

## 3D Modeling & Texturing

### Course Description:

This course is an introduction to building the 3D world covering the processes of modeling, texturing, shading, and lighting. The course also introduces 3D sculpting on Zbrush.

**Duration:** 12 Classes

### Course Outcomes

- Create 3D Models with texture and shading
- Understand the lighting and the rendering basics.
- Getting introduced to 3D Digital Sculpting on Zbrush
- Creating a simple 3D scene from scratch.

#### Class 1

- History of CGI.
- Navigating the 3D space
- 3D axes
- Organizing objects through hierarchies

#### Class 2

- Geometry definition and components.
- Geometry modeling methods (polygon and patch based).
- Basic sculpting in 3D

#### Class 3-4

- Shaders basics and common parameters
- Material types and advanced material
- Normal, bump, displacement
- Texture projection and UV mapping

#### Class 5

- Texturing on substance painter

#### Class 6

- How light works
- Light types and common parameters
- Indirect lighting (GI) and shadow

#### Class 7

- Basics of Rendering
- Camera types and camera parameters
- Render layers and AOVs.

### **Class 8**

- Intro to Zbrush software

### **Class 9-10**

- Creating 3D sculpted objects in Zbrush

### **Class 11-12**

- Themed final project

### **Grading Policy**

Student needs at least 80% grade to pass the course

- Assignments 20%
- Final Project 60%
- Class exercise 10%
- Attendance 10%

### **Attendance Policy**

- Every class absence is 5% reduction in the final Grade.
- Student missing more than 2 classes will be failing the course.