

MAKING THE Connection TO Career Technical Education

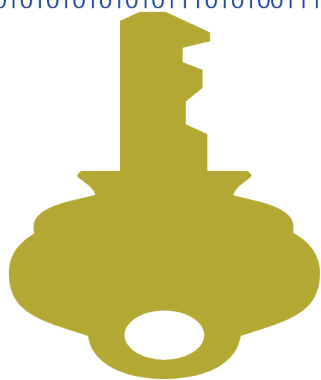
Thursday, December 20, 2018

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Utica Community Schools students kickstart careers in cybersecurity

MADALYN DISHMAN
UTICA HIGH SCHOOL'S ARROW EDITOR-IN-CHIEF

In a world where everything is going online, our safety and security is being threatened. According to Varonis, a security software platform, ransomware attacks are growing more than 350 percent annually.

In order to protect ourselves, we rely on cybersecurity specialists. Utica Community Schools and the state of Michigan are striving to encourage students to take on careers within this field by providing cybersecurity classes. The class is being offered through the district's Career and Technical Education program. Teachers within the department have gone through a variety of training and testing over the last 18 months.

"During the year prior to the launch of Cybersecurity at Utica High, I have been going through quite a bit of training. Some of it has been on my own, some instructor-led, and some has been completed by working cooperatively

with other high school instructors," Utica High teacher Craig Smale said. "We're getting ourselves trained so we can train our students, and have them get excited about different career options in this field."

The class itself is broken up into three components: the introduction to Internet of Things, computer hardware and software, and Cisco's Introduction to Cybersecurity.

Internet of Things relates to the connectivity of everything. Whether it is a smart phone or a smart home thermostat, if it is connected to the internet, it's within the network of Internet of Things. The class then moves on to examining computer's hardware and software.

This section aids students in preparing for the CompTIA A+ certification test which is the foundation to a career in Information Technology. After prepping for A+ certification, the class dives into their Cisco Introduction to Cybersecurity unit. By passing an exam, all students will have the opportunity to earn recognition by Cisco.

"I enjoyed working with the Packet Tracer, [a software-based virtual network simulation tool] and trying to connect certain smart devices to a smart home," Stevenson High senior Max Davis said. "I plan on being a full-time IT technician with a concentration in cybersecurity to help high-profile companies secure their data and sensitive information."

However, despite this structure, students have the ability to branch off from their regular curriculum and learn about other specialized topics. Teachers hope to create an IT lab for students to tackle individual areas of interest within the realm of cybersecurity and information technology.

"You can make a variety of games using Python language," Utica High senior Vladimir Popadic said. "[I could see myself using it in the future] not just making games, but also making gadgets with any type of purpose."

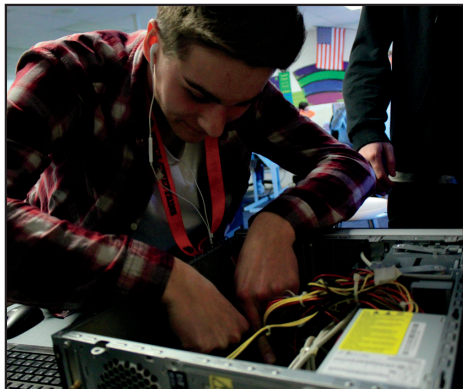
Python is a coding language associated with Linux, a computer operating system that rivals Microsoft's Windows.

Since cybersecurity can affect almost any industry, teachers say the need to understand cybersecurity will continue to increase.

"[I encourage students to take this class] to protect themselves in the future and to consider this as a career opportunity," Henry Ford II High teacher Tina Steele said. "There is a great amount of demand for students to go into this career field."

As many employers are looking for diversity and experience in multiple fields, being enrolled in Cybersecurity is projected to give UCS students the training necessary for multiple job fields.

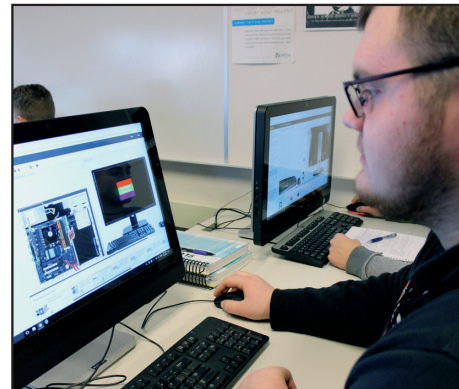
"To keep technical content in perspective, I'll interject examples of practical application that help connect it to my students' lives," Smale said. "It's important for students to understand that while we do need experts in cybersecurity, we also need experts in business, engineering, healthcare and many other industries that have an understanding of the importance, challenges and opportunities that cybersecurity presents."



As part of a cybersecurity lab, Utica High senior Blake Lenzing attempts to diagnose a computer problem. "The most exciting part about hands-on learning," Lenzing said, "would have to be that it's okay to make mistakes to push yourself to the next level of knowledge." Several staff members and students donated broken computers to the cybersecurity program.



Internet of Things (IoT) Smart Home Kit enables seniors Nicholas Mitchell and Alexa Reynolds to have a hands-on smart home system experience. Labs include Wifi programming & control. Labs include monitoring and controlling home temperature and humidity in a web browser; controlling a servo motor and turning on an LED with a smart phone.



Utica High senior William Edwards utilizes TestOut, an A+ certification preparation course, to complete a virtual simulation in his cybersecurity class. "I've learned how to assemble a computer motherboard and use the operating system Linux," Edwards said, "and just pretty much how to build a computer."

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