Accredited Africa Training Institute for Capacity Development
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COURSE BROCHURE

Wheeled Dozer Operation Skills For Construction Training

Physical Planning and Construction / Civil Engineering Construction

Unit Standard 116045 · NQF Level 2 · 20 Credits · 17 Days

COURSE OVERVIEW

This course equips learners with the knowledge and practical skills required to operate a wheeled dozer safely and efficiently on construction sites. It covers pre-operational checks, operational techniques, and site safety protocols in line with South African construction standards.

Category	Physical Planning and Construction
Subfield	Civil Engineering Construction
Unit Standard	116045
Accreditation	SAQA Accredited · NQF Level 2 · 20 Credits
Duration	17 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS — verifiable online

LEARNING OUTCOMES

- Demonstrate pre-operational inspections and routine maintenance checks on a wheeled dozer.
- Apply safe operating procedures for starting, moving, and stopping a wheeled dozer on various terrains.
- Implement load handling techniques including dozing, spreading, and stockpiling materials.
- Analyze site conditions and adjust operating techniques to minimize risks and maximize efficiency.
- Evaluate operational hazards and apply appropriate safety measures in accordance with OHS Act requirements.

WHO SHOULD ATTEND

- This course is designed for construction workers, machine operators, and site supervisors who need to operate or oversee the operation of wheeled dozers in construction environments.

COURSE OUTLINE

Day 1: Introduction to Wheeled Dozer Operations and Safety

- Overview of wheeled dozer applications in construction.
- Health and safety legislation (OHS Act, Construction Regulations).
- Personal protective equipment requirements.
- Major dozer components: engine, transmission, hydraulics, blade.
- Operator's manual and control familiarization.
- Pre-start inspection checklist.
- Site safety rules and communication protocols.
- Documentation and daily log procedures.

Day 2: Dozer Controls and Basic Operation

- Engine start-up and shutdown sequence.
- Steering system: articulated frame steering.
- Braking systems: service and parking brakes.
- Throttle and gear selection.
- Blade control levers: lift, tilt, angle, pitch.
- Basic manoeuvring in open area.
- Practical exercise: straight-line driving and turning.
- Common operator errors and corrections.

Day 3: Pre-Operational Checks and Routine Maintenance

- Engine oil, coolant, hydraulic fluid, and fuel checks.
- Tyre condition and pressure inspection.
- Walk-around inspection: lights, mirrors, attachments.
- Greasing points and lubrication schedule.
- Air filter and cooling system checks.
- Reporting procedures for defects.
- Practical exercise: completing inspection checklist.
- Record keeping and logbook entries.

Day 4: Machine Positioning and Site Awareness

- Site induction and hazard identification.
- Designated travel routes and traffic management.
- Hand signals and radio communication.
- Blind spots and mirrors adjustment.
- Centre of gravity and stability principles.
- Safe parking and shutdown procedures.
- Practical exercise: navigating a marked course.
- Emergency procedures and evacuation routes.

Day 5: Earthmoving Principles and Blade Techniques

- Soil classification: cohesive, granular, rocky.
- Cutting techniques: penetration depth and angle.
- Carrying techniques: load retention and spillage.
- Spreading techniques: uniform layer placement.
- Blade angle adjustment for sidecasting.

- Practical exercise: cutting and spreading soil.
- Load monitoring and blade float.
- Efficiency tips for material movement.

Day 6: Grading and Levelling Operations

- Rough grading vs. fine grading.
- Grade stakes and reference points.
- Laser level setup and operation.
- Blade tilt for cross-slope correction.
- Blade pitch for cutting or rolling material.
- Practical exercise: grading a designated area.
- Checking grade with string line and level.
- Common grading errors and solutions.

Day 7: Dozing in Slopes and Unstable Ground

- Slope stability assessment.
- Operating uphill and downhill: gear selection.
- Sidehill dozing: blade positioning and balance.
- Avoiding oversteering and jackknifing.
- Soft ground and mire management.
- Practical exercise: dozing on gentle slope.
- Emergency rollover prevention.
- Use of slope indicators and tilt meters.

Day 8: Material Handling and Stockpiling

- Stockpile types: windrow, conical, trapezoidal.
- Pushing techniques for maximum load.
- Material segregation by type and size.
- Cycle time analysis: load, carry, dump, return.
- Blade slot dozing for increased production.
- Practical exercise: building a stockpile.
- Measuring stockpile volume.
- Dust suppression and environmental considerations.

