✦ EMERGING TECHNOLOGIES · ADVANCED

Extended Reality (XR) Development

Build immersive experiences.



56	7	SAM-XR
HOURS	MODULES	CERTIFICATION

✦ INSIDE THIS BROCHURE

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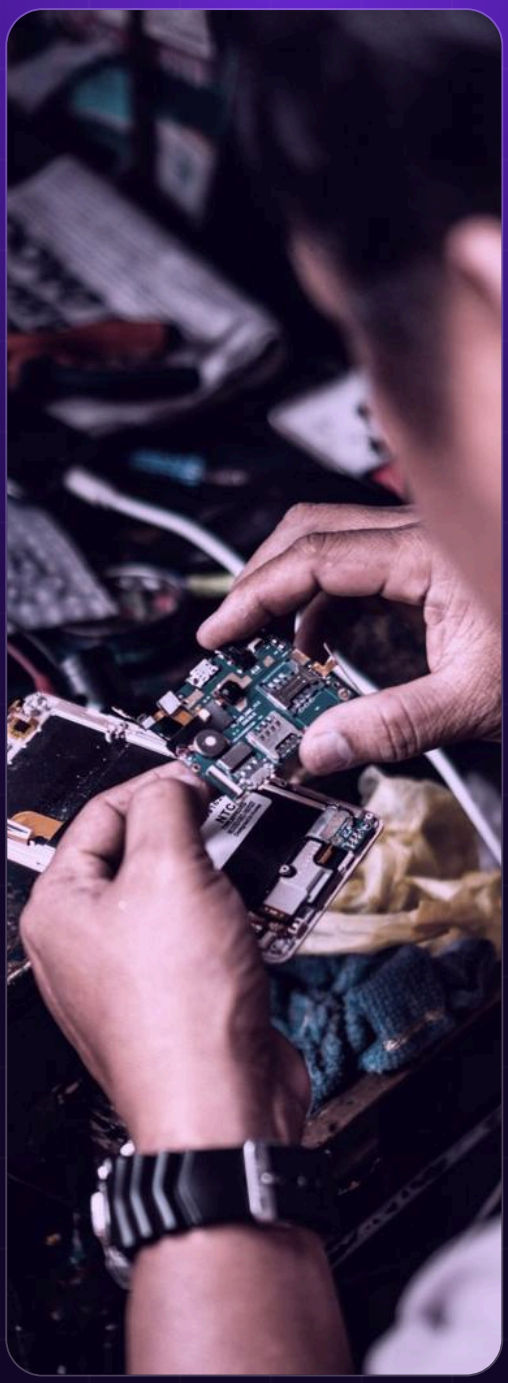
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AT A GLANCE

Level	Advanced
Duration	56 Hours
Modules	7
Certificate	SAM-XR

✦ PROGRAM OVERVIEW

Build immersive experiences.



Develop AR and VR applications with modern XR tools.

XR applications are moving from experiments to production use in training, design, retail and collaboration, creating demand for developers who can build performant, comfortable immersive experiences. This advanced program teaches AR and VR development in Unity with OpenXR, covering 3D asset pipelines, interaction design, mixed reality features, performance optimisation and publishing to devices and app stores.

LEVEL	DURATION	CERTIFICATION	DELIVERY
Advanced	56 Hours	SAM-XR	Instructor-led · Live virtual · Blended



✦ WHAT YOU'LL PRACTISE

Build 3D scenes and interactions	01
Develop AR and VR apps	02
Optimise XR performance	03
Publish XR experiences	04

✦ WHO IT'S FOR

Built for people ready to grow.

01

Curious professionals

Quantum, blockchain, IoT and AR/VR fundamentals

02

Developers

Solidity, XR development, edge AI / TinyML

03

Security teams

Quantum-safe crypto, IoT and 5G security

04

Innovation teams

Digital twins and emerging-tech strategy

PREREQUISITES

Programming experience, ideally C#	01
Basic familiarity with Unity or a 3D engine	02
Understanding of 3D concepts and coordinate systems	03

ROLES YOU CAN TARGET

- XR Developer ↗
- Unity Developer (AR/VR) ↗
- Immersive Experience Engineer ↗
- Technical Artist (XR) ↗
- Simulation and Training Developer ↗

✦ LEARNING OUTCOMES

What you'll be able to do.

