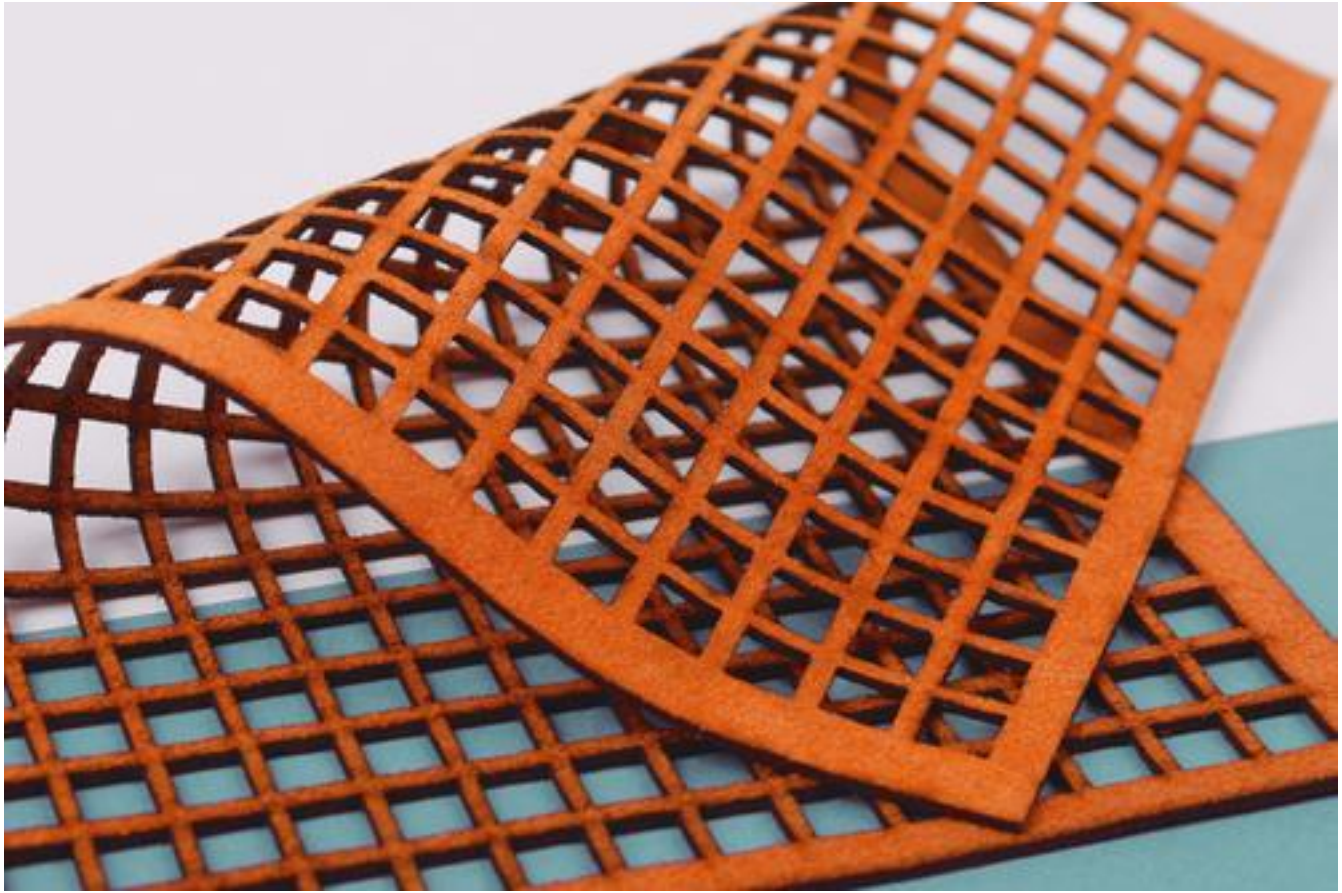
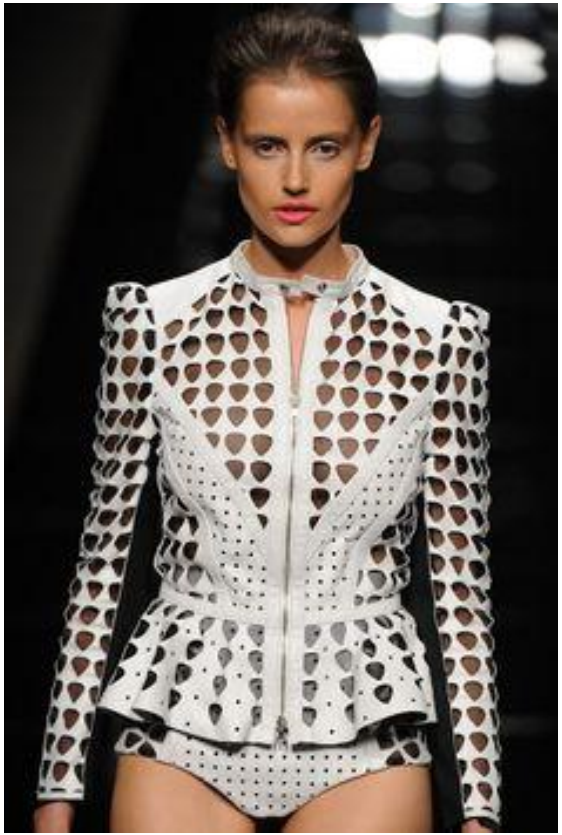
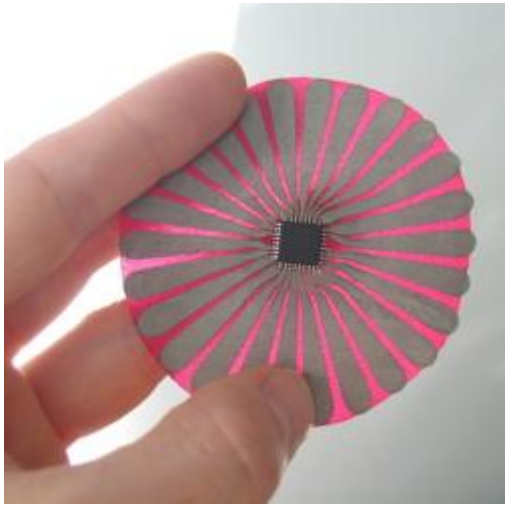
Laser Cutting on Textiles

