AWS Member Profile

For Michael Gerhardt, welding has been an academic saving grace. Prior to discovering the craft in his freshmen year at Millard North High School, Omaha, Neb., he didn’t have the strongest grades. Now in his junior year of high school, and enrolled in afternoon welding classes at the Metropolitan Community College (MCC) Career Academy, Gerhardt says welding has bolstered his academic standing.

“Being in welding has improved my GPA significantly. I think that being able to do something that makes me happy has made me want to get better grades in all my classes, and I feel more engaged in those classes now,” he said. “Knowing that I will be welding in the afternoon makes me feel positive and energetic from the start of the day. It also helps that I need to get good grades so I can stay in the Academy.”

Looking back, Gerhardt says he enrolled in his high school’s material-forming class because he wanted to work with his hands instead of sitting behind a desk. He quickly found that welding piqued his interest.

“I loved it when the metal would heat up and turn red, and the sparks would fly. I was hooked from the beginning,” he recalled. “When I’m welding, I feel like I’m in my own world, and all I think about is what I’m doing and how to do a good job.”

With the help of his instructor, Jonathan Olson, Gerhardt learned oxyacetylene welding (OAW), shielded metal arc welding (SMAW), gas metal arc welding (GMAW), and gas tungsten arc welding.

“I was introduced to most of the processes of welding, and I was able to get a feel for what welding was like,” he said. “Mr. Olson was able to give me practical knowledge and advice, and I was then able to help others who were just starting.”

With his newfound skills, Gerhardt has built pieces he is proud of, including a square-tube park bench joined with OAW, SMAW, and GMAW. Varished wood slates were used for the seat and backrest.

“The reason why I liked the bench was because it was a challenging project, but in the end the bench turned out really good,” he affirmed. “The benches were sold to raise money for our program.”

In 2018, Gerhardt’s commitment to welding drove him to become an American Welding Society member. He continues to seek out opportunities that can help him further develop his knowledge.

“My dad told me about it since he knew about welding.”

The Welding Journal has shown me how much variety there is to welding, and how much there is to learn,” he explained. “We’ve been talking about trying to make it to FABTECH in Las Vegas this year since there are so many opportunities to learn and be around other people passionate about welding.”

Gerhardt has also challenged himself through competitions. Last year, he took part in the SkillsUSA state welding competition, earning seventh place with his team.

“What I liked about it was that we had to practice a lot for the competition. The competition was stressful. We had to work as a team in order to get done,” he recollected.

Gerhardt was also involved in the Metro Omaha Trade Invitational competition as an individual welder, coming in at 16th place. He’s looking forward to competing again this year.

By the end of his sophomore year, Gerhardt had completed all of the welding classes offered at his high school, so he dual-enrolled in afternoon classes at MCC, where he was able to broaden his knowledge in all processes, as well as learn spray transfer, oxyfuel gouging, and plasma arc cutting and gouging.

“At Metro, I’m able to advance my skills beyond what I could do in high school, and I’m able to get credit toward an associate’s degree in welding,” he said. “I like that I can do a different type of welding every day. I keep learning new things about each welding process, and I know that I will never be done trying to learn more and get better.”

Gerhardt also enjoys using the college’s advanced facilities.

“The Construction Education Center at Metro is new, and the building and equipment are top-notch. We have all the trades together in one building, and we have space for our work in our trades and for classroom time,” he said.

His plans for the future include earning an associate’s degree in welding from MCC. He hopes to one day become a pipeline welder.

“The reason for that is most welding on pipelines is done with stick [SMAW], and stick [SMAW] is my favorite type of welding,” he said. “Also pipe welding is very hard, and I want a career in welding that will be a challenge.”

Gerhardt acknowledges he wouldn’t be where he is now if it weren’t for the guidance of several dedicated instructors as well as the comradery of his fellow classmates.

“I have been very lucky to have supportive teachers in high school and at the Academy who take the time to teach me and are always encouraging. I feel like the Industrial Arts program at Millard North and my teammates in SkillsUSA gave me a place where I felt at home. Now at the MCC Career Academy, I’m surrounded by other students like me who love welding every day. I really don’t know where I would be right now if this career path hadn’t been made available to me,” he said.

He also credits his late grandfather, a jack-of-all-trades who worked for a general contractor, for influencing him.

“I wanted to be like him, so that is why I started getting involved with the trades,” he affirmed. “I hope he would be proud of me, and I wish he would have had the chance to teach me what he knew about welding.”
Joe Bailey is a testament to the saying, “If at first you don’t succeed, try, try again.” Attempting welding for the first time in high school, he found the shielded metal arc welding process to be anything but easy.

