SAQCC FIRE

D&GS TRAINING SUB COMMITTEE

COURSE CURRICULUM

COURSE	**Fire Detection - Workshop Practice and Safety**	
ORIGINATOR	**Shane Nefdt**	
DATE	09th January 2013	
Amendment 1	05th October 2013	Change "student" to "learner"
Amendment 2	06th October 2013	Word change
Issued	30th October 2013	Issued

EQUIVALENT TRAINING COURSES AVAILABLE		
TITLE	TRAINING SCHOOL	CONTACT DETAILS
None available		

STATUS OF CURRICULUM - Issued

EQUIVALENT UNIT STANDARD

None available to our knowledge.

PURPOSE OF TRAINING COURSE

Fire Detection workshop practice and safety introduces learners to the work environment and its tools, equipment, workshops and work environment, safety regulations, policies and procedures applicable to health, safety and industry standards and systems. It will equip learners with the necessary hand-

skills for the Fire Detection industry. Workplace policies and procedures that conform to health and safety regulations and safe working practices will be learnt.

This subject precedes Cabling and conduit skills course.

Fire detection Workmanship contains subject outcomes which present an opportunity for learners to attain enough trade specific skills, knowledge, attitudes and values so that learners can perform at a basic level in the installation of fire detection systems.

LEARNING ASSUMED TO BE IN PLACE

ABET 3 in Literacy

OUTCOMES REQUIRED

Topics Covered:

1. Safety and Regulations
2. Engineering Hand Tools
3. Engineering Power Tools
4. Engineering Measuring Equipment
5. Worksite Procedures

Assessments take on the form of written tests using various strategies and practical activities to evaluate and provide feedback to the attendee and employer alike.

1. SAFETY AND REGULATIONS

Outcome 1: Explain safety practices

Learning Outcomes:

The learner should be able to:

- Explain why safety is of paramount importance in the workplace.
- List causes of accidents/ incidents.
- Distinguish between unsafe acts and unsafe conditions.
- Describe the benefits of good housekeeping.
- Demonstrate safe practice with regard to stacking of goods and materials.
- Identify potential workplace hazards.
- Identify types of personal protective equipment available and explain what they are used for.
- Observe safety precautions when working in an elevated position.
- List and describe types of injuries associated with electricity.

Assessment:

- Written test to determine if student understands the importance of safety.
- Learner is taken to a workshop or worksite and shown hazardous conditions.
- Practically demonstrate the wearing of a safety harness, hard-hat, safety shoes, etc. when working in elevated positions.
- Know the danger of electrocution.

Outcome 2: Report a health and safety incident

Learning Outcomes:

The learner should be able to:

- Describe the basic procedures to report an incident.
- Report an incident according to the prescribed procedures.

Assessment:

- Test to determine if the learner can report an incident and correctly fill in a basic first aid report.

2. ENGINEERING HAND TOOLS

Outcome 1: Select engineering hand tools

The range includes:

- Hacksaws, files, G-clamps, screwdrivers, spanners, pliers, wire stripper, crimping tools, electrically insulated tools, hammers, chisels, punches, reamers, hand taps, cable knife, scribers, draw tapes, bending springs & ladders, extension leads

Learning Outcomes:

The learner should be able to:

- Identify and name different hand tools and their parts.
- Describe the function of different hand tools.
- Select the correct hand tool for a specific task.

Assessment:

- Test and assignments on selection of hand tools
- Group discussion on used of hand tools
- Assignment on selection of tools for a specific task

Outcome 2: Use engineering hand tools

Learning Outcomes:

The learner should be able to:

- Explain the importance of using hand tools safely and indicate the consequences of incorrect use.
- Identify unsafe or faulty tools and describe the nature of the fault/s.

- Use engineering hand tools safely.

Assessment:

- Practical tasks to illustrate safe use of hand tools.
- Test on the following:
  - Explain the importance of using hand tools safely and indicate the consequences of incorrect use of tools.
  - Identify unsafe or faulty tools and state the nature of the fault
  - Use engineering hand tools safely.
- Task on identifying faulty tools and steps to rectify them.

Outcome 3: Care for and store engineering hand tools

Learning Outcomes:

The learner should be able to:

- List factors to consider when caring for and maintaining hand tools.
- Identify faulty hand tools and take corrective action.
- Explain the consequences of improper care and storage of engineering hand tools.

Assessment:

- Test on the following:
  - List factors to consider when caring for and maintaining hand tools.
  - Identify faulty hand tools and take corrective action.
  - Explain the consequences of improper care and storage of engineering hand tools.
- Practical assignment on proper and improper care and storage of hand tools

3. ENGINEERING POWER TOOLS

Outcome 1: Select engineering power tools

The range includes:

- Electric drilling machine, Drill presses, Bench grinder, Angle grinder and Jigsaw.

