



Austintown Fitch High School

STEM Newsletter

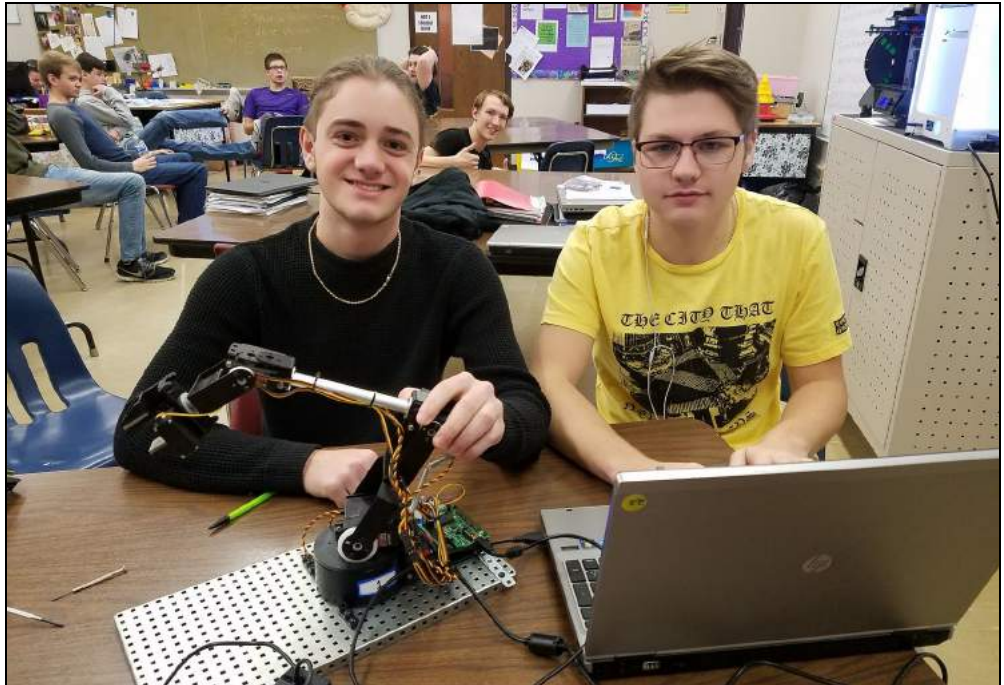


December 2017

Happy New Year!

Calendar

Dec. 25-Jan. 1- Winter Break
Jan. 2- School Resumes
Jan. 11- STEAM at Creative Arts Night at Fitch
Jan. 11- VEX League Play at MCCTC
Jan. 12- End of 2nd nine weeks
Jan. 15- Martin Luther King Jr. Day- No School
Jan. 19- 2 hr. Early Release
Jan. 25- VEX League Play at MCCTC
Feb. 15- Conference Night
Feb. 16- No School
Feb. 19- President's Day/ No School
Feb. 27- Mahoning Valley Miniature Bridge Building Competition at YSU



Victory and Andrew displayed looks of accomplishment while troubleshooting the robotic arms in Computer Integrated Manufacturing.

Season's Greetings STEM Families,

December was a month to remember. Students created their own holiday decorations by 3D printing and using other advanced manufacturing techniques. They traveled to AIS and taught 5th graders the power of creation and 3D printing. Guest speaker and computer analyst, Chris Askew, spoke with students about different programming languages and how to succeed in the field of computer software and analytics. STEM students are actively participating in many upcoming events in these cold months of January and February, such as VEX League Tournaments, Creative Arts Night, and the Mahoning Valley Miniature Bridge Building Competition. See the calendar on the left for a complete list of events. Also note the two hour early release in January was changed to January 19th.

We are taking applications for the Fitch STEM Program for the 2018-2019 school year. Click on the link on the left to apply. Seats are limited, so apply today!

APPLY NOW

Applications for the Fitch STEM Program are being accepted for the 2018-2019 school year. The link to access the application is below. Seats are limited.

[Fitch STEM Application Link](#)



Students can order Austintown Fitch STEM Program T-shirts. They were designed by STEM students and are being made by the Fine Arts Department. Please consider buying a shirt and supporting the Austintown Fitch STEM Program.



