

SAQCC FIRE

D&GS TRAINING SUB COMMITTEE

COURSE CURRICULUM

COURSE	Fire detection design	
ORIGINATOR	K Norgate	
DATE	7th November 2013	
Amendment 1	28th November 2013	Changes
Amendment 2	06th December 2014	Changes to Outcomes
Issued	28th May 2014	

EQUIVALENT TRAINING COURSES AVAILABLE		
TITLE	TRAINING SCHOOL	CONTACT DETAILS

STATUS OF CURRICULUM - Complete - Issued

EQUIVALENT UNIT STANDARD

None

PURPOSE OF TRAINING COURSE

This training course is for learners to obtain an understanding of designing fire detection systems.

Learners who have completed this course will gain a knowledge of designing fire detection systems as per the South African National standards.

LEARNING ASSUMED TO BE IN PLACE

This course assumes the learner is already proved competent in:

- Standards training SANS 10139
- Standards training SANS 246, SANS 322 and SANS 369 -1

OUTCOMES REQUIRED

Topics Covered:

All the requirements that one needs to be able to design a fire detection system and the processes one takes for design of fire detection systems.

Outcome 1: Understanding the requirements and inter relationship of the Building Regulations, the Building Code and Local By laws

Learning Outcomes:

To include:

- An understanding of the Building Regulations
- An understanding of the Building Code of Practice
- An understanding of local By Laws
- An understanding of the South Electrical wiring code 10142

Assessment:

Learner to demonstrate an understanding of the laws and regulations of the country affecting fire detection installations

Outcome 2: The Responsibilities and liabilities of the Designer.

Learning Outcomes:

To include:

- The responsibilities of the designer
- Interfacing with other building services
- The liabilities of the designer
- Interface with insurers and the fire department

Assessment:

Learner to demonstrate an understanding of the responsibilities and liabilities of the designer

Outcome 3: The National standards in place to be followed in the design fire detection systems.

Learning Outcomes:

To include:

- The description and explanation of all the listed SANS standards for fire detection systems
- Brief review of the important factors of these standards

Assessment:

Learner to describe:

- The standards in place for fire detection systems in South Africa
- The different categories of fire detection systems and the selection of such.
- Selecting the correct cables and support methods
- Selecting the correct system and detection devices for the application
- Understanding the different requirements for fire detection in hospitals and electronic equipment installations.
- Understanding the different requirements for fire detection systems used for operation of suppression systems

Outcome 4: The stakeholders Interview.

Learning Outcomes:

To include:

- Determining the requirements of the fire system
- Determine the type and usage of the building
- Determining evacuation procedures
- Determine interlock and interface requirements and functions
- Decide on the system category to be used
- Determining any special customer requirements
- Info from Rational fire design/ risk assessments
- Insurance requirements

Assessment:

Learner to demonstrate the ability to gather information regarding the type and use of the system required

Outcome 5: Design of fire detection systems for Industrial applications.

Learning Outcomes:

To include:

- Finding International standards to follow
- Intrinsically safe Environments
- Special detection devices for Industrial applications
- Use of manufacturers installation instructions
- Cabling in industrial applications

Assessment:

Learner to describe:

- The types of International standards available for Industrial fire detection applications
- The different types of fire detection devices for Industrial applications
- Selecting the correct cables and support methods

Outcome 6: Production and requirements of the conceptual design (Base line document)

Learning Outcomes:

To include:

- Confirmation of standard to be used
- Confirmation of system category to be used
- Areas to be covered by the system
- Selection of system and device types
- Selection of cable types and support methods
- The evacuation procedures
- A list of exclusions
- Acceptance and client approval

Assessment:

Learner to demonstrate the ability to produce a conceptual design and understand the perceived understanding of the client.

Outcome 7: Detailed Design structure

Learning Outcomes:

To include:

- Using a standard system design format
- Production of a cause and effect chart
- Bill of quantities
- Documentation requirements

Assessment:

Learner to demonstrate the use of a detailed design structure

Outcome 8: Fire detection system design exercises

To include:

- The design of systems for different building types and usages

Assessment:

Learner to demonstrate knowledge of fire detection design for at least three different types of buildings and occupancies.