**Bond-Funded Tech Updates**

The school bond passed by the community in November 2017 has three funding phases (2018, 2020, 2023). Technology updates scheduled for the first bond phase are underway!

Upgrades include fiber maintenance of approximately 8 miles of **fiber optic data cable** and refreshing **wired switches and routers**. For the past several years, we have focused on wireless access points, so our wired infrastructure was due for attention.

The first bond phase also includes **AV improvements for 75 classrooms** in our secondary buildings and Peck Elementary including large format 75” screens (50 interactive/touch and 25 noninteractive), slot-in or external Windows 10 computers, document cameras, and audio bars with dual microphones. Over the summer, our tech department will also be preparing 25 mobile Chromebook labs for Language Arts classrooms and replacing teacher desktops with laptops.

This past fall, teachers were able to pilot several brands of interactive large-format screens with slot-in computers including QOMO, Boxlight, SMART, Newline, and Viewsonic. Mrs. Vicki Suida (from Peck) demoed a 75” panel by SMART. She found many ways to integrate the tech into her lesson plans, and students were actively engaged in their own learning!

**Wolfe Middle School’s Makerspace: Unique to the County**

Mr. Eric Gauthier conceived of the idea to build a **Makerspace in the middle school** a couple of years ago. He has been very proactive and has written many grants to help outfit this space with the most advanced classroom tech available. Students are currently learning about reductive manufacturing by utilizing a **3D laser cutter-printer** called a Glowforge. Students use a CO2 laser to cut reliefs or materials to build and design projects. The WMS Makers recently created products for the 5th annual Full STEAM Ahead District Showcase. The engineering design process has been implemented with project-based learning to create innovative products. For the showcase, Advanced Robotics, Building and Design, and Advanced Art partnered together in the Makerspace to create some amazing products. They used the Glowforge printer to make a variety of games and signs. The laser can cut, engrave, etch, and scorch materials, and students have learned the importance of material type and the strength of the laser for each application. By utilizing this new equipment, our students are truly on the cutting edge of technology in the state of Michigan. Please follow Wolfe Middle School on Facebook to get updates on all the cool projects the innovators of Wolfe are creating.
Robotics Is Elementary

Robotics is available at each elementary school. **VEX IQ Challenge** is an elementary competitive robotics program at Peck Elementary, where students gather to cooperatively build a robot and practice engineering skills. Teams earning the most points move on to the next level of competition. “Building the robot takes patience, teamwork, and driving skills,” says Sara, an engineer-in-training. Peck attended two major contests this year, the VEX IQ Challenge competition at Nissan (about 45 teams) and our own tournament at Peck (24 teams). Each robot must follow build guidelines but can have various modifications and designs. Each team is paired with another team to form an alliance, which works together to earn as many points as possible while tackling the field designed tasks. Communication is important, as is knowing what superior skill your robot has to maximize task completion. Families, fans and volunteers make this a tremendous robotics competitive experience.

Middle School Robotics Courses

Wolfe’s robotics program is constantly expanding, reaching over 650 students since its inception four years ago, with courses in Introductory Robotics, Advanced Robotics, Underwater Remotely Operated Vehicles, and Technological Jobs in Health and Human Services. Robotics students participate in a series of project builds to compete in challenges against rival teams utilizing Lego Mindstorms EV3 kits, 3D printing, and coding. The Underwater R.O.V. program allows teams to design, build, and test their own submarines. Students learn about buoyancy and how it applies to these underwater robots. The submersibles are fitted with a variety of sensors to collect data on temperature, water quality, depth, and visibility. Students engage in the **Engineering Design Process** in creating their designs and embrace failure as a tool to learn. These courses provide our students with a variety of opportunities to develop critical thinking skills, collaboration, and effective communication skills as a result of these programs.

High School ElectroPanthers

Center Line High School’s **FIRST Robotics Team 4815**, the ElectroPanthers, is in its seventh year and going strong. This year 25 dedicated students worked together to design and build a robot as well as market and promote the team through designing and maintaining a team website and updating social media. The team played hard and had fun competing in the home event as well as in an event at Troy Athens High School. Each event hosts 40 schools and includes numerous rounds of competition to allow each school to play with and against each other and gain ranking points.

Like every team, the ElectroPanthers had to make improvements and to fix their robot on the fly, which is always stressful and exciting. The FIRST Robotics Competition (FRC) is an amazing program that teaches gracious professionalism. The creative challenges developed each year keep students challenged and excited to come up with the best design that can withstand rounds and rounds of rigorous competition. Over half of CLHS’s team are graduating seniors this year, which includes 13 of 25 members. A few have been on the team since freshmen year or have been pivotal members of the build and drive team and maintained perfect attendance through this year’s high demand schedule. To name a few, Logan Bushor, Natalie Smith, Micaela Gallegos, and Anthony Bernardi have made a lasting impact on the FRC team with their extreme dedication and will be very missed next year.