The STEM Team of teachers got 2nd place in the "Awkward Family Photo" contest held during Spirit Week. O-H!



Computer Science teacher, Robert Wyant (left), Chris Askew (center), and computer science students pose after Mr. Askew spoke with students about what it takes to have a successful career in computer programming, software development and analytics.

PRODIGAL
BRANDING • MARKETING • INTERACTIVE
CREATIVITY THAT CREATES BUSINESS



CHRIS ASKEW
DIRECTOR OF
DIGITAL MARKETING STRATEGY

Chris Askew gave a very informative and action-packed presentation on using creativity to create business as a computer programmer and analyst.



A student's custom-made 3D printed holiday ornament. Poor Frosty!



Mason teaches 5th grade students how to read isometric drawings to build their own puzzle cube pieces.



Robert and Austin pose with the holiday tree decorated with student's custom-made 3D printed ornaments.

Students created 3D printed holiday ornaments were featured on the STEM holiday tree.



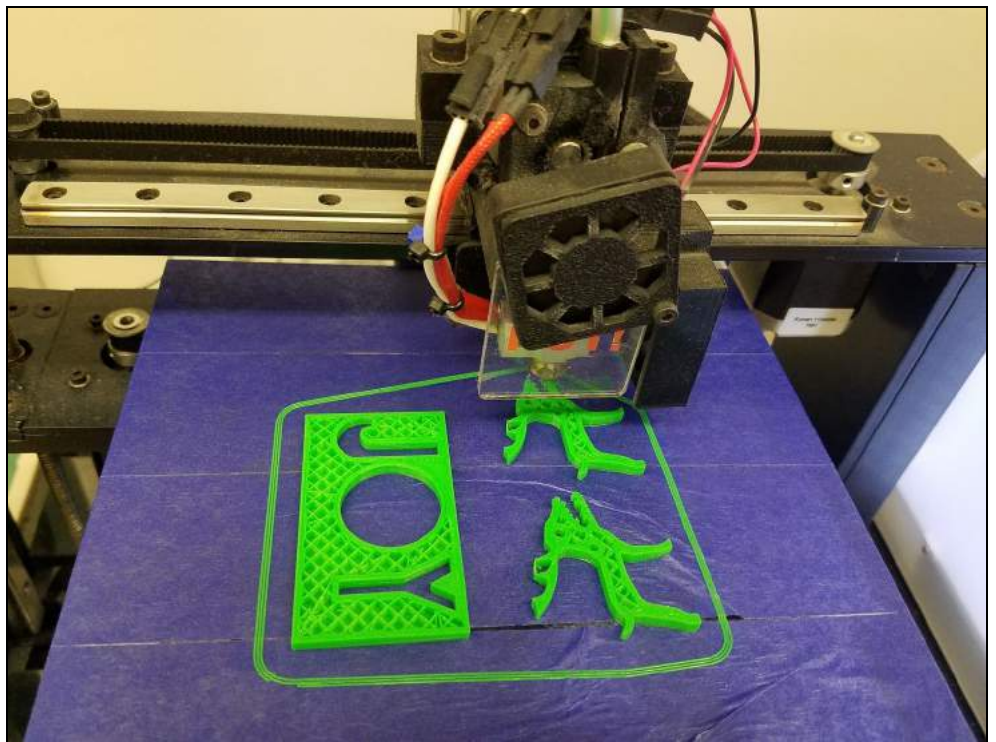
An eager 5th grade student gave a double thumbs up after solving the challenging 3D printed puzzle cube.



Omaree and Colin use precision measurement when designing a working model of their puzzle cube project.



Caleb and Celina posed with 5th grade students at AIS during STEM Ambassadors. Students learned to read isometric and orthographic sketches in preparation for using software modeling programs to create 3D designs.



The 3D printer worked hard in December printing out student-created ornaments.



Students and parents can access all assignments and projects via Google Classroom and PLTW.org.

9th graders

- ★ Students concluded their puzzle cube project by analyzing the performance of their design and judged their solution as viable or nonviable with respect to meeting the design requirements. They created working drawings for reproducibility and will be creating a package design to be for sale on the market. This project will be showcased in their portfolio.
- ★ Students designed, created, and 3D printed a holiday ornament to put on the 2nd Annual STEM holiday tree.

