

This 2016-2017 school, our school rolled out some fancy technology with some fancy results. The new Engineering Your World class added some high end computers with digital image processing ability. The students then employed a professional 3D modeling package, SolidEdge, and learned how to model and construct parts. With the digital processing capabilities, the students were then able to assemble multiple parts and then animate the parts of their assembly.

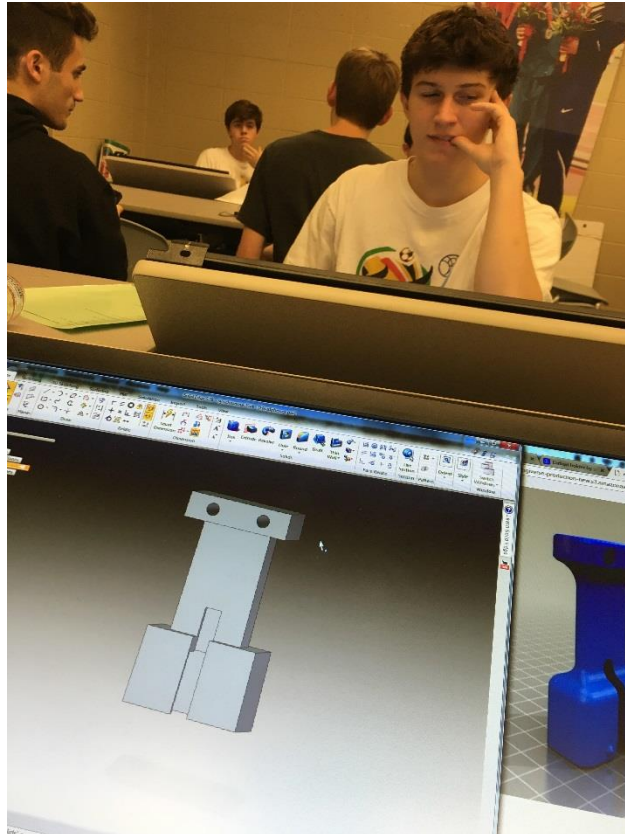
The students were able to utilize their new 3D printers to bring their designs to “life.” Once a student was able to hold their design in their hand, they were able to further investigate the design intent, and determine if design changes were necessary. They all seem to have enjoyed the journey so far.

The spring semester is starting up with digital electronics and programming micro controllers to perform various tasks. The platform will be Arduino and the students will work with various sensors and electronics to sense and navigate their world.

Here is what some of the students have said about their exposure to this fantastic technology:

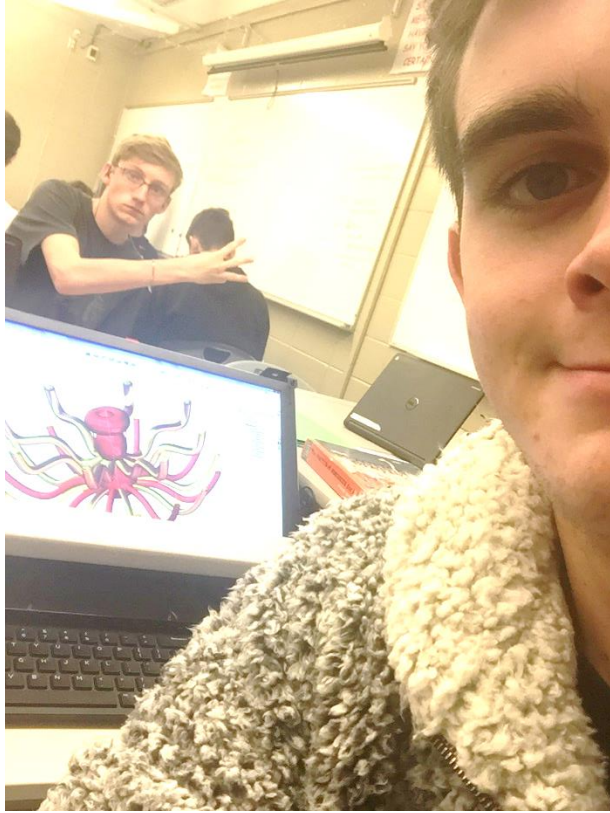
Jack M.

Before this year, my interaction with 3D modeling had been very limited. I had seen and hear people discussing CAD and other programs, however I had virtually no experience with it. Thankfully, this class has provided me with the opportunity to acquire technical skills that will be integral in securing a 21<sup>st</sup> century career. So far I've learned to model complex structure in the programs provided to us, as well as create assemblies of complex parts. As the class progresses, I hope to be able to use new technologies regarding electronics and robotics to learn even more. There is no doubt this class will prepare me for the future.



Harrison G.

If anything has impacted me from the technology in this class it would have to be learning about the construction of complex structures. You never really consider all the components of a part until you have to map it out in several different mediums. It has positively impacted me by encouraging me to observe situations in more perspectives than one.

