



MINING AND MINERALS TRAINING

Mineral Sands and Heavy Mineral Recovery

3 day course

Classroom, online or in-house

Course overview

Mineral sands operations move very large tonnages to recover a few percent of heavy minerals, then separate products that differ from one another only slightly in density, magnetism and conductivity. This course follows that separation. Delegates work through deposit types along the coastal belts of the region and the assemblage each carries of ilmenite, rutile, zircon and monazite. Mining methods are covered, including dredging and dry mining, with the slurry handling each requires. Wet concentration follows through spirals, with the multi stage circuits that reject quartz while holding heavies. Dewatering and drying are addressed ahead of dry separation. Dry plant separation is worked through in detail: magnetic, electrostatic and gravity stages, and the sequence that resolves the assemblage into saleable products. Product specification and radionuclide content are covered honestly, since monazite carries a regulatory consequence. Tailings, dune rehabilitation and progressive restoration follow. The course closes on recovery accounting and on grade variability.

What you will learn

- Identify deposit types and their heavy mineral assemblage
- Select dredging or dry mining and handle the resulting slurry
- Operate multi stage spiral circuits to reject quartz
- Dewater and dry ahead of the dry separation plant
- Sequence magnetic, electrostatic and gravity separation stages
- Meet product specification and manage radionuclide content
- Rehabilitate progressively and account for recovery against variable grade

Who should attend

- Metallurgists on mineral sands operations
- Wet and dry plant supervisors
- Process engineers on heavy mineral projects
- Environmental staff managing dune rehabilitation
- Geologists supporting mineral sands resources

Course outline

- 01 Large tonnages for a few percent
- 02 Deposit types and mineral assemblage
- 03 Dredging and dry mining
- 04 Spiral wet concentration
- 05 Dewatering and drying
- 06 Magnetic and electrostatic separation
- 07 Product specification and radionuclides
- 08 Tailings, rehabilitation and recovery accounting

Upcoming dates

Dates	Venue	Format	Fee per delegate
9 to 11 December 2026	Johannesburg, South Africa	Classroom	R14,950
4 to 6 January 2027	Online	Online	R6,500
15 to 17 February 2027	Port Louis, Mauritius	Classroom	USD 995



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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