



JOHN DEERE



MACHINE MASTERY

PURPOSE:

Upon completion of this course the learner would have a depth of understanding about the safe and efficient use of mechanised equipment for crop cultivation on a farm, including a foundation of knowledge about different cultivation practices and application of a range of mechanised Agri-equipment during the different cultivation phases of crop production.

MODULES:

1. Understand your machine
2. Operate a tractor
3. Safe machine operation
4. Cultivation of land and the use of mechanized equipment, and understanding soil
5. Different types of cultivation equipment and their uses

ASSESSMENT:

Comprehensive theoretical test
Practical log-sheet assessment

DURATION:

5 Days

COST:

R8 500 + R1 275 (VAT) = R9 775

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MODULE 1: UNDERSTAND THE MACHINE

- Basic elements of all engines.
- Understand the three basic elements of all engines: air, fuel and combustion.
- Compression and combustion.
- Two-stroke and four-stroke engines.
- Systems that make an engine run: fuel system, intake and exhaust system, lubrication system, cooling system, electrical system, power transmission system, hydraulic system, tyres.
- Ballasting.
- General maintenance.
- Identify malfunctioning.
- 16-point tractor and machine maintenance.



MODULE 2: OPERATE A TRACTOR

- Be knowledgeable on the control panel in a tractor.
- Know how to get the tractor into position.
- Know how to start and stop a tractor.
- Be familiar with general driving guidelines.
- Understand the process of hitching.
- Be able to implement safe hill operations.

MODULE 3: SAFE MACHINE OPERATION

- Know the legal requirements for operating a tractor.
- Be knowledgeable on the safe operation of a tractor and different farming implements.
- Understand how to drive your tractor.
- Be confident to drive your tractor in adverse circumstances.

MODULE 4: CULTIVATION OF LAND AND THE USE OF MECHANIZED EQUIPMENT, UNDERSTANDING SOIL

- Basic understanding of soil composition, structure, and compaction.
- Conservation and non-conservation methods.
- Know the agri-production cycle from land preparation to harvesting of crops.
- Apply correct soil preparation practices.
- Understand the different planting practices for different crop types.
- Be knowledgeable on the spraying of crops to prevent disease and pests.

MODULE 5: DIFFERENT CULTIVATION EQUIPMENT AND THEIR USES

- Know the purpose and functions of the different land cultivation equipment.
- Understand the similarities and differences between the types of equipments.
- Know the set up, operation and maintenance of each implement.
- Know how the equipment is hitched and then used on the land (drawbar and PTO shaft).