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**FULLY ACCREDITED TRADE TEST & TRAINING CENTRE**

**Accreditation Numbers**

AC000173NAMB

SDP1220/18/00370

17-QA/ACC/0357/09/MER

07-QCTO/SDP070921-2873

AC000367NAMB

SDP1223/19/00356

05-QCTO/SDP070921-2874

## *Air Conditioning and Refrigeration Academy*

**KwaZulu Natal Durban Branch**

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YOUR FIRST STEP TO BECOMING A SKILLED / QUALIFIED ARTISAN

C O U R S E B R O C H U R E

2 0 2 4

*Gauteng - Johannesburg*  
*KwaZulu Natal - Durban*  
*Northern Cape - Kimberley*



## TRAINING OVERVIEW

The Academy has the resources to train all aspects of the Air conditioning and refrigeration fields up to NQF Level 4 and Trade Test. The emphasis is in the training of apprentices / learnerships, artisans, technicians as well as aspects for management requiring technical knowledge. The training is specialised to the fields of air conditioning, refrigeration and ventilation. The training is competency based, meaning, any student attending a course is given an in depth theoretical knowledge and the practical skills in order to achieve competency in the workplace. Given the nature of the training required all courses have a full practical element. The aim of all the training is such that on successful completion of any particular course the student will be capable to do the job as required.

## HISTORY

ACRA's roots date back to 1961. In its current form ACRA opened its doors in August 1998 in Johannesburg followed by Durban in 2018 and our latest branch in Kimberley 2019. Our Lecturers have trained students from the entire industry and have achieved international status training people from several of the southern African countries and as far afield as Australia and Canada. The ACADEMY became an accredited NAMB/ QCTO Decentralised Trade Testing Centre in 2003. The academy is involved with international organisations such as GIZ Proklima (Germany), the United Nations and UNIDO, AUDA-NEPAD the African Union and the European Union.

## TRAINING OFFERED AT ACRA

### The ACRA Diploma

Air Conditioning and Refrigeration Technology 1 Course	- Basic	(10 Days)
Electrical 1 Course (pertaining to Air Conditioning and Refrigeration)	- Basic	(10 Days)
Installation, Fault Finding, Maintain&Repair of Split, Console and Window Units Course	- Basic	(10 days)
Air Conditioning and Refrigeration Technology 2 Course	- Intermediate	(10 Days)
Electrical 2 Course (pertaining to Air Conditioning and Refrigeration)	- Intermediate	(10 Days)
Authorised Refrigeration Practitioner Course	- Safe Handling License	(05 days)
Electrical 3 Course (pertaining to Air Conditioning and Refrigeration)	- Intermediate/Advanced	(10 Days)
Air Conditioning and Refrigeration Technology 3 Course	- Intermediate/Advanced	(10 Days)
Air Conditioning And Refrigeration Technology 4 Course	- Diploma Section Advanced	(10 Days)

### The Diploma Explained:

The Diploma encompasses most of the training that an Air Conditioning and Refrigeration Technician needs to be competent. Course Objectives, Outcomes, Prices and Dates are outlined individually from page 3 onwards. It is not necessary to complete all the courses at once, training can be broken up into sections.

### Other Courses

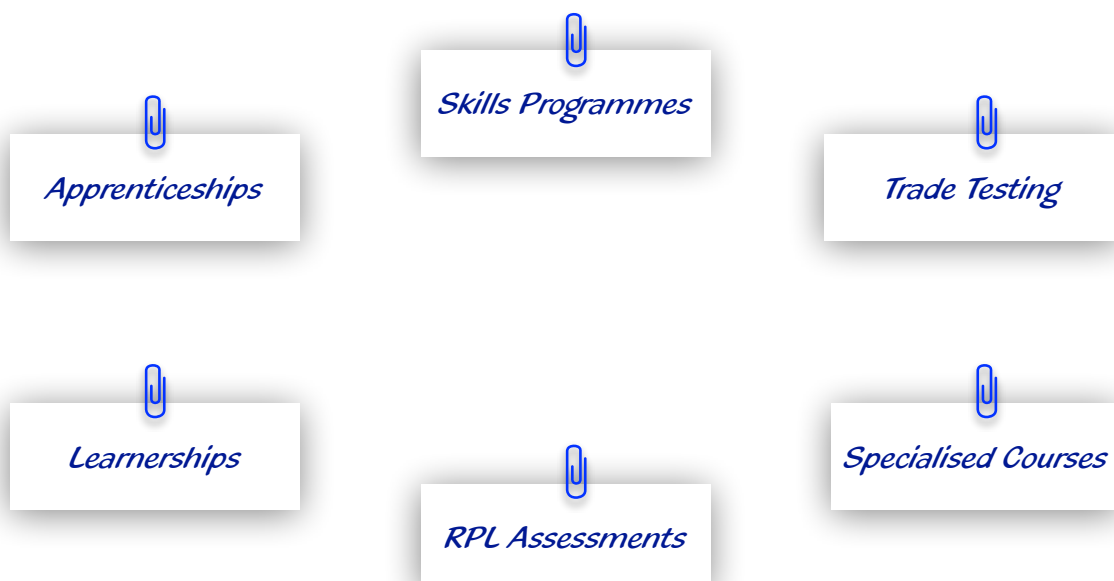
Authorised Practitioners Safe Handling of Refrigerants	-Freons, HC's, CO2 Safe Handling License	(05 Days)
Authorised Ammonia Practitioners Safe Handling of (Ammonia Cat A and B)	-Ammonia Safe Handling License	(05 Days)
Renewal Authorised Refrigeration Practitioner Course	-Safe Handling License Renewal	(02 days)
Certificate of Conformance (COC)(Portfolio needs to be completed)	-for Trade Tested Candidates	(01 day + Portfolio)
Vehicular Air Conditioning (Automotive and Earthmoving / Mining Equipment)		(10 Days)
Welding, Brazing & Cutting Course		(10 Days)