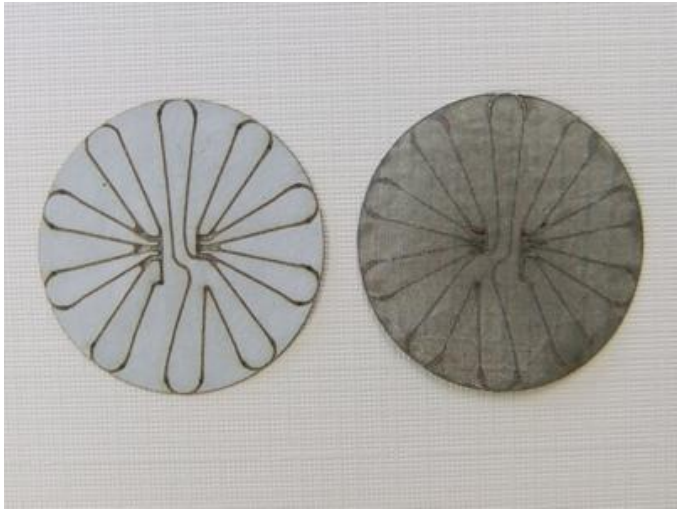




John Richmond

Alexandra Verschueren





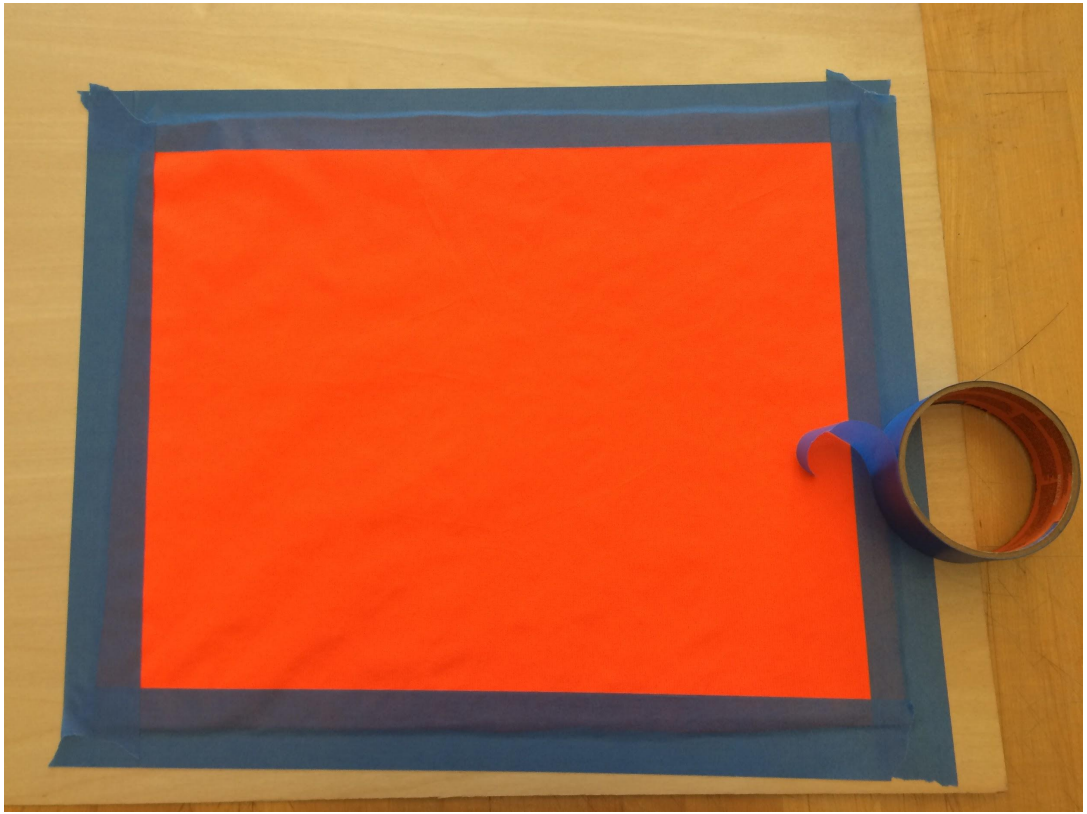
Early iterations for Lilypad Arduino

Copper fabric can be soldered onto if it’s not too hot.

