

HORIZONS

Views and Perspectives from
WEST MICHIGAN
AVIATION ACADEMY

Winter 2018

An Inspiring Flight Plan For Life

Did you have a life plan when you were 15? Karlie Platz does!

"I am interested in nursing, specifically in anesthesiology," says Karlie. "The medical profession requires a strong background in math and science, which is one of the reasons I chose WMAA."



Karlie Platz is building her "nest egg" for flight school.

The other reason has more to do with her sharp mind and thirst for knowledge. "My sister and I make the 70-mile round trip from Sand Lake every day because we want to be challenged. I love the AP and honors courses, and the way teachers engage with students. I can tell they want to be here."

Karlie has discovered an unexpected (and thrilling) challenge through the aviation program. "I fell in love with aviation when I took my required courses," she says. "I'm working toward flight school so I can learn to fly." Although aviation is not her ultimate career goal, she is committed to the program for her own self-development. "Flying is cool," she says simply. "A lot of us take the courses because they are different and fun."

Here's where more of that "flight plan" comes into the picture. Students invest approximately \$8,000 for flight school. Karlie knew her parents would be hard-pressed to put two kids through the program. So she has started a literal nest egg to pay for it. "My great-grandma raised chickens," Karlie shares. "I really liked them, so I built a coop and started raising my own." That hobby has turned into a business. She now cares for 50 hens and four roosters that supply her regular weekly customers with farm-fresh eggs. "I have saved about half of what I need for flight school," she admits with a shy smile. "I should have enough by the time I'm a senior."

So here's Karlie's plan. Commute to Grand Rapids every day. Learn everything she can at WMAA, including how to fly. Take AP and honors courses to hone her science and math skills. Pursue additional pre-med classes at Kent Technical Career Center. And while she's doing all that, she'll sell farm-fresh eggs to fund her aspirations. Wow!

"I don't have much free time," Karlie admits with a laugh. "But I love WMAA, and this is where I want to be!"

"I don't have much free time, but I love WMAA and this is where I want to be!"

Karlie Platz



Lou & Christine Seno value WMAA as a springboard to many career opportunities.

Partners in Aviation

Very few high schools focus on career readiness. And a relatively small percentage of high school students really have a vision for the future and what it might hold. But at WMAA, training and student aspirations converge as we seek to help each student identify and enhance personal talents through education.

WMAA donors Lou and Christine Seno see this convergence very clearly. “I have always been passionate about aviation,” Lou says. “I was impressed by the aviation program on my first visit, because I know the industry needs institutions like this if it’s going to flourish. Every time I bring someone here, I hear the comment, ‘Where was this when I was in high school?’”

Now we have an even broader career foundation on which to build, thanks to our expanding, laser-like focus on STEM (science, technology, engineering and math) education. The U.S. Bureau of Labor Statistics estimates that STEM fields will create nine million additional jobs between 2012-2022. “This school provides not only college prep, but career prep,” says Lou. “STEM education is a big deal. Yes, it’s a springboard to an aviation career, but it’s also a direct path to countless other opportunities. You don’t get this kind of focus in too many other schools.”

Christine agrees that WMAA offers unique opportunities to mold students. “I haven’t been bitten by the aviation bug,” she says with a laugh. “However, I see the comprehensive impact that WMAA has on students. They are creating lovely young men and women at this school...students with the essential soft skills that are so often overlooked in the quest for subject-based content. Those will stand them in good stead in any career.”

Education and careers should and do come together at WMAA. Approximately one-third of all our students are enrolled in engineering programs. One quarter of them participate in robotics teams. We have set up an exciting job shadow program with GE Aviation, and partnered with GVSU to expand our engineering classes. We are also pursuing more partnerships between education and the local business community, especially in the emerging biomedical engineering field. (See the next page for fascinating insights into that work.)

“WMAA is doing all the right things,” Lou notes. “The people and the programs are essential if we want kids to experience unique career opportunities like aviation. West Michigan presents a thriving aviation environment, and a strong technology and engineering culture. It makes total sense to build a local talent pipeline for our regional business community.”

“Every time I bring someone here, I hear the comment, ‘Where was this when I was in high school?’”
Lou Seno



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Pushing the Frontier

WMAA's Ground-Breaking New Biomedical Engineering Program

"Engineering is not disassociated from people," says Stephanie Monroe of WMAA. She and the 57 students enrolled in the first biomedical engineering course at WMAA are exploring the exciting connections between engineering and human needs.

What is biomedical engineering? It involves applying the principles and problem-solving techniques of engineering to biology, medicine, and human health. Practitioners must understand bio-electrics (such as how the human heart beats), bio-mechanics (how tissues work together) and the physics of forces and materials. Then they use that knowledge to design human-centered products for a specific market niche. (e.g. Fitbit, a prosthetic limb, Nike shoes)

"The human aspect is central," notes Stephanie. "We use a process called design thinking to help students grasp the needs of a user. That's sometimes tough for them." One of their early assignments was to design a prosthetic hand with simple materials such as string, wood and rubber bands (see photo). "They were pretty frustrated by the limitations. They also struggled to solve user needs," Stephanie explains. "I wanted them to design for a young mom. The hand had to perform routine functions like holding a bottle, or picking toys up off the floor."

Biomedical engineering is a relatively new and complex field of study. In fact, it's so new that very few colleges even offer it. Stephanie and the WMAA team talked with U of M and GVSU, two institutions that do provide this specialty program. "We adapted our coursework from what we saw in the colleges," Stephanie notes. "Those schools are very excited that our students will now have exposure to and interest in this field."

One of the most intriguing aspects of this work is the opportunity for industry partnerships. "Kids think differently than adults," Stephanie notes. "I can see us working with a company like Stryker, for example. They could present a challenge to the students to see how they would solve it. Perhaps they could introduce a new material and let students explore applications. There are also entrepreneurial, business and finance angles that can be taught as students learn how to monetize an idea."

WMAA is one of the few local high schools that could even attempt this kind of program. "We have a strong STEM program, and the resources such as 3D printers. These tools help kids grasp the opportunities of this exciting field," Stephanie says. "I have known for a while that there's untapped industry space where science and engineering could merge with business. Now we have the perfect opportunity to show students tangible real-world applications."



By designing this prosthetic hand, the students in biomedical engineering learn how to think analytically, using simple materials to solve real-world problems.

"We have a strong STEM program, and the resources such as 3D printers. These tools help kids grasp the opportunities of this exciting field."

Stephanie Monroe



WEST MICHIGAN
AVIATION ACADEMY

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Soaring Together

This school creates amazing and unparalleled opportunities for students. The per-pupil allotment we receive from the State as a charter school is not nearly enough to cover the true cost of our programs. Donors like you make it possible to provide the exposure and experiences that produce thriving, well-prepared high school graduates each year. We invite you to get on board with us by committing to an annual gift. Learn more by contacting us, or check out the Development Office online.

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Meggan George
Director of
Development



Kelsea Wierenga
Development
Coordinator

Introducing the Development Office!

The WMAA Development Office invites you to join us as we support our incredible students, staff, and programs. Come take a tour, make reservations for an event, or talk to us about how you can get involved. We look forward to hearing from you!

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