

“ADVANCED” EDUCATION

by George Colombo

The new Advanced Manufacturing program at Lake Mary High is giving students a new path to success in the high-tech economy

There’s a hardworking group of Lake Mary High School students who don’t necessarily intend to go to college after graduation. If your first instinct is to feel some concern and disappointment for this otherwise studious group, don’t be so quick to judge. The prospects for these kids are far more promising than you might imagine.

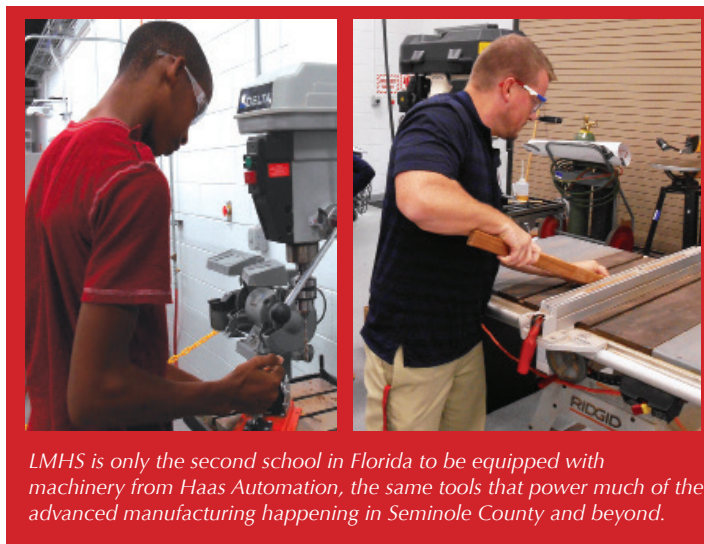
The group of several dozen students is actually on the cutting edge of America’s economy and at the forefront of a brand-new Seminole County Public Schools program. It’s the new Advanced Manufacturing Program of Emphasis at LMHS, one of the first such Advanced Manufacturing programs in the nation, and one with an impressive list of community partners – NASA, chief among them.

Lake Mary High’s new Advanced Manufacturing & Innovation Academy features a blend of drafting, carpentry, and advanced manufacturing curricula, all combined to address the specific needs of the new, high-tech manufacturing industry here in Central Florida. A casual observer might see the program as a revival of shop class – the default destination a generation ago for students (mostly boys) who didn’t plan to pursue higher education – but that’s a little like comparing your grandmother’s rotary phone to the cutting-edge smartphones in these kids’ pockets.

By the time these Advanced Manufacturing students graduate, they will have earned one or more official industry certifications, professional credentials that are not only nationally recognized but also highly coveted among employers.

“Certification is the key,” explains Dr. Jason Wysong, director of ePathways, the Seminole County Public Schools department that designed and oversees the program. “The Advanced Manufacturing curriculum is intense. It’s all computer-based and designed with input from manufacturing businesses in the area.”

Mimi Coenen, chief operating officer at CareerSource Central Florida, underscores the point: “These certifications mean that students will be employable in high-paying jobs and on a career



LMHS is only the second school in Florida to be equipped with machinery from Haas Automation, the same tools that power much of the advanced manufacturing happening in Seminole County and beyond.

track immediately upon graduation,” she says. “They’ll have a set of credentials that are portable and stackable.”

At the program’s ribbon cutting event in October, Michael Kotkin, Lake Mary High’s principal, put the program in a larger context.

“This is going to change the landscape of what it means to be a learner here in Seminole County,” he said to an audience of students, parents, and district leaders.

If the student body’s initial response is any indication, that change is already well underway. In its first year, the Advanced Manufacturing program is at capacity with 100 students and is gearing up to add another 75 students next year.

In fact, the entire program reflects an ongoing dialog between Seminole County Public Schools and the area’s manufacturing community. The strategic nature of the relationship between the school system and the business community was highlighted by another speaker at the ribbon cutting: Sherry Reeves, executive director of the Manufacturers Association of Central Florida.

“There’s a talent gap in the manufacturing sector today in our area,” Sherry told the audience. “This program prepares students for the high-tech jobs that today’s manufacturers are creating.”

Richard Sweat is a local entrepreneur who’s been advocating for a manufacturing program in Seminole County for years. The founder of .*decimal*, a medical device manufacturer in Sanford, Richard’s conversations with Seminole County Public Schools began almost 15 years ago.

“Basically, there are three ways that an economy creates value: mining, agriculture, and manufacturing,” Richard explains. “The prospective value of manufacturing here in Seminole County is enormous but it requires a workforce that has the necessary skills. That’s what this program provides.”

According to Dr. Wysong, the long-term impact of a program like Advanced Manufacturing on the area’s economy is potentially massive.

“Advanced manufacturing drives jobs,” says Dr. Wysong. “A reliable source of highly skilled workers makes it easier for manufacturers to do business here.”

But the program’s impact on the area’s economy will also be felt in the short term. Dr. Wysong explains that “developing skilled manufacturing workers is a district priority because it’s a workforce priority. We’ve established an Advisory Committee with 12 CEOs of local manufacturing businesses, and we’re listening to what they tell us.”

A thoughtful and challenging curriculum isn’t the only evidence of the district’s commitment to the Advanced Manufacturing program. Lake Mary High School has become only the second high school in the state of Florida to provide students with machines from Haas Automation, one of the largest machine tool builders in the world. As a result, Advanced Manufacturing students will graduate with a considerable amount of hands-on experience using state-of-the-art CNC (Computer Numerically Controlled) equipment.

As impressive as the Advanced Manufacturing Program of Emphasis is already, it represents only a first step towards the overall vision of the school district.

“In the future, our Advanced Manufacturing program at Lake Mary High will be connected to other Programs of Emphasis throughout the county via collaborative software,” Dr. Wysong says. “Our Modeling, Simulation, and Analysis program at Hagerty High or our Institute for Engineering at Lyman will be collaborating online with the Advanced Manufacturing program.”

If you didn’t think manufacturing could be glamorous, think again. Students in the LMHS Advanced Manufacturing program will soon be machining components for NASA to use on upcoming space flights. Lake Mary High School is only the second school in the state chosen to participate in NASA’s HUNCH Program (High-school students United with NASA to Create Hardware). LMHS students will solve authentic problems related to aerospace manufacturing while being mentored by staff from NASA’s prestigious prototyping lab.

Daniel Fink, the Advanced Manufacturing teacher at LMHS, notes that students enrolled in the program will achieve an understanding of manufacturing that is both theoretical and practical. He points out that while the program is focused on students who intend to pursue a career in manufacturing, there are several students headed towards an engineering track in college who are enrolled, as well.

“They’re here to get some hands-on experience in the fields they’ll be studying in college in their engineering programs,” Daniel explains.

Dr. Tina Calderone, chairman of the Seminole County School Board, was an early advocate for the Advanced Manufacturing program. At the October ribbon cutting event, she expressed the board’s hopes for the program’s future.

“It’s going to be a real game-changer,” Dr. Calderone observed. “This program is going to impact the students, of course, but we think it will also have a significant impact throughout the community, as well. The Advanced Manufacturing program is going to make a difference in Seminole County.”

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– Dr. Tina Calderone



1. Michael Kotkin, principal of Lake Mary High, introduces the Advanced Manufacturing program at its official ribbon cutting in October.

2. SCPS leaders gather to officially cut the ribbon for Lake Mary High School’s new Advanced Manufacturing & Innovation Academy.