



AGRICULTURE AND AGRIBUSINESS

Farm Mechanisation and Tractor Systems

3 day course

Classroom, online or in-house

Course overview

A tractor is bought for its horsepower and loses most of it in the gap between the engine and the soil, which is why two farms with identical machines can differ enormously in what they get done per litre of diesel. This course closes that gap. Delegates work through power transmission from engine to drawbar, tractive efficiency, wheel slip and the ballasting and tyre pressure that control both. Implement matching follows, covering draught requirement, working width and the forward speed that uses available power without overloading. Tillage implements are covered with what each does to soil structure, alongside reduced and no tillage options. Planting and seeding equipment are addressed, including calibration and placement accuracy. Spraying equipment is covered, with nozzle selection, boom height and calibration, since misapplication wastes chemical and damages crops. Field efficiency and machinery capacity are addressed so a fleet can be sized to a season. Maintenance, lubrication and daily checks follow. The course closes on machinery costing and on replacement decisions.

What you will learn

- Trace power loss from engine to drawbar and control wheel slip
- Ballast and set tyre pressure for tractive efficiency
- Match implements by draught, width and forward speed
- Select tillage systems for their effect on soil structure
- Calibrate planting equipment for accurate placement
- Calibrate sprayers including nozzle selection and boom height
- Size a fleet to a season and cost machinery ownership

Who should attend

- Farm mechanisation managers and operators
- Agricultural engineers and technicians
- Machinery dealers supporting farm customers
- Extension officers advising on mechanisation
- Estate managers costing machinery fleets

Course outline

- 01 Horsepower lost before the soil
- 02 Power transmission and tractive efficiency
- 03 Wheel slip, ballasting and tyre pressure
- 04 Implement matching and draught
- 05 Tillage systems and soil structure
- 06 Planter calibration and placement
- 07 Sprayer nozzles, boom height and calibration
- 08 Field efficiency, fleet sizing, maintenance and costing

Upcoming dates

Dates	Venue	Format	Fee per delegate
20 to 22 January 2027	Online	Online	R6,500
15 to 17 February 2027	Gaborone, Botswana	Classroom	R14,950
24 to 26 March 2027	Accra, Ghana	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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