



MINING AND MINERALS TRAINING

Comminution: Crushing and Milling Circuit Optimisation

5 day course

Classroom, online or in-house

Course overview

Comminution consumes most of the energy a concentrator uses and sets the particle size that every downstream recovery step depends on, which makes a small circuit improvement worth more than most other plant projects. This course covers finding those improvements. Delegates work through ore competence testing and what it predicts, crushing circuits and equipment selection, and grinding in rod, ball, semi autogenous and autogenous mills. Classification by cyclone and screen is covered in detail, since it governs circulating load and product size. Liner and media selection follow. The course closes on circuit surveys, mass balancing and energy efficiency benchmarking.

What you will learn

- Test ore competence and use it to predict circuit behaviour
- Select crushing equipment and configure a crushing circuit
- Operate rod, ball, semi autogenous and autogenous grinding
- Control classification by cyclone and screen
- Manage circulating load and product size distribution
- Select liners and grinding media for cost and performance
- Survey a circuit, mass balance it and benchmark energy efficiency

Who should attend

- Metallurgists and process engineers in concentrators
- Plant operators and shift supervisors
- Maintenance engineers on crushing and milling equipment
- Technical services and optimisation staff
- Graduate metallurgists entering mineral processing

Course outline

- 01 Where the concentrator's energy goes
- 02 Ore competence testing
- 03 Crushing circuits and equipment selection
- 04 Grinding mills and their operation
- 05 Classification by cyclone and screen
- 06 Circulating load and size distribution
- 07 Liner and media selection
- 08 Circuit surveys, mass balancing and benchmarking

Upcoming dates

Dates	Venue	Format	Fee per delegate
28 September to 2 October 2026	Gaborone, Botswana	Classroom	R19,950
26 to 30 October 2026	Online	Online	R8,500
8 to 12 February 2027	Pretoria, South Africa	Classroom	R19,950
15 to 19 March 2027	Johannesburg, South Africa	Classroom	R19,950



Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afiscience.co.za, or WhatsApp us on **+27 63 479 1136**.

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