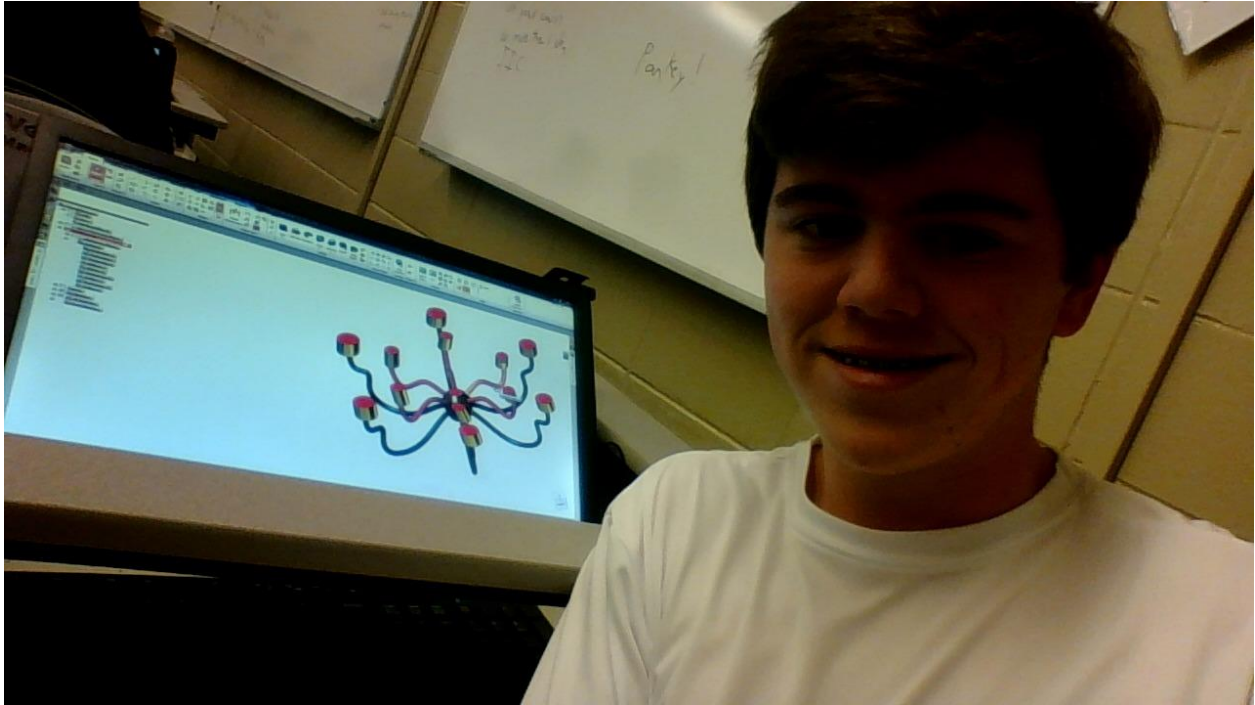


Technology has positively affected me so far in this class by inspiring me to be more creative and teaching me to be more resourceful. I look forward to using technology in the future to help with college, my job, and for entertainment purposes.

Parker C.

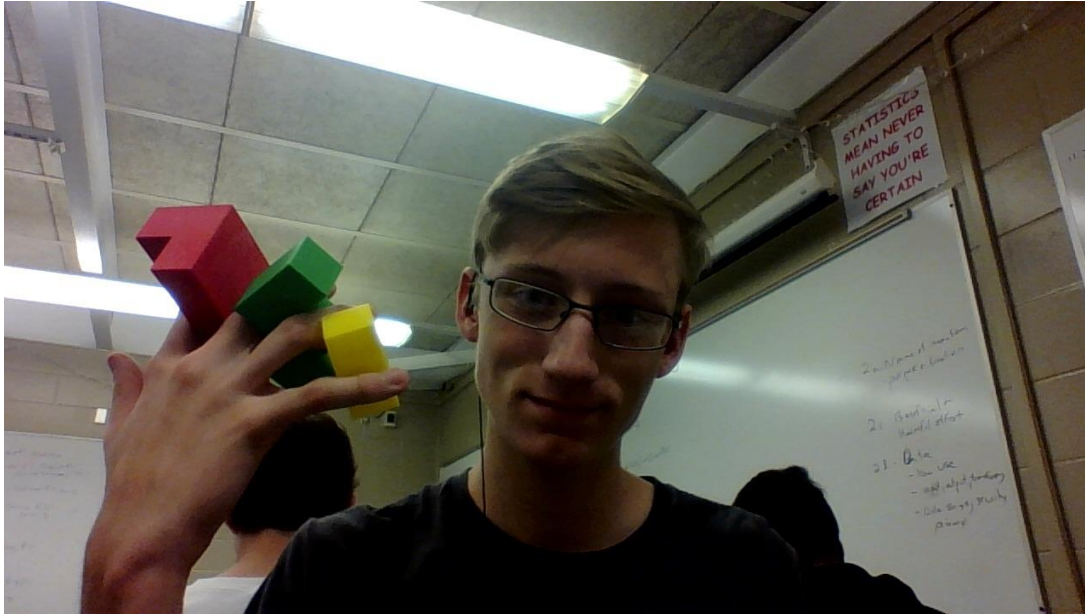
The technology in Engineering your world has positively influenced me because it has taught me how to problem solve and how dimensions work. Also, I have learned about 3D printing. Learning about 3D printing has shown me how far technology has gone and how far it will go. This class has been a great opportunity for me because of the technology that is only available in colleges and above. It has given

me a great advantage over other students around the country that want to get into engineering.



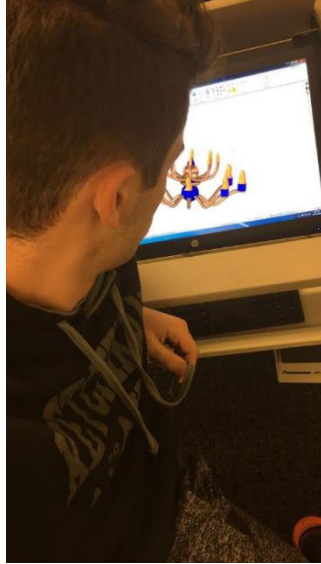
Jonah A.

The new 3D printer has been a thrill to use, and the block puzzle that I printed off with the 3D printer is really enjoyable to solve. The Solid Edge is a kind of program that I never thought I would be able to handle, but I have shown surprising aptitude for the designing and enjoy it to a great degree. The computer tables have been extremely helpful in being immersed in Dr. Rosenstiel's while also using the new computers to complete my designs. This one design that we were assigned to allowed us to design a chandelier. This allowed for the first creative element in the class along with the analytics of design and modeling. This assignment was a perfect integration of all the talents we had been taught beforehand, and the Solid Edge program along with the new computers allowed me to design this while also paying attention when Dr. Rosenstiel was teaching new methods of achieving our chandelier designing goals. I am looking forward to the further use of the 3D printer and the robots that will arrive some time later in the year. This class has allowed my creativity to shine, and the new technology has added a touch of enjoyment to our assignments.



Gabe I.