### Trade Testing - Refrigeration Mechanic

Trade Test Preparation	(approximately 05 - 10 Days)
Trade Test Test	(02 Days)

### Apprenticeships & Learnerships

Apprenticeship - Refrigeration Mechanic (Industrial/Commercial)	Duration: <u>min. 80 weeks - max. 4 years</u>
Learnerships - Air Conditioning, Refrigeration & Ventilation NQF Levels 2, 3 and 4	Duration: <u>12 months per level</u>



## TRAINING COURSES - DETAILED OVERVIEW - The ACRA DIPLOMA

### Course Name *Air Conditioning and Refrigeration TECHNOLOGY 1*

Entry Requirements	Basic Literacy and Numeracy		
Duration	10 days		
	Monday - Friday 08h00 until 15h30		
Cost	R 15 208,70 excl. vat		
	<b>R 17 490,00 incl. vat</b>		
Module Codes	GW 10, GW 11, GW 12, GW 13, HT 4, MA 1, COM 4, COM 5, COM 7, COM 8, AS 9, CT 1, ACS 1, ACS 2, FA 6, FA 7, EV 1, EV 2, RF 2, RF 6, RF 9, RF 10, RF 11, RF 12, RF 13, RF 14, RF 20, RF 21, PF1, PF2, PF3, PF4		
Objectives	This course represents all of the fundamental aspects of the theoretical knowledge and practical skills required by all persons wishing to work in the air conditioning and/or the refrigeration fields. This course forms the foundation and as such it is imperative that all persons complete the course. Technology 2, 3 and the diploma course follow. No previous knowledge or experience is required. The course has a full theory and practical component in our accredited workshops.		
Outcomes	Upon successful completion of this course the student will have the understanding of safety procedures, refrigerants, the Vapour Compression Cycle / Basic Thermodynamics. Tooling, Safety, Components and Accessories, Pipework, (Copper, Aluminium, Polyethylene composite), Servicing, Repair and Installation procedures. The student will be able to perform the applicable practical aspects on the job site. The student has the opportunity to further his studies. The range of study progresses through air conditioning and refrigeration to and including large central plants. It is strongly advised that students and companies consider the electrical course and technology 2 course.		
Example of Skills	Pipe work / evacuation / flaring / swaging/ charging/recovery/ testing/ tools and instruments/ safety/ refrigerants/ refrigerant containers/ basic thermo dynamics / basic refrigeration cycle/ fittings/ trade related tools/ refrigerants/ air conditioning and refrigeration components Manifold gauges, Service valves, Operation and setting of expansion devices, setting pressure switches.		
<u>Johannesburg Dates</u>	08 Jan - 19 Jan 2024 08 Apr - 19 Apr 2024 10 Jun - 21 Jun 2024 02 Sep - 13 Sep 2024 04 Nov - 15 Nov 2024	29 Jan - 09 Feb 2024 06 May - 17 May 2024 08 Jul - 19 Jul 2024 07 Oct - 18 Oct 2024 11 Nov - 22 Nov 2024	26 Feb - 08 Mar 2024 03 Jun - 14 Jun 2024 05 Aug - 16 Aug 2024 21 Oct - 01 Nov 2024 02 Dec - 13 Dec 2024
<u>Durban Dates</u>	08 Jan - 19 Jan 2024 06 May - 17 May 2024 05 Aug - 16 Aug 2024 07 Oct - 18 Oct 2024	19 Feb - 01 Mar 2024 10 Jun - 21 Jun 2024 02 Sep - 13 Sep 2024 28 Oct - 08 Nov 2024	02 Apr - 12 Apr 2024 08 Jul - 19 Jul 2024 16 Sep - 27 Sep 2024 11 Nov - 22 Nov 2024
<u>Kimberley Dates</u>	15 Jan - 26 Jan 2024 More Dates Available on Request !		



## Course Name

## ELECTRICAL ONE

(Basic Principles of Electricity pertaining to Air Conditioning and Refrigeration)

Entry Requirements	Technology 1 incl. Basic Literacy and Numeracy
Duration	10 days
	Monday - Friday 08h00 until 15h30
Cost	R 15 208,70 excl. vat
	<b>R 17 490,00 incl. vat</b>

Module Codes	DSE 1, DSE 3, DSE 4, DSE 8, CA 1, CA 2, CA 4, ET 5
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Objectives	This course represents all of the fundamental electrical aspects, theoretical knowledge and practical skills required by all persons wishing to work in the air conditioning and/or the refrigeration fields. This course forms the foundation of the electrical aspects and as such it is imperative that all persons complete the course. Electrical two and three courses follow. No previous electrical knowledge is required but Technology One should have been completed. The course has a full theory and practical component in our accredited workshop. The course compliments the Technology 1 as well as the Unitary air conditioning course.
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Outcomes	Upon successful completion of this course the student will have the understanding and the practical skills in relation to Air Conditioning and Refrigeration electrical systems. Understand Ohm's Law, Kirchhoff's Law, Volt, current, resistance, energy and power, alternating current and direct current, magnetic fields and flux, power generation, conductors, components, accessories, symbols, basic electrical layouts, dangers of electricity and potential hazards as well as methods to prevent injuries. Electrical controls, components and circuits.
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Example of Skills	Identify, select and the use of electrical tools and instruments. Identify, test and connect electrical conductors (jointing, installation and termination methods) Install trunking. Read and interpret diagrams. Maintain electrical systems including controls, components, accessories, motors and panels. Electrically isolation, maintenance procedures of electrical panels and switch gear, components and conductors paying attention to loose connections.
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<u>Johannesburg Dates</u>	22 Jan - 02 Feb 2024	12 Feb - 23 Feb 2024	25 Mar - 05 Apr 2024
	22 Apr - 03 May 2024	20 May - 31 May 2024	24 Jun - 05 Jul 2024
	22 Jul - 02 Aug 2024	19 Aug - 30 Aug 2024	16 Sep - 27 Sep 2024
	21 Oct - 01 Nov 2024	18 Nov - 29 Nov 2024	