01 Build 3D scenes and real-time interactions in Unity

02 Develop VR applications using OpenXR and XR Interaction Toolkit

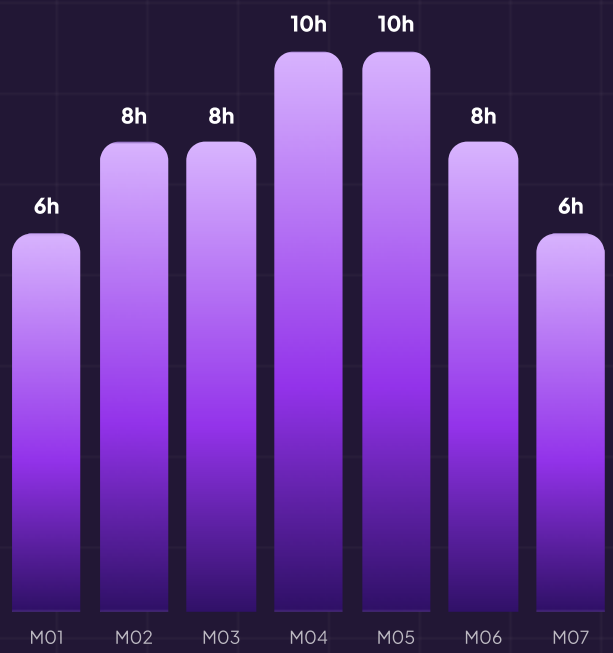
03 Create AR applications with AR Foundation for mobile devices

04 Implement mixed reality features like passthrough and spatial anchors

05 Optimise XR performance for standalone headsets and mobile

06 Package, test and publish XR experiences to target platforms

HOURS PER MODULE



✦ PROGRAM RUNWAY

Your journey, module by module.

7
MODULES · 56 HRS

01	**XR Development Foundations** XR platforms and devices, OpenXR standard, Unity project setup for XR	6 hrs
02	**3D Asset Pipeline** Blender modelling for real time, UV mapping and PBR textures, Rigging and animation basics	8 hrs
03	**Unity Scripting for XR** C# scripting essentials, Input System and controllers, Physics and collisions	8 hrs
04	**VR Interaction Development** XR Interaction Toolkit, Locomotion and teleportation, Grab, poke and ray interactions	10 hrs
05	**AR and Mixed Reality Development** AR Foundation for ARCore and ARKit, Plane detection and raycasting, Image tracking and anchors	10 hrs
06	**Performance Optimisation** Frame rate targets and profiling, Draw calls, batching and occlusion, Lighting bakes and shaders	8 hrs
07	**Testing and Publishing** Device testing workflows, Build and packaging for Android XR, Meta Horizon Store requirements	6 hrs
★	**Capstone · Published XR Application** Assessment, capstone review and certification	

✦ DETAILED CURRICULUM

The syllabus.

Modules 01–03

MODULE 01

XR Development Foundations

6 hours

Hands-on lab
Configure a Unity URP project with OpenXR and run a headset test.

TOPICS COVERED

- XR platforms and devices
- OpenXR standard
- Unity project setup for XR
- Render pipelines: URP
- XR comfort and design principles

MODULE 02

3D Asset Pipeline

8 hours

Hands-on lab
Create, texture and import an optimised asset into Unity.

TOPICS COVERED

- Blender modelling for real time
- UV mapping and PBR textures
- Rigging and animation basics
- Exporting glTF and FBX
- Level of detail and optimisation

MODULE 03

Unity Scripting for XR

8 hours

Hands-on lab
Script interactive objects responding to controller input and physics.

TOPICS COVERED

- C# scripting essentials
- Input System and controllers
- Physics and collisions
- Events and UI systems
- Scene and state management



LEARN BY DOING

7 guided labs, one in every module.

✦ DETAILED CURRICULUM

Syllabus, continued.

Modules 04–05

MODULE 04

VR Interaction Development

10 hours

Hands-on lab
Build a VR training scene with grabbing, teleport and hand tracking.

