual credit class," said Mark Poppe, Wausau East Automotive Teacher.

Students are able to get 4 credits through the class.

Other classes available to students in the Wausau East Automotive Shop include:

**Introduction to Power Mechanics:** This course is designed for students who are interested in exploring the internal combustion engine as well as basic professional shop procedures/tasks. During this class students will explore basic tools, measurement, and engine theory of operation/construction. Student experiences will include: engine rebuilding, troubleshooting and two and four-cycle engine theory. Students should expect to spend the majority of their time in the lab.

**Auto Awareness:** This course covers basic systems of the automobile. Units of instruction include: tools, auto products, ignition, fuel, electrical, cooling, general maintenance, interior/exterior care, and new/used car purchasing. This course provides a theory of operation and practical lab experiences for the automobile owner.

**Occupational Mechanics I:** Introduction to the automotive service industry including safety and the use of basic hand and power tools to help the prospective automobile technician work safely and efficiently. Students will learn to perform basic under-hood and under-car services including: Basic Maintenance, Steering, Suspension, Brakes, and Tune-up. This course is based on hands-on lab activities supported by classroom operational theory of automotive systems. The students will have the opportunity to work on their own vehicle repairs. Additionally students will be introduced to the basics of autobody/collision repair as well as painting. Students who successfully complete this course will receive dual credit through a technical college.

**Occupational Mechanics II:** This class is a continuation of Occupational Mechanics I. The course develops entry level skills/competencies in the following ASE (National Institute for Automotive Service Excellence) areas: Suspen-

sion & Steering, Brakes, Electrical/Electronic Systems, and Engine Performance. Time will be spent both in class and at the jobsite (where applicable). In the lab and at the jobsite (where applicable) students will gain hands-on experience with state-of-the-art tools and large-scale diagnostic/repair equipment, develop employability skills and spend time developing a good resume. Lab work will be performed mainly on late model donated vehicles; however, students will have the opportunity to work on their own vehicle repairs. Students who successfully complete this course will receive dual credit through a technical college.

## **Auto Academy (technical college):**

Students who successfully complete the prerequisite transportation classes may be eligible to participate in the local technical college's Auto Academy during their senior year of high school. Academy coursework will be taught on the college campus by college instructors. The Auto Academy will prepare students to be workforce-ready through Youth Apprenticeship at area businesses, and they will earn an Automotive Maintenance & Light Repair Technical Diploma. All credits (a tuition value of \$1,800) transfer to the college's associate degrees or technical diplomas, so students will have a jump start to continue their education after high school.

## **Youth Apprenticeship** — Transportation:

Students have the opportunity to jump-start their careers by enrolling in Youth Apprenticeship (YA) where they earn credit while working on the job. YA placements are available in auto mechanics, diesel or auto body and collision. Students are matched with a mentor that teaches them all aspects of the business while earning a paycheck and elective credit.

While students can work on their own vehicles in the automotive shop, they can also work on 'customer vehicles' that are dropped off at the beginning of the day. Students diagnose them, develop quotes, order parts, install the parts and

repair, and help with billing. All experiences that still set them up for success after high school.

"This automotive facility at Wausau East is a shining example of what happens when administration, businesses, and community members are all pulling in the same direction. This is truly a win-win scenario in our community and our school district," said Poppe.

All of which align to the Wausau School District's mission of advancing student learning, achievement, and success.

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## Oconomowoc High School's Autos Program is On the Move!



*Kyla Stefan,  
Coordinator of Career Programming  
CTE Coordinator  
Oconomowoc Area School District*

Oconomowoc High School is dedicated to equipping students for success beyond graduation, emphasizing career readiness through its commitment to all five pathways. Five years ago, recognizing a critical gap, the school reintroduced automotive courses, which gained an overwhelming response from students. With the guidance of our instructor, Eric Varrelmann, we expanded facilities and crafted a robust curriculum to meet this growing demand.

