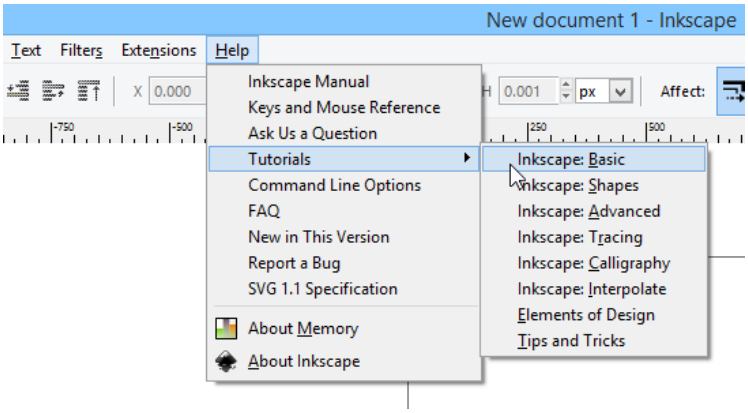
Laser Cutting:

Creating your Design:



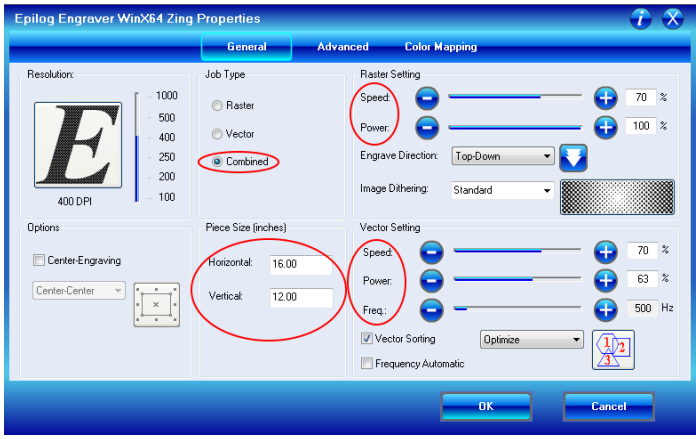
In order to laser cut or etch, you need to use a **.SVG** file. To create a **.SVG** file, Inkscape is a great tool. You can download it at https://inkscape.org/en/download/. Before you begin to design your item, it's helpful to look over the basic tutorial. Inkscape features several interactive tutorials. They can be accessed by going to the **Help** tab at the top of the screen and mousing over **Tutorials**.

Once you've gone through the tutorial, you can begin creating your design. Note that in order to create a line that will be cut, not etched by the laser cutter, you need to set two of that line's properties (how to set object properties is described in the tutorial). First, the line or border's **width must be 0.001 inches**. Also, the line or border must be **completely black** (RGB = (0, 0, 0), #000000). Finally, before you begin your design, press **CTRL+Shift+D**. This will open a dialog. In **Custom Size**, set the **Units** to **in**, the **Width** to **14.75**, and the **Height** to **11.75**.

Saving your Design:

Once you've created your file, save it somewhere as a **.SVG**. Open the laser cutter drop box at \\drives\students\make@eps. You can also drag a copy of the drop box shortcut onto your own desktop to make this easier in the future. Save the file in the drop box as a **.PDF** file. After doing this, a window will pop up with what settings you want to use for the PDF conversion. Ignore this window, and just press OK.

Cutting your Design:



Laser cutter is controlled by a separate computer, meaning that unlike 3D printing, you don't need to download any software to control the laser cutter. However, you will need to go to the computer that controls the laser cutters. This computer sits right by the laser cutters. Then, double click the file in the laser drop box folder on that computer to open it up in Adobe Reader. Press **CTRL + P** to print it. Ensure that under **Size Options**, the size is set to **Actual size**. Then, press the **properties** button in the top-center of the print dialog. This will bring up the properties dialog on the right. First, ensure that the **Job Type** is set to **Combined**. Then, under **Piece Size**, set **Horizontal** to **14.75** and **Vertical** to **11.75**. Next, under both **Raster Setting** and **Vector Setting**, set the **Speed** to **100**. Then, under **Vector Setting**, set **Frequency** to **5000**. Finally, if you're cutting cardboard, set **Power** in both **Vector Setting** and **Raster Setting** to **50**. Otherwise, set both **Power** settings to **100**.

Next, open up the laser cutter and insert a piece of cardboard or wood into it. Ensure that the cardboard or wood's top left corner is in the top left corner of the laser cutter. Then, close the laser cutter's lid and press **OK** on the computer. Then, hit **Print**. Adobe reader will complain and say there was nothing to print, in 2 different dialogs. That's ok, it is not the truth.

Go into the Epilog manager and find your job in the list, select it, and hit the little print symbol on the upper right. The laser cutter display should be flashing and your job should appear in that display in a few seconds.

Finally, press the green **Go** button on the right of the laser cutter. Wait until the laser cutter beeps, and then open up the lid and take out your piece.