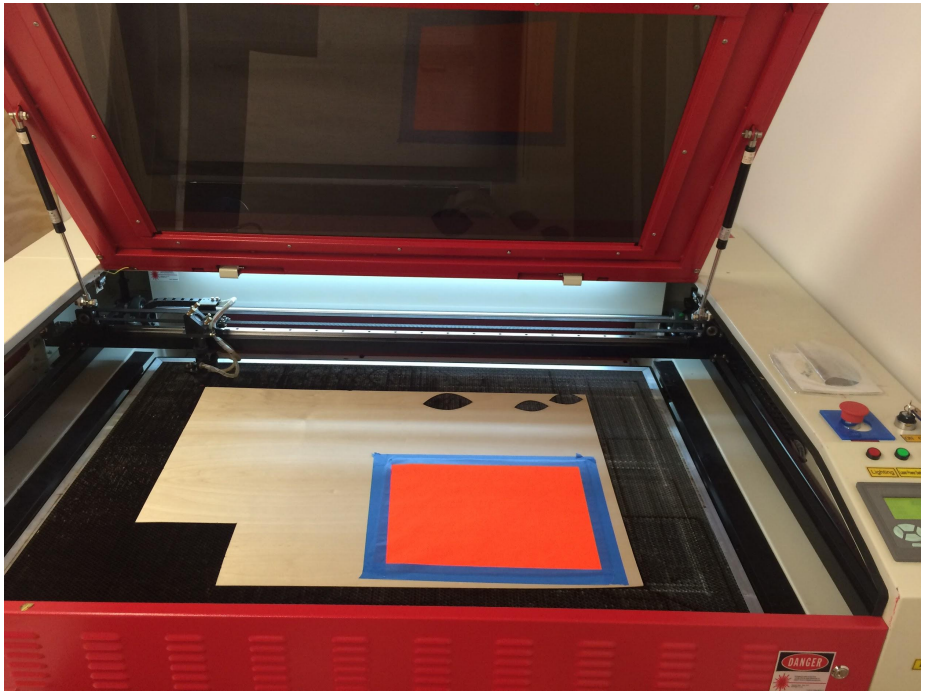
Laser Cutting on Fabric (Applique)

Make sure fabric is flat

Apply fusible webbing to the back of fabric.
Make sure the webbing is smaller than fabric piece.



