OSCAR NIEMEYER´S INTERNATIONAL CULTURAL CENTER PRINTING PROJECT.

The Oscar Niemeyer´s international culture centre is in Aviles, a small city located in the north of Spain, it was built by the famous Brazilian architect Oscar Niemeyer, he also built the National Congress, Brasilia´s cathedral or ONU´S headquarters in New York.

The Niemeyer is the only building he designed in Spain, and there are few constructions in Europe. The definition of that centre is ¨ an open space dedicated to every art with a multidisciplinary programming that includes music, dance, theatre, cinema and exhibitions. ¨

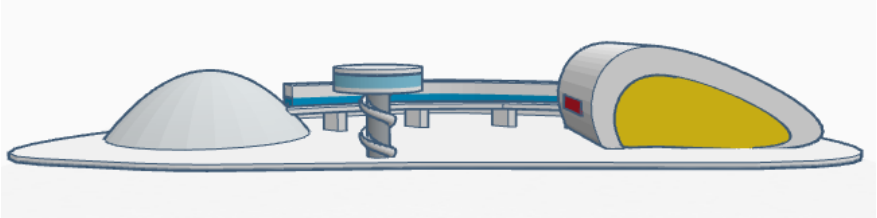
In this task we will recreate the construction made by Oscar Niemeyer.

Goals

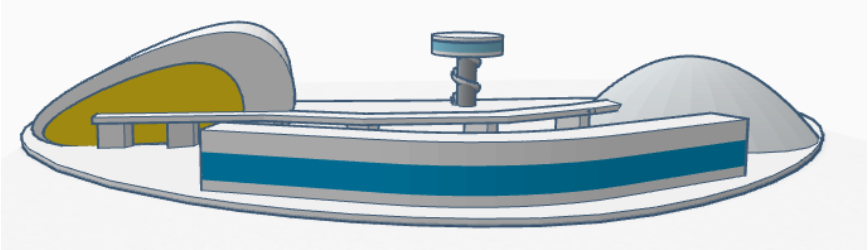
- 3D shape of the buildings at scale with all the group or one by one.
- The use of different shapes and tools located in tinkercad´s ¨shape generator¨ to create more complex and organic shapes.
- Design a bridge to avoid the ¨bridging¨ taking into account the previous lessons.

Reference model designed with Tinkercad.

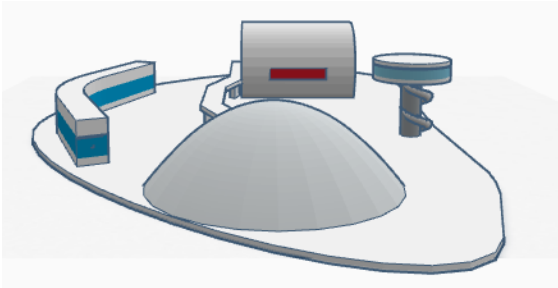
Front view

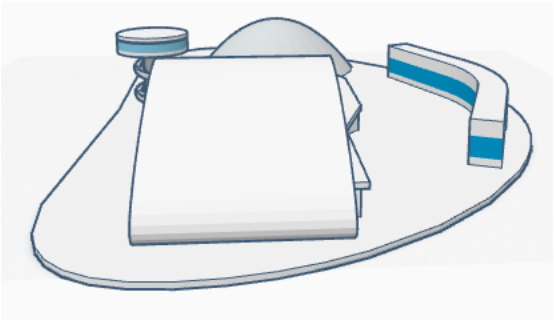


Rear view



Lateral view





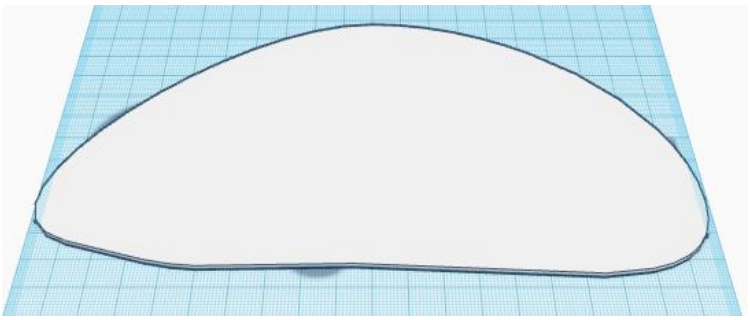
Model´s features.

To replicate this construction, we have to divide the process in 6 parts.