TOPICS COVERED

- XR Interaction Toolkit
- Locomotion and teleportation
- Grab, poke and ray interactions
- Hand tracking
- Spatial UI design

MODULE 05

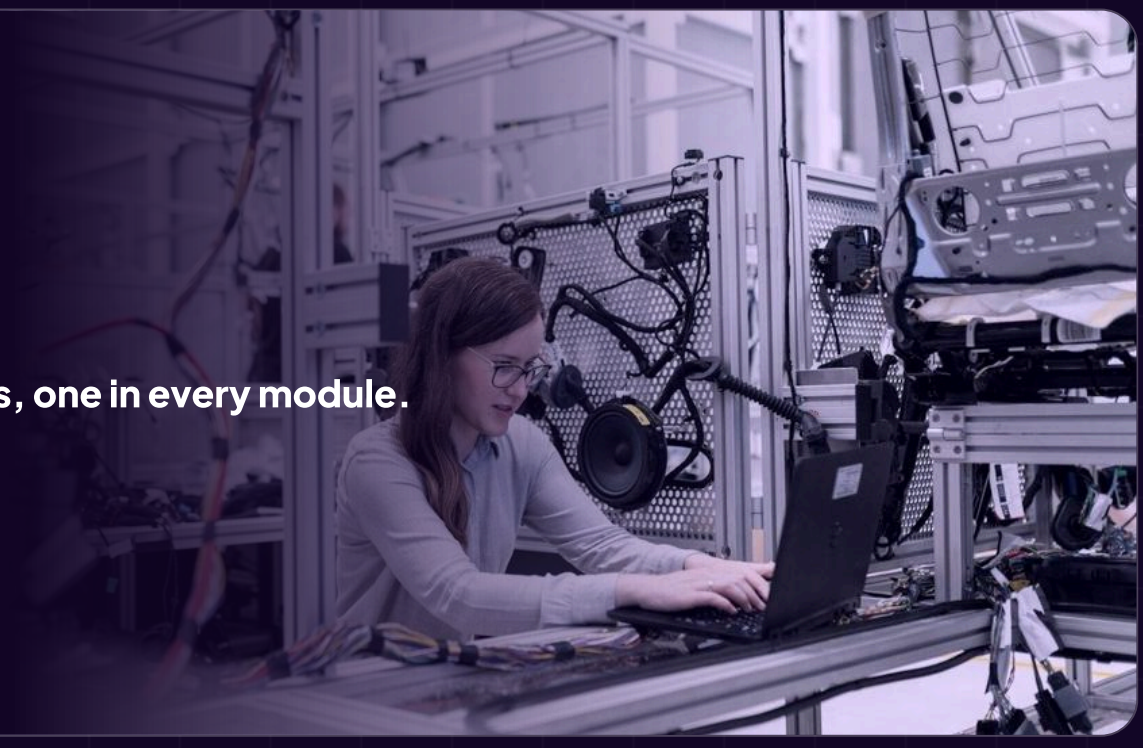
AR and Mixed Reality Development

10 hours

Hands-on lab
Build a mobile AR app placing interactive products on surfaces.

TOPICS COVERED

- AR Foundation for ARCore and ARKit
- Plane detection and raycasting
- Image tracking and anchors
- Passthrough mixed reality
- Spatial anchors and scene understanding



LEARN BY DOING

7 guided labs, one in every module.

✦ DETAILED CURRICULUM

Syllabus, continued.

Modules 06–07

MODULE 06

Performance Optimisation

8 hours

Hands-on lab
Profile and optimise a scene to hit 72 FPS on standalone.

TOPICS COVERED

- Frame rate targets and profiling
- Draw calls, batching and occlusion
- Lighting bakes and shaders
- Foveated rendering
- Memory and thermal limits

