

Basics of Blender

In this TD, you will learn how to use the basic functionalities of blender to create 3D models.

I. Pre-requisites

To complete this tutorial we will be using the Blender, which is an open source, free software for 3D modeling and animation.

- Go to <https://www.blender.org/download/>, and download and install Blender
- Grab a cheatsheet: http://www.blender.hu/tutor/kdoc/Blender_Cheat_Sheet.pdf
- Basic abbreviations: LMB, RMB, MMB = Left, right and middle mouse buttons

II. Work environment

3D software such as Blender are *very complicated*, with hundreds of functionalities for modeling, animating, lighting, rendering, and creating interactive content. For beginners, it is easy to get overwhelmed and frustrated. Therefore, it is of utmost importance to know the terminology, familiarize with the hot keys, and play around with the software. Here are a few things you should become very familiar with:

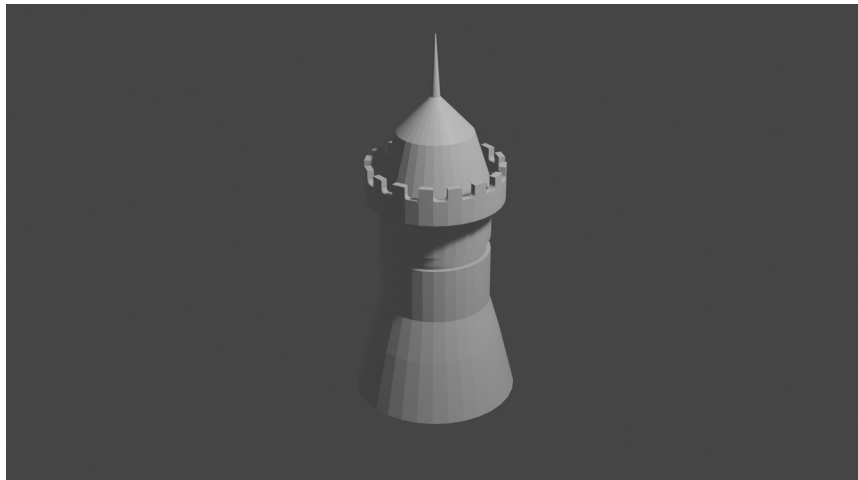
- Selecting one or more (link below) or all (**A**) objects in the scene:
<https://docs.blender.org/manual/en/latest/interface/selecting.html#tool-select-circle>
- Adding (**Shift-A**), Translate/Grabbing (**G**), Rotating (**R**), Scaling (**S**) and Deleting (**X**) a mesh.
- Switching between object and edit mode (**Tab** or **Ctrl-Tab**)
- Moving your view (with the **MMB** or with navigation gizmo)
- Opening quad view: in order to view a model from multiple perspectives, you can toggle quad view from View > Area > Toggle Quad View
- [Import a reference image](#) like this one, and try stacking a few boxes!



III. Basic modeling

We will be making a 3D tower, Following a simplified version of this tutorial:

<https://www.youtube.com/watch?v=18ItsK9MMKE>



- Add a cylinder mesh to your scene
- Go into edit mode and face selection mode
- Scale the bottom face to create a wider base, then delete it
- Start Extruding (**E**) your tower from the top face, using scale to make it wider or thinner
- Switch to wireframe mode to select all the faces in a circle
- Select Extrude normals (**Alt-E**) to create a wall ornament
- Create ramparts by extruding every other face
- Use Beveling (**Ctrl+B**) to make smoother transitions
- Use loop cuts to add details to the tower

IV. Advanced – Blender plugins and sculpting

What about adding a nice landscape on which your tower can sit?

- Select in from the Menu Edit > Preference > Add-ons and activate Add Mesh – A.N.T Landscape
- Now from the add menu you can select **Landscape**
- Switch to **sculpt** mode and use the flatten tool to create a nice plateau for your tower
- Grab your tower and place it nicely on the plateau. Scale it to the right size if you need to.