Trim excess fabric and tape down to a piece of chipboard or thin plywood
OR! Apply thin layer of spray adhesive to back and mount on board.



Set into machine + enter into the right settings

Laser Cutting Settings (for Rabbit Laser Cutters)

Material	Content	Speed	Power	Result
Plain woven cotton	100% cotton		18	15
			12	10
			12	12
Warp knit jersey	Cotton		15	15
			12	15
			12	10 etch
			12	12
Canvas	Cotton		12	18
			12	15
			12	12 etch
			10	12 etch
			10	15
Felt	Acrylic		12	15
			12	12
Copper Taffeta	Copper		15	15
			10	15
			8	12
			8	15
Denim	Cotton		10	15

cotton plain weave
S: 18
P: 15
S: 12
P: 10
S: 12
P: 12
cotton jersey
S: 15
P: 15
S: 12
P: 15
S: 12
P: 12
acrylic felt
S: 12
P: 15
S: 12
P: 12
cotton canvas
S: 12
P: 18
S: 12
P: 15
S: 10
P: 15
S: 10
P: 15
(cotton denim)
copper sotteta
S: 15
P: 15
S: 10
P: 15
S: 8
P: 12
S: 8
P: 15

Thoughts on Materials & Process

Good

- Felt or other thick nonwovens
- Tight weaves

Eh

- Loose weaves
- Thick knitted/knots
- Really intricate designs (for applique)

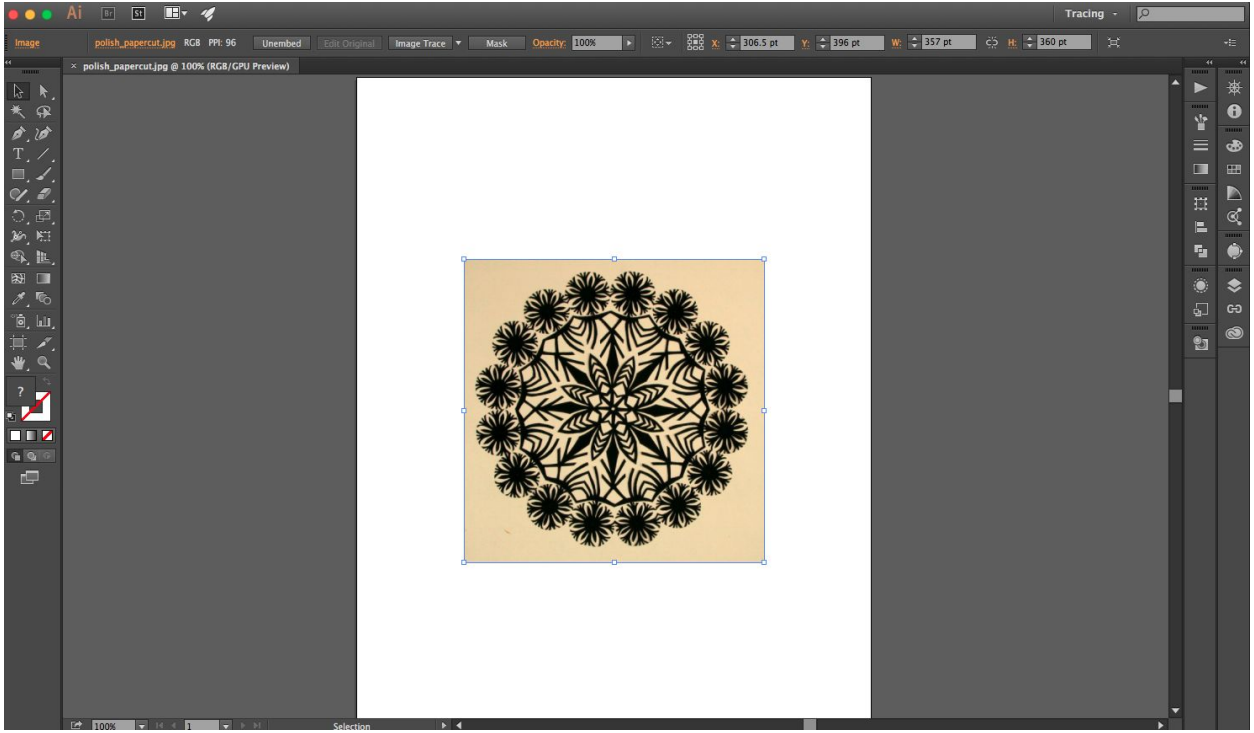
BAD

- No vinyl, metallic/reflective materials, neoprene any material containing chlorine
- Check with techs if you are unsure!!!!

