

Case study

Hillsborough County Public Schools



HP Z Workstations are a key element in successful high school STEM program

Industry

K-12 education

Objective

Support K-12 education in the STEM disciplines (Science, Technology, Engineering and Mathematics)

Approach

Hillsborough County Public Schools has standardized on HP Workstations for its STEM magnet programs

IT matters

- Independent Software Vendor (ISV) Certification ensures HP Z Workstations are high-performance platforms to run demanding industry-standard software
- Standardizing on HP Z Workstations simplifies the technology environment and support needs

Business matters

- Using industry-standard software and hardware improves student engagement and enables complex processing and problem-solving
- HP Z Workstation reliability and durability withstands student environment
- 5-7 year lifecycle delivers long-term value to public school system



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– Chris Jargo, assistant director for Career and Technical Education, Hillsborough County Public Schools



Hillsborough County Public Schools, serving Tampa and the surrounding area, is the eighth largest school district in the country with a student body of more than 200,000 students. It aims high. Its goal: to be the #1 district in the nation in student achievement. To accomplish that, the district has launched STEM (Science, Technology, Engineering and Math) magnet programs, where students use HP Workstations to tackle real-world problems with industry-standard technology.

Pursuing excellence through STEM education

Student opportunities in the Hillsborough County Schools far outstrip what most school districts can offer. “Our goal is to deliver excellence in education,” says Superintendent MaryEllen Elia. “I’m convinced that our students’ academic achievement continues to rise because we allow them the freedom to choose programs that interest them.”

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Students attending three of the district’s magnet high schools can earn Associate of Arts degrees while in high school by taking college courses during their school day. Students interested in the STEM disciplines (Science, Technology, Engineering and Mathematics) can choose from four STEM magnet programs:

- The engineering program is based on the Project Lead the Way (PLTW) model, a nationally recognized high school pre-engineering curriculum.
- The Academy of Computer Game Design program prepares students for college programs in video game design and animation.
- In the Computer Systems Engineering program, students study personal computer hardware and software in preparation for the national A+ Certification Exam, and later tackle the Cisco CCNA® curriculum in networking.
- The Biomedical-Biotechnology program, also based on Project Lead the Way, explores physiology, genetics, microbiology, public health and the concepts behind human medicine.

Larry Plank, director for K-12 STEM education in HCPS, says the district’s engineering program is nationally recognized. In part that is due to the continuing success of student teams from Middleton High School, the district’s flagship school for STEM education, in national robotics competitions. The school’s teams consistently place among the top schools in the nation.

“After-school opportunities are extremely important,” says Plank. “Research tells us that when students are given the opportunity to work outside the traditional classroom to apply and make sense out of the things they learn in school, it changes not only their perception about science or math or engineering, but it also gives them a richer understanding of why they’re learning what they’re learning.”

Technology helps student engagement

Technology is crucial to such opportunities.

“When new technology arrives at a school, the STEM students are generally very, very excited to use it,” says Plank. “They research and know what the tools of the trade are. They’re up to date on the latest and greatest technology. So when we provide the same environment for them that they dream about working in, that makes for very happy, very motivated students. That’s one of the reasons we use HP technology.”

Anna Brown, chief information technology officer, says HCPS embraces technology because it engages the best students. Students today are different from previous generations, she says, because technology has been a force in their lives from a very young age.

“Technology has transformed the learning environment for today’s students,” she says. “Students really are working and engaging with the subject matter and each other at a higher level with technology.”

She is confident that technology is at the core of the district’s successes in STEM education. Engaging and learning through digital learning environments is the norm for today’s students. “So we have to make sure we’re supporting that kind of learning to capitalize on that engagement, which leads to greater student achievement,” Brown says.

HP recommends Windows.



Why HP Workstations?

The district's choice to standardize on HP Workstations to support STEM education is based on numerous factors ranging from performance, reliability and longevity to value.

