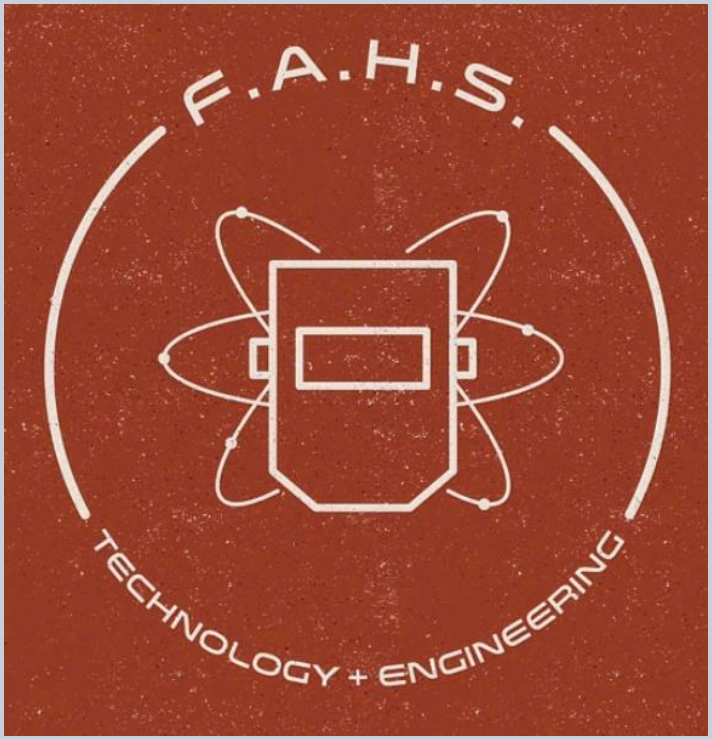
FAHS TECHNOLOGY EDUCATION



STEM
Our New Curriculum

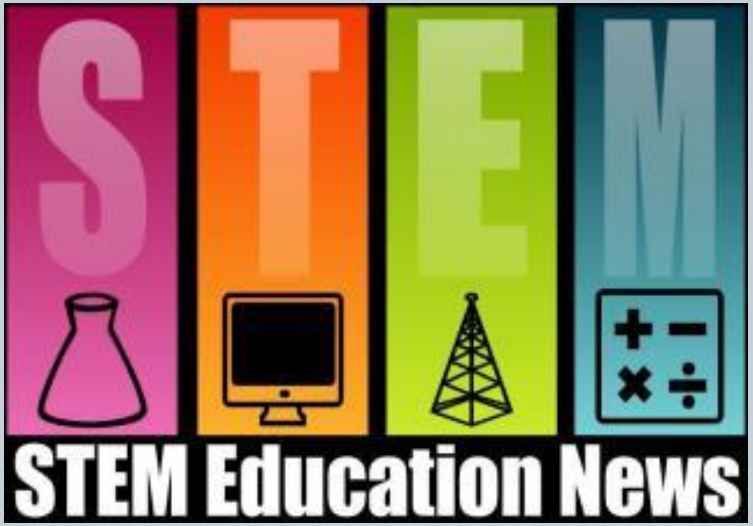
INTRO TO ENGINEERING
PRINCIPLES OF ENGINEERING
3D SOLID MODELING
DESIGN FOR MANUFACTURING
GREEN TECHNOLOGY

Introduction to Engineering

JAKE HOLLENBECK
MATT MILLER
OWEN WORDEN

Basic Information

- STEM: Science, Technology, Engingeering, Math
- First year offered.
- Prerequisite for Principles of Engineering.



What we cover…

- Fundamentals and Basics of Engineering
  - Basics of engineering
  - Types of engineering
  - History of engineering
  - Designing bridges
    - Basics on Civil engineering, the below image is an example of a product
  - Learning a program called Solid Works
    - Basics on mechanical engineering by producing goods

