



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

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COURSE BROCHURE

3D Animation Particle and Natural Effects

Communication Studies and Language / Media Studies

Unit Standard 242552 · NQF Level 6 · 10 Credits · 7 Days

COURSE OVERVIEW

This course equips learners with the skills to animate particles and natural effects for 3D animation and visual effects. Participants will master techniques for creating realistic fire, smoke, water, and atmospheric phenomena using industry-standard software. The course bridges theoretical principles of particle dynamics with practical application in a production pipeline.

Category	Communication Studies and Language
Subfield	Media Studies
Unit Standard	242552
Accreditation	SAQA Accredited · NQF Level 6 · 10 Credits
Duration	7 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply particle system fundamentals to simulate natural phenomena such as fire, smoke, and water.
- Design complex particle behaviours including forces, collisions, and instancing for realistic effects.
- Implement compositing techniques to integrate particle effects seamlessly into 3D scenes.
- Analyze and optimize particle simulations for efficient rendering within production constraints.
- Evaluate the aesthetic and technical quality of animated natural effects against industry benchmarks.

WHO SHOULD ATTEND

- This course is ideal for 3D animators, visual effects artists, and multimedia designers seeking to specialise in particle and natural effects animation.
- It is also suited for recent graduates in animation or digital arts aiming to enhance their portfolio with advanced VFX skills.

COURSE OUTLINE

Day 1: Foundations of Particle Systems

- Introduction to particle systems and their role in 3D animation
- Types of particles: point, cloud, tube, and sprite
- Particle emitters: point, directional, volume, and surface
- Basic particle attributes: lifespan, speed, size, and color
- Overview of Maya's particle system tools
- Simple particle animation exercise

Day 2: Particle Dynamics and Forces

- Introduction to dynamic fields: gravity, wind, turbulence, drag
- Connecting fields to particle emitters
- Particle colliders and collision settings
- Combining multiple forces for complex motion
- Using expressions to control particle behaviour
- Practical: simulating falling leaves and smoke

Day 3: Particle Rendering and Texturing

- Particle shading: default, cloud, tube, and sprite
- Texture mapping using particle age and ramp
- Per-particle attributes and expressions
- Hardware vs. software rendering
- Particle instancing and geometry replacement
- Rendering settings and optimisation

Day 4: Natural Effects - Fire and Smoke

- Fire effect setup: emitter, attributes, and shading
- Smoke simulation using particles and fluids
- Fluid containers: properties and resolution
- Temperature and fuel fields for fire
- Opacity and colour ramps for smoke
- Practical: campfire and chimney smoke

Day 5: Natural Effects - Water, Rain, and Splashes

- Rain effect: emitter setup and motion
- Water surface simulation using nParticles
- Splash and foam particle systems
- Viscosity and surface tension in nParticles
- Multi-system integration for waterfalls
- Practical: rainstorm and puddle splashes

Day 6: Advanced Particle Techniques - nCloth and nParticles

- nParticles vs. classic particles
- nCloth and nParticle interactions
- nCache: caching and playback
- Simulation layers and performance
- Complex effects: cloth tearing with particles

- Practical: cloth flag with particle dust

Day 7: Integration and Final Project

- Multi-system integration: fire, smoke, water, cloth
- Rendering passes and compositing basics
- Optimising simulations for time and quality
- Final project: create a 10-second particle effects scene
- Presentation and peer review
- Course wrap-up and resources

ASSESSMENT & CERTIFICATION

Delegates are assessed through exercises and a final test. A mark of **50% or above** earns an **AATICD Certificate of Completion**, issued digitally with a unique verification code. This course carries **10 NQF credits** at **NQF Level 6**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 31,000.00	R 31,000.00
1	In-House	R 40,400.00	R 40,400.00
1	On-Campus (Pretoria)	R 46,500.00	R 46,500.00

UPCOMING SESSIONS

Start	End	Method	Venue
04 Aug 2026	12 Aug 2026	On-Campus	Cape Town, South Africa
05 Aug 2026	13 Aug 2026	On-Campus	Dubai, UAE
06 Aug 2026	14 Aug 2026	On-Campus	Pretoria, South Africa
06 Aug 2026	14 Aug 2026	On-Campus	Lagos, Nigeria
07 Aug 2026	17 Aug 2026	On-Campus	Johannesburg, South Africa
10 Aug 2026	18 Aug 2026	On-Campus	Cape Town, South Africa
11 Aug 2026	19 Aug 2026	On-Campus	Dubai, UAE
12 Aug 2026	20 Aug 2026	On-Campus	Pretoria, South Africa

Contact us if no suitable date is listed – on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard 242552) and click **Get A Quote / Apply**. Select your training method and number of delegates – your quotation is generated immediately and emailed to you with the course brochure attached.
2. **Apply by email:** send the course title, your preferred training method (Online, In-House or On-Campus Pretoria), the number of delegates and your preferred dates to apply@aaticd.co.za – our team will reply with a formal quotation.
3. **Apply by phone or WhatsApp:** call +27 12 004 8389 or WhatsApp +27 65 077 6310 and we will prepare your quotation and reserve your seats.
4. **Confirm your booking:** accept the quotation and settle the invoice. As soon as payment is confirmed your delegates are enrolled and receive their AATICD LMS login details by email, along with joining instructions for their chosen training method.

Group discounts apply automatically – the more delegates you enrol, the lower the price per delegate. No payment is required to request a quotation.

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