Presently, our program offers a spectrum of

courses catering to varied interests, from exploring automotive essentials as life skills to charting a career path in this industry. For those looking to obtain more confidence on general car maintenance, Consumer Automotive provides foundational knowledge helpful

for anyone with a vehicle. Meanwhile, Auto 1, Auto 2, and Auto 3 cater to students aspiring to pursue automotive careers. Moreover, sophomores have the opportunity to delve into transportation career exploration via business visits and job shadows in both aviation and automotive sectors on our schoolwide career, college, and life readiness day in fall.

As our automotive program evolves, we're committed to broadening horizons further. We're exploring avenues to facilitate students in obtaining their Commercial Driver's License (CDL) through courses at Waukesha County Technical College (WCTC). Additionally, we are currently exploring new resources such as a heavy

equipment simulator, offering students a safe yet hands-on environment to gain practical experience. Students are also able to obtain a variety of Snap-on and ASE certifications through the classes offered, providing them a competitive advantage as they explore job opportunities.

The reintroduction of automotive studies at Oconomowoc High School has not only expanded educational opportunities but also opened doors to Youth Apprenticeships within this pathway. This opportunity continues to grow as students engage with this authentic opportunity to learn more in the transportation industry and gain valuable on-the-job skills. We currently have several students participating in the Youth Apprenticeship Program in this pathway who plan to continue working full-time with their employer beyond high school, continuing to expand their skillset and knowledge within the industry.

The revival of the automotive program at Oconomowoc High School has not only met the increasing demand for automotive education but has also surpassed expectations. Through a dedicated curriculum and the guidance of instructor Eric Varrelmann, the program has empowered students to explore automotive competencies as both a life skill and a potential career path. With a forward-thinking approach, the school aims to continue expanding opportunities, enabling students to delve deeper into the world



of transportation and practical experiences. The success of this initiative, evident in the growing participation in Youth Apprenticeships and the widening scope of offerings, underscores the program's pivotal role in shaping well-rounded, career-ready individuals poised for success beyond high school.

[www.oasd.k12.wi.us](http://www.oasd.k12.wi.us)

## A CIM Major's Life Begins Now!



*Contributor: Kate Connor,  
SDSU CIM Freshman & Farmer*

When contemplating a future career path, like many high school students, I planned to major in engineering, civil engineering to be exact. However, I realized I did not enjoy high level math enough to focus my every day

work, or my career, around it. I was also worried that centering my college life around advanced math would mean less enjoyment of my overall college experience.

Around three months before the start of my freshman year, I decided to declare a Concrete Industry Management major. My mom suggested CIM because I enjoyed working with concrete my whole life, and the broad curriculum, with everything from principles of engineering to business management, meant more of a variety in my education. I liked the idea of "learning more about more" because specializing can close doors. I knew I wanted to keep my options, and those doors open when it came to career choice after college.

CIM at SDSU was the right choice. I currently have two Concrete Industry Management classes, among my other courses. Over just the last 9 weeks, our CIM classes went on five field trips, touring different plants and observing how different parts of the industry come together to build our world. We have had 11 guest speakers talk to us about their variety of career experiences and the projects they



managed or on which they were part of a team of professionals.

We recently visited a precast plant, and the company showed us some of their large projects. It was amazing to see how you can make concrete structures look so different from one another but still have the same composition. We haven't learned about architectural concrete yet, but I am looking forward to it.

I would recommend majoring in Concrete Industry Management (CIM) to any student considering their future college and career options. The concrete industry supports SDSU's CIM students by offering generous scholarships, and paid industry experiential learning and internship opportu-

nities that really reduce the overall cost of this 4-year degree.

I'm fortunate that my mom knew of the CIM program, because not only am I enjoying my college experience, but I'm surrounded by remarkable people and amazing opportunities while I'm still in college.



