



Course Information

**National Certificate: Air-conditioning,
Refrigeration and Ventilation**

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SAQA ID	65489
Level	3
Credits	122
Duration	1 year

The air conditioning, refrigeration and ventilation industry provides a service to many sectors of the country's economy such as food processing and warehousing; food transportation, distribution and retailing; deep level mining and industrial process; high rise and retail property; specialized medical care; automotive and mass transport; tourism and hospitality.

This qualification provides the learner with the skills required to service, repair, commission and operate mechanical/electrical equipment and systems in the air conditioning, refrigeration and ventilation sub-field in a variety of applications, and to supervise work teams.

The current rate of urban development, the advance in technology and development of tourism creates an ever-increasing demand for air conditioning, refrigeration and ventilation equipment and systems and therefore a corresponding demand for technicians to repair, maintain, install and manufacture such equipment and systems.

Course Expectation

This is a learnership, and therefore has a theory and workplace component.

- Learners are expected to complete the theory at the training provider.
- The workplace component must be complete at a recognised workplace.
- The activities at the workplace will be determined by the workplace tasks that need to be completed.

Training Provider

Workplace

Selection of Workplace

Learners are required to ensure that they have secured a workplace. Whilst IQ supports learners in this endeavour, it is the learners responsibility.

The workplace selected must be in line with the course undertaken.

Learners will be provided with a pack that includes:

- Letter of request for placement
 - Placement guidelines for Employer organisations
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Your course comprises of the following:

- Complete Learner orientation on the programme expectations.
- Mentor guidelines for the workplace mentors.
- Work integrated guidelines for the workplace.
- Learner orientation guide.
- Process meetings map with employers and mentors.
- Training plan including the schedule of assessments
- Process map for the qualification.
- Learner guides, workbooks and log books
- E-learning lessons/ PC Tablet (with audio voice lessons)
- Training videos to support lessons showing practical applications

Assessment

Assessments are an important part of your learning as it serves as a measure to identify if you have achieved the competencies required in this course.

Various assessment methods are used during the course of your programme. All these are collated into a Portfolio of Evidence which is used for the final summative assessment. Each module of your study will have an assessment of some form.

The workplace is assessed through a logbook. This comprises a list of tasks which needs to be completed and signed off by your workplace mentor.

Delivery Modality

The delivery modality is flexible and designed according to the needs of the client.

The following are some of the options:

Option 1

- Lessons are presented on a PC Tablet. These are recorded.
- All the learner guides and workbooks are on the PC Tablet.

Option 2

- E-learning. Lessons are on the e-learning platform and learners progress through them.

Option 3

Face to face tuition according to a training plan.

Company inductions

Better tracking

Convenience

Learner control

Use of dead time

Suits: learning styles

Social learning

Easy evidence

Learner confidence

Institute for Quality
Mobile Learning for the
workplace. Are you ready?

Programme Modules

	ID	UNIT STANDARD TITLE	NQF LEVEL	CREDITS
Core	116226	Identify and set ON-OFF control devices as used in air conditioning and refrigeration systems, explain their operation and discuss their application and fault finding	2	6
Core	116243	Install, connect and maintain electrical cables and conductors as applied in air conditioning, refrigeration and ventilation installations	2	6
Core	116244	Sketch and construct electrical circuits applicable to single-phase air conditioning, refrigeration and ventilation installations	2	9
Core	116468	Adhere to the legal requirements of SANS 10147 (SABS 0147) standards when handling group 1 refrigerants	3	6
Core	261819	Apply an understanding of various systems, system components, the actual and the theoretical refrigeration cycle	3	7
Core	116719	Demonstrate knowledge of the OHS Act as it affects experienced workers in the air conditioning, refrigeration and ventilation industries	3	3
Core	116712	Dismantle and assemble air conditioning and refrigeration equipment	3	6
Core	116697	Fault find an air-conditioning, refrigeration or ventilation plant stoppage or failure	3	5
Core	116702	Identify, handle and sample refrigeration oils for analysis, and demonstrate how oil can indicate the general condition of a refrigeration system	3	2

Core	116696	Identify, use and maintain power tools used in the air-conditioning, refrigeration and ventilation trades	3	8
Core	116717	Interpret air-conditioning, refrigeration and ventilation plant layout and component drawings, sketches and specifications	3	6
Core	9530	Manage work time effectively	3	3
Fundamental	119458	Analyse and respond to a variety of literary texts	3	5
Fundamental	9010	Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	3	2
Fundamental	9013	Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	3	4
Fundamental	119466	Interpret a variety of literary texts	3	5
Fundamental	119457	Interpret and use information from texts	3	5
Fundamental	9012	Investigate life and work related problems using data and probabilities	3	5
Fundamental	119467	Use language and communication in occupational learning programmes	3	5
Fundamental	7456	Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	3	5
Elective	116233	Identify and state application of belt drives, couplings, gearboxes and bearings used on air-conditioning, refrigeration and ventilation plants and recognize misaligned, mismatched and worn components	3	6
Elective	9532	Demonstrate basic knowledge of computers	3	6
Elective	244589	Identify causes of stress and techniques to manage it in the workplace	3	2
Elective	116713	Install and service power transmission systems for air-conditioning, refrigeration and ventilation equipment	3	6
Elective	116720	Show understanding of diversity in the workplace	3	3
Elective	9533	Use communication skills to handle and resolve conflict in the workplace	3	3