



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

Grader Operator For Construction And Mining Training

Physical Planning and Construction / Civil Engineering Construction

Unit Standard 116078 · NQF Level 2 · 26 Credits · 23 Days

COURSE OVERVIEW

This course equips learners with the skills and knowledge required to operate a grader safely and efficiently in construction and mining environments. It covers pre-operational checks, operational techniques, and adherence to safety regulations to minimize risks and enhance productivity.

Category	Physical Planning and Construction
Subfield	Civil Engineering Construction
Unit Standard	116078
Accreditation	SAQA Accredited · NQF Level 2 · 26 Credits
Duration	23 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Demonstrate knowledge of grader components, controls, and safety features.
- Conduct pre-operational inspections and identify potential hazards.
- Apply correct operating techniques for grading, leveling, and sloping on various terrains.
- Implement safe loading, unloading, and maneuvering procedures.
- Evaluate site conditions and adjust operations to maintain stability and efficiency.
- Apply emergency shutdown and incident reporting procedures.

WHO SHOULD ATTEND

- This course is designed for individuals seeking to become grader operators in construction or mining industries, as well as existing operators who wish to formalize their skills with accredited training.

COURSE OUTLINE

Day 1: Introduction to Grader Operations and Safety

- Overview of grader operations in construction and mining.
- Health and safety legislation (OHS Act, Mine Health and Safety Act).
- Personal protective equipment requirements.
- Grader components: engine, transmission, blade, articulation.
- Operator controls and instrumentation.
- Pre-start inspection checklist.
- Site safety procedures and hazard identification.

Day 2: Grader Pre-Start and Daily Checks

- Engine oil, coolant, hydraulic fluid checks.
- Tire condition and pressure inspection.
- Brake and steering system checks.
- Lighting and warning devices.
- Seat belt and ROPS inspection.
- Starting procedures and warm-up routines.
- Filling out daily logbooks.

Day 3: Basic Machine Controls and Operation

- Familiarization with joystick and pedal controls.
- Blade lift and lower mechanisms.
- Tilt and sideshift adjustments.
- Steering techniques: front wheel, articulated frame.
- Basic forward and reverse operation.
- Emergency stop procedures.
- Parking and shutdown sequence.

Day 4: Blade Control and Positioning

- Blade angle adjustments (0-90 degrees).
- Cutting edge wear and replacement.
- Blade height control for fine grading.
- Tilt for sidecasting material.
- Leveling techniques on flat surfaces.
- Using the circle turn mechanism.
- Practice exercises: spreading and windrowing.

Day 5: Machine Stability and Traction

- Center of gravity and stability limits.
- Safe operation on inclines and cross-slopes.
- Differential lock engagement.
- All-wheel drive operation.
- Tire slip and traction control.
- Working in wet or loose material.
- Stability checks before operation.

Day 6: Grading Techniques: Cutting and Spreading

- Cutting techniques for hard and soft materials.
- Adjusting depth of cut.
- Spreading techniques for uniform layers.
- Blending transitions between cuts.
- Using blade angle for material movement.
- Avoiding common grading mistakes.
- Practical exercise: cutting a test strip.

Day 7: Fine Grading and Leveling

- Setting up grade stakes and string lines.
- Using laser leveling systems.
- Fine grading techniques with small blade adjustments.
- Identifying and correcting high/low spots.
- Overlap passes for consistency.
- Checking grade with straightedge.
- Practical exercise: fine grading a section.

Day 8: Ditching and V-Ditch Construction

- V-ditch design and dimensions.
- Blade positioning for ditch cutting.
- Cutting ditch sides and bottom.
- Maintaining grade along ditch.
- Working near ditch edges safely.
- Tapering ditch ends.
- Practical exercise: constructing a V-ditch.

Day 9: Sidecasting and Windrowing

- Sidecasting techniques with blade tilt.
- Windrow formation and sizing.
- Controlling material spillage.
- Combining sidecasting with grading.
- Windrow removal and redistribution.
- Practical exercise: sidecasting and windrowing.