Learning Outcomes:

The learner should be able to:

- Identify and name different power tools and their parts.
- Describe the function of different power tools.
- Select the correct power tool for a specific task.

Assessment:

- Test on the following:
  - Identify and name different power tools and their parts.
  - Describe the function of different power tools.
  - Select the correct power tool for a specific task.

Outcome 2: Use engineering power tools

Learning Outcomes:

The learner should be able to:

- List safety measures to take when using different power tools.
- Explain the importance of following manufacturer's recommendation when using various power tools.
- Safely use engineering power tools and attachments for a particular application.
- Use a bench grinder to sharpen basic hand tools.
- Range: Screwdrivers, chisels, punches, drill bit.
- Dress a grinding wheel.

Assessment:

- Test on the following:
  - List safety measures to take when using different power tools.
  - Explain the importance of following manufacturer's recommendation when using various power tools.
  - Safely use engineering power tools and attachments for a particular application.
  - Use a bench grinder to sharpen basic hand tools.
    The range includes: Screwdrivers, chisels, punches, drill bit.
  - Dress a grinding wheel.
- Practical assignment using power tools and attachments.
- Demonstration of how basic hand tools are sharpened.
- Demonstration of how to dress a grinding wheel.

Outcome 3: Care for and store engineering power tools

Learning Outcomes:

The student should be able to:

- List factors to consider when caring for and maintaining power tools.
- Check power cables and plugs of power tools.
- Identify faulty power tools and take corrective action.
- Lubricate power tools according to manufacturer's recommendation.
- Store power tools and explain the consequences of improper care and storage of engineering power tools.

Assessment:

- Test on the following:
  - List factors to consider when caring for and maintaining power tools.
  - Check power cables and plugs of power tools.
  - Identify faulty power tools and take corrective action.
  - Lubricate power tools according to manufacturer's recommendation.
  - Store power tools and explain the consequences of improper care and storage of engineering power tools.
- Practical test on power tools checks and inspections.
- Demonstrate how power tools are correctly stored.

4. ENGINEERING MEASURING EQUIPMENT

Outcome 1: Select Engineering measuring equipment.

The range includes:

- Steel rulers, measuring tapes, engineer's squares, spirit level.

Learning Outcomes:

The learner should be able to:

- Identify and name different engineering measuring equipment and their parts correctly.
- Describe the function of different measuring equipment.
- Select the correct measuring equipment for a specific task.

Assessment:

- Test on the learning outcomes.
- Group discussion and reporting on functions of measuring equipment.

Outcome 2: Use engineering measuring equipment

Learning Outcomes:

The learner should be able to:

- Record safety precautions to be taken when using engineering measuring equipment.
- List factors that affect the accuracy of measuring equipment.
- Describe errors in measurement and explain how to reduce these errors.
- Use engineering measuring equipment correctly and safely.

Assessment:

- Test on the learning outcomes.
- Students demonstrate how the measuring instruments are used correctly and effectively.
- Measurements are performed using different instrument to compare accuracy.

Outcome 3: Care for and store engineering measuring equipment

Learning Outcomes:

The learner should be able to:

- List factors to consider when caring for and maintaining measuring equipment.
- Identify faulty measuring equipment and take corrective action.
- Explain the consequences of improper care and storage of engineering measuring equipment.
- Correctly store engineering measuring equipment.

Assessment:

- Test on the learning outcomes.
- Learner to identify faulty measuring equipment and take corrective actions.
- Learner to demonstrate how the measuring instruments are used correctly care for and stored.

5. WORKSITE PROCEDURES

Outcome 1: Explain and perform basic worksite procedures

The range includes:

- A basic knowledge of safety signs, colour-coding of walkways, work-areas, no-go areas, and fire-fighting equipment and permit to work on systems.

Learning Outcomes:

The learner should be able to:

- List typical worksite procedures.
- Identify safety signs.
  The range includes: fire-fighting equipment, restricted and hazardous areas, conditions requiring the compulsory wearing of safety equipment, no smoking areas, high voltage, slippery surfaces etc.
- Identify colour coding as applied at sites of work, in factories and in workshops.
- List fire-fighting equipment and describe their application (classes of fires limited to A, B, C and D).

Assessment:

- Test to determine if the learner has a basic knowledge of good worksite procedures, safety signs and colour-coding.
- Distinguish between electrical and chemical fires and correctly select the extinguishing equipment.