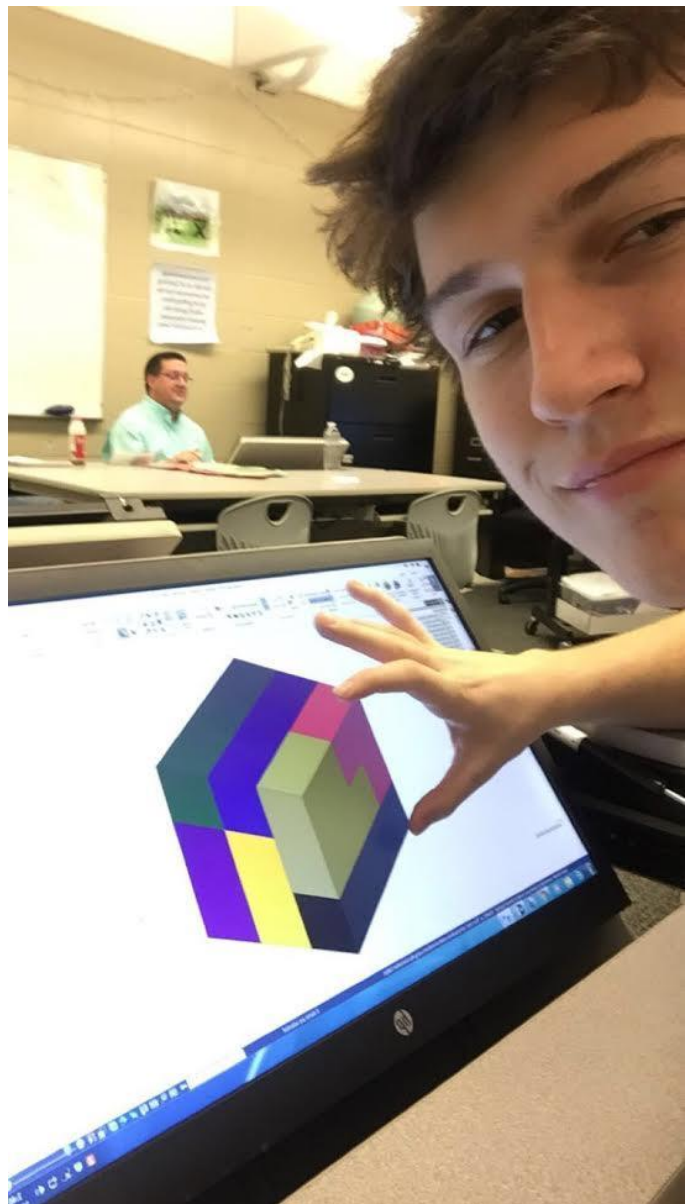
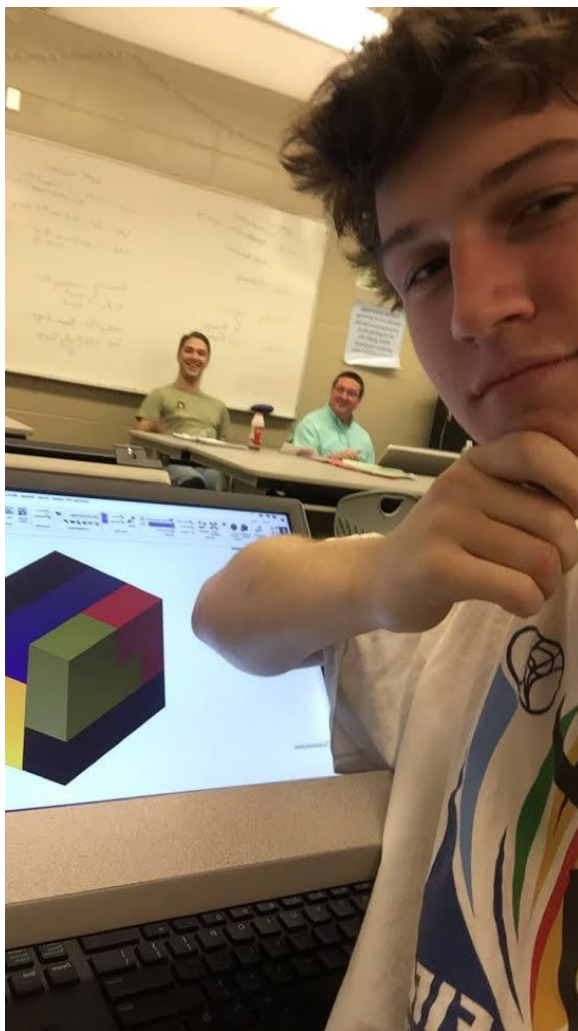
The technology in this engineering class has positively affected my life as a whole. I have learned some of the basis for engineering and designing, as well as learning how to work a 3D printer. If were ever to go into engineering this class has given me the basic synopses of what it will be like, which gives me a better perspective on the field of engineering. I have learned that the most basic parts of machines are very complex and due to the programs on the computers we are given, I have learned how to build more realistic machines or objects through complex design. Prior to this class, I had no experience designing part and had almost knowledge about engineering. The technology in this class has given me the opportunity to learn engineering unlike many have ever done before.



Spence H.

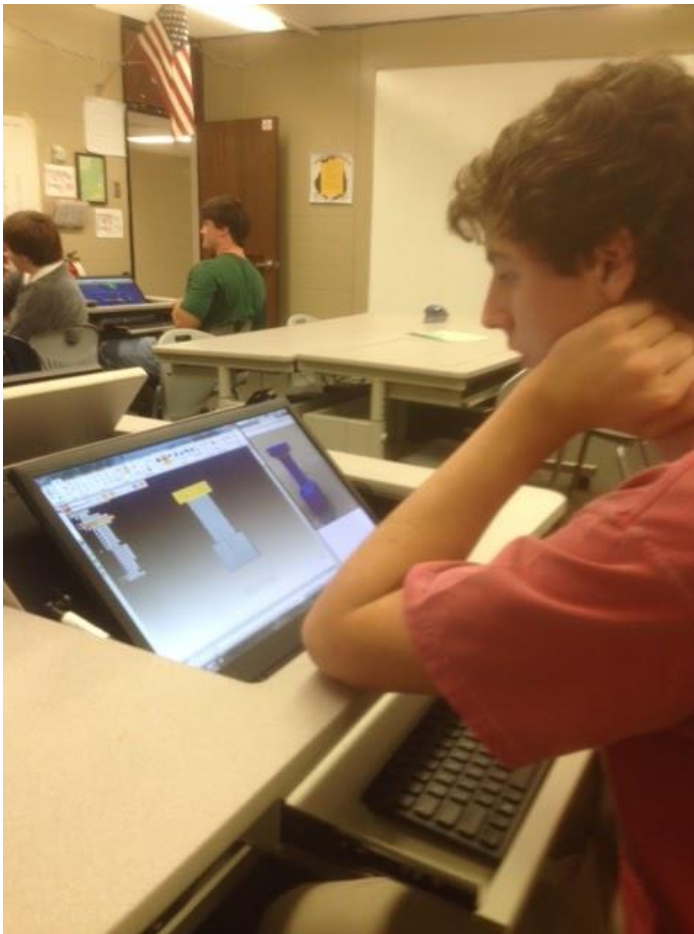
Technology has impacted the use of engineering in this class a lot. Without technology, we would not be able to model anything. Also, we could not 3D print without technology, which helps us learn a lot about the future of production. Everything we do in this class requires technology except for hand-building, which we rarely do because we take advantage of the technology we have a hold of.

Prior to this class, I had no experience working with modeling programs. However, our projects have introduced me to different skills and expanded my visions on how I can incorporate technology into other areas. While I still consider myself a beginner, my exposure to technology in this class has motivated me to find ways to utilize technology in other areas of my life. This class has shown that computer-based skills can be beneficial even if engineering is not your primary field. I look forward to expanding upon the foundation provided by this class and incorporating technology within my interests.