★ Students visited AIS and taught the 5th graders about isometric drawings, orthographic sketching, and how to use a 3D printer.



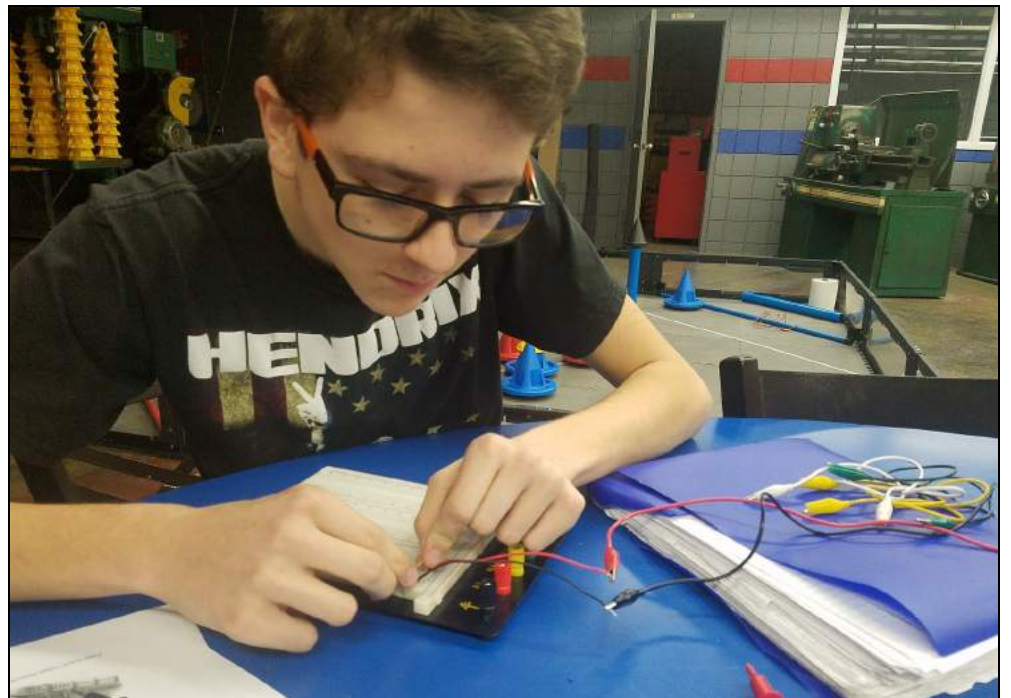
Students login to <https://my.pltw.org/> to access the curriculum and most assignments. Check it out!



5th grade students got to use a 3D printer during STEM Ambassadors.



A 5th grade student smiles proudly after solving a Fitch STEM student puzzle cube during STEM Ambassadors.



Squire assembles a breadboard as a model representation of a computer circuit board. Principles of Engineering students use breadboards to create accessible models of circuit boards.



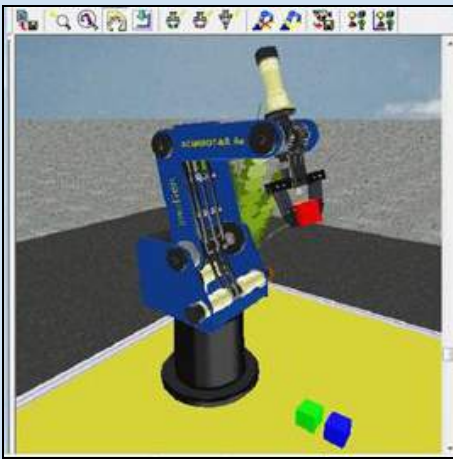
Jared used two laptops, a Chromebook, and a cellphone to troubleshoot his robotic arm. Problem-solving at its finest!



10th grade students are starting truss design in preparation for the Mahoning Valley Miniature Bridge Building Competition held at YSU on February 27th.



