DA VINCI PRINCIPLES OF TECH PASSION PROJECT

Your Passion Project is designed to give you the freedom to explore the parts of the Principles of Tech class that are most interesting to you. You can choose an area where you already have skills or explore an area where you would like to improve your knowledge and skills.

While you may seek inspiration from other people's projects it is important that **your work be YOUR OWN.** Do not copy and paste someone else's project, program or design and represent it as your own work. This work should be original to this class and your time at Drake - projects completed at another school are not acceptable. Project due at end of class on Thursday, June 6th.

CHOOSE A PROJECT THAT WILL INCORPORATE AT LEAST TWO OF THESE AREAS:

-woodworking	-CAD/CAM (laser cutting, 3d printing)
-Arduino programming	-circuit building

Due date	**Task - *class time provided**
Sunday, May 19th by midnight	Complete project proposal at drakesoe.wordpress.com
Tuesday, May 21st by midnight	Submit your project goals at drakesoe.wordpress.com*
Tuesday, May 21st by end of class	Draw plan and/or outline for program and/or circuit diagram*
Thursday, June 6th end of class	Completed project and digital slideshow due*

DOCUMENTATION: **you must take photos or screenshots of your work as you create your project.** This information will be placed in Google Slides/digital presentation that will show the viewer how you made your project and what you learned while making it. Use words and images to describe each step. Include successes and challenges. Make sure to document as your work - **DON'T TAKE YOUR PHOTOS ON THE LAST DAY. Share your documentation with rpmteacher@gmail.com**

- ❏ Cite all sources on the last page of your presentation.
- ❏ If you write a program you must comment the code to show your understanding of the program.
- ❏ SEE RUBRIC FOR DETAILS - IT'S ON THE BACK OF THIS PAGE

RESOURCES:
-laser cutting
-3d printing
-servos
-LEDS
-woodworking tools
-photoresistors
-cardboard
-computers
-Arduinos

PROJECT EXAMPLES: *I plan on designing a building a wooden box with lid. I will laser engrave an image on the laser cut box. The box will be 10 inches wide, 8 inches high and 4 inches deep. I want to learn how to use the woodworking tools to create the finished box.*

I am going to make a series of laser cut jewelry that will be cut from acrylic. I will make a box to hold them in. I want to learn how to use the laser cutter with a variety of materials.

I am going to design a model of a window shade that responds to light levels. If it is bright outside, the window shade will lower. If it is dark, the window shade will go. This will use an Arduino controlled servo and a photoresistor. I want to learn to use inputs other than a button.

I am going to design a series of flying gliders - at least three. that are cut out of thin cardboard or balsa wood. I will build an Arduino powered launcher for the gliders.

Visit drakesoe.wordpress.com for full details - share your digital presentation with rpmteacher@gmail.com