MODULE 07

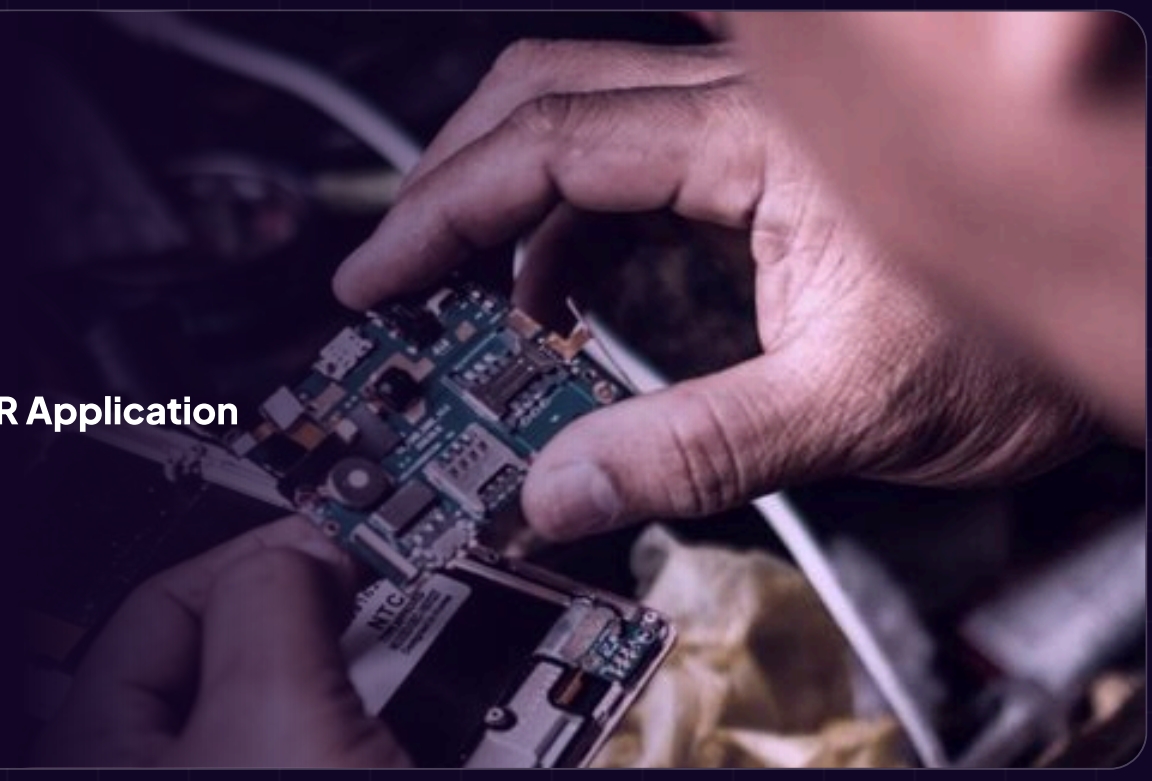
Testing and Publishing

6 hours

Hands-on lab
Package and deploy a build to a standalone headset for testing.

TOPICS COVERED

- Device testing workflows
- Build and packaging for Android XR
- Meta Horizon Store requirements
- Web-based XR with WebXR
- Analytics and updates



CAPSTONE

Published XR Application

✦ YOUR STACK

Tools you'll build with.

Real platforms and frameworks — the same stack modern teams ship with, practised in cloud-hosted labs.

Unity
XR & 3D engine

Blender
3D content



LAB ACCESS

24×7 cloud labs for the length of the program

✦ HANDS-ON WORK

Projects that prove you can do it.

01

VR Training Simulation

Build a VR training module with guided steps, realistic object interactions, user feedback and completion tracking for a workplace procedure.

02

AR Product Visualiser

Develop a mobile AR app that lets users place, scale and inspect 3D products in their space.

03

Mixed Reality Workspace

Create a passthrough mixed reality experience with persistent spatial anchors and interactive floating UI panels for productivity tasks.

CAPSTONE PROJECT

Published XR Application

Design, develop, optimise and package a complete AR or VR application for a real use case, with custom assets, polished interactions and performance profiling, then demonstrate it on a device and present the build.

Real-world scenario · Mentor review · Portfolio ready



CERTIFICATION

SAM-XR

Awarded on successful completion of the program assessments.

- MCQ assessments
- Practical lab evaluation
- Project & capstone review
- Final presentation



✦ HOW YOU LEARN

The SAM Learning Framework™

PHASE 01

S

Scenario

Real-world attack and use-case scenarios open every module.

PHASE 02

A

Apply

Hands-on lab work, CTF challenges and live projects.

PHASE 03

M

Master

Assessment, peer review and certification prep.

PHASE 04

M

Mentor

Post-program career guidance and support.

DELIVERY MODELS

- Instructor-Led (ILT)
- Virtual Instructor-Led
- Self-Paced Online
- E-Learning Licensing
- Blended Learning
- Corporate Onsite
- Bootcamp Intensive
- Hackathon / CTF
- Mentorship

✦ LEARNING PATH · EMERGING TECHNOLOGIES

Where this program fits.