<u>Durban Dates</u>	22 Jan - 02 Feb 2024	11 Mar - 22 Mar 2024	20 May - 31 May 2024
	08 Jul - 19 Jul 2024	16 Sep - 27 Sep 2024	28 Oct - 08 Nov 2024
	18 Nov - 29 Nov 2024		

<u>Kimberley Dates</u>	19 Feb - 01 Mar 2024
	More Dates Available on Request !



## Course Name      *Air Conditioning and Refrigeration TECHNOLOGY 2*

Entry Requirements      Technology 1 and Electrical One incl. Basic Literacy and Numeracy  
Duration      10 days  
Monday - Friday 08h00 until 15h30  
Cost      R 15 208,70 excl. vat  
**R 17 490,00 incl. vat**

Module Codes      MA 16, MA 17, RSY 1, FA 8, RF 15, RF 16, RF 17, RF 18, RF 19, LU 2, LU 5, LU 6, DR 2, DR 12, DR 3, DR 4, DR 7

Objectives      This course represents the intermediate aspects of the theoretical knowledge and practical skills required by all persons wishing to work in the air conditioning and/or the refrigeration fields. This course forms the second stage and as such is imperative that all persons complete the course. Technology 3 and the diploma course follow. The course has a full theory and practical component in our accredited workshop.

Outcomes      Upon successful completion of this course the student will have the understanding of the intermediate aspects of refrigeration and air conditioning. Superheat measurement, setting and the importance thereof, sub-cooling, LP and HP Pressure switch setting determination and actual setting on an installation, Basic refrigeration commissioning techniques and procedures. Types of refrigeration systems, Types of air conditioning systems, evaporative coolers, air conditioning components, heating, Critical charging, compressor testing, fault finding, drives and couplings. Students have the opportunity to further their studies. The range of study progresses through air conditioning and refrigeration to and including large central plants.

Example of Skills      Fault finding / basic commissioning / procedures on walk in fridges / freezer / air con units / critical charging / humidity / recovery of refrigerants/ servicing/ belt drives tensioning and alignment / couplings / bearings / various systems and their operation and application / controls and safety devices / vapour barriers / evaporative cooling installation.

<u>Johannesburg Dates</u>	08 Jan - 19 Jan 2024	05 Feb - 16 Feb 2024	20 May - 31 May 2024
	03 Jun - 14 Jun 2024	08 Jul - 19 Jul 2024	05 Aug - 16 Aug 2024
	02 Sep - 13 Sep 2024	30 Sep - 11 Oct 2024	04 Nov - 15 Nov 2024
	02 Dec - 13 Dec 2024		

<u>Durban Dates</u>	05 Feb - 16 Feb 2024	03 Jun - 14 Jun 2024	22 Jul - 02 Aug 2024
	02 Sep - 13 Sep 2024	30 Sep - 11 Oct 2024	02 Dec - 13 Dec 2024

<u>Kimberley Dates</u>	29 Jan - 09 Feb 2024
	More Dates Available on Request !



## Course Name **ELECTRICAL TWO** (Single Phase Electricity pertaining to Air Conditioning and Refrigeration)

Entry Requirements Technology 1, Electrical One and Technology 2 including Basic Literacy and Numeracy

Duration 10 days

Monday - Friday 08h00 until 15h30

Cost R 15 208,70 excl. vat

**R 17 490,00 incl. vat**

Module Codes 1-PHASE: AC 5, AC 6

Objectives This course represents the intermediate electrical aspects of the theoretical knowledge and practical skills required by all persons wishing to work in the air conditioning and/or the refrigeration fields. The course has a full theory and practical component in our accredited workshop. The course compliments the Technology 1, 2 and Electrical One courses as well as the unitary air conditioning range of courses. This course focuses on single phase systems.

Outcomes Upon successful completion of this course the student will have the understanding and the practical skills pertaining to the interpretation of single phase circuits wiring diagrams, the wiring of control panels, electrical motors and starters (Single phase) applicable to air conditioning and refrigeration systems. Inspection and maintenance of electrical panels, electrical motors, starter panels and circuits. Fault-finding and repairing single phase electrical panels, electrical motors, starter panels and circuits. Construction of single phase electrical motors, starter circuits. Operation and testing of electrical motors.