Ford W.

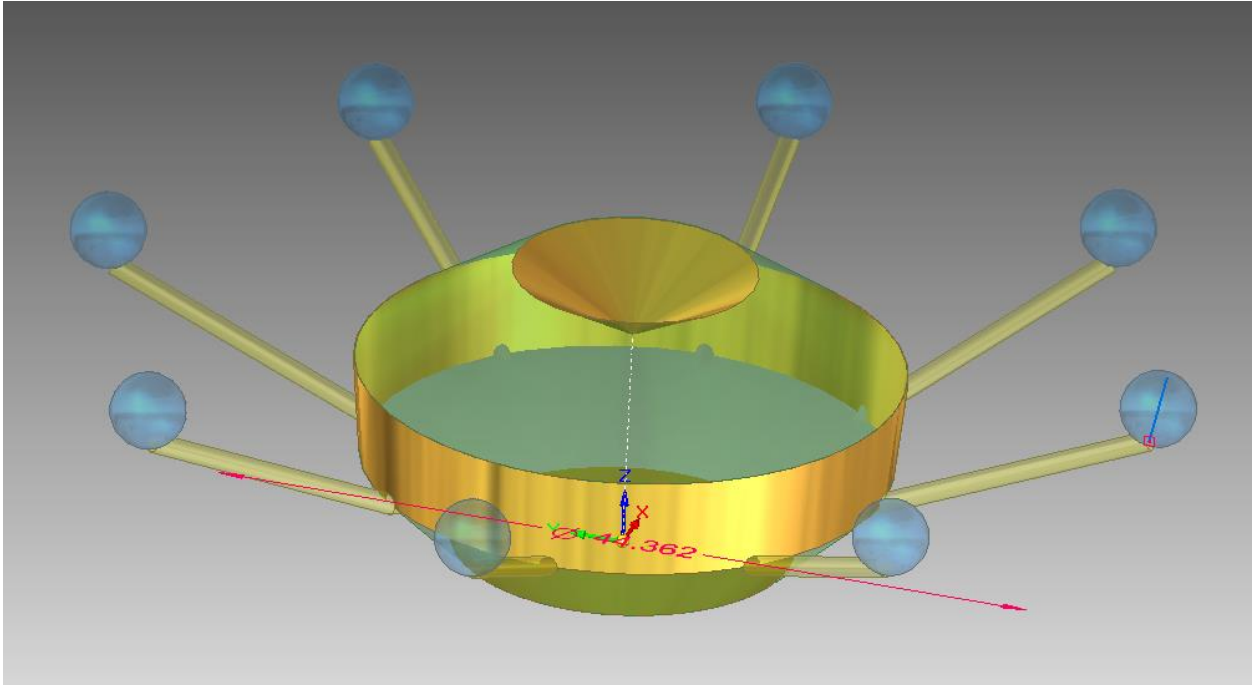
Technology has really helped my learning in Engineering Your World. The computers and 3D printing have taught how to print 3D models. When I model an object, I have to image how to design it a 3D space and use 2D shapes to create a 3D picture. This will help me in a future job where I would have to be familiar with the 3D software. The folding desks have also helped my modeling ability. They allow me to draw models and 3D print in the same space which helps me.

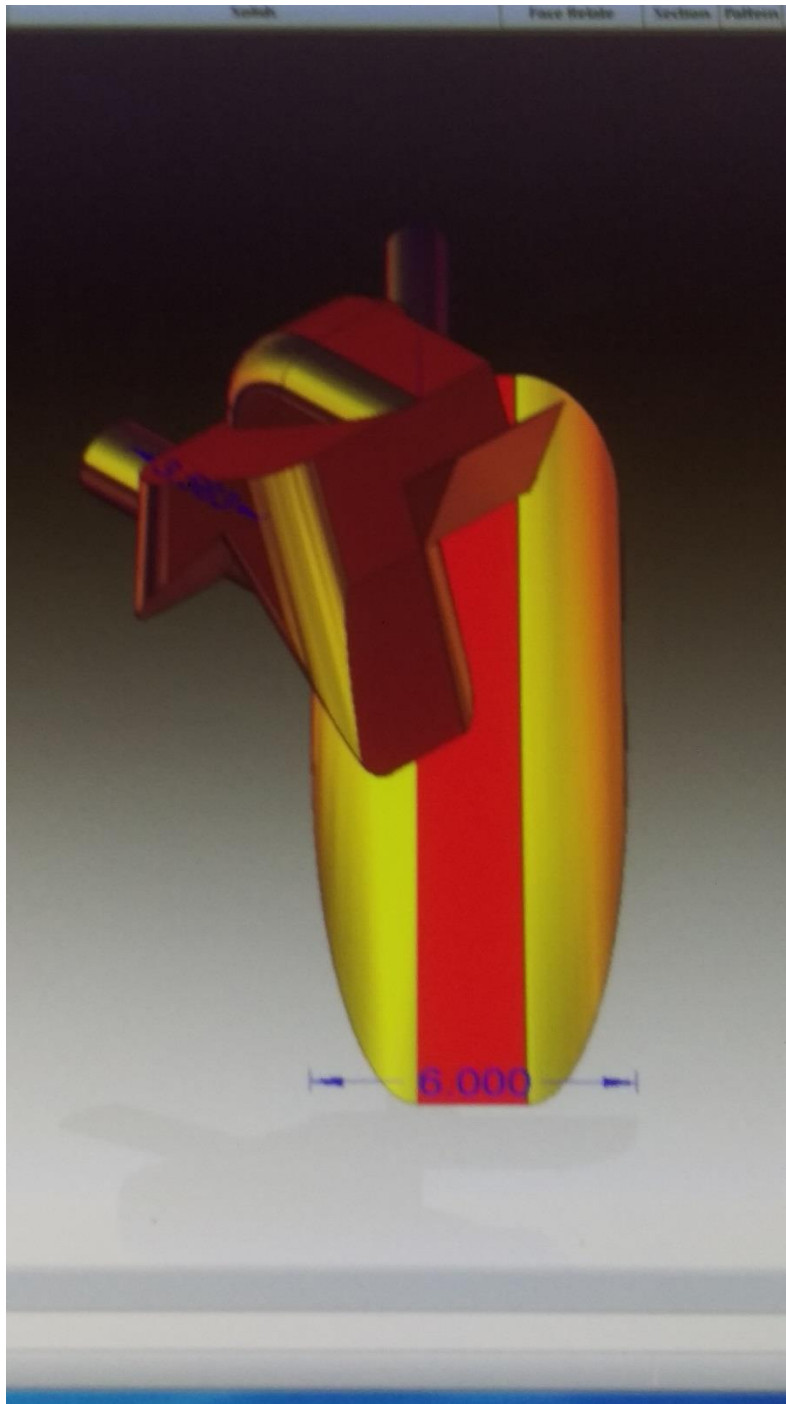


Carter B.