*"As an SDSU CIM student, I don't have to wait for graduation — I'm enjoying life now."*

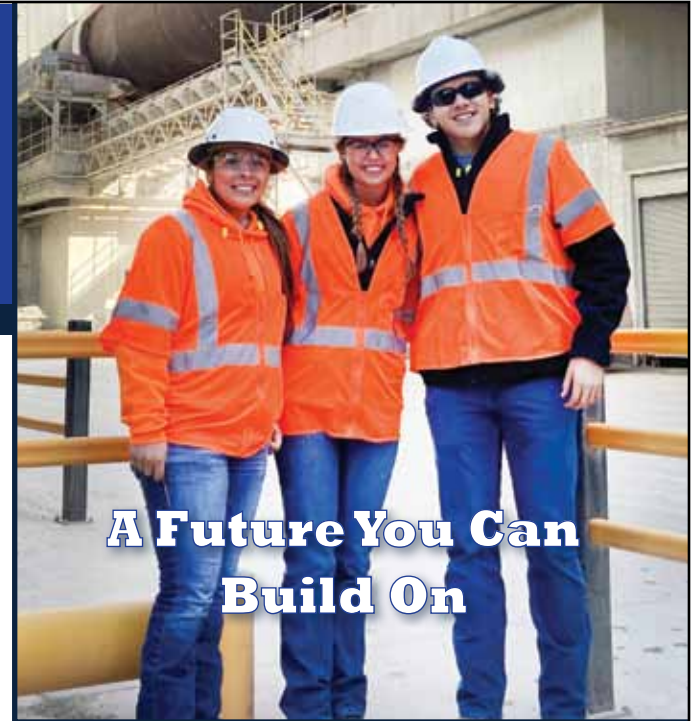
—Kate





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**Under Graduate**



# Whitewater Tech Ed Students Receive ASE Certifications Continued from Page 1

15 years before I was born . . . He taught me about mechanics,” Buntrock said in the earlier interview.

Buntrock said his brother chose a career in the automotive field, but he was drawn to teaching.

As an automotive instructor, he said, he found a way to use both sets of skills.

As a teacher, he noted, he finds helping students develop a career path equally as inspiring as giving them the ability to become self-reliant.

## Supporting the tech ed program

Along with supporting his students, Buntrock said he wanted to embrace an opportunity to develop tech ed programming.

Within the Whitewater Unified School District, he said, he was impressed by the level of support for the tech ed program, and for embracing opportunities brought through the ASE certification process, which, he noted, can help support his automotive classroom budget.

He made reference to the “Carl D. Perkins: Strengthening CTE (career and technical education) for the 21st Century Act,” which, according to information found on the Wisconsin Depart-

ment of Public Instruction (DPI) website, was re-enacted in 2018 and set in motion in 2019 to serve as a mechanism used to establish regional pathways, increase the rigor of work-based programs, improve student performance through focused activities and support, and expand non-traditional occupations, among other goals. The federal program is grant-based and facilitated at the state level.

Buntrock described opportunities made available through the program as “substantial.”

Information about the program as presented on the DPI website is here: <https://dpi.wi.gov/cte/carl-perkins>.

Buntrock said his building principal saw an increase in opportunities brought by the ASE certification program and offered his support to the tech ed program through development of the customized shirts.

Additional collaboration was established at the high school when members from the school’s home economics department were tapped to sew the ASE patch onto each recipient’s shirt.

The shirts worked well as an incentivizing tool because each student saw it as school memo-

abilia, Buntrock said, adding that when Mansky suggested the idea, he thought it was “wild and cool.”

## Growing the program

Looking at the success of the high school’s tech ed program, Buntrock said he arrived at a time of change, and while a foundation was in place, he saw room for growth.

He works within the tech ed department with fellow tech ed teacher Mason Pautsch, who joined the high school staff during the 2020-21 school year and teaches woods and construction, Buntrock noted.

As a teacher who is new in the district, Buntrock said he has spent time building relationships and rapport with his students, and he and Pautsch have worked together to grow the department into a place through which they can “give our students the best learning opportunities we can.

“We are on the right track,” he said.

Within the tech ed environment they have collectively envisioned, Buntrock said, the focus is on safety, while offering a “creative, career-oriented and life-skills-oriented area for growth.”