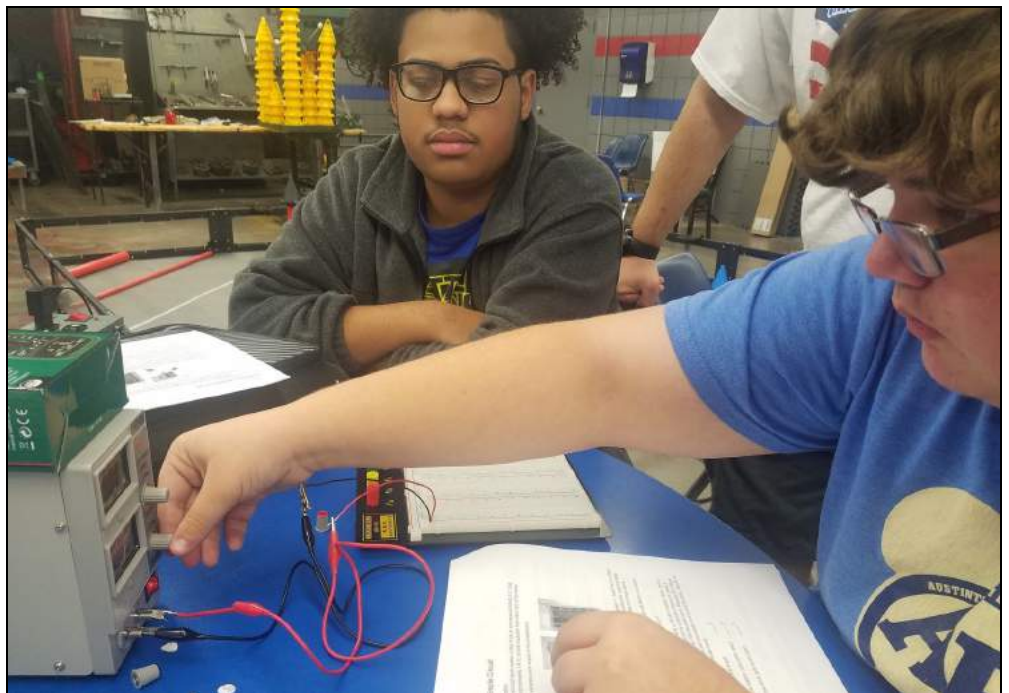
Mrs. Devine, Mr. Leskanic, Ms. Janis, and Mr. Wyant each wore a shirt with each principal's face during Spirit Week. Ho ho ho!



Students in Computer Integrated Manufacturing used RoboCell software to model a robotic arm simulation in preparation for building and controlling a robotic arm.



Seniors have all been paired with a local business owner or industry partner as part of the internship component for the Engineering Design & Development course.



Antonio and Zack work on their breadboarding skills to learn the basics of circuitry.

10th grade

- ★ Students are using breadboards to create working models of circuit boards using the concepts of voltage, resistance, series circuits, parallel circuits, and Ohm's Law.
- ★ Students created free body diagrams and calculated force vectors to create their own truss designs. In the future, they will model their trusses using 3D manufacturing techniques learned previously and use these learning to create working balsa wood

bridges in preparation for the Mahoning Valley Miniature Bridge Building Competition at YSU on February 27th.

Austintown Fitch High School
STEM Program
Pathway

2018-2019

"Ask not what I want to be
when I grow up, but what
problem do I want to solve!"




Click on the link below to
access the Fitch STEM
Presentation which highlights all
the details of the STEM
Pathway at Fitch.

[Fitch STEM Presentation](#)



Ms. Chine and Ms. Sroka pose with students on "Ugly Sweater" Day during Spirit Week.



Students are moving full
"STEAM" ahead as they
prepare for Creative Arts Night
on January 11th. STEM
students will showcase the 3D
printers, laser engravers and
some of their custom creations.



Computer Integrated Manufacturing student, Hannah works on two robotic arms using one as a model to troubleshoot the other.

Resistor Color Code



1 st Band	2 nd Band	Multiplier	Tolerance
NONE			20%
Gold		0.1	5%
Black	0	1	10%
Brown	1	10	1%
Red	2	100	2%
Orange	3	1,000	3%
Yellow	4	10,000	4%
Green	5	100,000	0.5%
Blue	6	1,000,000	0.1%
Violet	7	10,000,000	0.05%
Grey	8	100,000,000	0.01%
White	9	1,000,000,000	0.005%

Principles of Engineering
students determine the
resistance of various resistors
using the conventional color
coding system. They use this
knowledge while creating their
breadboards.