Technology has a major impact on me in the classroom. Technology, such as canvas, has helped me stay up to date with my assignments, access documents, and know test dates. The use of chromebooks in the classroom has made it much easier to take notes and access documents in class without the use of paper. Technology is very useful and needed in the modern day classroom. I am looking forward to using technology throughout my life to make it easier for me to communicate with others and to get work done more efficiently.



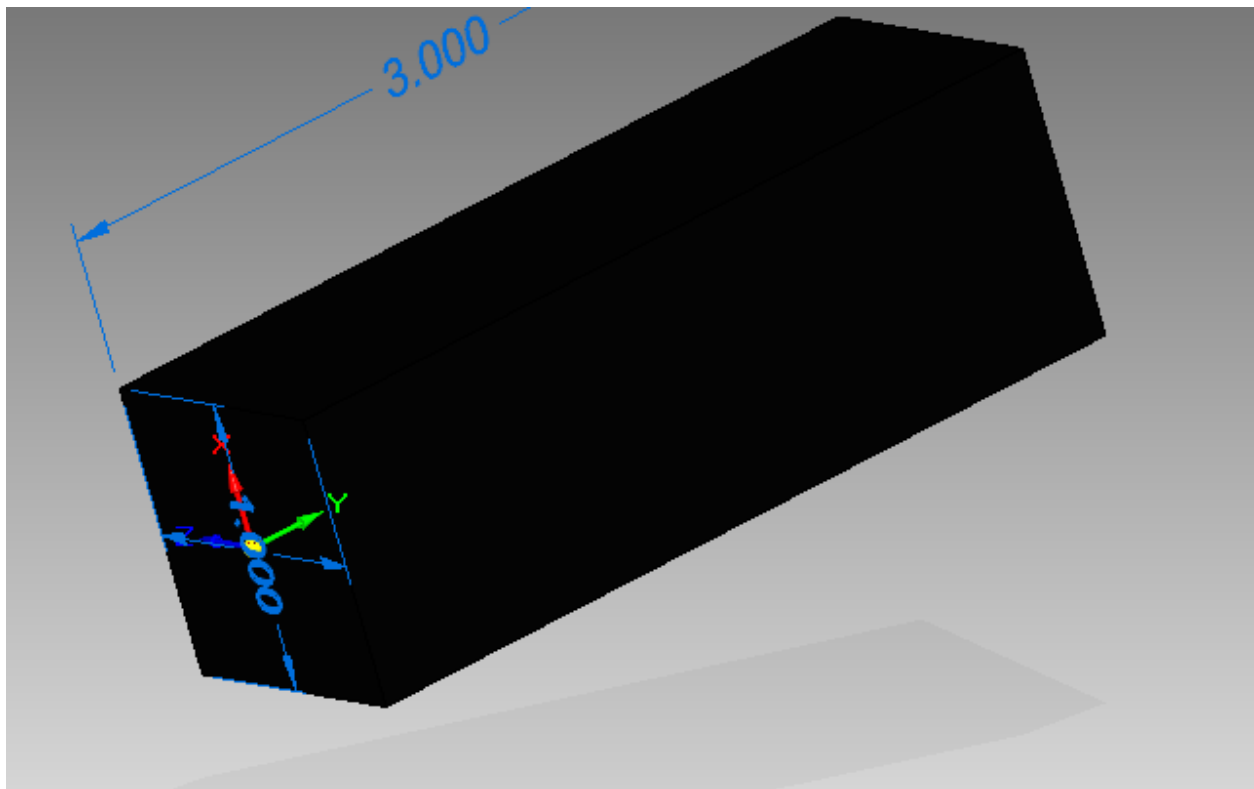




Technology has impacted me because for one it has given me something to do that would not normally do. This has its benefits in my opinion because it can make me more useful in life by something someone doesn't. It also has impacted me because it give me the freedom of creativity to make something cook and I can call it my own creation. The technology gives me the tools to make these things.

Wes C.

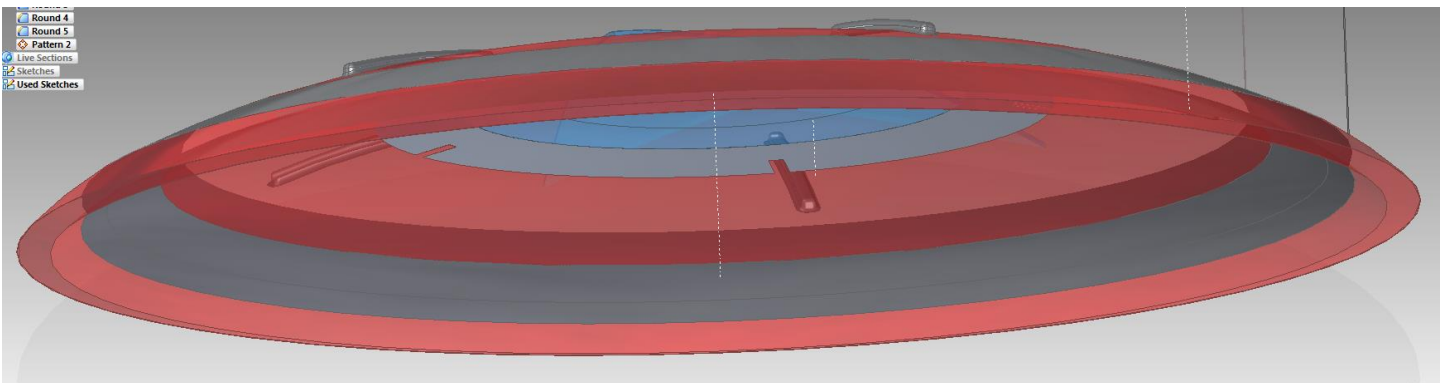
Technology has had a positive impact on my life in school. It has helped me stay focused in class, keep up with due assignments, and see test dates. In engineering, I am able to use software such as computers, 3D printers, and solid edge. I am looking forward to what this class has in store with more technology.



From my experience with technology, I have have found that there are always pros and cons but truly the benefits outway the harms. You can find that technology connects the world and creates a competitive society. It keeps the world fast paced and always improving. We always have something new and improved. The quality of life increases with the higher technology and with quality leads to more happiness. Technology is directly related happiness. In my personal experience. Technology helps keep me moving but also is extremely distracting. It can lead to hours of pointless activities. But it for sure makes my life easier by means of productivity. Hopefully I am able to connect most of the world and supply the world with equal oppourtunities through technology.