Day 10: Slope and Bank Grading

- Slope measurement and angle determination.
- Grading techniques for slopes.
- Working across and along slopes.
- Bank grading for road shoulders.
- Safety precautions on slopes.
- Using grade control systems on slopes.
- Practical exercise: grading a 2:1 slope.

Day 11: Road Maintenance and Reshaping

- Road crown design and maintenance.
- Reshaping road surface after use.
- Pothole and rut repair techniques.
- Restoring drainage ditches.

- Re-grading road shoulders.
- Compaction considerations.
- Practical exercise: road maintenance section.

Day 12: Material Compaction and Mixing

- Compaction importance for stability.
- Mixing techniques for blending materials.
- Aerating overly wet material.
- Using blade to spread and level for rolling.
- Moisture content assessment.
- Coordination with rollers.
- Practical exercise: preparing a base layer.

Day 13: Working in Confined Spaces and Around Obstacles

- Techniques for tight turns and reverse grading.
- Using articulation to avoid obstacles.
- Grading around fixed objects.
- Spotting and signaling.
- Working near utilities.
- Safety in confined areas.
- Practical exercise: obstacle course grading.

Day 14: Night Operations and Low Visibility

- Lighting requirements and adjustments.
- Pre-op checks for lights and reflectors.
- Techniques for grading in darkness.
- Communication with ground staff.
- Identifying hazards in low light.
- Fatigue management.
- Practical exercise: night grading simulation.

Day 15: Load and Transport Procedures

- Transport regulations and permits.
- Preparing grader: retracting blade, locking articulation.
- Loading techniques on ramps.
- Securing with chains and binders.
- Weight distribution and axle loads.
- Unloading procedures.
- Post-transport inspection.

Day 16: Routine Maintenance and Troubleshooting

- Greasing points and schedule.
- Engine oil and filter change.
- Air filter cleaning/replacement.
- Hydraulic system checks.
- Tire maintenance and rotation.
- Troubleshooting common problems.
- Maintenance logbooks.

Day 17: Advanced Grading Techniques

- Cross-slope calculation and grading.
- Stringless (laser/GPS) grade control.
- Superelevation on curves.
- Using GPS machine control.
- Data logging and accuracy checks.
- Advanced blending techniques.
- Practical exercise: superelevated curve grading.

Day 18: Environmental and Site Management

- Dust suppression methods.
- Erosion control measures.
- Spill response procedures.
- Waste management on site.
- Environmental regulations.
- Working near water bodies.
- Reclamation and rehabilitation basics.

Day 19: Emergency Procedures and Incident Response

- Emergency shutdown procedures.
- Fire types and extinguisher use.
- First aid for common injuries.
- Rollover and entrapment scenarios.
- Evacuation plans.
- Incident reporting and investigation.
- Practical drill: simulated emergency.

Day 20: Assessment and Certification Preparation

- Final practical assessment: grading task.
- Written test on safety and procedures.
- Equipment inspection demonstration.
- Feedback and areas for improvement.
- Certification requirements overview.
- Course evaluation.
- Issuance of certificates.

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 **26 NQF credits** at **NQF Level 2**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 69,100.00	R 69,100.00
1	In-House	R 89,800.00	R 89,800.00
1	On-Campus (Pretoria)	R 103,600.00	R 103,600.00

UPCOMING SESSIONS

Start	End	Method	Venue
31 Jul 2026	01 Sep 2026	On-Campus	Lagos, Nigeria
03 Aug 2026	02 Sep 2026	On-Campus	Mauritius
04 Aug 2026	03 Sep 2026	On-Campus	Cape Town, South Africa
05 Aug 2026	04 Sep 2026	On-Campus	Dubai, UAE
06 Aug 2026	07 Sep 2026	On-Campus	Pretoria, South Africa
06 Aug 2026	07 Sep 2026	On-Campus	Lagos, Nigeria
07 Aug 2026	08 Sep 2026	On-Campus	Johannesburg, South Africa
10 Aug 2026	09 Sep 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 116078) 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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