

Unreal Engine Game Development

Build Your Own Games



Course Introduction

This course introduces students to Unreal Engine 5 as a powerful real-time 3D engine used in games, film, virtual production, architecture, and simulation.

Learning pathway

✓ 13–16 Age Range ✓ 60 Mins per session

Module 1 - UNREAL ENGINE FOUNDATION COURSE

DURATION : 1-3 MONTHS

TOTAL SESSIONS : 24 SESSIONS

SESSIONS : 8 SESSIONS / MONTH

Students will be able to design, develop, and optimize complete interactive experiences using Unreal Engine 5 by applying industry-standard workflows for gameplay programming, environment creation, lighting, materials, animation, UI, audio, and cinematics. They will confidently create immersive worlds using Nanite, Lumen, Landscape tools, while implementing scalable gameplay systems with Blueprints, AI, save systems, interactions. Students will demonstrate proficiency in Movie Render Queue, and real-time cinematic production to create visually compelling experiences. They will apply optimization techniques including LODs, draw call reduction, culling, profiling, and packaging a project, production-ready projects. Finally, students will produce a polished, portfolio-quality playable game.

Module 2 - UNREAL ENGINE GAME DEVELOPMENT PART I

DURATION : 4-6 MONTHS

TOTAL SESSIONS : 24 SESSIONS

SESSIONS : 8 SESSIONS / MONTH

Students will be able to design, develop, and optimize advanced gameplay systems and large-scale interactive worlds in Unreal Engine using professional production workflows and scalable Blueprint architecture. They will confidently build modular environments with World Partition, Data Layers, Runtime Virtual Textures, and cinematic-quality lighting while implementing sophisticated AI systems, combat mechanics, character movement, and data-driven gameplay using Behavior Trees, Gameplay Tags, Data Tables, and modular interaction systems. Students will apply advanced level design, environmental storytelling, UI/UX, animation, Sequencer, audio integration. They will optimize projects using performance profiling, Virtual Shadow Maps, build optimization, and packaging workflows to meet industry standards. Finally, students will produce a polished, portfolio-quality playable game.

Start Your Child's Journey into Game Design, Coding & Digital Creativity!

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Module 3 - UNREAL ENGINE GAME DESIGN COURSE

DURATION : 7-9 MONTHS

TOTAL SESSIONS : 24 SESSIONS

SESSIONS : 8 SESSIONS / MONTH

Students will be able to design engaging gameplay experiences by applying core game design principles, player psychology, gameplay loops, the MDA framework, and structured design thinking to create meaningful and enjoyable player interactions. Students will create well-structured levels through grayboxing, spatial design, environmental guidance, player flow, readability, and iterative playtesting techniques to ensure engaging and accessible experiences. They will design balanced progression systems, quests, combat encounters, AI-driven gameplay, and difficulty curves that promote challenge, reward, and long-term player engagement. Finally, students will produce a polished, portfolio-quality level design project that demonstrates industry-standard game design practices suitable for careers in game design and level design.

Module 4 - UNREAL ENGINE GAME DEVELOPMENT PART II

DURATION : 4-6 MONTHS

TOTAL SESSIONS : 24 SESSIONS

SESSIONS : 8 SESSIONS / MONTH

Students will be able to design, architect, and deliver production-ready Unreal Engine projects by applying professional studio workflows, collaborative development practices, version control, Agile methodologies, and comprehensive documentation systems. They will confidently develop advanced gameplay frameworks featuring modular systems, and sophisticated AI including EQS, squad AI, boss AI, Smart Objects, and adaptive difficulty. Students will create high-fidelity visual experiences using advanced materials, shaders, Niagara VFX, motion capture, Live Link, motion matching, procedural animation. They will optimize large-scale projects through advanced profiling, platform optimization, networking best practices, and performance-driven workflows to meet AAA production standards. Finally, students will produce a professional capstone project that showcases expertise in advanced game development.

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Requirements

Unreal Engine 5, Epic Games Account, Windows PC with mid-range GPU (meeting UE5 recommended specs)

Why Parents Choose Ascend



- Project-based learning
- Creative technology education
- Future skills development
- Hybrid learning options
- Access to Ascend LMS platform

- ✓ Digital Creativity
- ✓ Game Design
- ✓ Collaboration
- ✓ Computational Thinking
- ✓ Problem Solving
- ✓ Coding Fundamentals

- ✓ Assessment Modules
- ✓ Capstone Game Project

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