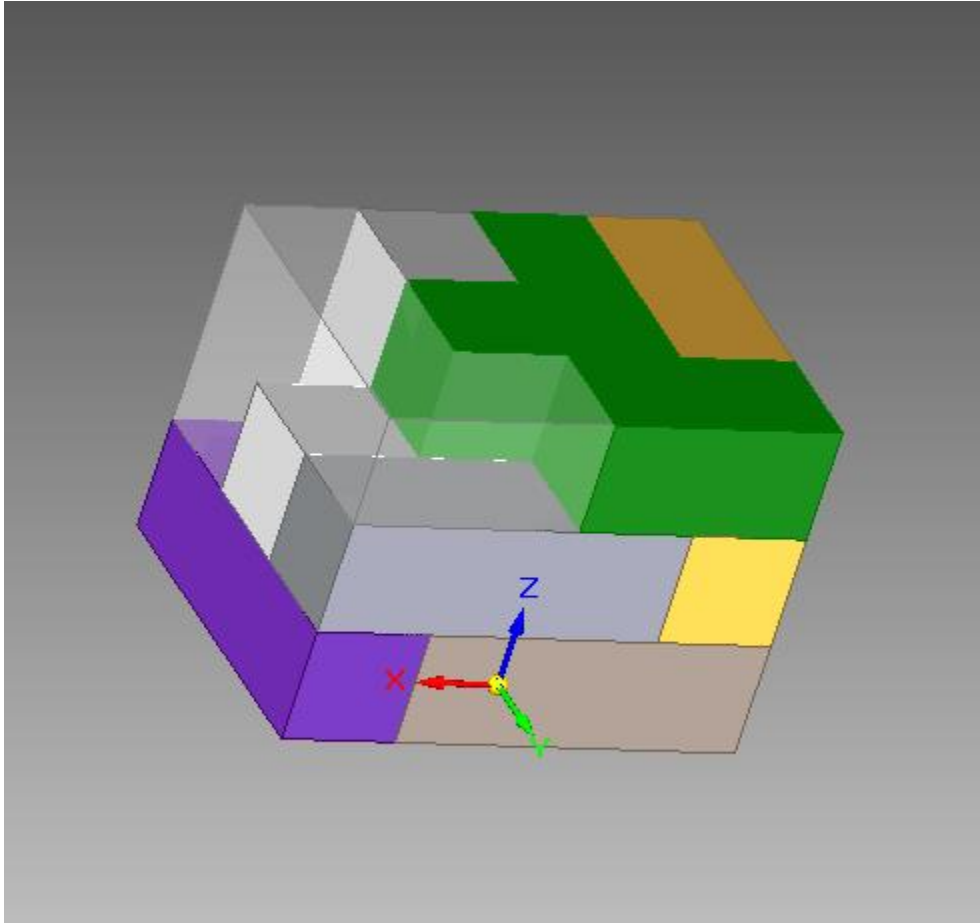
Lilli F.

The technology in this engineering classroom has been extremely beneficial in teaching me how I can take my ideas and create something tangible and practical out of them. I'm learning so much about soft wares such as Solid Edge that will help me exponentially in the future engineering careers I hope to pursue.

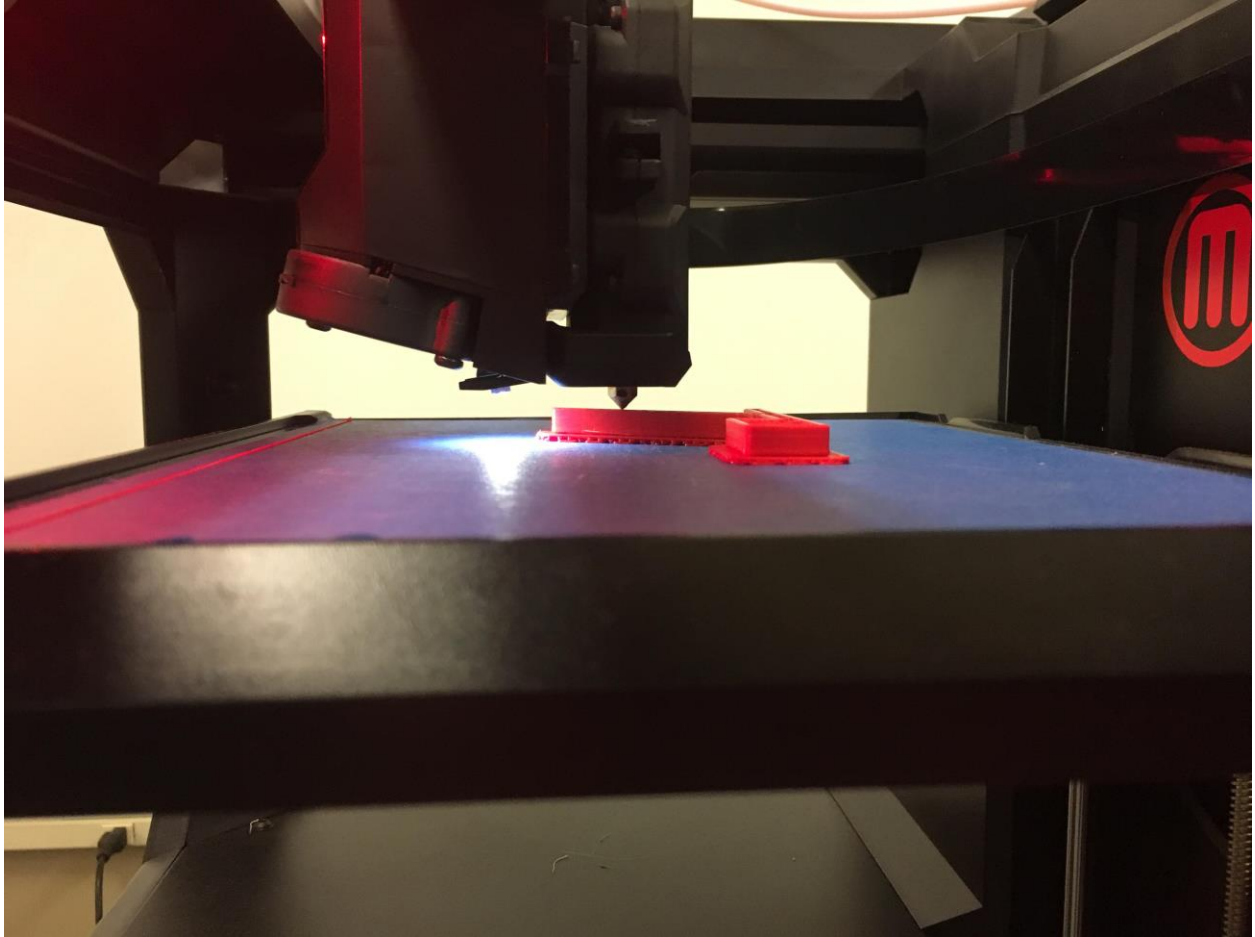


Ellis H.