Example of Skills Connect basic controls, components, accessories and motors with the correctly identified cabling/conductors. Test operation of the circuit and electrical components in the system and take corrective action if needed. Identify electrical controls, components, accessories and motors from drawings. Construct complete electrical system including controls, components, accessories, motors and panel with the correctly identified cabling/conductors. Fault-find electrical circuits and equipment in the air conditioning and/or the refrigeration fields. (Single phase) Test and connect electrical motors (Single phase)

<u>Johannesburg Dates</u>	19 Feb - 01 Mar 2024	08 Apr - 19 Apr 2024	18 Jun - 28 Jun 2024
	05 Aug - 16 Aug 2024	23 Sep - 04 Oct 2024	14 Oct - 25 Oct 2024
	02 Dec - 13 Dec 2024		

<u>Durban Dates</u>	04 Mar - 15 Mar 2024	02 Apr - 12 Apr 2024	18 Jun - 28 Jun 2024
	14 Oct - 25 Oct 2024		

<u>Kimberley Dates</u>	Dates Available on Request !
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## Course Name      *Air Conditioning and Refrigeration TECHNOLOGY 3*

Entry Requirements	Completion of Technology 1, Technology 2, Electrical One & Electrical Two incl. Basic Literacy and Numeracy		
Duration	10 days		
Cost	Monday - Friday 08h00 until 15h30		
	R 15 208,70 excl. vat		
	<b>R 17 490,00 incl. vat</b>		
Module Codes	AS 3, AS 7, AS 8, AS 10, AS 11, AS 12, CP 1, CP 2, CP 9 CT 2, CT 3, EV 3, ACS 3, COM 9, LU 1, LU 3, LU 7, PU 8, PU 9, PU 10, COD 1		
Objectives	On successful completion of this course the student will have the necessary knowledge and practical skills to perform more of the advanced aspects of the trade related to central plants / ducted / indirect systems. Chillers, air delivery systems, filtration, water reticulation systems form the focal point of this course. Includes basic psychometrics, air flow and air changes. This course is the third phase of the diploma course but may be used alone ending at this level.		
Outcomes	Relative humidity and product classifications in refrigeration applications, multiplex refrigeration systems, refrigeration and air conditioning system burn out procedures, central and industrial air conditioning systems, maintenance schedules, air distribution equipment, air cleaning equipment and filtration, lubrication, water reticulation equipment, ventilation and ventilation rate determination and measurement, airflow measurement, heating, basic psychometrics and variable volume systems, water treatment methodology and systems.		
Example of Skills	Air flow balancing, ventilation rates, developing and applying maintenance schedules, burn out procedures, ventilation rate measurement, air flow measurements, commissioning, lubrication, fans and pumps and basic psychometrics, central plant layouts.		
<u>Johannesburg Dates</u>	04 Mar - 15 Mar 2024 02 Sep - 13 Sep 2024	29 Apr - 10 May 2024 28 Oct - 08 Nov 2024	01 Jul - 12 Jul 2024 25 Nov - 06 Dec 2024
<u>Durban Dates</u>	18 Mar - 28 Mar 2024 28 Oct - 08 Nov 2024	06 May - 17 May 2024	01 Jul - 12 Jul 2024
<u>Kimberley Dates</u>	Dates Available on Request !		



<b>Course Name</b>	<b>New Authorised Refrigeration Practitioner License</b> <b>(Safe Handling of Refrigerants) - Excludes Ammonia</b>		
Entry Requirements	Basic Literacy and Numeracy, minimum 3 months relevant industry experience or Technology 1 course.		
Duration	5 days		
	Monday - Friday 08h00 until 15h30		
Cost	R 7 604,35 excl. vat <b>R 8 745,00 incl. vat</b>		
Module Codes	KM642701000, KM01, KM02, KM09, PM01, PM03, PM04, PM05, WM1		
Excludes	SARACCA Reg. fee of R 2 530.00 incl. vat payable directly towards SARACCA		
	For the Virtual License Card via SARACCA - 2 colour id photos, certified copy of id, certified copy of Acra Certificate and Trade Test Certificate (if applicable) should be attached to the application / emailed to SARACCA. Candidates who apply for the virtual license card will also be registered on the website <a href="http://www.saqccgas.co.za">www.saqccgas.co.za</a>		
	<b>Application for Registration of Virtual License Card with SARACCA should be done within 3 months from completing the training. Should the 3 month period be exceeded you will be required to redo the full 5 day course.</b>		
Objectives	Training and Assessment to comply with the legal requirement of the OHS Act. Pressure Equipment Regulation (Clause 17-18) July 2009 No 85 of 1993.		
Outcomes	This course, required by law enables persons to register as an authorised person in the relevant categories with SARACCA. On successful completion of this course the student will have an understanding and skills in relation to the safe handling and usage of Refrigerant including the pressure vessel regulations, The OHS act and relevant regulations, the Montreal protocol, SANS requirements, safety, first aid, emergency response to a leak and the basic service procedures.		
Example of Skills	The candidate will understand the Safety and Legal aspects with regards to the Pressure Vessel Regulation.		
<u>Johannesburg Dates</u>	08 Jan - 12 Jan 2024 11 Mar - 15 Mar 2024 27 May - 31 May 2024 12 Aug - 16 Aug 2024 07 Oct - 11 Oct 2024 09 Dec - 13 Dec 2024	22 Jan - 26 Jan 2024 15 Apr - 19 Apr 2024 24 Jun - 28 Jun 2024 26 Aug - 30 Aug 2024 21 Oct - 25 Oct 2024	05 Feb - 09 Feb 2024 06 May - 10 May 2024 22 Jul - 26 Jul 2024 16 Sep - 20 Sep 2024 11 Nov - 15 Nov 2024
<u>Durban Dates</u>	12 Feb - 16 Feb 2024 03 Jun - 07 Jun 2024 12 Aug - 16 Aug 2024 21 Oct - 25 Oct 2024	04 Mar - 08 Mar 2024 24 Jun - 28 Jun 2024 26 Aug - 30 Aug 2024 11 Nov - 15 Nov 2024	15 Apr - 19 Apr 2024 22 Jul - 26 Jul 2024 09 Sep - 13 Sep 2024 09 Dec - 13 Dec 2024
<u>Kimberley Dates</u>	08 Jan - 12 Jan 2024 More Dates Available on Request !	12 Feb - 16 Feb 2024	



SOUTH AFRICAN REFRIGERATION & AIR CONDITIONING CONTRACTORS' ASSOCIATION

Once you have been registered with SAQCC. Please go to <https://saqccgas.co.za/>, search by only adding your Surname or Company Name to verify your license number.