- The square
- The tower
- The dome
- The polyvalent building
- The auditorium
- The walkway

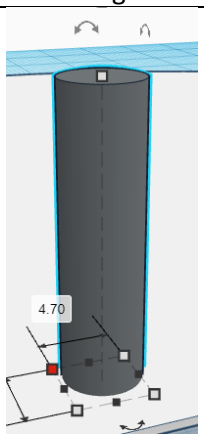
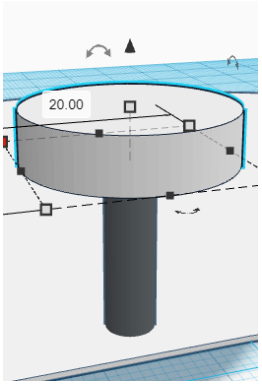
Square

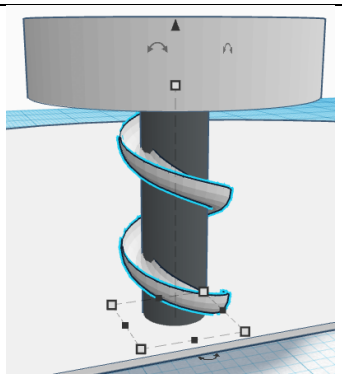
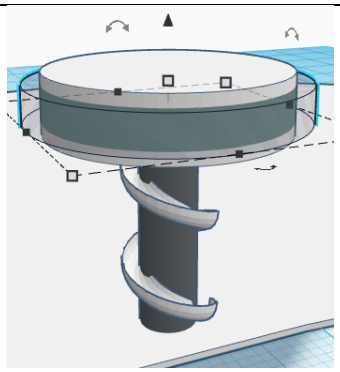
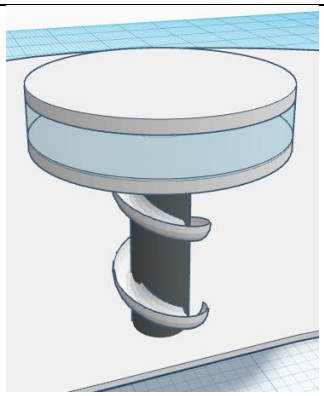
When creating the square, we have to use the extrusion shape in Tinkercad´s shape generator, this cylindrical shape can be manually modified to shape more organic shapes that adjust to our designs.



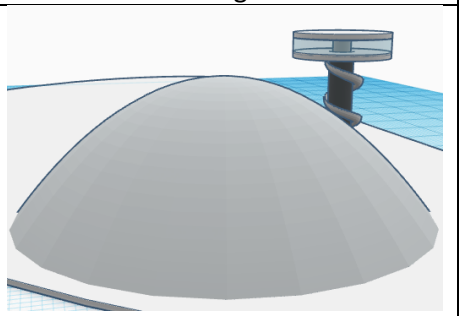
Our square design has 198,5mm wide, 112mm long and 0.5mm high.

Tower

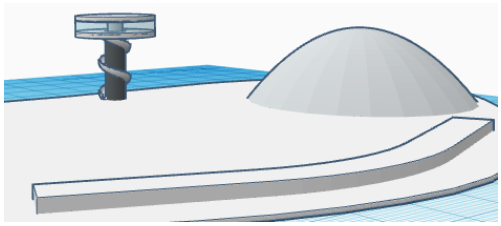
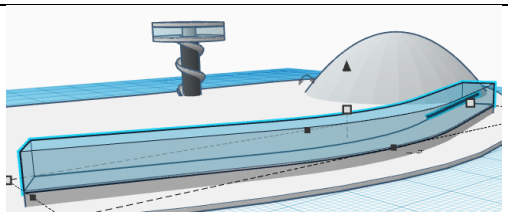
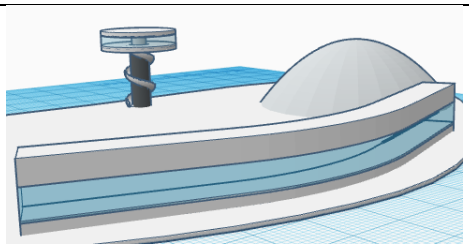
3D object	Size (mm)	Image
Cylinder	4’70mm diameter x 18mm high	
Cylinder	20mm diameter x 5mm high	

2 springs (one empty)	7’80mm diameter x 18mm high	
Empty cylinder	23mm diameter x 3mm high	
Transparent cylinder	20mm diameter x 3mm high	

