
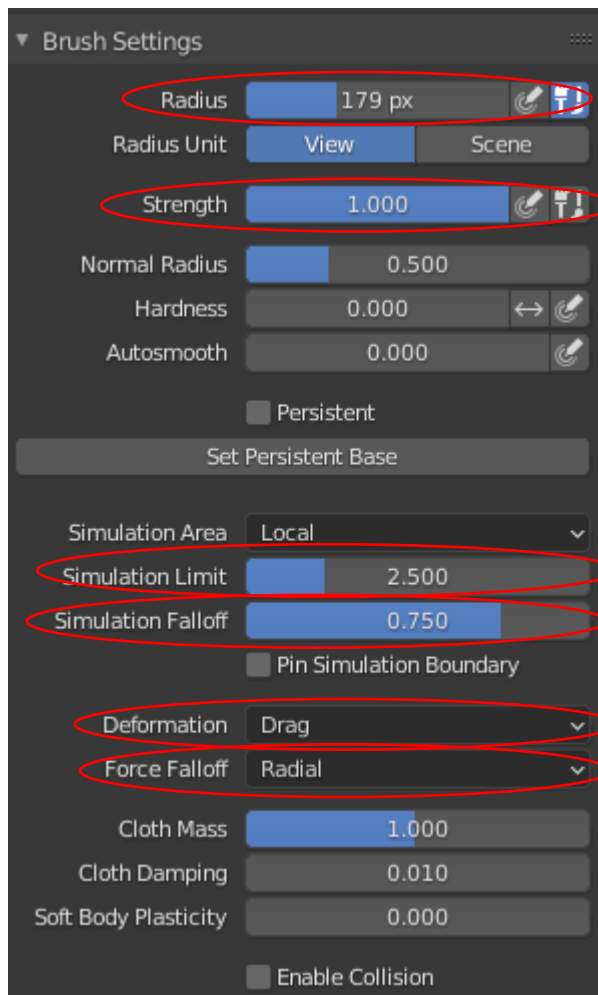


Clothes and Items in Blender

Cloth brush

1. Make sure your object has enough polygons. Apply and increase the polygon count by adding a Subdivision surface modifier.
2. Go to the sculpting layout (top ribbon menu)
3. Choose the **Cloth** sculpting brush in the tool menu on the left 
4. You can play around with settings of the brush in the Edit menu (bottom right corner)




The radius of the simulation

The radius of fall off (outermost circle of your brush)

Like a combination of a brush and fold-making: Drag, grab, inflate...