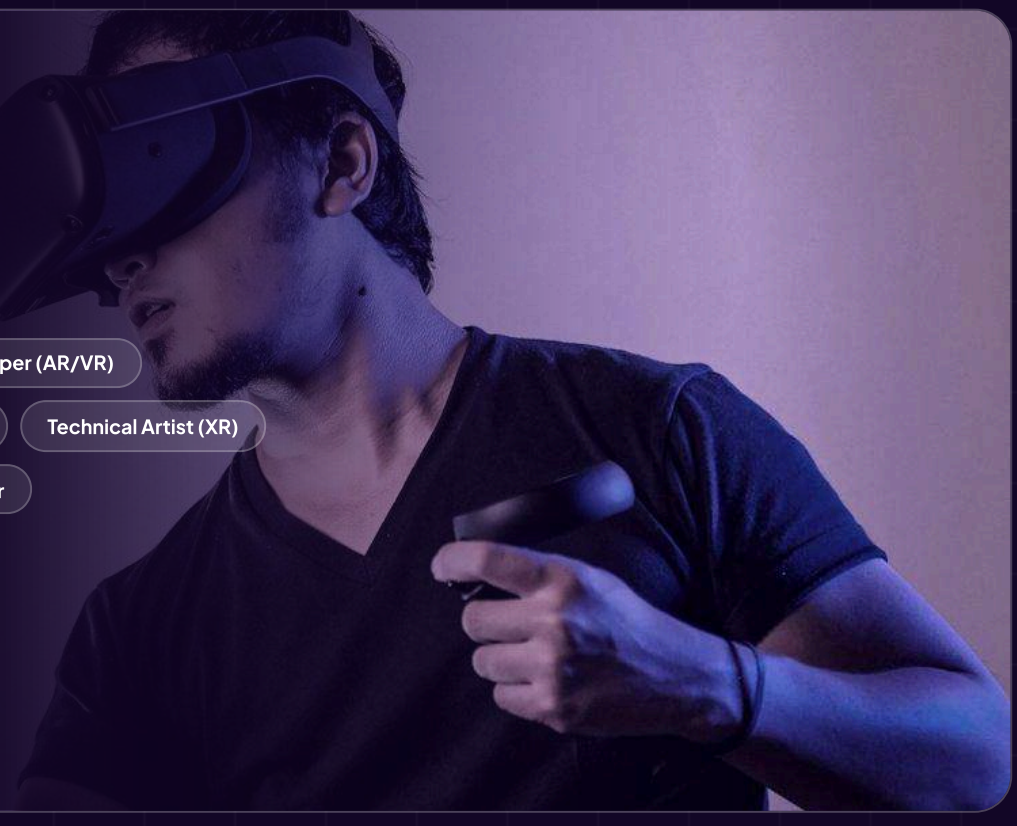
Foundation	Intermediate	Advanced
4 programs	4 programs	You are here

BEFORE THIS

Quantum-Safe Cryptography	48 Hours
Blockchain Development (Solidity/Ethereum)	56 Hours
IoT Security & Architecture	48 Hours
5G Network Security	40 Hours

UP NEXT

The top of this pathway — explore related tracks.



CAREER ROLES

- XR Developer
- Unity Developer (AR/VR)
- Immersive Experience Engineer
- Technical Artist (XR)
- Simulation and Training Developer

✦ FAQS

Questions, answered.

Q01

Do I need prior experience to join?

Yes. You should have programming experience, ideally in C#, and basic familiarity with Unity or another 3D engine. This advanced program focuses on XR-specific development rather than teaching programming from the beginning.

Q02

How is the program delivered and scheduled?

The 56 hours program is instructor-led and delivered live virtual or blended, combining concept sessions, demonstrations and guided hands-on work. Batch timings and session frequency are confirmed with the academy team at enrollment.

Q03

Will I receive a certificate?

Yes. Participants who attend the required sessions and pass the program assessments, including practical tasks and a capstone review, receive the Samcommunity Academy SAM-XR certificate for Extended Reality (XR) Development.

Q04

What labs and tools will I have access to?

Labs use Unity, OpenXR, XR Interaction Toolkit, AR Foundation and Blender, with testing on standalone headsets and AR-capable phones where available. Hardware access and system requirements are explained at enrollment.

Q05

Is career support provided?

Yes. You receive guidance on building a portfolio from your projects, presenting skills on your resume and preparing for interviews. Career support helps you present yourself well, but job placement, interviews and salaries are not guaranteed.



✦ LET'S TALK

Start Extended Reality (XR) Development with Samcommunity.

INDIVIDUALS

academy@samcommunity.in

Batches, enrolment & career guidance

CORPORATE & INSTITUTIONS

corporate@samcommunity.in

Team batches & custom programs

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