"HP Workstations are simply great computers," says Chris Jargo, assistant director for Career and Technical Education. They enable our students to use leading, industry-standard software with high performance demands, and they operate at a high level for a long time."

"By the time our students get into the work force, technology will have advanced again. That's why it pays for us to be in collaboration with HP as a technology company that brings a strong vision of technology's future."

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The district uses HP Z220 Workstations in most computer labs. But for more demanding software, it has chosen the HP Z400 Series Workstation equipped with Intel® Xeon® Quad-Core processors. Finally, the schools turn to

the HP Z1 Workstation for students working on high-end video projects. "It allows students to work on a 3D model, zoom in and show high-definition graphics that they're creating," Jargo explains.

Kim Moore, principal at Middleton High School, says much of the Project Lead the Way curriculum requires students to use industry-standard software such as AutoCAD, Autodesk, Adobe Illustrator and more. HP Workstations are certified by the software manufacturers to effectively run such programs.

"Using these tools means that when our students walk out the front door, they are prepared not only to be in college, but in many cases, career-ready as well," claims Moore.

Delivering value

Supporting students with high-end technology is a challenge. So HCPS makes its technology choices with a keen eye on value. The district keeps technology for a long time: its HP Workstations are expected to serve in the most demanding curriculums for a 5-7 year lifecycle, even when they're used from morning to evening.

Moore says HP Workstations hold up well to student use. "Teenagers are not always the most careful users. So having a computer that's durable makes life so much easier for us. It allows us to focus our attention and energy on helping our students achieve their dreams."

HP recommends Windows.

Customer at a glance

Application

K-12 STEM education

Hardware

- HP Z220 Workstation
- HP Z400 Series Workstation
- HP Z1 Workstation

Software

- AutoCAD
- Autodesk Revit
- Adobe

Standardizing on HP Workstations helps the district maximize value because having a single brand with consistent componentry reduces the complexity of the technology environment. “If I had five different computers on my campus, I would need more personnel to support them. With HP, I don’t have to worry. We have one point of contact, and always get a timely response.”

On-site HP hardware support is provided by United Data Technologies, the HP partner that supplies classroom technology to HCPS. UDT also stages the computers, arranges for them to be pre-imaged and deploys new Workstations in the schools, freeing the district’s technical staff for other tasks.

HP partnership supports STEM

Jargo says when the district has a new technology need, especially when launching a new STEM initiative, it reaches out to HP and UDT for advice and choices. “They’re always here to support us with whatever we need and provide us with new product options.”

The UDT account manager that works with HCPS participates on the district’s STEM advisory board. Moore says that the UDT team knows the vision behind the school and its STEM programs to help bring insight into how HP and its products align with that vision. “We work with HP and UDT in many different ways,” Moore says. “They are truly collaborators for us in the education of our students.”

Jargo notes that, while it is important for students to become familiar with the current technology, educators must also have an eye on the future.

“The reality is, by the time our students get into the work force, technology will have advanced again. That’s why it pays for us to be in collaboration with HP as a technology company that brings a strong vision of technology’s future.”

Why does STEM matter?

Why does STEM education matter? “Our students are going to have to compete in a global economy,” asserts Moore. She says concentration in the STEM disciplines will help to ensure that students are prepared to compete.

Plank points out that STEM is a national priority. Gap analysis has shown that despite having a high unemployment rate, the U.S. still lacks enough skilled workers to fill all the positions that are vacant in STEM disciplines.

“So we’re doing our part to ensure that we are producing the next wave of highly skilled IT and manufacturing workers, engineers, medical technicians and researchers,” he says.

Science and math education has changed drastically in the past generation to accommodate new standards and requirements, he says. STEM education, with its emphasis on preparing students for technology-driven careers, is an important part of that change.

“Anyone who comes into our classrooms is going to see great, exciting things taking place,” Moore says. “They will see our students engaged with one another, creating and designing and fulfilling their passion. They will see kids who enjoy being in school, excited about what they’re learning and engaged in the educational process.”

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