Shape of your path

5. You can mask certain areas by choosing the mask brush  or pressing **M**.

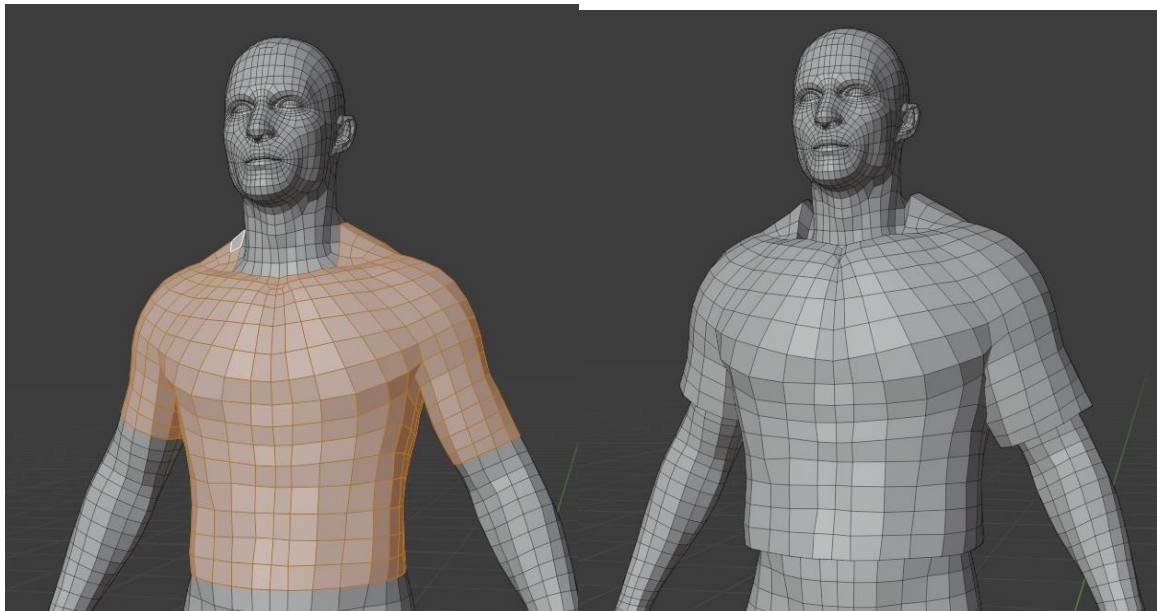
Skin modifier

The skin modifier creates a second skin, or a shell in the shape of your object. You can delete the polygons and the left ones are left in the shape of clothes.

This can be also done by duplicating your object and making it slightly bigger than your character. Once again, you delete the parts of the body and the left ones are fitting clothes.

Scale along normals

- 1) In Edit mode, select the faces you would like to be covered by clothes
- 2) Press **Alt +E**
- 3) Choose '**Extrude along normals**'



Multires modifier

The Multires modifier allows you to sculpt on an object without being applied. This modifier is good for sculpting separate smaller items on your larger mesh, such as items of clothing, teeth, horns, bracelets... When you add it to your modifier stack, press the **Subdivide button** to add subdivisions, and sculpt on it. You can always check what it looked like before the sculpting by pressing the **Apply Base button**.


Stitching and using Physics Cloth

- 1) Bring in your model, ideally it is in the A or a T pose. Make sure it stands on the 'ground' and that the 3D cursor is in between the legs, directly in the middle at the centre of the world, coordinates 0, 0, 0. You can achieve this by pressing **Shift +S -> Cursors to World Origin**.

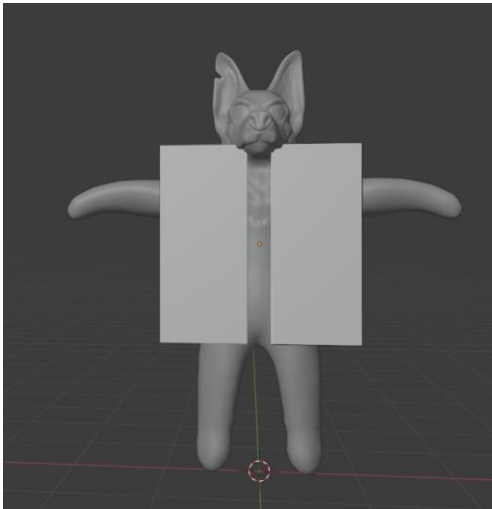


- 2) Bring in a plane, move it up on the Z=Axis and rotate it 90, so it's parallel to your character.
- 3) Make sure its origin point is kind of in the middle of the character (judging by the plane's origin point) and move it just in front of the character.

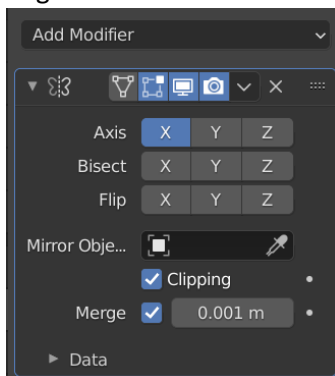


- 4) Go to your Modifier tab in Edit Menu  and add a **Mirror modifier**. This will save a lot of time as you can work only on one side of the clothes.

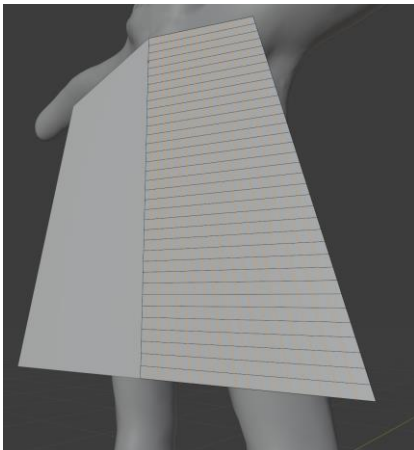
- 5) In Edit mode, select one of the side edges of the plane, press GG to edge slide and move inward, to create a gap in the middle of the plane (two sides are mirroring each other)