Once you have confirmed your license number, please download the SAQCC Gas COC app on your phone and complete the registration process.



**Course Name** ***ELECTRICAL THREE** (Three Phase Electricity pertaining to Air Conditioning and Refrigeration)*

**Entry Requirements** Completion of Technology 1, Technology 2, Technology 3, Electrical One, Electrical Two, incl. Basic Literacy and Numeracy

**Duration** 10 days

Monday - Friday 08h00 until 15h30

**Cost** R 15 208,70 excl. vat

**R 17 490,00 incl. vat**

**Module Codes** 3-PHASE: AC 7, AC 8, FA 3, FA 8

**Objectives** This course represents the advanced three phase electrical aspects, theoretical knowledge and practical skills required by all persons wishing to work in the air conditioning and/or the refrigeration fields. The course has a full theory and practical component in our accredited workshop.

**Outcomes** Upon successful completion of this course the student will have the understanding and the practical skills for the wiring of control panels, electrical motors and starters (Three phase). Interpretation of three phase circuits, sketching three phase circuits applicable to air conditioning and refrigeration systems. Inspection and maintenance of electrical panels, electrical motors, starter panels and circuits. Fault-finding and repairing three phase electrical panels, electrical motors, starter panels and circuits. Construction of three phase electrical motors and starter circuits. Operation and testing of electrical motors. The purposes of various available variable speed drives and soft starters. Wiring, inspection, maintenance, fault-finding and repairing of variable speed drives, soft starters and electronically controlled fans. Knowledge and understanding of basic electronics. Fundamental operation, construction and testing of basic electronic circuits.

**Example of Skills** Establish safety aspects (electrical isolation) Identify, test and connect electrical motors (Three phase). Read, design and interpret electrical diagrams including symbols and legend requirements, basic motor controls and starters in accordance with the electrical diagrams. Construct complete electrical circuitry including controls, components, accessories, motors and panel with the correctly identified cabling/conductors. Fault-finding and testing of electrical motor circuits and equipment in the air conditioning and/or the refrigeration fields. (Three phase). Determine, conduct, verify and report on faulty components.

<u><b>Johannesburg Dates</b></u>	18 Mar - 28 Mar 2024	27 May - 07 Jun 2024	01 Jul - 12 Jul 2024
	29 Jul - 08 Aug 2024	02 Sep - 13 Sep 2024	25 Nov - 06 Dec 2024

<u><b>Durban Dates</b></u>	02 Apr - 12 Apr 2024	20 May - 31 May 2024	29 Jul - 08 Aug 2024
	25 Nov - 06 Dec 2024		

<u><b>Kimberley Dates</b></u>	Dates Available on Request !
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<b>Course Name</b>	<b><i>Installation, FaultFinding, Maintain &amp; Repair of Split, Console &amp; Window Units</i></b>		
Entry Requirements	Basic Literacy and Numeracy		
Duration	10 days		
	Monday - Friday 08h00 until 15h30		
Cost	R 15 208,70 excl. vat <b>R 17 490,00 incl. vat</b>		
Module Codes	FA 4, FA 5, RF 7, INS 1, IM 3, IM 4		
Objectives	This is a stand alone course however the candidate should complete the Authorised Refrigeration Practitioner License (Safe Handling of Refrigerants) in addition to this course. Covering the installation, maintenance and repair of unitary air conditioning units excluding repair of printed circuit boards. The repairs required including the replacement of compressors & other components, evacuation and critical charging of these units. This course includes the theory around operation of systems, the functions of the components as well as the practical aspects. Complete installation procedures of the above mentioned units are dealt with.		
Outcomes	Upon successful completion of this course the student will have the understanding and the basic practical skills (competencies) needed on the worksite for the installation, maintenance and repair of unitary air conditioning systems. The student will perform on actual installations as part of training. Full workshop training component.		
Example of Skills	For Window/ Console/ and split unit air conditioning: Compressor testing/ Compressor replacement/ burnouts/ critical charging/ testing/ recovery of refrigerants. Full installation, all repairs, servicing and maintenance. Areas include but are not limited to: pipe work/ brazing/ evacuation/ charging / driers/ faultfinding / maintenance and vapour barrier installation.		
<u>Johannesburg Dates</u>	02 Apr - 12 Apr 2024 15 Jul - 26 Jul 2024 11 Nov - 22 Nov 2024	13 May - 24 May 2024 19 Aug - 30 Aug 2024	10 Jun - 21 Jun 2024 07 Oct -18 Oct 2024
<u>Durban Dates</u>	19 Feb - 01 Mar 2024 16 Sep - 27 Sep 2024	15 Jul - 26 Jul 2024 14 Oct - 25 Oct 2024	12 Aug - 23 Aug 2024 11 Nov - 22 Nov 2024
<u>Kimberley Dates</u>	Dates Available on Request !		