11th Grade

- ★ Students used RoboCell software to run a robotic arm simulation. Then they built their own robotic arms and used pick and placed programming to run their robotic arms.
- ★ Students in technology project designed, created, and 3D printed a holiday ornament to put on the 2nd Annual STEM

holiday tree.



STEM



The vision of Austintown Local Schools is to offer a united community with a proud legacy and a progressive approach to education. We prepare our students by providing an inspiring education with a focus on a future of unlimited possibilities. One way of extending progressive educational initiatives is through our many STEM (Science, Technology, Engineering & Math) programs and extracurricular activities starting in kindergarten through graduation. These programs provide a project-based and student-centered learning environment with a focus on 21st century skills to give our students skills to ensure success that lasts a lifetime.

Austintown Elementary/Intermediate Schools (K-5)



Registration Info

[AMS STEM Program Application](#)

[FITCH STEM Program Application](#)
(Now accepting applications for the 2018-2019 school year)

[STEM Newsletters](#)

[Find out more...](#)

[AMSSTEM.com](#)

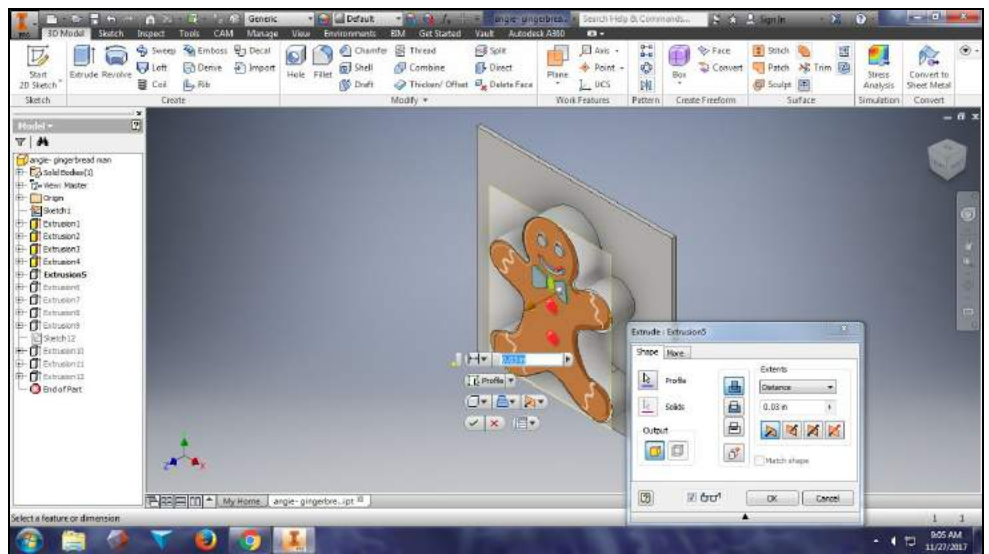
[21 WFMJ Feature 2/2/17](#)

[Weather Balloon Launch](#)

[Electrifying & Engaging Experiments in STEM Class](#)

Contact Information





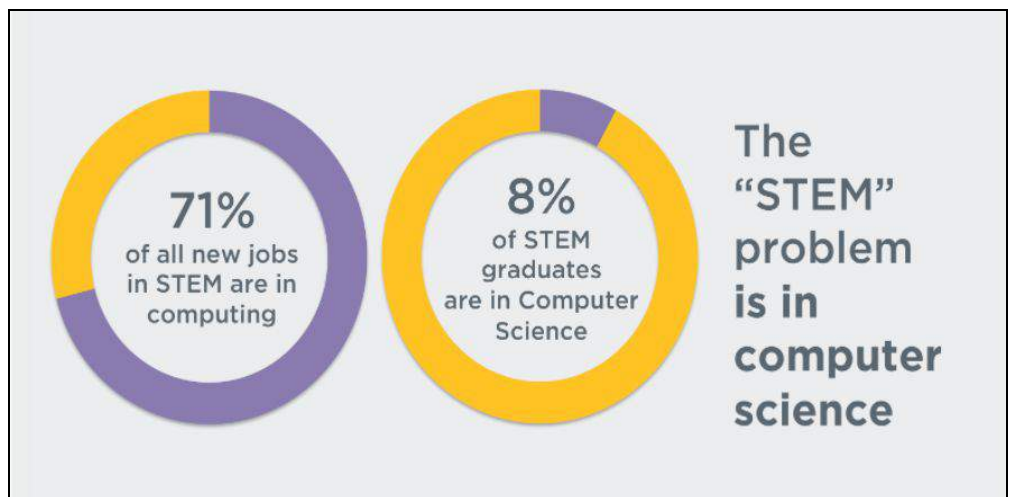
Above is a screenshot of a students AutoDesk Inventor file of their holiday ornament. This software program is used to 3D print students' creations.