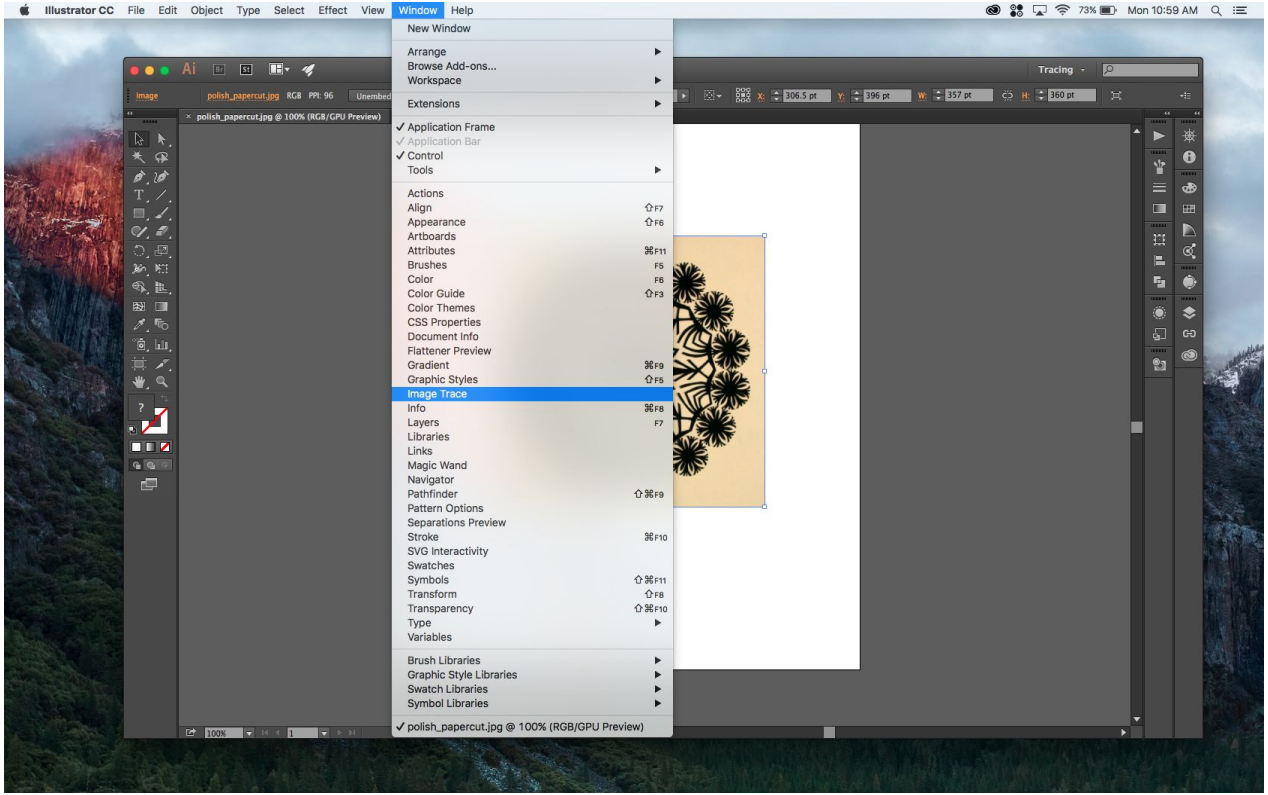
Laser Cut Patch!

