



Accredited Africa Training Institute for Capacity Development

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

Tel: +27 12 004 8389 · Mobile: +27 65 077 6310

Email: apply@aaticd.co.za · Website: www.aaticd.co.za

COURSE BROCHURE

Lode Deposit Face Mapping And Sampling Training

Manufacturing, Engineering and Technology / Fabrication and Extraction

Unit Standard 115722 · NQF Level 6 · 12 Credits · 9 Days

COURSE OVERVIEW

This course equips learners with the skills to accurately map and sample lode deposit faces in underground mining environments. Participants will learn to identify geological structures, apply sampling protocols, and ensure data integrity for resource estimation. The training emphasizes safety compliance and quality assurance in mineral sampling.

Category	Manufacturing, Engineering and Technology
Subfield	Fabrication and Extraction
Unit Standard	115722
Accreditation	SAQA Accredited · NQF Level 6 · 12 Credits
Duration	9 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply correct face mapping techniques to document geological features and structures on lode deposit faces.
- Demonstrate proper sampling methods, including chip, channel, and grab sampling, in accordance with industry standards.
- Analyze geological data to identify mineralization zones and grade variations.
- Evaluate sample quality and implement corrective actions to minimize contamination and bias.
- Implement safety protocols and hazard identification procedures during face mapping and sampling activities.
- Design sampling grids and documentation systems to ensure representative and reproducible results.

WHO SHOULD ATTEND

- This course is designed for geologists, mining technicians, and sampling personnel working in underground hard-rock mining operations.
- It is also suitable for supervisors and quality controllers responsible for grade control and resource evaluation.

COURSE OUTLINE

Day 1: Introduction to Lode Deposits and Geological Context

- Definition and classification of lode deposits.
- Geological structures: faults, shear zones, veins.
- Host rocks and mineralisation styles.
- Overview of South African lode deposit examples.
- Introduction to mining methods: open pit vs underground.
- Safety considerations in lode deposit environments.

Day 2: Principles of Face Mapping

- Objectives of face mapping: grade control, structural interpretation.
- Mapping tools: tape, compass, GPS, camera, mapping sheets.
- Techniques for measuring strike, dip, and thickness.
- Recording lithology, alteration, and mineralisation.
- Use of colour codes and symbols on maps.
- Practical exercise: mapping a simulated face.

Day 3: Structural Mapping and Vein Geometry

- Structural elements: foliation, joints, faults, folds.
- Vein types: quartz, carbonate, sulfide veins.
- Measuring and plotting structural data.
- Understanding vein offsets and displacement.
- Use of stereonet for structural analysis.
- Case study: structural control on gold lodes.

Day 4: Sampling Fundamentals for Lode Deposits

- Sampling objectives: grade estimation, variability assessment.
- Chip sampling: method and spacing.
- Channel sampling: orientation and length.
- Grab sampling: use and limitations.
- Quality control: duplicates, blanks, standards.
- Safety during sampling operations.

Day 5: Practical Face Mapping and Sampling Exercise

- Pre-mapping safety briefing and checklist.
- Step-by-step face mapping procedure.
- Recording lithological and structural data.
- Sample selection and collection techniques.
- Labelling, bagging, and chain of custody.
- Field note-taking and photography.

Day 6: Data Interpretation and Grade Control

- Data compilation and plotting on plans.
- Grade distribution and contouring.
- Identifying high-grade shoots and low-grade zones.
- Statistical tools: mean, variance, coefficient of variation.
- Integration with resource models.

- Decision-making for selective mining.

Day 7: Quality Assurance and Quality Control (QA/QC)

- Importance of QA/QC in resource estimation.
- Types of QA/QC samples: field duplicates, coarse blanks, pulp blanks, certified reference materials.
- Insertion rates and randomisation.
- Data analysis: precision and accuracy assessment.
- Troubleshooting common QA/QC failures.
- Documentation and reporting.

Day 8: Advanced Techniques and Technology Integration

- Introduction to laser scanning for face mapping.
- Photogrammetry and drone-based mapping.
- GIS software for data management and visualisation.
- 3D modelling of veins and grade shells.
- Real-time assay technologies (XRF, NIR).
- Integration with mine planning software.

Day 9: Integration, Reporting, and Assessment

- Report structure: introduction, methods, results, interpretation.
- Presenting data: maps, cross-sections, graphs.
- Team presentation of a case study.
- Peer review and discussion.
- Summative practical assessment: mapping and sampling task.
- Course review and feedback.

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 **12 NQF credits** at **NQF Level 6**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 36,600.00	R 36,600.00
1	In-House	R 47,600.00	R 47,600.00
1	On-Campus (Pretoria)	R 55,000.00	R 55,000.00

UPCOMING SESSIONS

Start	End	Method	Venue
03 Aug 2026	13 Aug 2026	On-Campus	Mauritius
04 Aug 2026	14 Aug 2026	On-Campus	Cape Town, South Africa
05 Aug 2026	17 Aug 2026	On-Campus	Dubai, UAE
06 Aug 2026	18 Aug 2026	On-Campus	Pretoria, South Africa
06 Aug 2026	18 Aug 2026	On-Campus	Lagos, Nigeria
07 Aug 2026	19 Aug 2026	On-Campus	Johannesburg, South Africa
10 Aug 2026	20 Aug 2026	On-Campus	Cape Town, South Africa
11 Aug 2026	21 Aug 2026	On-Campus	Dubai, UAE

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 115722) 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.

Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza, 1122 Burnett St, Hatfield 0028, Pretoria, Gauteng, South Africa
Tel: +27 12 004 8389 · WhatsApp: +27 65 077 6310 · apply@aaticd.co.za · www.aaticd.co.za