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The newly opened **Innovation Center at Nazareth Academy High School** encourages students to develop real-life STEM skills through project-based learning. page 74

Limitless

The newly opened **Innovation Center at Nazareth Academy High School** encourages students to develop real-life STEM skills through project-based learning.

by LEIGH STUART photography by NINA LEA PHOTOGRAPHY



Gregory Severino posed a question: “How can we best facilitate a true STEM education for our students?” The answer has come to life in the form of the newly opened Innovation Center at Nazareth Academy High School in Philadelphia, of which he is director. An adaptable facility capable of evolving with students’ needs, the Innovation Center features the latest STEM (science, technology, engineering, and math) tools, and cutting-edge software students can use to explore concepts limited only by the imagination.

“The Innovation Center is the product of a couple of years of very careful planning and research,” Severino explains. “We had the space—formerly a cafeteria—but we had to put time and research into thinking about how we can offer students a place to share ideas and participate in ‘authentic’ projects—that is, projects that mirror work in the professional world.”

After some delays caused by recent world events, Nazareth Academy completed the In-

novation Center over the summer, according to Patricia Quinn, Assistant Principal of Academic Affairs for Nazareth Academy. “The space is absolutely beautiful,” she says, “and all classes will have access to the space.”

Severino suggests the team behind the Innovation Center left no stone unturned in bringing the proposed space to fruition. In addition to working with a leading consulting firm, the school sought the perspective of students. Those outreach efforts guided the school

as it began to outfit the Innovation Center. The result: tools for CAD design and printing, Glowforge laser cutting and engraving, Cricut vinyl cutting, and Arduino electronics, plus resources for students who wish to pursue studies in digital arts, video production, video game design, and more.

The Innovation Center is also home to a rocketry program, with Severino as director, and a robotics program moderated by Amy McDonald. Such programs represent a bold step forward for any school, let alone an all-female school such as Nazareth Academy, as it will open doors for young women with an interest in science and technology.

“We have one of the best rocketry programs in the U.S.,” Severino says. “We also have professional affiliations with NASA, Rowan University, and other schools that we are going to start having Zoom sessions with.”

All incoming freshmen from this point forward will take a “Foundations of STREAM” class (the R stands for religion, and the A for art), which “emphasizes building STEM skills for the meaningful application of technology for solving problems,” Severino says. “Students engage in design process learning and design thinking challenges, and they develop a strong vocational awareness of the skills needed for the 21st century workforce.”

Severino is extremely proud of the Innovation Center. He is even prouder of the ways in which students have embraced the space as a resource. “The Innovation Center is a flexible work environment,” he says. “The design of the space is tremendously important in bringing out the creativity of the individual. We designed the room to fit a variety of needs, talents, and functions—to facilitate growth. We tell our students, ‘Believe in yourselves, believe in yourselves.’ We want them to develop a sense of innovation and the confidence that comes with an entrepreneurial spirit.

“I constantly communicate to the girls that what they have to offer is meaningful—that they can contribute to the ‘Great Story,’” he continues. “We want to give our girls the absolute best we can, not only academically but also spiritually, intellectually, emotionally. We want our students to know we care about their growth in all facets.”

This holistic approach is echoed in the co-curricular projects that have sprung up in classrooms throughout the school. One upcoming collaborative activity invites students who are reading J.R.R. Tolkien’s *The Hobbit* to inscribe rings using the 3D printer and laser engraving technology. Potential Innovation Center projects may include national film competition work and Martian soil simulant trials, among others.

“It is one thing for a teacher to plaster a board with notes or teach an abstract concept in class, but when a student sees knowledge in use, that is a different level,” as Severino says. “It is when students apply that knowledge that deep, meaningful understanding happens.”

“We are very excited, especially as an all-female school, to offer this amazing, interactive space to our students,” Quinn adds. “We want our students who choose STEM fields to feel prepared and confident. I think the potential for this space and its learning opportunities is limitless.” ■



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