



MINING AND MINERALS TRAINING

Flotation Circuit Operation and Optimisation

5 day course

Classroom, online or in-house

Course overview

Flotation separates valuable mineral from waste using surface chemistry that a small change in water quality or reagent dosage can disrupt, which is why two plants treating the same ore can recover very differently. This course covers running one well. Delegates work through the surface chemistry behind flotation, reagent suites including collectors, frothers, depressants and activators, and the effect of pulp chemistry, pH and water quality. Cell types, hydrodynamics and froth behaviour are covered. Circuit configuration, rougher, cleaner and scavenger duties and their mass balance follow. The course closes on survey work, grade recovery curves and diagnosing a circuit that has lost recovery.

What you will learn

- Explain the surface chemistry that makes flotation work
- Select and dose collectors, frothers, depressants and activators
- Control pulp chemistry, pH and water quality
- Operate cells and interpret froth behaviour
- Configure rougher, cleaner and scavenger duties
- Mass balance a circuit and construct grade recovery curves
- Diagnose a circuit that has lost recovery

Who should attend

- Metallurgists and process engineers
- Flotation plant operators and supervisors
- Laboratory staff running flotation test work
- Reagent suppliers and technical support staff
- Graduate metallurgists in concentrator operations

Course outline

- 01 Why two plants recover differently from the same ore
- 02 Surface chemistry of flotation
- 03 Reagent suites and their functions
- 04 Pulp chemistry, pH and water quality
- 05 Cell types and hydrodynamics
- 06 Froth behaviour and control
- 07 Circuit configuration and mass balance
- 08 Surveys, grade recovery curves and diagnosis

Upcoming dates

Dates	Venue	Format	Fee per delegate
2 to 6 November 2026	Harare, Zimbabwe	Classroom	USD 1,325
4 to 8 January 2027	Online	Online	R8,500
25 to 29 January 2027	Pretoria, South Africa	Classroom	R19,950
1 to 5 February 2027	Cape Town, 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@afriscience.co.za, or WhatsApp us on **+27 63 479 1136**.

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