This year, Buntrock engaged with nearly 100 students through such course offerings as Automotives 1 and 2, Metals 1 and 2, and a class about “car care,” he said.

Next year, there will be some additional course offerings, including Advanced Auto and a class called “small engines,” among others.

As he looks toward the future of the Whitewater High School tech ed department, he said: “I’m most excited about the opportunities I know I can provide my students through the support of the administration and the district.”

Now, almost a year in, he said, he feels connected to his students.

“Everything feels good, and strong,” he said.

[whs.wwusd.org](http://whs.wwusd.org)

Article and photos by Kim McDarison, Publisher/editor/reporter for the Fort Atkinson Online. Reprinted with permission.

# STEAM Grants Awarded to Three Area School Districts Continued from Page 4



Tigerton High School Science teacher Chad Pritzl, high school student Loghan Wanta, Tech. Ed. teacher Tim Schmidt, and Tigerton High School/Middle School Principal Nate Johnson with the exercise bike that will be used to build an energy bike for students to learn about electricity.

lead with the project and we’ll build it right in the classroom,” Pritzl said.

Pritzl added that he believes the project will engage some of the students who are reluctant learners in the learning process, especially during the design and fabrication process. It will also provide more advanced learners an opportunity to explore electrical engineering.

[www.tigerton.k12.wi.us](http://www.tigerton.k12.wi.us)

## Wittenberg-Biramwood School District

### Urban Search and Rescue Robot

The Wittenberg-Biramwood School District received \$1,000 for an Urban Search and Rescue Robot that will be used by students in Skills USA competitions that are held throughout the state of Wisconsin. District competitions are held at high schools, while regional competitions are held at universities or technical colleges. From state competitions, there is an opportunity to qualify for Nationals.

Caleb McPhail, Technology Education and Woodshop teacher at Wittenberg-Biramwood High School who oversees the students participating in Skills USA, said the robot used in competitions throughout the state will be operated by a student who must perform specific tasks with the robot that are already pre-established.

“There’s a course you have to go through, and in this course, you have two mailboxes,” said Marli Novy, a student who will be operating the robot in competitions. “In some of the mailboxes there is going to be a cube you pick up with the

claw and then put it back in a bucket outside of the course. There’s two or three of them. Those have to go inside a house that is built and also go up and down some ramps in a certain amount of time. And there is also a written test to demonstrate your knowledge of different robotic laws and how everything is built.”

When driving the robot in competitions, Novy said she will need to drive it without looking at the robot. An iPhone is mounted on the robot, and the robot must be maneuvered by the view provided by the iPhone.

McPhail said this year is the first year the Wittenberg-Biramwood School District has competed in the robotic challenge.

“Marli (Novy) saw it last year when we were doing other competitions and she really wanted to get into that,” McPhail said.

Novy, a student, said she is interested in engineering.

“This looked like a good opportunity to learn more and be able to create something that actually creates something that’s used,” Novy said. “And it’s something that should help me with whatever I decide to do.”

McPhail said all the work done associated with Skills USA events is done during the students’ free time, which includes time after



Members of the student Skills USA group at Wittenberg/Biramwood High School, Kalene Rasmussen, Sabine Yaeger, Chekotey Horachek, Dustin Yaeger, and Marli Novy, with group advisor Caleb McPhail, accept STEAM grant funds from Central Wisconsin Electric Cooperative.

school.

“All these different competitions, the things they prep for, we don’t have time throughout the day, our normal day periods for them to come in,” he said.

McPhail added that primarily two to three students helped build the robot for competition.

“The nice thing about this is we can disassemble it at the end of the year,” McPhail said. “It packages all back up and we can start from scratch the following year. So, we can reuse it over multiple years with different students having to go through and basically redesign it.”