“I was super frustrated. I remember for the first 30 minutes I stuck one rod after another and couldn’t lay a good bead,” he recalled with a laugh.

Although he didn’t initially have a knack for welding, he seized an opportunity to take a longer welding class through Vermeer Corp., Pella, Iowa, a manufacturer of industrial and agricultural equipment. He was able to master gas metal arc welding (GMAW), learn how to inspect welds, and work in the company’s metallurgy lab.

“Learning how a metallurgy lab works and how to measure materials really intrigued me and piqued my interest,” he said.

As a high schooler, Bailey also started his own successful mowing business, called Minute Men Mowers, which employed several workers. Being a business owner taught him the significance of good customer service.

“I learned how to set expectations for a customer so they know what to expect from a job, the importance of meeting and exceeding those expectations, and how to deal with unhappy customers,” he said. “Those were not easy experiences, but they helped me a lot in my professional development.”

After graduating high school, Bailey took on a job as a welder at Vermeer, where he performed GMAW and air carbon arc cutting, tacked parts from blueprints, assembled chains for trenchers, and operated welding robots. The experience further solidified his love of welding and manufacturing processes.

In 2008, Bailey enrolled at LeTourneau University, Longview, Tex., to pursue a double major in materials joining engineering and mechanical engineering. During his college years, Bailey continued to expand on his work experience. He completed two engineering internships with John Deere and one with Vermeer. When asked what was the most interesting project he worked on as an intern, he identified his time at Vermeer’s metallurgy lab.

“We had a cylinder rod that had failed at a welded connection. In digging into it, I discovered one of the parts was made out of high-sulfur steel. I was able to then apply my metallurgical learning from school to that problem and see first hand the metallurgical phenomenon that happens when you weld on a high-sulfur steel and the cracks that it can create,” he recollected. “It’s really cool to be able to put the theoretical knowledge to a real-world problem.”

In between classes and internships, Bailey served his college as the student body president and secretary of the American Welding Society (AWS) Student Chapter.

Today, Bailey is a senior engineer at Vermeer, where he has been for more than seven years. His job entails providing welding and material-related expertise for manufacturing issues, product design, and root cause failure analysis; developing welding procedure specifications and procedure qualification records; and training engineers on welding, weld standards, and weldment design. His favorite part of the job is when something breaks.

“I get most excited when we have a failure that comes in and try to figure out why the part failed and how we can fix it moving forward,” he explained. “I just love that root cause investigation process.”

Bailey is also a professional engineer with the state of Iowa, as well as an AWS Certified Welding Engineer and Certified Welding Inspector.

Dedicated to propelling the industry, he has volunteered for AWS in multiple capacities since becoming a member in 2010. He has served as secretary, chairman, and member at-large of the Iowa Section; member of the AWS D14 Committee on Machinery and Equipment plus its Subcommittees (14.3, 14.4, and 14.9); member of the Chapter 5 Committee on Design and Welded Connections; and judge of Iowa SkillsUSA competitions. His dedication has earned him the Iowa Section Meritorious Award and the Dist. 16 Meritorious Award.

His volunteer work is spurred by the desire to give back to an industry that has given him a lot. A recipient of various scholarships from AWS and other societies, he is thankful he was able to complete his education debt-free. To pay it forward, he has helped the Iowa Section implement three different endowed scholarships through the AWS Foundation’s matching program.

“I am really excited to be able to reinvest what was invested in me back into the Society,” he said. “One of my favorite things I get to do occasionally is talk to students about their future education. I love to paint a picture of what they can do in the world of welding, and how they can help fund their education through AWS scholarships.”

When asked where he would like to see himself within the next few years, Bailey explained he wants to continue honing his technical skills while improving his management abilities. He also plans to continue serving AWS and its various committees.

Reflecting on his welding journey, Bailey credits the guidance he received from others, including AWS Past President Dave Landon and Dr. Duane Miller, for inspiring him to continue pursuing the craft.

“I did not get to where I am by myself. I have been incredibly blessed by other people investing in me and seeing where I can go. The fact that I am in welding is because others said, ‘This is a career that might interest you,’” he affirmed. “I’ve had great mentors along the way, and so I encourage readers to find mentors they can team up with. And if you’re already well into the industry, look for ways you can give back. Look for ways you can mentor others and help them on their journey.”