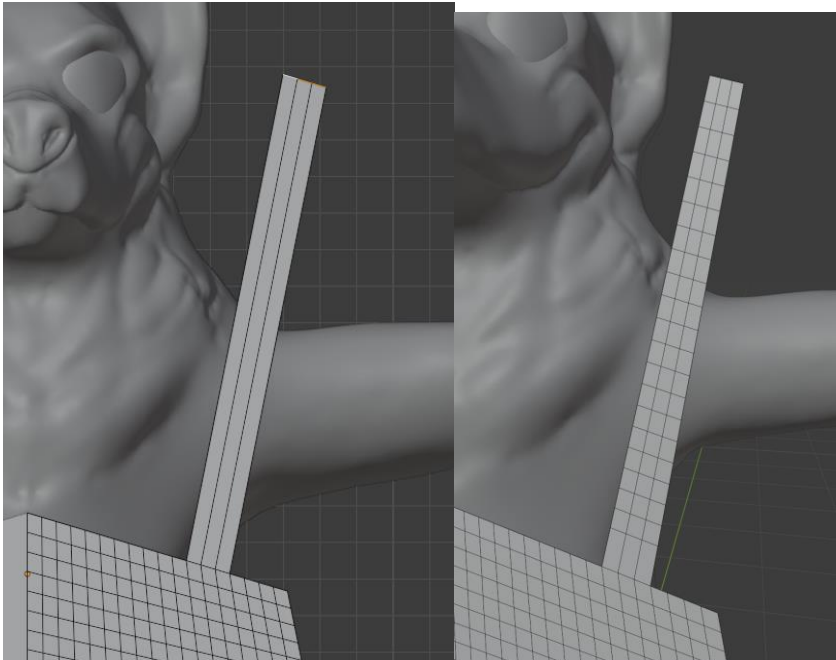
- 6) Back in your Mirror modifier settings, click the box 'Clipping' to enable connection of the two edges:



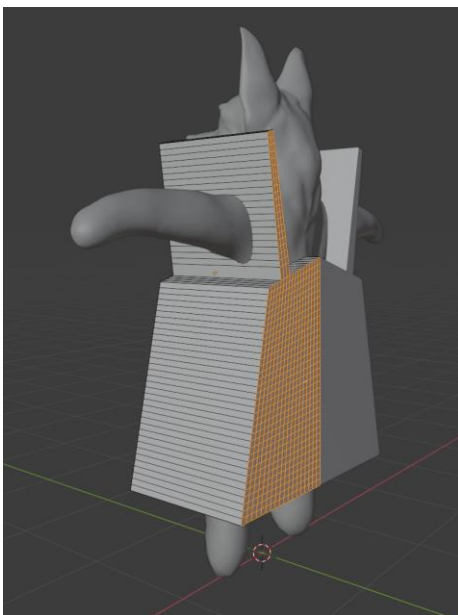
- 7) Now go back to your plane, select the edge and bring it to the middle on the x-axes, so the two halves connect.
- 8) Adjust the shape by moving edges and vertices in whatever shape you want (dress, tshirt, jeans... we are making a dress) and add geometry by creating loop cuts (**Ctrl +R and roll mouse wheel**). It may seem that we added a lot of loop cuts, but we want good resolution for the dress. Yet, don't over do it, it's always better to start with basics and add more details later.
- 9) Add more loop cuts vertically, now you have polygon geometry on the plane



- 10) To make the straps, select a couple of edges underneath the armpits and extrude them (**E**) upwards to about half the face
- 11) Scale the top edge and add more loop cuts to the shoulder straps, to have similar size like the geometry of the dress.