[www.wittbirn.k12.wi.us](http://www.wittbirn.k12.wi.us)



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## WISCONSIN RIDES ON US



# D.C. Everest Junior High Students Explore Local Advanced Manufacturing Operations and Collaborate with Engineers to Construct Electric Vehicles



D.C. Everest Area School District

On October 4, 8th and 9th grade students from the D.C. Everest Junior High participated in day-long events designed to build their awareness of high-demand career opportunities. The 8th grade class participated in the Heavy Metal Tour, visiting local advanced manufacturing businesses where they could learn first-hand about the education and skills necessary to

pursue a career in the field.

Following the tour, they visited the Tech Wing of the D.C. Everest Senior High exploring the Auto Tech, Ag Science, Advanced Manufacturing, Wood Manufacturing, Robotics and Culinary labs. Current DCE Senior High students led students on the tours of the labs, outlining the courses and technologies available to students and hosting hands-on learning activities.

The DCE Junior High 9th graders participated in a day-long engineering challenge led by Engineering Tomorrow. During the first half of the day, the students were tasked with building electric vehicles and charging stations. As part of the process, students learned the basics of electric vehicles and how they compare to traditional vehicles, how various rechargeable batteries work, the sustainable design of charging stations, electric circuits and the aesthetics of design. They also experienced firsthand the importance of teamwork — and designating team members with specific roles related to vehicle design and transmission. The event was structured around what engineers typically call the “engineering process” — learn, design, build, test and deploy.

During the second half of the day, students met with local engineers who assessed their designs and spoke with them about the reasoning behind those designs.

Throughout the process, students tested their designs and reflected on what could be improved and how — a crucial part of the engineering process. At the end of the day, students were presented with awards for maximum speed, minimal cost, minimum mass, maximum appeal and maximum strength.



“The Junior High has always focused on providing our students with many experiential opportunities across the course of a school year,” noted DCE Junior High Principal Jason McFarlane. “Yesterday’s activities allowed our students to sharpen their critical thinking skills, to utilize necessary soft skills, and to identify college and career opportunities. This learning opportunity will assist our students as they move beyond the Junior High or D.C. Everest School District.”

[www.dce.k12.wi.us](http://www.dce.k12.wi.us)

## Happy Holidays

from the staff at

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## Wings to Fly: Racine Police, Volunteer Pilots Help Female Students Reach For the Sky



Emma Widmar for the Racine County Eye

A collaboration between the Racine Police Department and local volunteer pilots helped female students, most who are minorities, reach for the sky through the Wings to Fly program on Sept. 30 at the Batten International Airport, 3239 N. Green Bay Road.

Most of the police officers who were present were women. While in a different line of duty than pilots, female officers being present served as proof that women are able to succeed in male-dominant career fields, such as aviation and law enforcement.

### Wings to Fly takes flight in Racine

Ofc. Travis Brady, with the Anthony Lane

COP House, has helped this program take flight both last year and this year.

His aunt, Susan Schwaab, founded the Wings to Fly program in Madison, Wis. She was raised in Racine and later became a pilot and spent 40 years flying for United.

With the help of Ofc. Brady and the EAA Chapter 838, the program was brought to Racine last year.

“We were sitting at a family Thanksgiving dinner and he (Ofc. Brady) says, ‘Hey Aunt Sue, I want to inspire the kids in Racine and show them the possibilities that are out there,’ and I said, ‘That’s what Wings to Fly program is all about,’” explained Schwaab.

### Helping students reach for the sky

“It’s based on the idea that less than 10% of commercial airline pilots are females and minorities,” explained Ofc. Brady.

“We want the students to know that because they are different by gender or race, obviously, they should not be limited by that and their success.”

These statistics are from the Federal Aviation Administration’s 2022 Women in Aviation Advisory Board Report.

“Clearly our communities are rich with females and minorities, who should be told that they can succeed regardless of what statistics might tell them,” said Brady.

### Introduction to aviation

This year, Wings to Fly has given an opportunity to students from Racine Unified School District and other Racine area schools to receive an introduction to aviation.

Saturday’s event had 12 students in attendance. That was an increase from the eight students who participated last year. Next year, the goal is to get 14 students involved.

Funding from community partners allows Wings to Fly to take place.