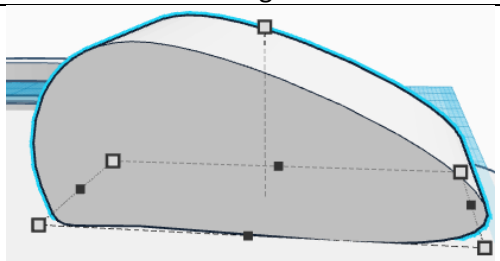
Dome

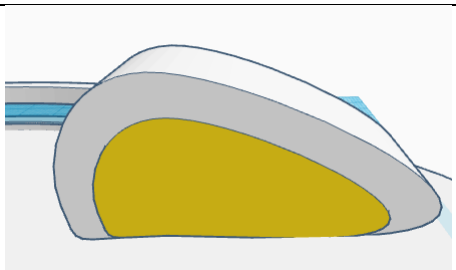
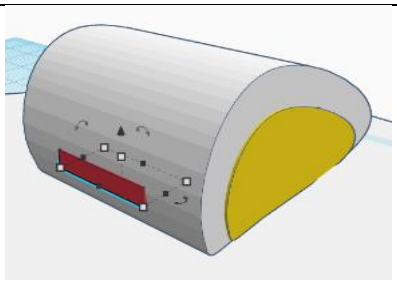
3D object	Size (mm)	Image
Paraboloid	55mm diameter x 18mm high	

Polyvalent building.

3D object	Size (mm)	Image
1 x bent pipe	102mm wide x 22mm long x 2mm high Pipe Shape and Hole Shape: Square Outer Pipe Width: 4.84mm	
1 x bent transparent pipe	102mm wide x 22mm long x 5mm high Pipe Shape and Hole Shape: Square Outer Pipe Width: 4.84mm	
1 x Pipe	102mm wide x 22mm long x 4mm high Pipe Shape and Hole Shape: Square Outer Pipe Width: 4.84mm	

Auditorium

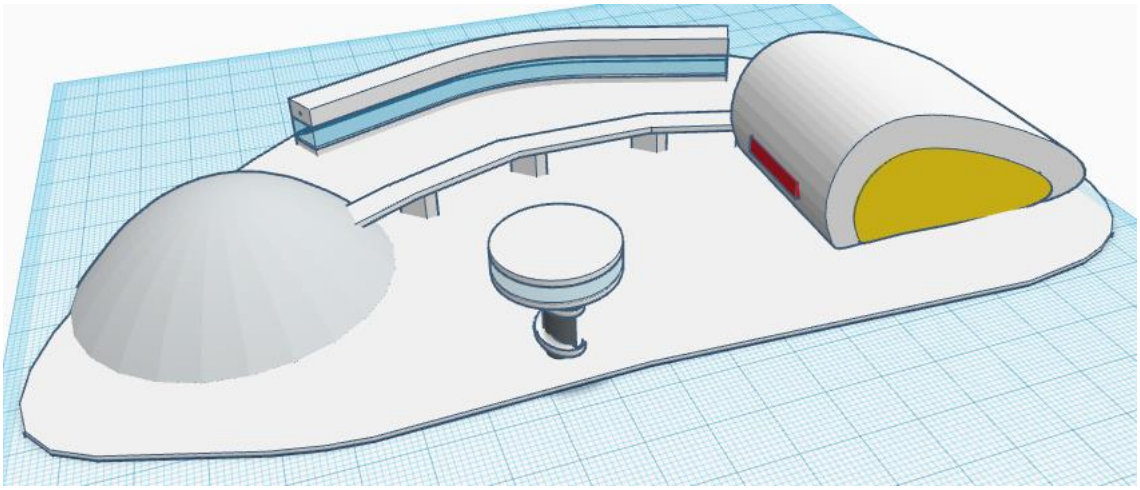
3D object	Size (mm)	Image
Extrusion	58mm wide x 38mm long x 26mm high	

2 x yellow extrusion	Created according to the first extrusion size. These objects will be placed in both sides as we see in the picture.	
Cube	10mm wide x 19mm long x 3mm high	

The final step is the shape of the walkway who links the auditorium with the dome. We have used cubes to create the walkway and the brackets. How would you do?

Remember you have to print it the best possible way.

This is how the Niemeyer looks like.



It is time to customize your designs before printing them.