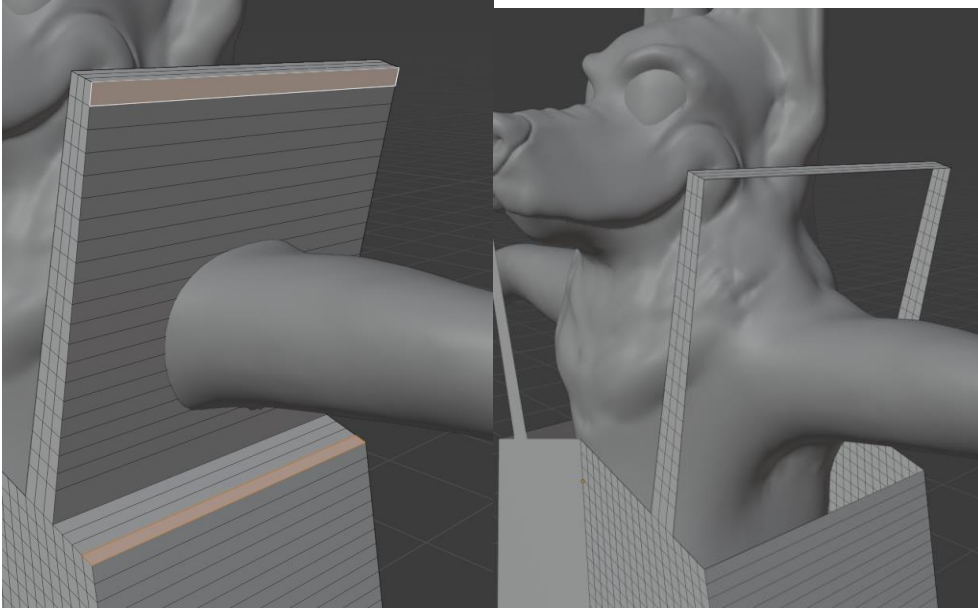
- 12) Select all dress, by pressing A, and extrude (e) the dress to the other side of the character, make sure nothing sticks out (like a butt or back parts)



13) Select the inside faces and delete them



14) Do the same on the other side of the dress, where the arm faces. A good shortcut for selection: **select first face, hen press Shift + Ctrl and click the last face**, which will select all faces between these two. Then delete by pressing X.



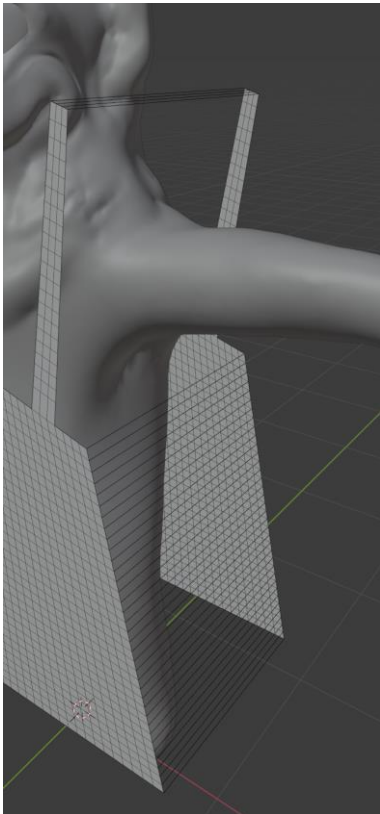
15) Now delete the bottom faces of the dress.

Now we kind of created a dress-shape form. Much like in the real dress, the openings are

deleted where there are openings in the real dresses.

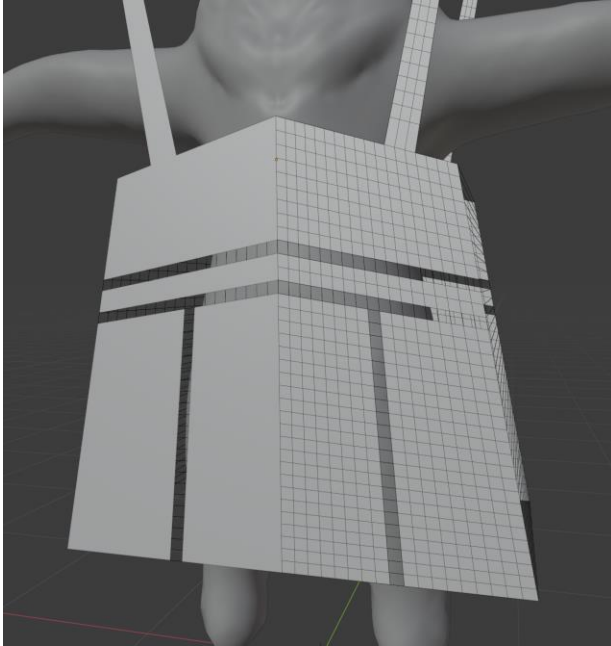




- 16) Go to the side and select the faces on the side. Then press x and choose 'Delete only Faces'. This will delete faces but leave the edges, creating a string-like effect.