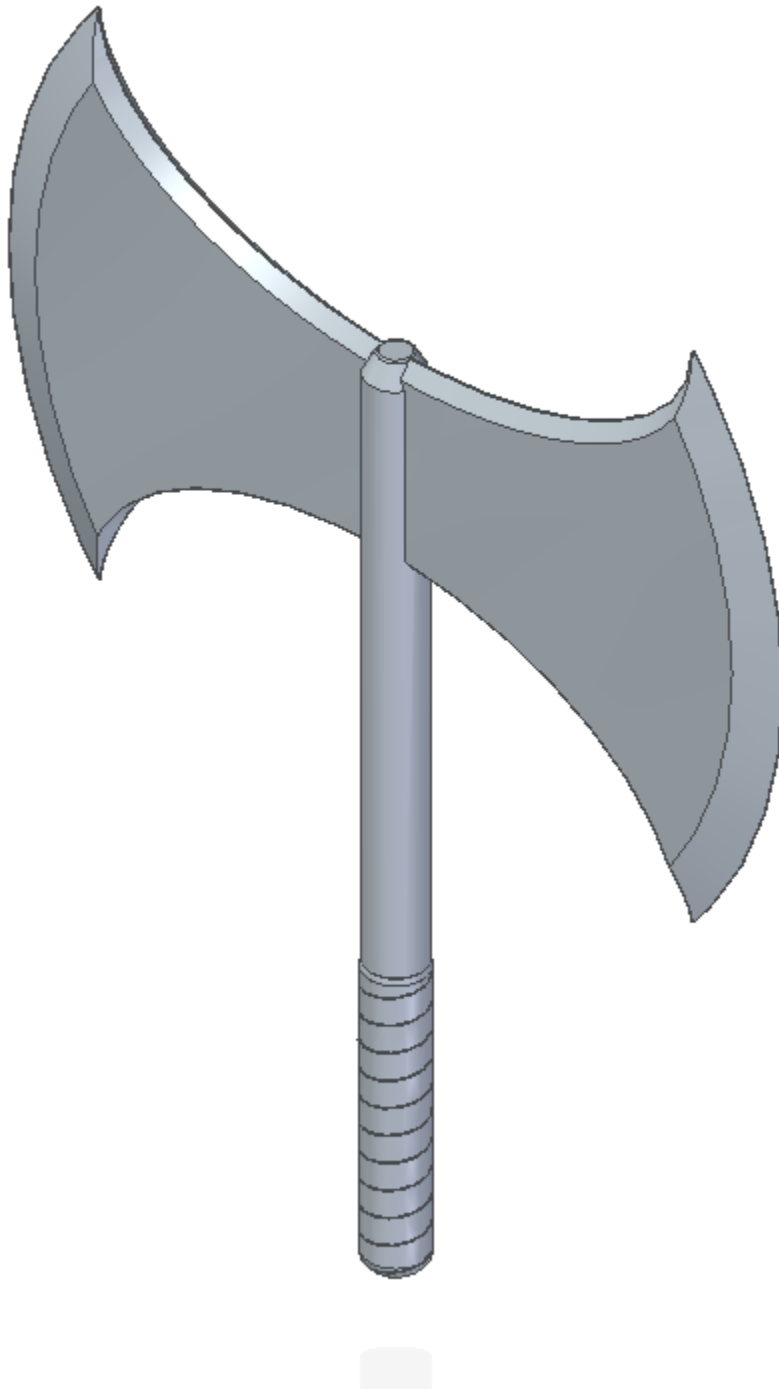
Engineering your world helps me immensely and could help everyone that takes this class. Please create engineering your world adv. This picture for example is an example of this class



In Engineering Your World, we use various technologies that have greatly improved my educational experience and allowed me to learn more and be creative in the process. We use Solid Edge Software on our desktop computers mounted to the desks to model our wildest inventions that we have complete creative freedom over. Once we have modeled these objects, we can print them directly on our 3D printers in the room. This class has been a wonderful experience and has made my school day more interesting.

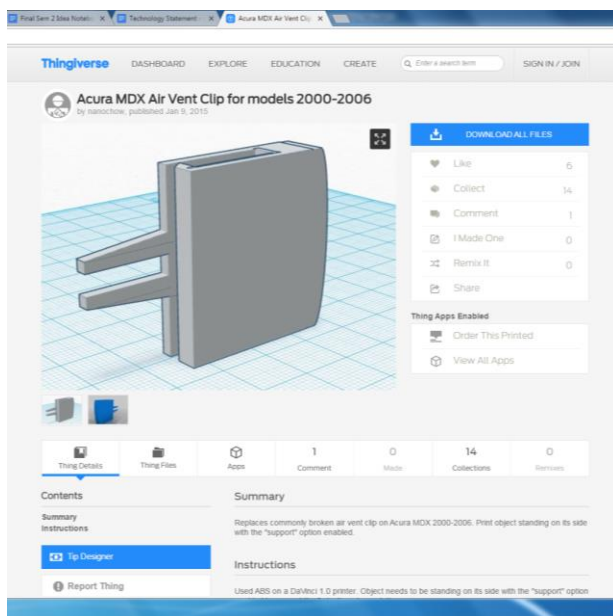


Technology has allowed me to create amazing things. In modeling and 3d printers, I have developed amazing constructs and great designs. Some are simple, and some are complex. It allows me to stretch my creativity while using my scientific mind. The computers are really convenient as well



Laine A.

This year in Engineering, I have loved being able to work with technology to construct actual objects that we can use to make our lives better. For example, about a month into the class, I broke the air conditioning tab on the vent in my car. I realized that I could use another existing tab as an example, and construct a copy in Solid Edge that I could then print and use in my car as a replacement. I found an existing file for the vent tab using an online library, but it would have been very easy to design the tab myself using the resources available to us in the Engineering classroom. Mr. Rosenstiel helped me to print the tab, showing me how to use the Makerspace technology to transfer the file and load the printer with the plastic filament. After letting a few copies of the tab print overnight, I was able to replace the broken tab in my car. The tab still works today, even though it melts a little when we use too much heat. It was amazing to see that I could solve problems I encountered in my day-to-day using the resources available to me in the classroom, and I know that this experience can be translated to new innovative designs that are more complicated than just a car vent tab.

