



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 Character and Object Modeling for Animation

Communication Studies and Language / Media Studies

Unit Standard 242550 · NQF Level 5 · 15 Credits · 12 Days

COURSE OVERVIEW

This course equips learners with the practical skills to model 3D objects and characters for animation and visual effects. Participants will master industry-standard workflows for creating, refining, and preparing 3D assets for production, ensuring alignment with South African creative industry standards.

Category	Communication Studies and Language
Subfield	Media Studies
Unit Standard	242550
Accreditation	SAQA Accredited · NQF Level 5 · 15 Credits
Duration	12 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply polygonal modelling techniques to create 3D objects and characters.
- Demonstrate the use of subdivision surfaces and sculpting tools for organic forms.
- Implement UV mapping and texturing workflows to prepare models for rendering.
- Analyze reference materials to ensure accurate proportions and topology.
- Evaluate model integrity through checking for non-manifold geometry and edge flow.
- Design character and object models that meet animation-ready specifications.

WHO SHOULD ATTEND

- Aspiring 3D artists, animators, and visual effects professionals seeking to develop foundational to intermediate modelling skills.
- Suitable for individuals working in film, gaming, advertising, or architectural visualisation.

COURSE OUTLINE

Day 1: Introduction to 3D Modeling and Animation Principles

- Overview of 3D animation industry and career paths.
- The production pipeline: modeling, texturing, rigging, animation, rendering.
- Introduction to 3D software interface (e.g., Blender, Maya).
- Viewport navigation and object selection.
- Primitive objects: cube, sphere, cylinder, plane.
- Transform tools: move, rotate, scale.
- Coordinate systems: world, local, object.
- Saving projects and file management.

Day 2: Polygon Modeling Fundamentals

- Polygon mesh theory: quads, tris, n-gons.
- Selection modes: vertex, edge, face.
- Extrude, inset, bevel tools.
- Loop cut and slide, knife tool.
- Merging and separating geometry.
- Smooth shading vs flat shading.
- Introduction to subdivision surfaces.
- Practical: model a simple wooden crate.

Day 3: Modeling Hard Surface Objects

- Hard surface modeling techniques.
- Boolean modifiers: union, difference, intersection.
- Mirror and symmetry workflows.
- Edge beveling for sharp details.
- Using the shrinkwrap modifier.
- Array modifier for repeating elements.
- Practical: model a sci-fi panel or weapon part.
- Troubleshooting common mesh errors.

Day 4: Organic Modeling Basics

- Introduction to digital sculpting.
- Brush types: clay, smooth, inflate, grab.
- Symmetry in sculpting.
- Multi-resolution and dynamic topology.
- Retopology basics: creating clean quad-based mesh.
- Practical: sculpt and retopo a rock or stump.
- Comparison: organic vs hard surface.

Day 5: Character Modeling – Blocking Out the Body

- Character design fundamentals and references.
- Setting up image planes.
- Blocking out the torso, head, arms, legs.
- Maintaining quad-based topology.
- Edge flow for joints (shoulders, elbows, knees).
- Practical: block out a low-poly humanoid base.

- Checking proportions from multiple views.

Day 6: Character Modeling – Refining the Body and Head

- Anatomical landmarks for torso and limbs.
- Head modeling: eyes, nose, mouth, ears.
- Hand modeling: palm, fingers, thumb.
- Foot modeling: arch, toes.
- Edge flow for facial expressions.
- Practical: refine body and model head.
- Checking topology loops for animation.

Day 7: Character Modeling – Clothing and Accessories

- Clothing modeling techniques: shrinkwrap, extrusion.
- Cloth simulation basics for draping.
- Manual fold and wrinkle creation.
- Accessories: belts, pouches, armor plates.
- Practical: model a shirt and pants.
- Model boots and a belt.
- Combining clothing with body mesh.

Day 8: UV Mapping and Basic Texturing

- UV mapping theory: seams, islands, distortion.
- Unwrapping tools: mark seam, unwrap, pack.
- UV layout optimization and texel density.
- Exporting UV layout to image editor.
- Painting a basic diffuse map.
- Applying materials: diffuse, specular, normal.
- Practical: UV unwrap the character.
- Paint a simple color texture.

Day 9: Rigging Fundamentals for Models

- Introduction to rigging: joints, bones, hierarchies.
- Creating a skeleton: spine, arms, legs, head.
- Forward kinematics vs inverse kinematics.
- Skinning: binding mesh to skeleton.
- Weight painting tools and techniques.
- Testing deformations with posing.
- Practical: rig the character with basic skeleton.
- Adjust weight paints for clean deformations.

Day 10: Animation Basics – Posing and Keyframing

- Keyframe animation: setting keys, auto-key.
- Walk cycle mechanics: contact, passing, up, down.
- Graph editor: curves, tangents, interpolation.
- Animation principles: timing, spacing, arcs.
- Squash and stretch for cartoon style.
- Playblast and export options.
- Practical: animate a walk cycle.

- Refine motion using graph editor.

Day 11: Advanced Modeling Techniques and Optimization

- Advanced modifiers: subdivision surface, displace.
- LOD creation and decimation.
- Game-ready modeling: polycount budget, normal maps.
- High-poly to low-poly baking.
- Retopology for organic forms.
- Practical: create a high-poly creature head.
- Retopo to low-poly and bake normal map.
- Optimization techniques for real-time.

Day 12: Final Project and Portfolio Preparation

- Final project brief: model a character or object with animation.
- Time management and workflow planning.
- Integrating all stages: modeling, UV, texturing, rigging, animation.
- Rendering a turntable animation.
- Portfolio presentation: screenshots, wireframes, breakdown.
- Peer review and instructor feedback.
- Final assessment criteria.
- Course wrap-up and next steps.

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 **15 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 43,000.00	R 43,000.00
1	In-House	R 56,000.00	R 56,000.00
1	On-Campus (Pretoria)	R 64,600.00	R 64,600.00

UPCOMING SESSIONS

Start	End	Method	Venue
04 Aug 2026	19 Aug 2026	On-Campus	Mauritius
05 Aug 2026	20 Aug 2026	On-Campus	Cape Town, South Africa
06 Aug 2026	21 Aug 2026	On-Campus	Dubai, UAE
07 Aug 2026	24 Aug 2026	On-Campus	Pretoria, South Africa
07 Aug 2026	24 Aug 2026	On-Campus	Lagos, Nigeria
10 Aug 2026	25 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	25 Aug 2026	On-Campus	Mauritius
11 Aug 2026	26 Aug 2026	On-Campus	Cape Town, 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 242550) 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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