### Launching pad for life after high school

Students participated in various activities which included learning about aviation history, immersing themselves in a flight simulator, connecting with members of the Wisconsin National Guard, exploring a MEDEVAC Blackhawk helicopter and more.

By far, the most rewarding and memorable experience for most students was having a front-row seat on a flight around Racine County.

### Reaching for the sky

One participant, Angela Salvador Martinez, shared that prior to Wings to Fly, she

never had the opportunity to fly in a plane, let alone have a front-row seat in a smaller craft.

Angela flew with Schwaab. She was one of four students who, prior to the event, had never flown in an airplane.

Before getting up in the air, Angela felt nervous, but that fear faded once she was soaring in the sky.

Salvador Martinez was without words when asked about what this opportunity meant to her, although she was able to express her thankfulness.

The Racine County Eye recalls her saying to another participant after her flight, “It was really fun, I really got to fly!”

As a student who plans to pursue a career in Aerospace engineering, the experience with Wings to Fly meant everything to Angela.

“We want to give these girls wings, to be able to accomplish whatever they want in life,” shared Brady.

“Whether it be nursing or education, or any career field – military, aviation – give them the confidence, regardless of what statistics say.”

Article and photos reprinted with permission from the Racine County Eye

[www.rusd.org](http://www.rusd.org)



## Falcon Aviation has a New Pilot and a New Sweepstakes!



Central High School’s STEM Aviation Program (Falcon Aviation) stands out as a remarkable educational endeavor where students actively engage in the construction of a Van’s RV-12 aircraft, guided by experienced mentors. This program goes beyond traditional teaching methods, immersing students in hands-on experiences that foster skills in science, technology, engineering, and mathematics, while also cultivating teamwork, leadership, and determination.

The program is among several initiatives supported by Eagle’s Nest Projects Wisconsin (ENP WI), a nonprofit 501c3 organization. James Senft is Falcon Aviation’s director of aviation.

Taking 9th to 12th grade students, aged 14 to 18, the program is centered around building and, for some students, flying a Van’s RV-12 light aircraft. Falcon Aviation started in 2014. Three planes have been completed and a fourth is in progress.

A high school aviation program producing a fleet of light aircraft is impressive, but for some students building the airplane is only the beginning. Students who are part of the program can use the aircraft for flight instruction. Two flight instructors, also professional pilots, train the students at the highest level.

This provides students with the unusual opportunity to learn to fly in an aircraft they helped build. Those who earn their license also have access to the aircraft.

Each airplane costs about \$100,000 and since they rely 100% on donations, funding is a constant concern. Last year the program held a sweepstakes in which they raffled one of their airplanes.

New this year! For a modest \$10 ticket, entrants in the Eagles Nest Project Sweepstakes can win a variety of prizes, including Bose A30 Headsets or a \$2,000 cash prize for the first place, an iPad Mini with Foreflight or a \$500 cash prize for the second place, and a Waypoint Flight Bag or a \$100 cash prize for the third place. However, the true value of each ticket lies in its contribution to the future of aviation, aiding the Central High School STEM Aviation Program in its pivotal role of shaping young minds.



### Congratulations to Chloe, ENP WI’s newest pilot. This marks our 20th pilot from the ENP WI program.

It was a cold, blustery day on November 3rd here in Wisconsin. Chloe and her flight instructor, Dan, took off early Friday morning to fly to Sheboygan, Wisconsin. Yes, fun! She had to take her test at an unfamiliar airport. The winds aloft were blowing at 35 knots. Nice, how would you like to do S-turns and turns around a point with 35-knot winds? Nevertheless, they made the 45-minute flight to meet the flight examiner.

After an almost two-hour oral review, they headed to the plane. By this time, the winds on the ground were 22 knots, and aloft, 42 knots. Oh boy, she had to fly everything to flight standards. After an hour-long flight, she returned to make a perfect landing. She had a big smile on her face; she knew she had nailed the exam. Please join me in congratulating Chloe on a job well done.