Design Challenge

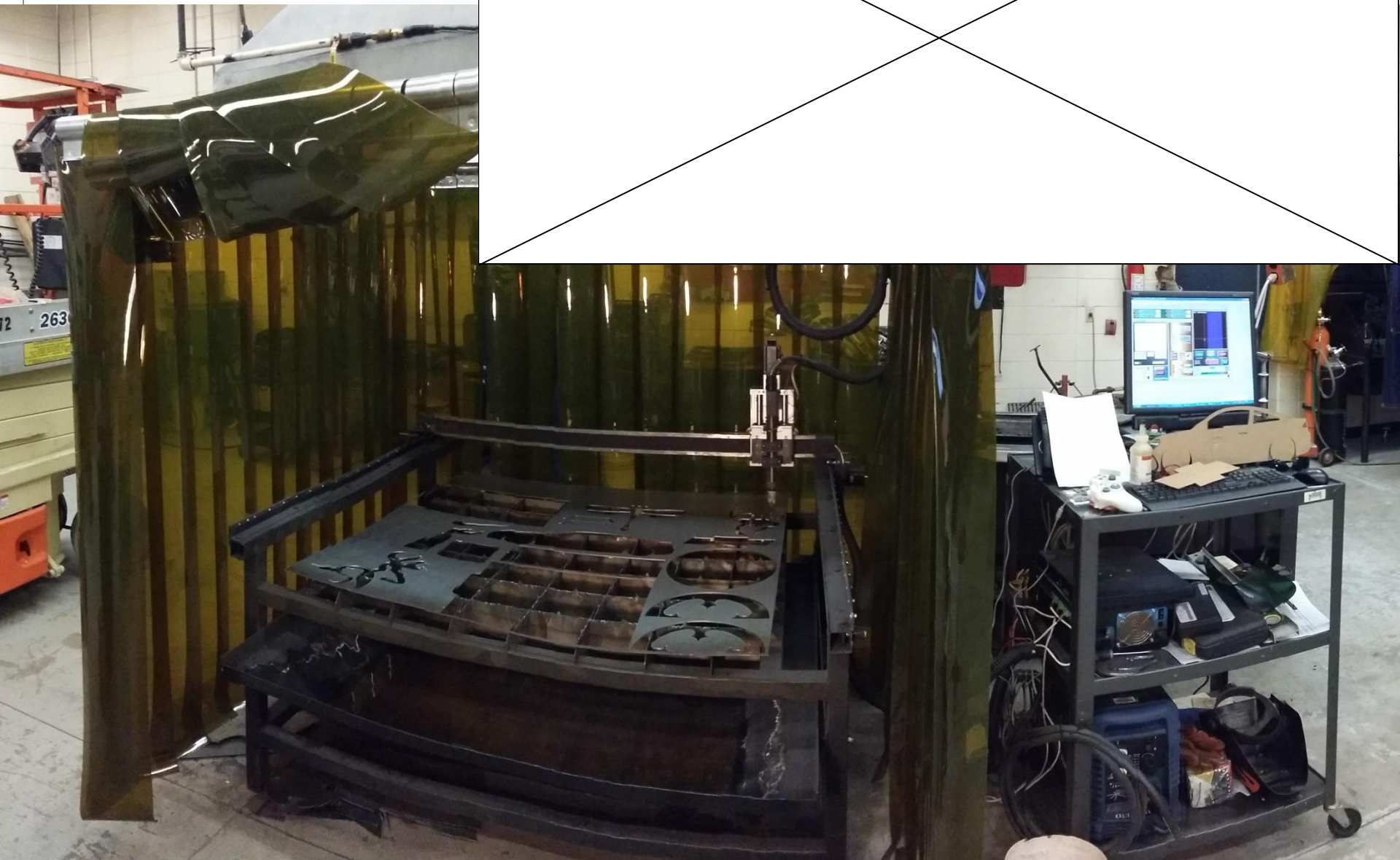
- With our knowledge that we learned during our Solid Works training we were assigned to design two options.
- After designing the initial options we used the laser engraver to create the cardboard prototype.
- We then used a CNC plasma cutter to create the final product
- We were assigned this assignment as if we were all engineers working in a company, we used the Design Process to select and build our products.

Design Challenge

Kyle Schneider with his finished product, a dragonfly lawn ornament

Laser Engraver, make the cardboard first product

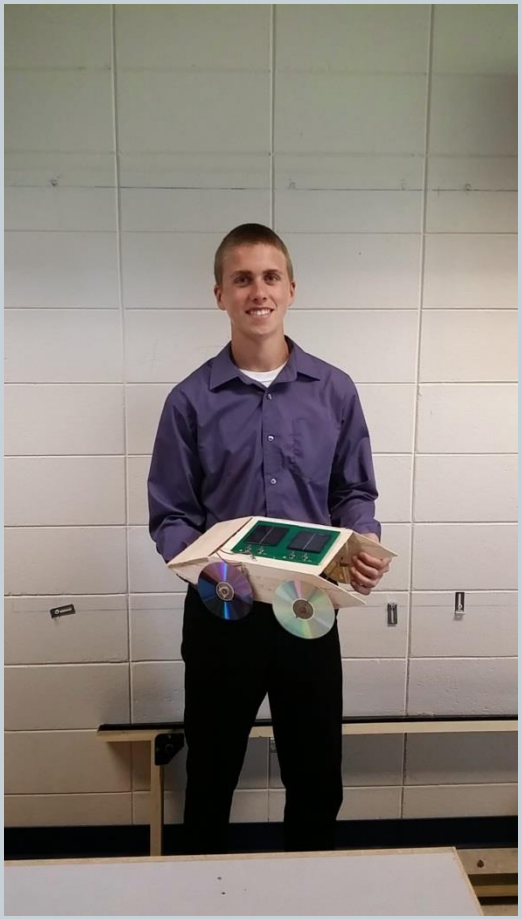
CI



Solar Powered Car

- Once again used the Design Process.
- Had to do testing with various lights, angles, distances, Etc.
- Then using Solidworks to design a car.
- Then had to make it run and time trials were taken.
- Then given time to make improvements and changes to our designs.

Solar Powered Car



Hydraulic Arm

- Once again used the design process.
- Learned about Pneumatic and Hydraulic Power.
- Had to design a working arm in Solidworks.
- Used the Laser Engraver to build the final product.
- Then Solved for the force and pressure that the hydraulics produced.

Hydraulic Arm

Thank you for your time!!

We would like to thank our sponsor Jones Dairy Farm. Without their help with funding, our education would not be possible and the hands on activities would not happen.