

Computer Graphics in Vulkan and Modern OpenGL

Course Agenda

Use APIs such as Vulkan , Modern OpenGL , SDL3.

Basic 3D modeling tutorial in Blender.

C++ programming to create a basic cross-platform game engine.

Computer Graphics Mathematics and Shader Programming with GLSL.

Vulkan <https://vulkan.lunarg.com/>

Blender <https://www.blender.org/>

OpenGL Mathematics (GLM) <https://glm.g-truc.net/0.9.9/>

GLSL https://www.khronos.org/opengl/wiki/OpenGL_Shading_Language

<https://www.geeks3d.com/shader-library/>

<https://glslsandbox.com/>

Terms and Concepts

Programming Pipeline

Fliter

Vector Graphics

LHR vs RHR

Shader

API

Transform

Normalize

Dot Product

Cross Product

HUD

LCD

Perspective