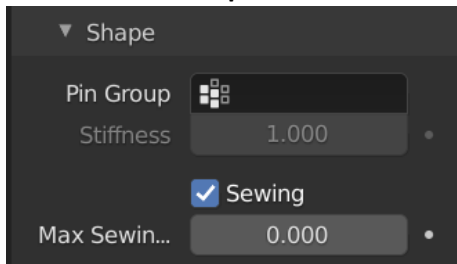


- 17) You can add details now by deleting some of the face loop cuts (**Alt + L click**). In this example we deleted 2 horizontal loop cuts on the front and on the back in the same position. And

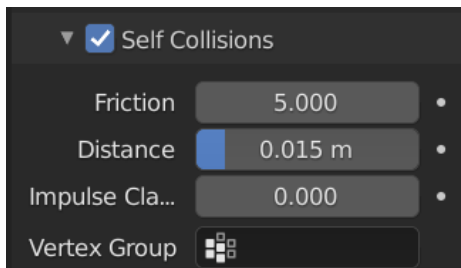
one vertical loop cut just on the front. This is the time to be creative :)



- 18) Once you are done with your details, you can start the Physics simulation setup. As with all physics properties, all objects that will be interacting need to have Physical properties applied to them. Select your character (in Object Mode), go to **Physics tab**  in edit Menu and choose **Collison**. This also adds a modifier in your modifier list. When you go to Modifiers tab , make sure your Collison is at the bottom of the list, underneath your Armature modifier (if your character is rigged), otherwise the Physics won't work.
- 19) Then select your cloth, got to Physics tab and choose '**Cloth**'.
- 20) Scroll down to **Shape** and enable **Sewing** by ticking the box there



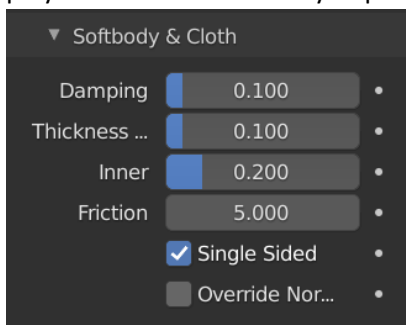
- 21) Go to Collision and tick the Self-collision box



- 22) When you press the spacebar now, the plane should wrap itself around the character like a dress.



- 23) If your dress is 'floating' above the character, select the character, go to Physics particles in Edit menu and scroll to Softbody and Cloth, where you should adjust the Thickness and Inner to smaller values, such as 0.01. You can keep coming back to these to adjust them when you play the simulation when you press the Spacebar.

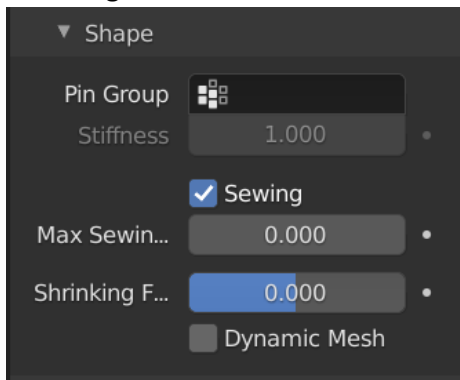


- 24) In the Solidify and Cloth tab, you can also adjust the Friction slider in case your clothes are falling off during simulations.
- 25) To make the cloth more realistic, in Object mode apply **Shade Smooth** (right click then Shade Smooth).
- 26) Add a **Subdivision Surface modifier** to the cloth.
- 27) Add a **Solidify modifier** underneath the Subdivision surface (to the cloth).

28) Add some material to the dress



29) In case you're having problems with your dress such as shriveling up, click on your dress, go to Physics properties, Cloth-> SHape and play with the values on sliders **Max Sewing** and **Shrinking Factor**



Source:

https://www.youtube.com/watch?v=W9GDWKzf1mc&t=616s&ab_channel=PIXXO3D

Tutorial about Cloth Attributes:

https://www.youtube.com/watch?v=rLuHr1unnyg&t=2s&ab_channel=PIXXO3DPIXXO3D

Shrinkwrap modifier

- 1) Use Shrinkwrap modifier to add items onto your mesh so it copies your character.
- 2) This is a great way to add standalone 'plates' or armour or jewelery
- 3) Make sure your offset is at least a little bit above 0 so it doesn't overlap normals with the mesh it copies. Or add solidify modifier to give it thickness

Array modifier + curves

- 1) A great way to make some types of jewellery or weapons is by creating a single part of a repetitive item, for example a chain, then using an array modifier and making it follow a curve.

Accessory tutorial by Russel Midfield:

<https://www.youtube.com/watch?v=OB6IZ7rCEs8>