MINING AND MINERALS TRAINING

Iron Ore Beneficiation and Pelletising

3 day course Classroom, online or in-house

Course overview

Iron ore is sold on iron content and penalised on silica, alumina, phosphorus and moisture, so beneficiation is largely the business of removing a small mass of the wrong material without losing the iron with it. This course works to that objective. Delegates work through iron ore mineralogy across haematite, magnetite and goethitic ores, and the liberation each requires. Crushing, screening and the direct shipping fraction are covered. Gravity separation follows through jigs and spirals, with the cut points that decide yield against grade. Magnetic separation is addressed for magnetite, including low and high intensity routes. Flotation for silica removal is covered. Dewatering, moisture control and transportable moisture limit are addressed, since a cargo that liquefies is a vessel loss. Agglomeration follows: sintering and pelletising, with binder, green ball quality and induration. Product specification and penalty elements are covered. The course closes on yield accounting and on fines management.

What you will learn

- Relate haematite, magnetite and goethitic ores to liberation needs
- Separate the direct shipping fraction through crushing and screening
- Operate jigs and spirals at cut points that balance yield and grade
- Apply low and high intensity magnetic separation to magnetite
- Remove silica by flotation
- Control moisture against the transportable moisture limit
- Produce sinter and pellets to specification and account for yield

Who should attend

- Metallurgists on iron ore operations
- Plant supervisors in beneficiation circuits
- Quality control staff on iron ore products
- Process engineers at pelletising plants
- Commercial staff dealing with iron ore specifications

Course outline

01 Removing a small mass of the wrong material
02 Haematite, magnetite and goethitic ores
03 Crushing, screening and direct shipping ore
04 Jigs, spirals and cut points
05 Magnetic separation routes
06 Silica flotation
07 Dewatering and transportable moisture limit
08 Sintering, pelletising, specification and yield accounting

Upcoming dates

Dates	Venue	Format	Fee per delegate
5 to 7 October 2026	Online	Online	R6,500
12 to 14 October 2026	Dar es Salaam, Tanzania	Classroom	USD 995
11 to 13 January 2027	Cape Town, South Africa	Classroom	R14,950
3 to 5 February 2027	Windhoek, Namibia	Classroom	R14,950

Fees and how to register

This 3 day course is **R6,500** per delegate online, **R14,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 995** 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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