**TLL Unity Syllabus for Beginners**

**Total Days: 13**

1. **[Day 1-2] Introduction to Unity - Exploring Unity3d** (2)
2. Create Unity Project
3. Unity Interface learning: Scene View, Game View, Inspector, Hierarchy, project window etc
4. Fundamental of 3D Space and Scene Navigation
5. Scene Creation
6. Game object Basics (Camera , Light, Primitive Objects)
7. Game Play/Pause
8. Intro to Components (Transform, Meshes, Mesh Renderer, Colliders)
9. Unity Coordinate System (Local/Global), Pivot)
10. Materials and Textures
11. Tags and Layers
12. Prefab
13. Package Making/Import/Export
14. Models Import (FBX Import)
15. Skybox
16. Unity Project Folder Structure
17. Audio Source, Listeners and Audio Clip
18. **Deployment/Build**
19. **[Day 3-8] Introduction to Scripting – Beginner Gameplay Scripting** (10)+Tasks
20. MonoBehavior and its events (Awake, Start, Update, OnEnable, OnDisable etc.)
21. Debug Logging
22. Variables, Conditions and Methods, Loops
23. Classes and Objects
24. Mouse\Keyboard Input
25. Translate and Rotate
26. Delta time
27. Assignments and Components Access
28. Object or components Active/Deactive
29. Scene Loading/Additive loading etc.
30. Multiple cameras handling
31. Player Handling
32. Unity Common Methods: Instantiate, LookAt, Enuemrators, Coroutine, Destroy, WebRequest, Lerp, Invoke, Invoke Repeating, Distance, and other methods
33. List and Dictionaries
34. Custom Events and Delegates
35. **[Day 7-9] Physics and Scripting** (2)
36. Colliders & Rigid body
37. Triggers & Collision Detection
38. Raycasting and layering
39. Unity Events (Fixed Update, Late Update etc.,)
40. **[Day 10-12] Unity UI – UI Design and Scripting** (3)
41. [UI Canvas](https://unity3d.com/learn/tutorials/topics/user-interface-ui/ui-canvas?playlist=17111) and Event System
42. [UI Rect Transform](https://unity3d.com/learn/tutorials/modules/beginner/ui/rect-transform?playlist=17111)
43. [UI Button](https://unity3d.com/learn/tutorials/topics/user-interface-ui/ui-button?playlist=17111)
44. [UI Image](https://unity3d.com/learn/tutorials/topics/user-interface-ui/ui-image?playlist=17111)
45. [UI Text](https://unity3d.com/learn/tutorials/topics/user-interface-ui/ui-text?playlist=17111)
46. [UI Events and Event Triggers](https://unity3d.com/learn/tutorials/topics/user-interface-ui/ui-events-and-event-triggers?playlist=17111)
47. [UI Slider](https://unity3d.com/learn/tutorials/topics/user-interface-ui/ui-slider?playlist=17111)
48. [UI Transitions](https://unity3d.com/learn/tutorials/topics/user-interface-ui/ui-transitions?playlist=17111)
49. [UI Scroll Rect](https://unity3d.com/learn/tutorials/modules/beginner/ui/ui-scroll-rect?playlist=17111)
50. [UI Scrollbar](https://unity3d.com/learn/tutorials/topics/user-interface-ui/ui-scrollbar?playlist=17111)
51. [UI Mask](https://unity3d.com/learn/tutorials/topics/user-interface-ui/ui-mask?playlist=17111)
52. Responsive UI and UI Anchors
53. **[Day 13-14] Animation – Animation Control through Scripting** (2)
54. Animation (Animation Clip play, Humanoid/Generic animation, Legacy and advance animation, Animation Controller)
55. Animation Control through scripting
56. Unity Animation
57. **[Day 15-17] Advance Unity**
58. LODs
59. Culling and culling with script
60. Navigation (NavMesh, Obstacle, NavAgent)
61. Profiler and Optimization
62. Project Settings
63. Particle System
64. Baking
65. Post Processing
66. Light Probes/Reflections
67. Shader use, Normals and Emission maps, Transparency
68. Vector Math Concepts
69. Advance Debugging
70. Asset Bundles/Unity Addressable assets
71. **[Day 18-20]NGUI**
72. **[Day 21-22]3D Rocket workspace /World-Insight Introduction and Use**
73. **[Day 23-24]Frequent Packages Use**
74. Camera Path Animation
75. ITS/STS
76. PACS (Pedestrian)
77. **[Day 25] Virtual Reality/Android Build/WebGL**
78. **[Day 26-27] Coding Standards and Best practices**

Resources: You are free to learn from any resource!

Course: https://www.udemy.com/course/learnunity3d/

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| **Week1** | **Introduction to Unity - Exploring Unity3d** |
| Unity Interface | <https://docs.unity3d.com/560/Documentation/Manual/LearningtheInterface.html> |
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| **Week2** | **Introduction to Scripting – Beginner Gameplay Scripting** |
| Scripting basics | <https://unity3d.com/learning-c-sharp-in-unity-for-beginners> |
|  | <https://www.raywenderlich.com/980-introduction-to-unity-scripting> |
|  | https://gamedevacademy.org/unity-scripting-tutorial/ |
| Delta Time | http://codesaying.com/time-deltatime-in-unity3d/ |
| **Week 3** | **Physics and Scripting** |
| Working with Unity3D Physics | <https://code.tutsplus.com/tutorials/working-with-unity3d-physics--mobile-11771> |
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| **Animation** | https://gamedevacademy.org/unity-3d-animation-tutorial/ |
| **UI** | https://www.raywenderlich.com/6570-introduction-to-unity-ui-part-1  https://unity3dhowto.blogspot.com/search/label/Unity%20UI |
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| Camera Path | <https://assetstore.unity.com/packages/tools/animation/camera-path-animator-animate-cutscenes-with-splines-617>  Download: L:\Utilities\Unity\Packages\Camera Path Animation |
| Simple Traffic System | <https://assetstore.unity.com/packages/tools/ai/simple-traffic-system-159402>  Download: L:\Utilities\Unity\Packages\Traffic System\Simple Traffic System |
| iTS (Intelligent Traffic System) | Download: L:\Utilities\Unity\Packages\iTS |
| Pedestrians And Crowd System | Download: L:\Utilities\Unity\Packages\Pedestrians And Crowd System |
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| **Unity webgl Introd** | https://docs.unity3d.com/Manual/webgl-building.html |
| **Webgl issues** |  |