Day 9: Trenching and Backfilling Operations

- Trench layout and marking.
- Excavation techniques: sidecasting and benching.
- Backfilling in lifts with compaction.
- Compaction methods: passes and moisture.
- Working alongside excavators and compactors.
- Practical exercise: trench excavation and backfill.
- Shoring and sloping requirements.
- Safety around trench edges.

Day 10: Ripping and Ground Preparation

- Ripper types: single shank, multi-shank.
- Ripping depth control and penetration.
- Ripping patterns: parallel, cross-ripping.

- Ripping in rocky or compacted soil.
- Practical exercise: ripping a designated area.
- Combining ripping and dozing.
- Ripper maintenance and tooth inspection.
- Safety precautions during ripping.

Day 11: Loading and Hauling Unit Interaction

- Push-loading scrapers: technique and timing.
- Spotting and positioning for trucks.
- Loading assistance: blade lift and push.
- Communication signals and radio etiquette.
- Maintaining safe distances.
- Practical exercise: push-loading a scraper.
- Cycle time optimization.
- Troubleshooting common issues.

Day 12: Site Clearing and Landfill Operations

- Tree and stump removal techniques.
- Pushing debris into windrows.
- Landfill cell construction and compaction.
- Spreading and compacting waste layers.
- Cover material placement.
- Practical exercise: simulated clearing and landfill.
- Environmental regulations and dust control.
- Fire prevention and safety.

Day 13: Advanced Blade Control and Precision Work

- Fine grading techniques: blade float and tilt.
- Cutting ditches and V-drains.
- Shaping embankments and berms.
- Using articulation for tight spaces.
- Practical exercise: precision grading course.
- Laser and GPS guidance basics.
- Achieving specified crossfall.
- Quality control checks.

Day 14: Fuel Efficiency and Machine Optimization

- Fuel consumption factors: load, terrain, technique.
- Optimal gear and RPM selection.
- Reducing idle time: shutdown procedures.
- Efficient travel routes and cycle planning.
- Practical exercise: fuel consumption comparison.
- Payload management and overloading.
- Machine telematics and data interpretation.
- Eco-mode and advanced features.

Day 15: Troubleshooting and Emergency Procedures

- Common faults: overheating, hydraulic leaks, electrical.

- Diagnostic procedures and warning lights.
- Fire extinguisher use and fire prevention.
- Rollover and entrapment procedures.
- Basic on-site repairs: belt replacement, hose repair.
- Practical exercise: simulated fault diagnosis.
- Emergency shutdown and evacuation.
- Reporting and documentation.

Day 16: **Integrated Site Operations and Teamwork**

- Multi-machine coordination: dozer, excavator, truck.
- Following site plans and grade stakes.
- Communication with surveyors: laser and GPS.
- Simulated project: bulk earthworks.
- Practical exercise: complete a dozing task from start to finish.
- Time management and productivity tracking.
- Debrief and performance review.
- Safety observation and hazard reporting.

Day 17: **Assessment, Certification, and Close-Out**

- Practical assessment: dozing, grading, stockpiling.
- Theoretical assessment: written test.
- Logbook review and sign-off.
- Certification criteria and SAQA alignment.
- Feedback session and course evaluation.
- Career pathways and further training.
- Issuance of certificates.
- Close-out and farewell.

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 **20 NQF credits** at **NQF Level 2**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 53,800.00	**R 53,800.00**
1	In-House	R 69,900.00	**R 69,900.00**
1	On-Campus (Pretoria)	R 80,700.00	**R 80,700.00**

UPCOMING SESSIONS

Start	End	Method	Venue
04 Aug 2026	26 Aug 2026	On-Campus	Johannesburg, South Africa
05 Aug 2026	27 Aug 2026	On-Campus	Mauritius
06 Aug 2026	28 Aug 2026	On-Campus	Cape Town, South Africa
07 Aug 2026	31 Aug 2026	On-Campus	Dubai, UAE
10 Aug 2026	01 Sep 2026	On-Campus	Abu Dhabi, UAE
11 Aug 2026	02 Sep 2026	On-Campus	Durban, South Africa
11 Aug 2026	02 Sep 2026	On-Campus	Mauritius
12 Aug 2026	03 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 116045) 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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