<b>Course Name</b>	<b>Air Conditioning and Refrigeration TECHNOLOGY 4 (Diploma Section)</b>		
Entry Requirements	Completion of Technology 1, Technology 2, Electrical One, Electrical Two, Electrical Three & Technology 3, Authorised Refrigeration Practitioner License, Maintenance, Fault Finding and Installation.		
Duration	10 days Monday - Friday 08h00 until 15h30		
Cost	R 15 208,70 excl. vat <b>R 17 490,00 incl. vat</b>		
Objectives	This course includes the advanced aspects of air conditioning and refrigeration including central plant and air conditioning in depth. This course will enable the student to perform retrofitting work, conduct heat load calculations for quoting and installation purposes, ventilation rate calculations for commercial and industrial applications, calculation of system performance, capacity, advanced fault finding, evaporative cooling sizing and design, psychometrics and Mollier (Pressure / enthalpy) diagrams.		
Outcomes	<p>Upon successful completion of this course the student will have the understanding and skills to determine a systems operating parameters from a pressure enthalpy diagram, calculation of plant capacities, C.O.P., compressor efficiency, mass flow, heat rejection, confirmation of superheat and sub-cooling etc. In addition: fault finding using a pressure enthalpy chart, heat load calculations for air conditioning and refrigeration applications, the retrofitting process, psychometrics. Although this is an in depth course the level is with-in the artisans / technicians scope of work.</p> <p>This course is very popular with the medium to large corporate client running a central plant / ducted or indirect system and with persons wishing to have an in depth under standing of the trade.</p>		
Example of Skills	Central plant air conditioning / advanced fault finding using Mollier diagrams / heat load calculations. Psychometrics, air flow rates and balancing, determination and calculation of ventilation rates, air changes per hour/ humidity/ maintenance schedules / evaporative cooling sizing and design. Properties of air, humidification, calculations involving heat & mass transfer. Air flow measurements, air changes, flow rates, duct balancing, define operating parameters, refrigerant blends/temperature glide, operational faults & remedial action. Detailed practical Mollier chart application, determination of plant capacity, C.O.P., Compression ratios, super heat & sub cooling, mass flow and fault finding.		
<u>Johannesburg Dates</u>	22 Apr - 03 May 2024 18 Nov - 29 Nov 2024	18 Jun - 28 Jun 2024	19 Aug - 30 Aug 2024
<u>Durban Dates</u>	22 Apr - 03 May 2024	19 Aug - 30 Aug 2024	
<u>Kimberley Dates</u>	Dates Available on Request !		



Course Name	COC / Certificate Of Conformance		
Entry Requirements	Valid Saracca Safe Handling License Card & Trade Test in Refrigeration Mechanic (Industrial / Commercial) incl. Basic Literacy and Numeracy		
Duration	1 day Monday 08h00 until 15h30		
Cost	R 6 347,83 excl. vat <b>R 7 300,00 incl. vat</b>		
Unit Standards	262159		
Excludes	Saracca Reg. fee of R 2 530.00 incl. vat payable directly towards SARACCA On successful completion of the course the candidate have to apply for the Virtual License Card via SARACCA 2 colour id photos, certified copy of id, certified copy of Acra Certificate and Trade Test Certificate (if applicable) should be attached to the application / emailed to SARACCA. Candidates who apply for the virtual license card will also be registered on the website <a href="http://www.saqccgas.co.za">www.saqccgas.co.za</a>		
Objectives	Training and Assessment to comply with the legal requirement of the OHS Act. Pressure Equipment Regulation (Clause 17-18) July 2009 No 85 of 1993.		
Outcomes	This course, required by law enables persons to register as an Inspector Category C providing all other requirements have been met as per SARACCA. <b>Portfolio needs to be submitted within 90 days after successful completion of course at ACRA - or the candidate will have to redo the training.</b>		
Example of Skills	The candidate will understand the Safety and Legal aspects with regards to the Pressure Vessel Regulation and be able to conduct an inspection completing all the relevant reports , documentation and issuing of a COC.		
Johannesburg Dates	08 Mar 2024 25 Oct 2024	31 May 2024	23 Aug 2024
Durban Dates	Dates Available on Request !		
Kimberley Dates	Dates Available on Request !		



## Course Name **Renewal Authorised Refrigeration Practitioner (Safe Handling) - Excludes Ammonia**

Entry Requirements	Valid Saracca Safe Handling License ( <i>License Card should not be expired for longer than 3 months</i> )		
Duration	2 days Wednesday - Thursday 08h00 until 15h30		
Cost	R 3 041,74 excl. vat <b>R 3498,00 incl. vat</b>		
Module Codes	KM642701000, KM01, KM02, KM09, PM01, PM03, PM04, PM05, WM1		
Excludes	Saracca Reg. fee of R 2 530.00 incl. vat payable directly towards SARACCA For the Virtual License Card via SARACCA - 2 colour id photos, certified copy of id, certified copy of Acra Certificate and Trade Test Certificate (if applicable) should be attached to the application / emailed to SARACCA. Candidates who apply for the virtual license card will also be registered on the website <a href="http://www.saqccgas.co.za">www.saqccgas.co.za</a> <b>Application for Registration of Renewal virtual License Card with SARACCA should be done within 3 months from completing the training. Should the 3 month period be exceeded you will be required to redo the full 5 day course.</b>		
Objectives	This course enables a successful candidate to re-register in terms with the legal requirement of the OHS Act. Pressure Equipment Regulation (Clause 17-18) July 2009 No 85 of 1993.		
Outcomes	This course, required by law enables persons to register as an authorised person in the relevant categories with SARACCA.		
Example of Skills	The candidate will understand the Safety and Legal aspects with regards to the Pressure Vessel Regulation.		
<u>Johannesburg Dates</u>	10 Jan - 11 Jan 2024 13 Mar - 14 Mar 2024 29 May - 30 May 2024 14 Aug - 15 Aug 2024 09 Oct - 10 Oct 2024 11 Dec - 12 Dec 2024	24 Jan - 25 Jan 2024 17 Apr - 18 Apr 2024 26 Jun - 27 Jun 2024 28 Aug - 29 Aug 2024 23 Oct - 24 Oct 2024	07 Feb - 08 Feb 2024 08 May - 09 May 2024 24 Jul - 25 Jul 2024 18 Sep - 19 Sep 2024 13 Nov - 14 Nov 2024
<u>Durban Dates</u>	14 Feb - 15 Feb 2024 05 Jun - 06 Jun 2024 14 Aug - 15 Aug 2024 23 Oct - 24 Oct 2024	06 Mar - 07 Mar 2024 26 Jun - 27 Jun 2024 28 Aug - 29 Aug 2024 13 Nov - 14 Nov 2024	17 Apr - 18 Apr 2024 24 Jul - 25 Jul 2024 11 Sep - 12 Sep 2024 11 Dec - 12 Dec 2024
<u>Kimberley Dates</u>	10 Jan - 11 Jan 2024 More Dates Available on Request !	14 Feb - 15 Feb 2024	