12th Grade

- ★ Students are balancing customer needs, performance, materials, durability, costs and many other favors when creating their final Capstone project in Engineering Design and Development. Each student is paired with a local business and industry leader who acts as a mentor while working on their senior project.
- ★ Select students are working on a project titled *Renovate Youngstown*. They are creating working architectural drawings and using modeling software to renovate certain building in Youngstown. Students will then present their concepts to a local architectural firm.



Students are competing in several VEX League Tournaments held at the Mahoning County Career and Technical Center. Upcoming tournaments are January 11th and 25th. Stay tuned!

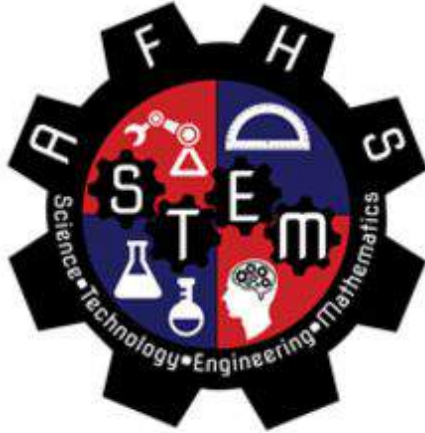


The Computer Science Departments is growing to keep up with the demanding needed in the upcoming job market. Currently, we are offering Computer Sciences 1, 2, & 3.

Computer Science

- ★ Students are using all learned knowledge of the Python programming language to code a game of internet Battleship.

STEM



The vision of Austintown Local Schools is to offer a united community with a proud legacy and a progressive approach to education. We prepare our students by providing an inspiring education with a focus on a future of unlimited possibilities. One way of extending progressive educational initiatives is through our many **STEM (Science, Technology, Engineering & Math)** programs and extracurricular activities starting in kindergarten through graduation. These programs

Registration Info

[AMS STEM Program Application](#)

[FITCH STEM Program Application](#)

[\(Now accepting applications for the 2018-2019 school year\)](#)

[STEM Newsletters](#)

Find out more...

[AMSSTEM.com](#)

[21 WFMJ Feature 2/2/17](#)

[Weather Balloon Launch](#)

[Electrifying & Engaging Experiments in STEM Class](#)

For more information about STEM programming and initiatives at Austintown Local Schools [click here](#).

Teachers:

Josh Folkwein jfolkwein@austintownschoools.org

Celia Sroka csroka@austintownschoools.org

Ashley Smith asmith@austintownschoools.org

Brian Umstead bumstead@austintownschoools.org

Robert Wyant rwyant@austintownschoools.org

Danielle Chine- K-12 STEM Instructional Coach

Email: dchine@austintownschoools.org

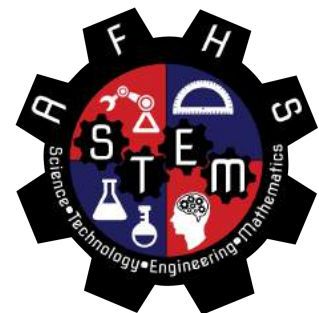
Austintown Fitch High School

4560 Falcon Dr.

Youngstown, OH 44515

www.austintownschoools.org

330-797-3900



[Austintown STEM Website](#)

[AMS STEM Student Website](#)

[Fitch STEM Student Website](#)