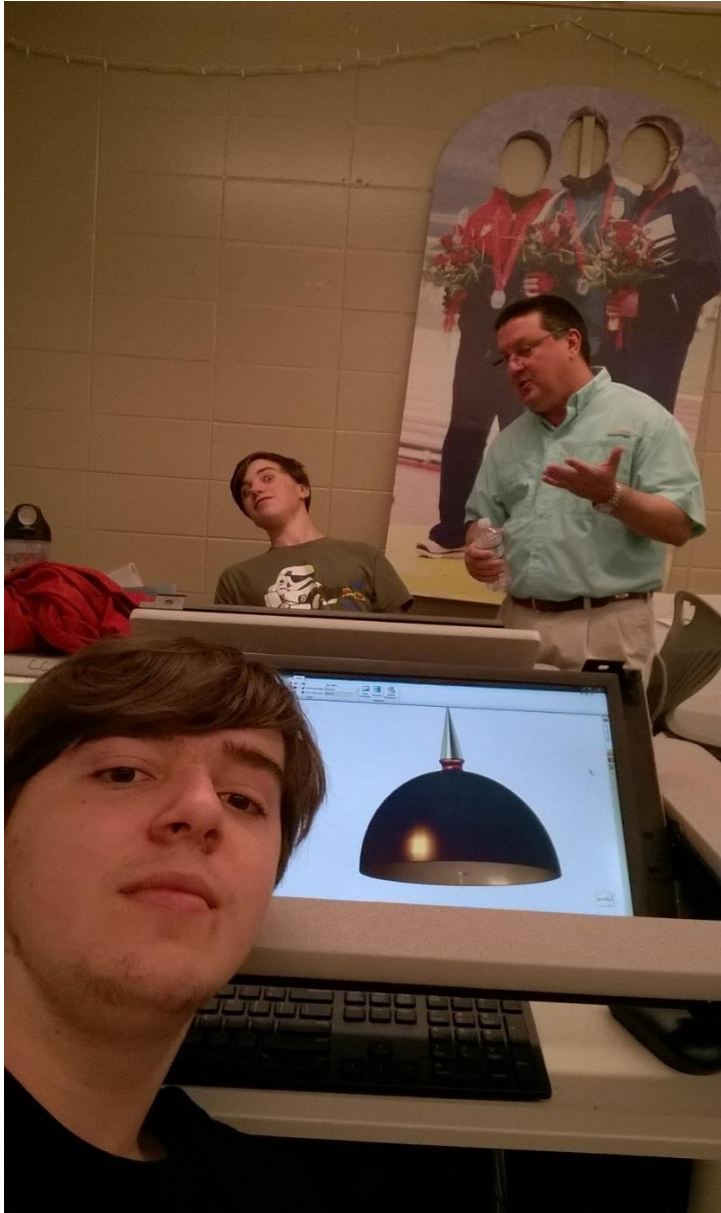


File for my vent clip



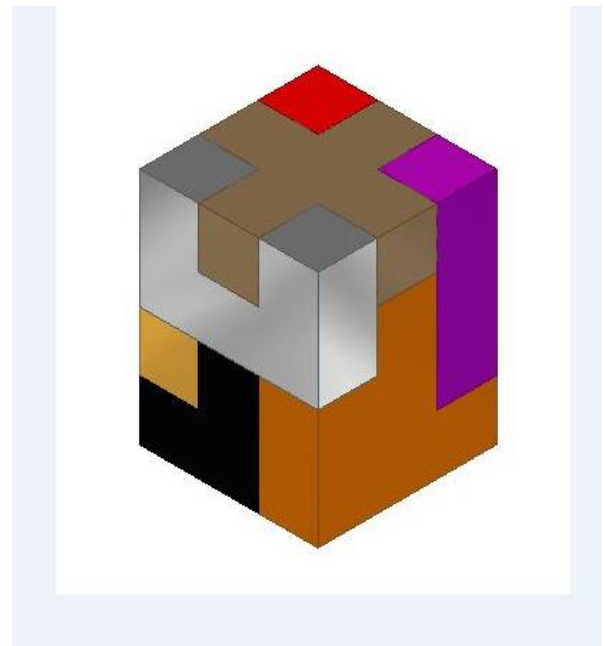
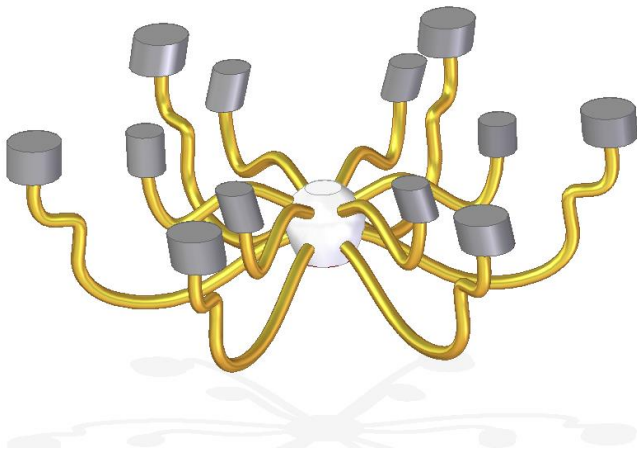
Alexander H.

With the technology given in the Engineering class, I am able to create and manipulate original and new ideas. I can also recreate older items as well. I can complete my history project while learning how to constrain ellipses in revolutions and linear extrusions. I hope I can use these skills to create prostheses in the future.



Liam P.

Engineering today at Mountain Brook has helped me tremendously with my computer design skills, CAD drawing abilities, and expressing my ideas into pictures. The technology such as the computers allows me to design my ideas in a 3 dimensional view so I can construct things like puzzles, chandeliers, and other objects. These advanced tools that are used in the actually work force give a purpose to what we are doing and can easily be connected to an engineer's daily life. With designing these objects, we had to learn how to draw them also. So we learned how to draw the 3 faces necessary for a 3 dimensional object on a 2 dimensional piece of paper. These new skills learned in Engineering class can be useful for a real life job in the engineering field which interest me. Below are 2 pictures of some of my work.



Andrew S.

The use of technology in this class has helped me in every way imaginable. I have been able to make 3-dimensional models and actual prints, allowing my ideas to be expressed in 3 dimensions. This has helped me visualize and create actual products that I can use in my everyday life, and it has also given me experience for a future in an engineering career. None of the amazing things that we have done in this class would have ever been possible without the technology that has been given to us, and I am thankful for the opportunity to be the first of many to use it.