SOUTH AFRICAN REFRIGERATION & AIR CONDITIONING CONTRACTORS' ASSOCIATION

Please Note: Renew your license before it expires, if it exceeds the 3 month grace period you will need to redo the full course

Once you have been registered with SAQCC. Please go to <https://saqccgas.co.za/>, search by only adding your Surname or Company Name to verify your license number.

Once you have confirmed your license number, please download the SAQCC Gas COC app on your phone and complete the registration process.

<b>Course Name</b>	<b>New SARACCA/SAQCC gas Authorised Ammonia Practitioner Course (Safe Handling of Ammonia License) - CAT A</b>		
Entry Requirements	Candidate should have a minimum of three months relevant refrigeration working experience ie: Exposure to refrigeration tools and instruments, evacuation, leak testing, refrigerant charging etc.		
Duration	3 days Monday - Wednesday 08h00 until 15h30		
Cost	R 4 562,61 excl. vat <b>R 5 247,00 incl. vat</b>		
Excludes	<p>Saracca Reg. fee of R 2 530.00 incl. vat payable directly towards SARACCA</p> <p>For the Virtual License Card via SARACCA - 2 colour id photos, certified copy of id, certified copy of Acra Certificate and Trade Test Certificate (if applicable) should be attached to the application / emailed to SARACCA. Candidates who apply for the virtual license card will also be registered on the website <a href="http://www.saqccgas.co.za">www.saqccgas.co.za</a></p> <p><b>Application for Registration of Virtual License Card with SARACCA should be done within 3 months from completing the training. Should the 3 month period be exceeded you will be required to redo the full 3 day course.</b></p>		
Objectives	<p>This course enables a successful candidate to register in terms of the OHS Act (No 85 of 1993) - Sections 43 and 44 and regulation R734 of July 2009 (Pressure Equipment Regulations) as applicable to Ammonia Refrigerant. This course, required by law enables persons to register as an authorised person in the relevant categories with SARACCA.</p> <p><b>"The card holder is authorised to operate a refrigeration plant and is aware of safety regulations and requirements"</b></p> <p>The persons registering here are those who work as operators in plant rooms and in factories using process refrigeration but are not qualified by training in refrigeration. Persons applying for registration in this category require training in the components and accessories of a refrigeration plant; Health and Safety and incident safety response requirements related to a Refrigeration Mechanic; refrigerants and lubricants; maintenance of refrigeration systems. A plant operator may not sign a Certificate of Conformity.</p>		
Outcomes	On successful completion of this course the student will have an understanding and skills in relation to the safe handling and usage of Ammonia Refrigerant including the pressure vessel regulations, The OHS act and relevant regulations, the Montreal protocol, SANS requirements, safety, first aid, emergency response to a leak.		
<u>Johannesburg Dates</u>	12 Feb - 14 Feb 2024 12 Aug - 14 Aug 2024 09 Dec - 11 Dec 2024	03 Jun - 05 Jun 2024 30 Sep - 02 Oct 2024	08 Jul - 10 Jul 2024 04 Nov - 06 Nov 2024
<u>Durban Dates</u>	15 Apr - 17 Apr 2024	01 Jul - 03 Jul 2024	30 Sep - 02 Oct 2024
<u>Kimberley Dates</u>	Dates Available on Request !		



SOUTH AFRICAN REFRIGERATION & AIR CONDITIONING CONTRACTORS' ASSOCIATION



**Course Name** ***Renewal of SARACCA/SAQCC gas Authorised Ammonia Practitioner Course (Safe Handling of Ammonia License) - CAT A***

Entry Requirements	Valid Saracca Ammonia Safe Handling License ( <i>License Card should not be expired for longer than 3 months</i> )		
Duration	2 days		
Cost	Tuesday - Wednesday 08h00 until 15h30 R 3 041,74 excl. vat <b>R 3498,00 incl. vat</b>		
Excludes	Saracca Reg. fee of R 2 530.00 incl. vat payable directly towards SARACCA For the Virtual License Card via SARACCA - 2 colour id photos, certified copy of id, certified copy of Acra Certificate and Trade Test Certificate (if applicable) should be attached to the application / emailed to SARACCA. Candidates who apply for the virtual license card will also be registered on the website <a href="http://www.saqccgas.co.za">www.saqccgas.co.za</a> <b>Application for Registration of Renewal Virtual License Card with SARACCA should be done within 3 months from completing the training. Should the 3 month period be exceeded you will be required to redo the full 3 day course.</b>		
Objectives	This course enables a successful candidate to re-register in terms of the OHS Act (No 85 of 1993) - Sections 43 and 44 and regulation R734 of July 2009 (Pressure Equipment Regulations) as applicable to Ammonia Refrigerant. This course, required by law enables persons to register as an authorised person in the relevant categories with SARACCA. <b>"The card holder is authorised to operate a refrigeration plant and is aware of safety regulations and requirements"</b> The persons registering here are those who work as operators in plant rooms and in factories using process refrigeration but are not qualified by training in refrigeration. Persons applying for registration in this category require training in the components and accessories of a refrigeration plant; Health and Safety and incident safety response requirements related to a Refrigeration Mechanic; refrigerants and lubricants; maintenance of refrigeration systems. A plant operator may not sign a Certificate of Conformity.		
Outcomes	On successful completion of this course the student will have an understanding and skills in relation to the safe handling and usage of Ammonia Refrigerant including the pressure vessel regulations, The OHS act and relevant regulations, the Montreal protocol, SANS requirements, safety, first aid, emergency response to a leak.		
<u>Johannesburg Dates</u>	13 Feb - 14 Feb 2024 13 Aug - 14 Aug 2024 10 Dec - 11 Dec 2024	04 Jun - 05 Jun 2024 01 Oct - 02 Oct 2024	09 Jul - 10 Jul 2024 05 Nov - 06 Nov 2024
<u>Durban Dates</u>	16 Apr - 17 Apr 2024	02 Jul - 03 Jul 2024	01 Oct - 02 Oct 2024
<u>Kimberley Dates</u>	Dates Available on Request !		



