

AR & VR Training Syllabus

(Total-12 Hours).

Beginner Workshop: Introduction to Augmented Reality (AR)

Duration-2 Hours

- AR- A Primer for Beginners (15 minutes)
- AR applications for the real world: Today and beyond (10 minutes)
- Exciting New Developments (5 minutes)
- Behind the scenes: How does it work? (20 minutes)
- Difference between AR and VR (10 minutes)
- The AR Experience: Mobile devices VS Head-mounted devices (HMD's) (5 minutes)
- Why choose Mobile devices for AR development? (5 minutes)
- Mobile AR: Markers VS Marker-less experiences (5 minutes)
- Marker-based AR: Benefits and limitations (5 minutes)
- Marker-less AR: Benefits and limitations (5 minutes)
- Prerequisites for creating an AR App (10 minutes)
- An introduction to Software tools and platforms for AR development: Unity/Vuforia/ARCore/ARKit/Blender/Wikitude and many more! (10 minutes)
- AR for artists and UI/UX designers: What makes a great AR experience? (10 minutes)
- Next steps in your AR Journey: What should be my focus? (5 minutes)

Beginner Workshop: Introduction to Virtual Reality (AR)

Duration-2 Hours

- VR- A History and primer for beginners (20 minutes)
- VR applications for the real world: Today and beyond (10 minutes)
- Exciting New Developments (5 minutes)
- Behind the scenes: How does it work? (10 minutes)
- The VR Glossary: An exploration of common VR principles and terms (30 minutes)
- VR Head-mounted devices (HMD's) (5 minutes)
- Tools for VR Development (10 minutes)
- VR Limitations: Simulator sickness (10 minutes)

- VR for artists and UI/UX designers: What makes a great VR experience? (10 minutes)
- Next steps in your VR Journey: What should be my focus? (10 minutes)

Intermediate Workshop: Creating your first AR App

Duration-4 Hours

Your first AR app will teach you the ropes of building an AR mobile app. It uses a marker-based approach to display a 3D-model on your printable paper marker when a phone/laptop camera is scanned over it.

Requirements:

- Completed Introductory AR/VR workshop
- Basic coding skills desirable but not mandatory
- A Windows 10 computer with an internet connectio
- Unity online registration and installed on the computer (Free)
- Vuforia online developer account (Free)
- An Android/iOS phone to test your AR App

Instructor will provide:

- Detailed instructions on software installation and configuration will be
- shared a few days prior to course start
- Instructions on registering to useful online resources
- Useful cheat sheets and handouts after course completion
- Hands-on guidance during the course to follow along with tasks
- Guidance and support while you spend a week building an app on your
- own
- Printable markers to test the AR app

This hands-on workshop will cover the following core modules:

Unity Overview (Duration-1 Hour)

- Unity Overview (5 minutes)
- Unity User Interface (20 minutes)
- Introduction to Prefabs (5 minutes)
- Supported 3D formats and Best Practices (10 minutes)
- Game Objects and Components (10 Minutes)
- Build and Player Settings (10 Minutes)

Unity Interface and Navigation (Duration-2 Hours)

- Unity Installation and Setup tips/Starting a new project (10 minutes)
- Exploring the Unity User Interface (20 Minutes)
- Creating and Saving Scenes/Project (10 minutes)
- Add Game Objects and Edit Transforms (10 minutes)
- Working with Cameras and Lights in Unity (20 Minutes)
- Working with Textures (15 Minutes)
- Working with Components: UI/Audio/Video/Effects/Particles (25 Minutes)
- Building and Exporting a project (10 Minutes)

Vuforia for Unity (Duration-1 Hour)

- Vuforia Introduction and Features (5 minutes)
- Developer Dashboard, Target Manager, License Manager and Library (20 Minutes)
- Vuforia Engine components (5 minutes)
- Image Targets in Vuforia (5 minutes)
- Vuforia Prefabs in Unity (5minutes)
- **VuMarks:** What are they? (5 minutes)
- **Cloud Reco:** Hosting an AR App on the cloud (5 Minutes)
- Best practices for Image Targets, 3D Models, UX (10 Minutes)