

Beginning with Blender

Getting Acquainted with the Basics of 3D Modeling Software

Presented by Tony Gupta on behalf of the UF Society of Asian Scientists and Engineers

Introduction

- About Me
 - CS Major, 3rd Year Transfer
 - Previously Studied Film and TV Production
- About UF SASE
 - Professional Development
 - Diversity—All Are Welcome!
 - Community
- Blender—Free, Open Source 3D Software



Why Learn Blender?

- *Powerful. Seriously.*
 - We're only covering the basics of modeling, but there are tools for scripting, physics simulations, etc.
 - Its modeling and texturing capabilities alone make it an invaluable tool for 3D asset creation in video games and XR applications.
 - Blender has tools to create full 3D animations and environments from scratch.
- If you're working in 3D, you'll need to know or at least understand Blender.

Agenda

First, go get a mouse.
Trust me.

1. Setup

1. Downloading Blender
2. Orienting Yourself

2. Controls

1. Basic Navigation, Transformations

3. Live Modeling: Donut

1. Modifiers

2. Editing

1. Select, Delete
2. Extrude
3. Loop Cut

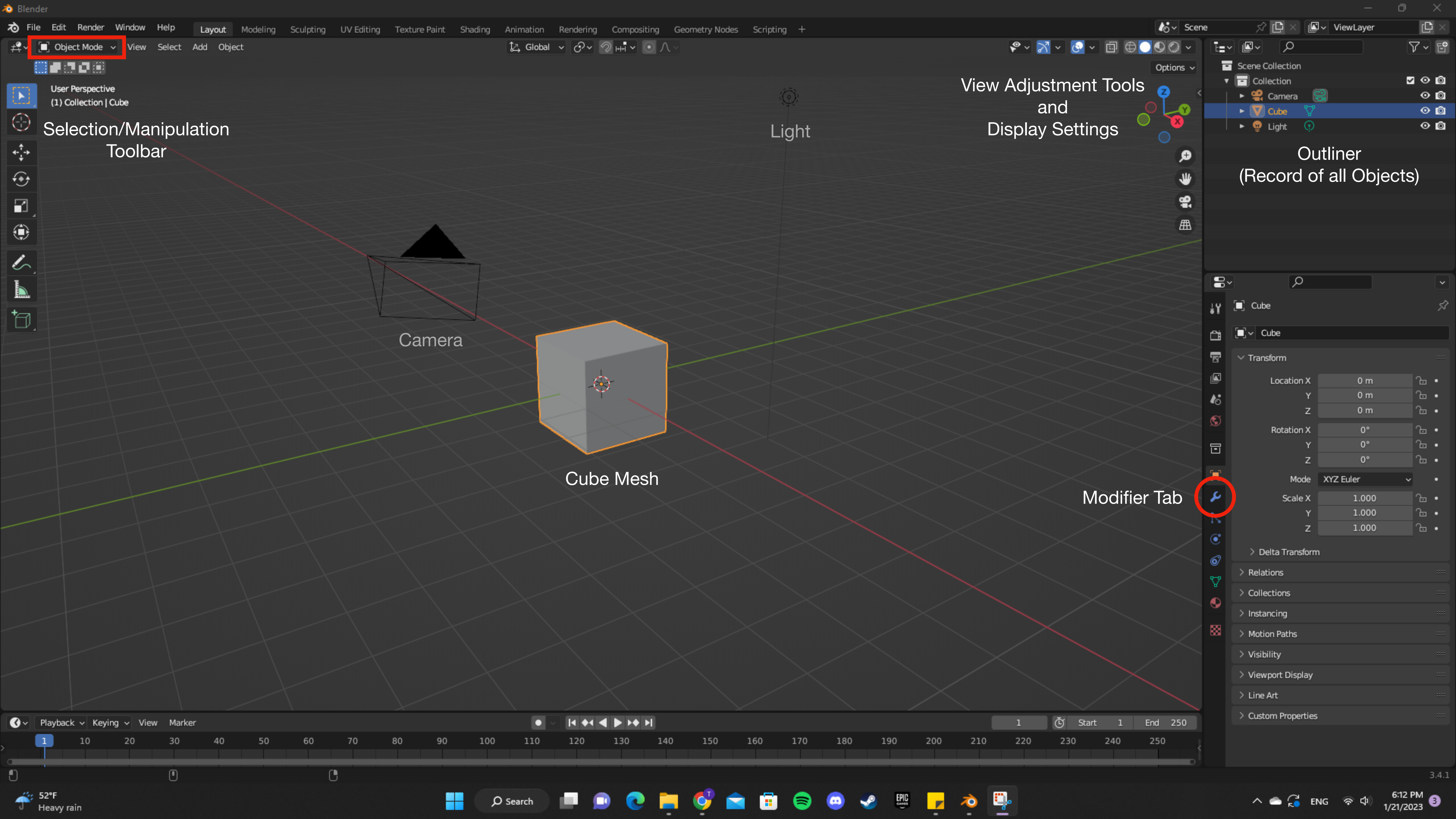


Downloading Blender

1. Go to blender.org
2. Select “Download Blender” from the homepage

Orienting Yourself

“What’s all this stuff?”



Object Mode

Selection/Manipulation
Toolbar

View Adjustment Tools
and
Display Settings

Outliner
(Record of all Objects)

Modifier Tab

Camera

Light

Cube Mesh

Outliner

- Scene Collection
 - Collection
 - Camera
 - Cube
 - Light

Modifier Tab

Cube	
Transform	
Location X	0 m
Y	0 m
Z	0 m
Rotation X	0°
Y	0°
Z	0°
Mode	XYZ Euler
Scale X	1.000
Y	1.000
Z	1.000

- > Delta Transform
- > Relations
- > Collections
- > Instancing
- > Motion Paths
- > Visibility
- > Viewport Display
- > Line Art
- > Custom Properties

Playback Keying View Marker 1 Start 1 End 250

Basic Navigation

You'll See Why You Should Have a Mouse

- With a trackpad, you'll have to adjust your view with the tools.
- With a mouse, getting around is easy:
 - Rotate—Middle Mouse Button + Drag
 - Pan—Shift + Middle Mouse + Drag
 - Zoom—Ctrl + Middle Mouse + Drag, or just Scroll Up/Down

Try these out now!

Basic Transformations

- There are 3 basic transformations:
 - Grab—G
 - Rotate—R
 - Scale—S
- Move the mouse to transform the mesh.
- Left Click confirms the transformation, while Right Click cancels it and resets the mesh.

Basic Transformations

- Some useful keys to keep things under control:
 - You can lock the transformation to X, Y, or Z by pressing those keys.
 - Holding down Ctrl will turn on snapping. By default, this is set to the increments of the grid.
 - Holding down Shift will reduce the sensitivity for more precise control.

Try G, R, and S out on the cube now!

Ready to Make Your First Model?