



**SHUKELA TRAINING CENTRE**  
31 Sugar Mill Way, Mount Edgecombe, 4300  
P.O. Box 23, Mount Edgecombe, 4300  
Telephone: +27 31 508 7700  
Facsimile: +27 31 502 3520  
Website: [www.sasa.org.za](http://www.sasa.org.za)

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**COURSE TITLE:** ELECTRICIAN PHASE 1

**COURSE DURATION :** 13 WEEKS

**TARGET POPULATION:** 1st year Apprentices

**COURSE CONTENT :**

- Induction To Shukela Training Centre
- General safety in the workplace
- Identify and interpret engineering drawings.
- Identify engineering materials and there uses.
- Identify basic hand and measuring tools and their uses.
- Identify workshop equipment and their uses.
- Apply basic hand skills.
- Fuse and gas weld mild steel plate.
- Brazing
- Arc weld mild steel
- Gas cut mild steel plate
- Lift and move equipment
- Describe the generation of electricity
- Design and wire basic electrical circuits
- Identify and use electrical test and measuring instruments
- Describe the construction, operation and maintenance procedures on batteries

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- Plan an installation
  - Install electrical wire ways
  - Wire an installation
  - Test an installation and appliances
  - Connect discharge lights
  - Terminate and join LT cables
  - Describe the construction and operation of three Phase motors
  - Maintain single and three phase motors
  - Describe the construction and operation of single phase motors
  - Test and connect single phase motors
  - Test and connect three phase motors
  - Wire and fault find on relay panels
  - Design and wire alarm circuits
  - Install and maintain transformers



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**COURSE TITLE:** ELECTRICIAN PHASE 2

**COURSE DURATION :** 12 WEEKS

**TARGET POPULATION:** 2nd Year Apprentices who have successfully completed Phase 1 or individuals who have been recommended for this course as a result of an assessment conducted at this Centre.

**COURSE CONTENT :**

- Describe the construction of, test and connect DC Motors.
- Design, wire and fault find on various motor control circuits.
- Design, wire and fault find on various industrial control circuits.
- Wire and fault find on various motor & starter control gear.
- Fault finding on various single and three phase prewired panels
- Design, wire and fault find on electro-pneumatic circuits.
- Install and program PLC's
- Identify and test electronic circuits.
- Construct and test electronic circuits.
- Install and test an AC drive.
- Install and test a DC drive.



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**COURSE TITLE:** ELECTRICIAN PHASE 3

**COURSE DURATION :** 11 WEEKS

**TARGET POPULATION:** 3rd or 4th year Apprentices who have successfully completed the Phase 2 Apprentice Electricians course and are eligible to attempt the National Trade Test. or individuals who have been recommended for this course as a result of an assessment conducted at this Centre.

**COURSE CONTENT:**

- Advanced panel wiring.
- Manufacturing & fault finding on Electronic circuits.
- Testing of electrical circuits and equipment
- Wiring and calculations of Transformers
- Design, wire advanced motor control circuits.
- Design, wire and fault find on various industrial panels.
- Advanced wiring of motor & starter circuits.
- Fault finding on pre-wire AC & DC circuits.
- Fault finding on pre-wire AC circuits with PLC
- Testing (cables, motors etc)
- Conduit and wiring work.