2 Bezier Curves

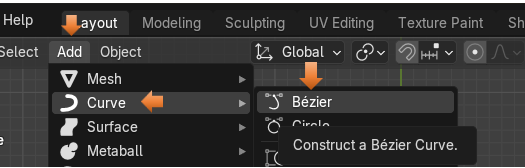
# What is a Bezier Curve?

A Bezier curve, is another one of those things when messing with computers that uses math to do its stuff. It might sound a little bit complex to get into, but it will use math to define a smooth curve in graphic programs like Blender. These curves can then be further manipulated by using control points, and handle to reshape the curve into something that the graphic designer actually wants. These things will look like this.

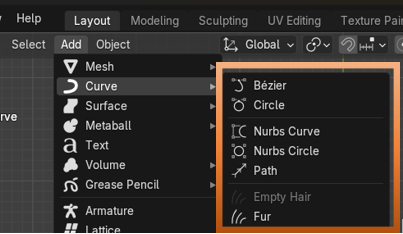


# How do I create Bezier Curve?

Like just about everything else in Blender, except for the cube, which is sitting there when you first open the program up. You are going to have to add the Bezier Curve, through the Add menu in Object mode.



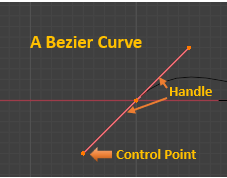
You do have access to other types of curves through the Curve Menu, but for this tutorial, we will be focusing on the Bezier curve, which is the curve which is most commonly used by Graphic Designers and 3D modelers.



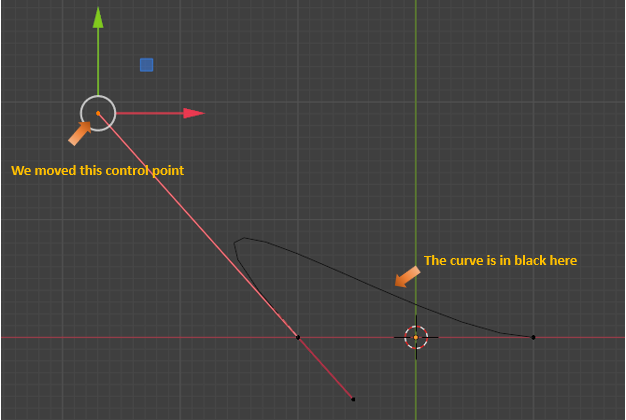
When you first bring this curve into Object mode, you will see that it looks like this. This is looking down on the curve from top view.



It isn’t until you bring it into Edit mode that you see the inner workings of the curve, with its control points and handles. The illustration below shows one end of the curve, with the mechanism which is used to control it.



You can tug on one of the control points at the end of the handle and move it with the move tool in edit mode. This is how we can transform the given curve into something that we actually are trying to see.

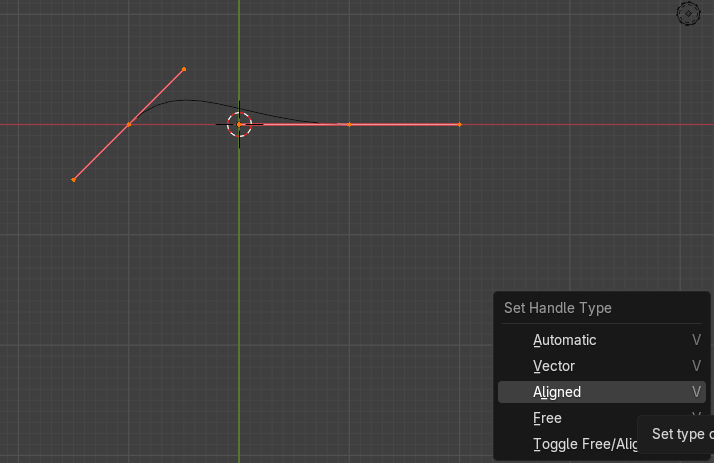


# The Different Handle Types

Notice that the handles which we see on this Bezier tool is in red. Well, there are actually different types of Bezier handles, which we can use.

We can get to these different types by selecting the Bezier Curve in Edit Mode and hitting the V key on the Keyboard.

By default, we are given the Aligned Handle type.



Automatic

* Blender automatically sets the length and direction of these handles to create smooth curves
* When moved, these handles convert to Aligned handles.

Vector

* These handles can create curves with sharp corners
* When moved, these handles convert to Free handles

Aligned

* These handles always lie in a straight line, creating continuous curves without sharp angles

Free

* These handles can be used to create curves with sharp corners

# Extrude Another Segment

This may have been the tiny curve that we are given, but we are designers, and as such, we want so much more.

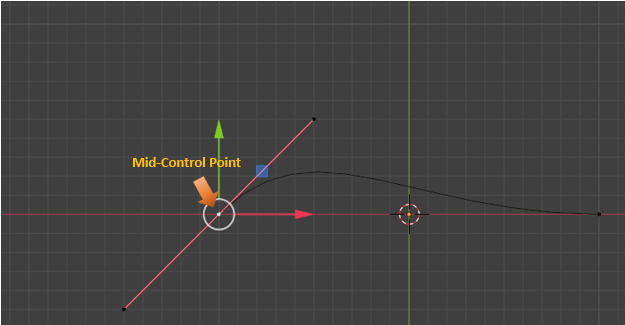


We can add to this Curve segment by selecting the mid -point on it. We do not want the end handle points or this extruding thing just won’t work right.

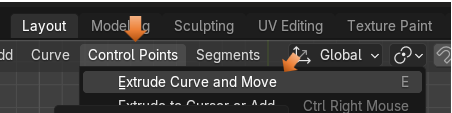
First of all, in order to do this, we need to change over to the Move tool. All of this extruding is done. from this one tool here.

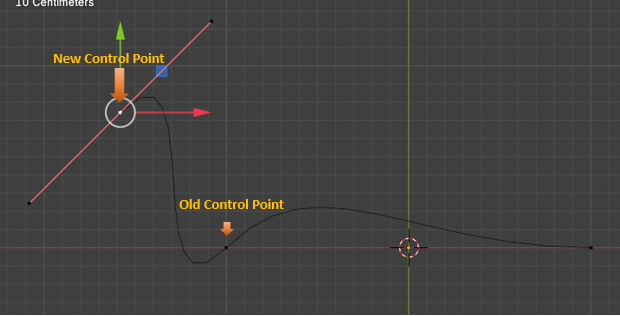


Now select one of the mid-points on the Bezier Curve



Now go to the top of the Menu to Control Points-Extrude Curve and Move. Notice how Move was included in this menu option, so we will be able to move while creating this new segment. You can also hit the E key for extrude and it will put you inside of this Extrude Curve and Move option.





<https://www.youtube.com/watch?v=f53GvpTIO2w>

