



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

COURSE TITLE : INTRODUCTION TO LABORATORY WORK

COURSE DURATION : 2 WEEKS

TARGET POPULATION : The laboratory novice who will need this scientific background

COURSE CONTENT :

- Identify Laboratory Apparatus, Laboratory Equipment and Laboratory Techniques.
- Basic Arithmetic, Graphs and Units
- Use of Laboratory Equipment
- Solutions

Regular testing is conducted on completion of each section for which the learner must attain an average of 60%.



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COURSE TITLE : ROUTINE SUGAR ANALYSIS

COURSE DURATION : 2 WEEKS

TARGET POPULATION : The above average Laboratory Worker who has the interest and mathematical ability to carry out most analytical procedures.

COURSE CONTENT :

- Understanding the Sugar Manufacturing Process
- Understanding Basic Sugar Chemistry
- Understanding the concept Of Brix and Brix Analysis
- Understanding the concept of Sucrose and Pol and their Analysis
- Moisture, pH, ASH, and Phosphate determination
- Colour, Turbidity, Starch, Grain Size, Reducing Sugar and Sugar Trace Analysis

Regular testing is conducted on completion of each section for which the student must attain 60%.



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COURSE TITLE : FACTORY CONTROL
CALCULATIONS

COURSE DURATION : 2 WEEKS

TARGET POPULATION : Every laboratory Tester at the
commencement of his career.

COURSE CONTENT

- Introduction to Factory Control
- The Daily Materials Balance
- Stocktaking
- Factory Performance Calculations

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COURSE TITLE : JUICE EXTRACTION

COURSE DURATION : 2 WEEKS

TARGET POPULATION : Experienced laboratory workers seeking promotion to Front End Supervisor.

COURSE CONTENT:

- Cane Yard
- Milling
- Diffusion

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COURSE TITLE : CLARIFICATION

COURSE DURATION : 1 WEEK

TARGET POPULATION : Sugar Manufacture involves many scientific concepts. To understand and to work in these scientific conditions requires a basic knowledge of mathematics, physics, and chemistry. This course is designed to provide this basic knowledge.

COURSE CONTENT :

- Juice Heating
- Nature of Mixed Juices
- The Defecation Process
- Filtration

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COURSE TITLE : PAN BOILING

COURSE DURATION : 2 WEEKS

TARGET POPULATION: Process staff who have practical experience in the control of a sugar factory but who lack the necessary theoretical aspects of sugar technology. Alternatively, this course could be attended by a process worker prior to working on the plant. This will provide him with an insight into the theory necessary to understand the process.

COURSE CONTENT :

- Graining a pan and growing a Massecuite
- Pan Control and Instrumentation
- The Three Massecuite Boiling System
- Mixture Calculations
- Continuous Pan Boiling
- Control Formulae
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COURSE TITLE : CRYSTALLISATION AND CENTRIFUGING
& DRYING

COURSE DURATION : 1 WEEK

TARGET POPULATION : Process staff who have practical experience in the control of a sugar factory but who lack the necessary theoretical aspect of sugar technology.
Alternatively, this course could be attended by a process worker prior to working on the plant. This will provide him with an insight into the theory necessary to understand the process.

COURSE CONTENT :

- Theory of Crystallation
- Masecuite Re-heating
- Theory of Centrifugals
- Batch and Continuous Centrifugals
- Exhaustion
- Sugar Drying and Raw Sugar Quality
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COURSE TITLE : FACTORY SERVICE

COURSE DURATION : 1 WEEK

TARGET POPULATION : Process staff who have practical experience in the control of a sugar factory but who lack the necessary theoretical aspect of sugar technology.
Alternatively, this course could be attended by a process worker prior to working on the plant. This will provide him with an insight into the theory necessary to understand the process.

COURSE CONTENT:

- Potable Water Technology
- Cooling Water Technology
- Boiler Water Technology
- Effluent Technology
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COURSE TITLE : REFINING

COURSE DURATION : 1 WEEK

TARGET POPULATION : Process staff who have practical sugar experience in the control of a sugar factory but who lack the necessary theoretical aspect of sugar technology.
Alternatively, this course could be attended by a process worker prior to working on the plant. This will provide him with an insight into the theory necessary to understand the process.

COURSE CONTENT :

- Melting and Colour removal
- Filtration
- Evaporation
- Pan Boiling
- Drying and Conditioning
- Refinery Performance
- Regular testing is conducted on completion of each section for which the student must attain 60%.