- Split into groups, at least one person must have been trained on the iDeAte laser cutting process
- Make your own design or download the Soft Fabrication Patch

Changing JPG to DXF file via Adobe Illustrator 6

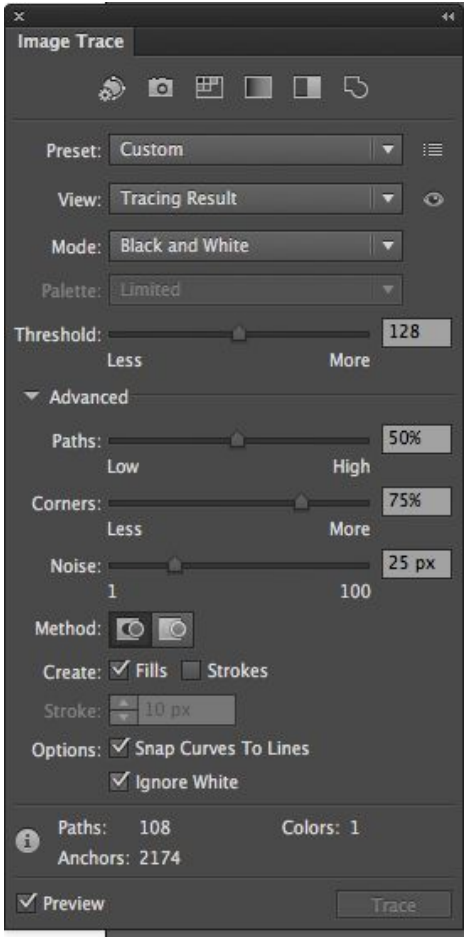


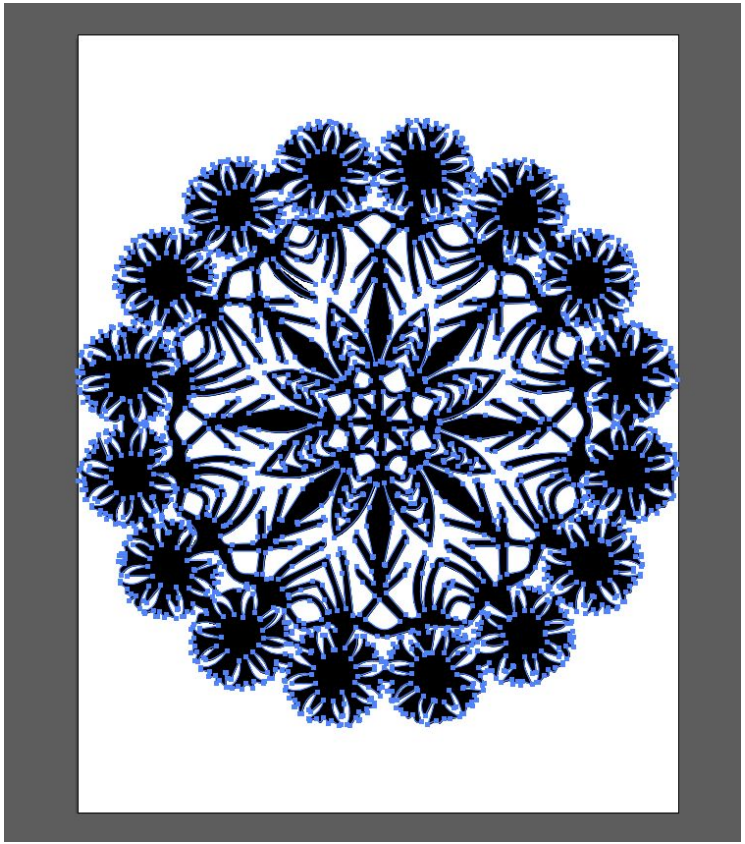
Open image in Illustrator.
Use selection tool and click on image so a blue box appears around it