[www.westosha.k12.wi.us/falconaviation.org/the-cockpit](http://www.westosha.k12.wi.us/falconaviation.org/the-cockpit)



# Take Flight with EAA Youth Aviation Education

*Paul Maloy, EAA Director of Education*

Living in Wisconsin, there's a pretty good chance you've heard about AirVenture, the world's largest airshow and aviation expo always held the last full week of July in Oshkosh, hosted by the Experimental Aircraft Association (EAA). Founded in 1953, you may not know that EAA has been committed to youth aviation education for decades.

This year EAA celebrated the 40th anniversary of our Air Academy youth summer camps and concluded the 30th anniversary of our Young Eagles program, having flown 2.3 million youth ages 8 through 17 since 1992. EAA also just celebrated the 25th anniversary of KidVenture and the 20th anniversary of GirlVenture this year, both of which take place during EAA's annual AirVenture Expo.

Additionally, the EAA Aviation Museum has offered hands-on activities for students since opening in Oshkosh in 1983. Currently, with the newly added, state-of-the-art Youth Education Center, we host hundreds of school and other youth groups from September through June. Nineteen unique hands-on activities currently available provide a menu of choices for different age groups and different interests. To learn more, go to [www.EAA.org/education](http://www.EAA.org/education) or call 920-426-4800 and ask for Museum Education.

Our newest youth aviation education initiative is the web-based AeroEducate program. Officially launched at AirVenture 2022, AeroEducate is a robust, online resource hub with nearly 200 activities for youth as young as 5 years old through high school graduation. Additionally, we offer 24 real-world, aviation-based, STEM enrichment activities for classroom use. Grade-banded for comprehension each activity was developed by teachers for teachers and is aligned with national STEM standards. Access to student and teacher activities is completely free and without advertising or worry of spam mail.

Unlike many other youth aviation initiatives, AeroEducate does not just focus on piloting. Rather, five main career areas can be explored including: Aeronautical Engineering, Air Traffic Control, Aviation Maintenance, Aviation Business Management, and of course, the many Professional Pilot options too. As K–12 students explore and complete the activities, either on their own or in the classroom, they earn digital achievement badges (with beautiful printable certificates) in four different focus areas: Flight, Technology, Community, and Career, and then ultimately, their grade-level badge.

Although AeroEducate definitely encourages youth as young as five years old to explore aviation through age appropri-



ate activities, high school juniors and seniors will see multiple benefits also unique to AeroEducate, culminating in seven take-aways or deliverables: industry knowledge and skills, a printable AeroEducate “transcript” of completed activities, an aviation/aerospace focused resume, a written & professionally vetted plan of action, a qualified industry mentor, access to scholarships & schools, and a clear path to their dream job in aerospace!

Where do YOU start? How can you get your students involved? Start by visiting [www.AeroEducator.org/teachers](http://www.AeroEducator.org/teachers), create a free teacher account, then go to your teacher

dashboard to explore the enrichment activities, each with detailed printable teacher instructions, videos, student guides, and printable posters for your classroom. Then watch how your students light up as they enjoy the experimentation process of learning about aviation. If you want more, contact us at [AeroEducate@eaa.org](mailto:AeroEducate@eaa.org), come visit, or attend Teacher Day during AirVenture.

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## Taking Flight: NRHS is Navigating the Future through a Pilot Study Class on Drones



*School District of New Richmond  
Madelyn Kohn  
Supervisor of Communications*

New Richmond High School has created a strong name for itself in many areas of academics and aims to continuously grow in the future. The Students' Opportunities with Agricultural Resources (SOAR) Program has had extreme success in various areas of agriculture, while the Welding Program has made a strong impact on our students by helping them earn their American Welding Society Shielded Metal Arc Welding D1.1 certification before even graduating from New Richmond High School.

The Career and Technical Education teachers at New Richmond High School are invested in finding new ways to better support student interests and learning needs, and they are dedicated to providing opportunities for students to explore passions they may never have thought possible.

