



Custom Roblox Worlds Syllabus

Course Overview

This course is designed to provide students with a comprehensive introduction to scripting and game development using Lua and Roblox Studio. Students will learn foundational programming concepts, scripting techniques, and game design principles, culminating in the ability to create fully functional and engaging Roblox games.

This course is recommended for ages 11 and up, and it is of intermediate difficulty. It includes over 35 hours of content learning Lua Coding Language.

Course Objectives

By the end of this course, students will:

- Understand and apply fundamental programming concepts using Lua.
- Set up and navigate Roblox Studio efficiently.
- Create interactive game elements using scripts.
- Design and implement game mechanics like leaderboards, checkpoints, and player tools.
- Use advanced features like solid modeling, lighting effects, and custom GUIs.
- Develop problem-solving and debugging skills in a game development context.
- Publish and share a functional Roblox game with peers.

Course Outline

Lesson 1: Introduction to Lua

- 1.1 - Lua Variables
- 1.2 - Lua Functions
- 1.3 - Lua If Statements
- 1.4 - Lua Loops
- 1.5 - Lua Arrays and Dictionaries

Quiz

Lesson 2: Roblox Studio Basics

- 2.1 - Roblox Studio Setup
- 2.2 - Roblox World
- 2.3 - Roblox Studio Use

Quiz

Lesson 3: Game Structures

- 3.1 - Platform and Parts
- 3.2 - Parent Folders
- 3.3 - DeathBlock Script

Quiz

Lesson 4: Game Progression

- 4.1 - Setup
- 4.2 - Leaderboard
- 4.3 - Level Up
- 4.4 - Checkpoint Spawn

Quiz

Lesson 5: Player Mechanics

- 5.1 - Setup
- 5.2 - Speed
- 5.3 - Jump
- 5.4 - Health

Quiz

Lesson 6: Tools and Interactions

- 6.1 - Tools
- 6.2 - Ammo Display
- 6.3 - Tool Events
- 6.4 - Server Script

Quiz

Lesson 7: AI and NPCs

- 7.1 - Rigs
- 7.2 - Follow Script
- 7.3 - Spawn Script

Quiz

Lesson 8: Environmental Features

- 8.1 - Ice Blocks
 - 8.2 - Terrain
 - 8.3 - Icicles
- Quiz

Lesson 9: Water Mechanics

- 9.1 - Water
 - 9.2 - Oxygen GUI
 - 9.3 - Oxygen Script
- Quiz

Lesson 10: Advanced Features

- 10.1 - Solid Modeling
 - 10.2 - Effects
 - 10.3 - Lighting
 - 10.4 - Win
- Quiz

Resources

- **Required:**

Software: Roblox Studio (latest version)

Account: An active Roblox account for development and testing.

Hardware: Computer with an internet connection capable of running Roblox Studio.