



ENGINEERING AND TECHNICAL TRAINING

Concrete Technology, Mix Design and Quality Control

5 day course

Classroom, online or in-house

Course overview

Concrete is specified by a strength a cube reaches at twenty eight days and delivered by people making decisions at the mixer, in the truck and at the placing point, any one of which can undo the design. This course connects the two. Delegates work through cement types and what each changes about setting, heat and durability, then through aggregates, grading, shape and the moisture content that silently alters a mix. Water cement ratio is treated as the governing relationship it is. Mix design is worked through by calculation, including target mean strength, standard deviation and the margin above characteristic strength. Admixtures are covered on what each actually does. Batching, mixing, transporting and placing follow, with segregation and the water added on site that no design survives. Curing is addressed directly. Testing is covered: slump, cubes, and interpreting a failed result. The course closes on durability, on cracking and on investigating low strength.

What you will learn

- Select cement type for setting, heat and durability requirements
- Assess aggregate grading, shape and moisture, and correct for it
- Design a mix to a target mean strength with a defensible margin
- Choose admixtures for what they actually do
- Control batching, transport, placing and segregation
- Cure concrete properly and test slump and cube strength
- Investigate a low strength result and diagnose cracking

Who should attend

- Site engineers and concrete supervisors
- Materials and quality control technicians
- Readymix plant operators and batchers
- Clerks of works and resident engineers
- Contractors responsible for concrete works

Course outline

- 01 Designed at a desk, delivered at the mixer
- 02 Cement types and their effects
- 03 Aggregates, grading and moisture
- 04 Water cement ratio
- 05 Mix design and the strength margin
- 06 Admixtures
- 07 Batching, transport, placing and segregation
- 08 Curing, testing, durability and low strength investigation

Upcoming dates



Dates	Venue	Format	Fee per delegate
2 to 6 November 2026	Kigali, Rwanda	Classroom	USD 1,325
30 November to 4 December 2026	Lagos, Nigeria	Classroom	USD 1,325
7 to 11 December 2026	Online	Online	R8,500
1 to 5 February 2027	Harare, Zimbabwe	Classroom	USD 1,325

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**.

AfriScience Group | +27 61 536 6531 | info@afiscience.co.za | Pretoria, Gauteng, South Africa