Last year during an "Operation Exploration" event, students were allowed the opportunity to try new activities and explore beyond the scope of a regular school day. During this time, one opportunity students had was to explore the world of drone technology. The student interest in the topic of drones prompted Mr. Trent Bennis, a Computer Science Teacher at New Richmond High School, to run a pilot course this year as an independent study focused on drones. "The opportunity for students to become certified drone pilots will open many doors for job opportunities," said Mr. Bennis.

The goal of this pilot course is to prepare students for the Pilot's Test through the Federal Aviation Administration (FAA). "This class presents a unique opportunity to explore the complexities of aeronautics, airspace, weather theory, and much more which will prove extremely useful in pursuing my private pilot license as well as a future involv-

ing flight!" said senior Katelyn Doehrmann.

Throughout the course, to help students prepare for the Pilot's Test, Mr. Bennis has prepared obstacle courses, terminology studies, and many opportunities for students to learn and practice flying a drone in different environments and locations.

The pilot course is already becoming cross-categorical as Mr. Bennis and his students are working with the New Richmond High School Computer Club and Yearbook Committee to take photographs and videos only possible via drone.

Drones are becoming extremely adaptable and skilled, not only in taking photographs and videos but also in more rigorous activities. Some drones are now used to inspect roofs, power lines, and high areas, review soil and water distribution in fields, and even help law enforcement by using infrared sensing.

"The skills that our students master while learning about and flying their drones will include photography and cinematography, meteorology, and aviation," said Mr. Bennis. "This will prepare them for many other

careers that may not include drones."

Mr. Bennis and the students are thrilled to learn about the new rules and regulations, but they are also excited to learn about everything that a drone is now capable of. "I am excited to learn how to take pictures and make cool videos with a drone," said junior Ethan Panek.



Following the initial pilot course on drones, Mr.

Bennis hopes to offer this as a full course in the years to come so that all students have the opportunity to participate and experience a variety of

unique passions during their time at New Richmond High School.

With the opportunity to become a full course, many students will be able to learn valuable future skills that are included in drone operations and other non-drone applications. We are also hoping to develop some dual-credit college courses with a local technical school.

[www.newrichmond.k12.wi.us](http://www.newrichmond.k12.wi.us)

## GAMA Aviation Design Challenge 2024



will receive complimentary "Fly to Learn" curricula, which comes with flight simulation software powered by X-Plane. Teachers will guide students through the science of flight and airplane design, completing the curricula in approximately six weeks in the classroom or in four weeks through an accelerated program. Each high school will apply what they have learned by modifying the design of an airplane. The schools will then compete in a virtual fly-off, which will be scored on aerodynamic and performance parameters while flying a specific mission profile. Judges from GAMA will select the winning school based on that score and other factors.

The first place prize will include an all-expenses-paid trip for up to four high school students, one teacher and one chaperone from the winning team to experience general aviation manufacturing firsthand.

For more information and to register go to <https://gama.aero/opportunities-in-ga/aviation-challenge>

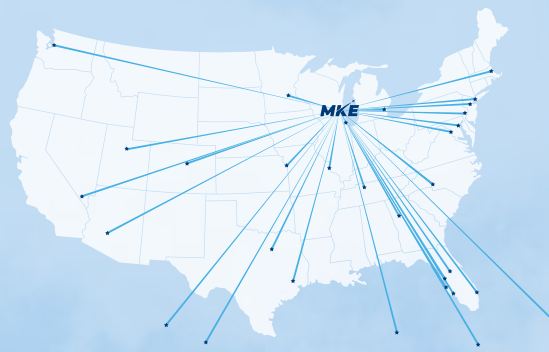
The General Aviation Manufacturers Association (GAMA) is sponsoring the Aviation Design Challenge to promote Science, Technology, Engineering and Mathematics (STEM) education through aviation curriculum and a virtual fly-off in high schools across the United States.

Registration is limited to the first 150 U.S. high schools (all types). Teams, which can be either high school classes or after-school programs, must include at least, but not limited to, three students, including at least two students of different genders, with the exception of single-sex schools. Only one team per school may enter.

Schools registered for the competition







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