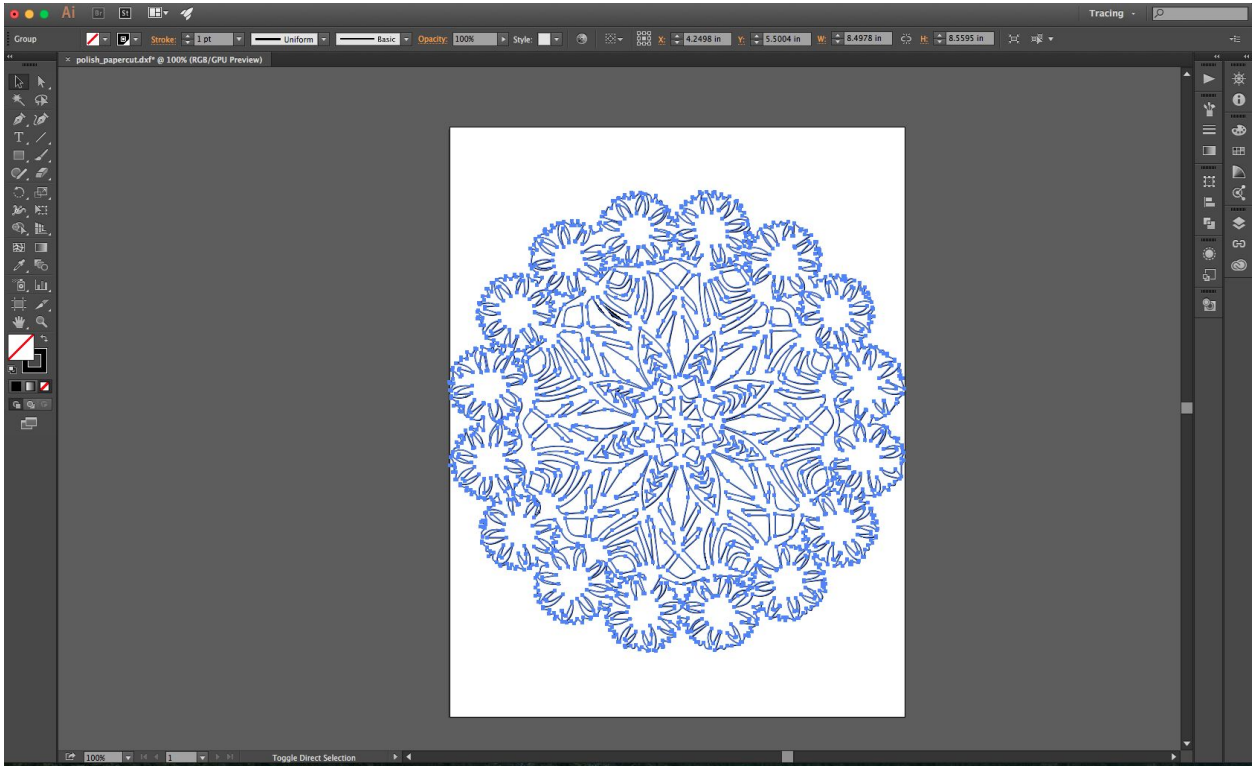
Use the top bar to find Image Trace Window (we want to custom set it, so don’t use the button at the top of work window)

- Make sure Preset is set to Custom.
- Set to black and white mode.
- Check Preview Box and Ignore White (under Advanced drop down menu).
- Adjust the threshold values depending on what you need. (You may not super skinny lines for what you are cutting)
- Click the Trace button.

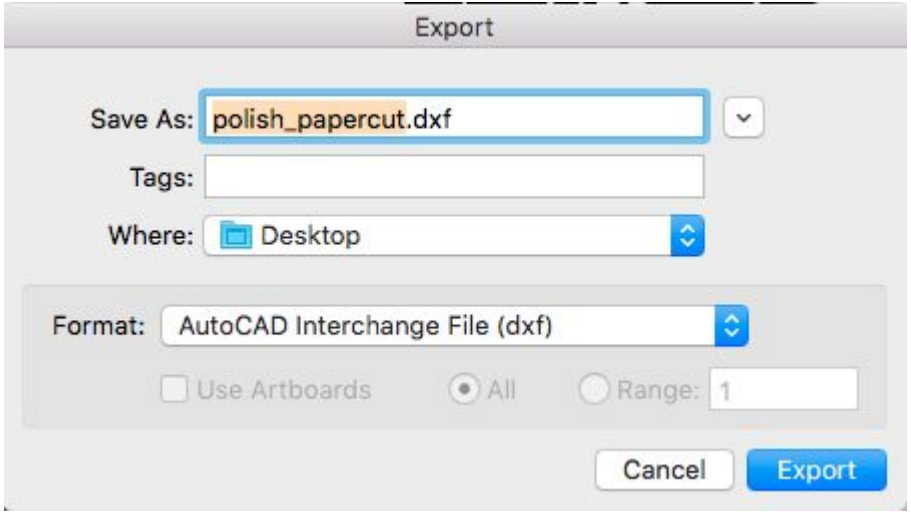




- Click “Expand” at the top of your work window to see the paths.
- Delete any unwanted paths using the direct selection tool or make any changes to curves with other tools.
- Expand/contract to necessary size (can be done in laser cutting program but wayyy less accurate)



Change stroke and fill colors so that you can see the outline of what you are going to cut.



Export as a DXF.
Laser cut your file!!!!