SOUTH AFRICAN REFRIGERATION & AIR CONDITIONING CONTRACTORS' ASSOCIATION

<b>Course Name</b>	<b>New SARACCA/SAQCC gas Authorised Ammonia Practitioner Course (Safe Handling of Ammonia License) - CAT B</b>		
Entry Requirements	Candidate should have a minimum of three months relevant refrigeration working experience ie: Exposure to refrigeration tools and instruments, evacuation, leak testing, refrigerant charging etc.		
Duration	5 days		
Cost	Monday - Friday 08h00 until 15h30 R 7 604,35 excl. vat <b>R 8 745,00 incl. vat</b>		
Excludes	<p>Saracca Reg. fee of R 2 530.00 incl. vat payable directly towards SARACCA</p> <p>For the Virtual License Card via SARACCA - 2 colour id photos, certified copy of id, certified copy of Acra Certificate and Trade Test Certificate (if applicable) should be attached to the application / emailed to SARACCA. Candidates who apply for the virtual license card will also be registered on the website <a href="http://www.saqccgas.co.za">www.saqccgas.co.za</a></p> <p><b>Application for Registration of Virtual License Card with SARACCA should be done within 3 months from completing the training. Should the 3 month period be exceeded you will be required to redo the full 5 day course.</b></p>		
Objectives	<p>This course enables a successful candidate to register in terms of the OHS Act (No 85 of 1993) - Sections 43 and 44 and regulation R734 of July 2009 (Pressure Equipment Regulations) as applicable to Ammonia Refrigerant. This course, required by law enables persons to register as an authorised person in the relevant categories with SARACCA.</p> <p><b>"The card holder is an authorised as a refrigeration Practitioner using Synthetic F-gases and Hydrocarbon refrigerant gas"</b></p> <p>Refrigeration mechanics doing installation, repairs and maintenance in wide variety of refrigeration and air conditioning systems using Group A1, A2 &amp; A3 refrigerants can apply in this category. They must have completed an apprenticeship in refrigeration or electrical trades and are registered as artisans. Persons applying for registration in this category require training in the safe handling of refrigerants. The Practitioner is required to sign and issue a Certificate of Conformity for installation, maintenance and/or repairs.</p>		
Outcomes	On successful completion of this course the student will have an understanding and skills in relation to the safe handling and usage of Ammonia Refrigerant including the pressure vessel regulations, The OHS act and relevant regulations, the Montreal protocol, SANS requirements, safety, first aid, emergency response to a leak and the basic service procedures.		
<u>Johannesburg Dates</u>	12 Feb - 16 Feb 2024 12 Aug - 16 Aug 2024 09 Dec - 13 Dec 2024	03 Jun - 07 Jun 2024 30 Sep - 04 Oct 2024	08 Jul - 12 Jul 2024 04 Nov - 08 Nov 2024
<u>Durban Dates</u>	15 Apr - 19 Apr 2024	01 Jul - 05 Jul 2024	30 Sep - 04 Oct 2024
<u>Kimberley Dates</u>	Dates Available on Request !		



SOUTH AFRICAN REFRIGERATION & AIR CONDITIONING CONTRACTORS' ASSOCIATION

<b>Course Name</b>	<b><i>Renewal of SARACCA/SAQCC gas Authorised Ammonia Practitioner Course (Safe Handling of Ammonia License) - CAT B</i></b>		
Entry Requirements	Valid Saracca Ammonia Safe Handling License ( <i>License Card should not be expired for longer than 3 months</i> )		
Duration	2 days		
Cost	Thursday - Friday 08h00 until 15h30 R 3 041,74 excl. vat <b>R 3498,00 incl. vat</b>		
Excludes	Saracca Reg. fee of R 2 530.00 incl. vat payable directly towards SARACCA For the Virtual License Card via SARACCA - 2 colour id photos, certified copy of id, certified copy of Acra Certificate and Trade Test Certificate (if applicable) should be attached to the application / emailed to SARACCA. Candidates who apply for the virtual license card will also be registered on the website <a href="http://www.saqccgas.co.za">www.saqccgas.co.za</a> <b>Application for Registration of Renewal Virtual License Card with SARACCA should be done within 3 months from completing the training. Should the 3 month period be exceeded you will be required to redo the full 5 day course.</b>		
Objectives	This course enables a successful candidate to re-register in terms of the OHS Act (No 85 of 1993) - Sections 43 and 44 and regulation R734 of July 2009 (Pressure Equipment Regulations) as applicable to Ammonia Refrigerant. This course, required by law enables persons to register as an authorised person in the relevant categories with SARACCA. <b>"The card holder is an authorised as a refrigeration Practitioner using Synthetic F-gases and Hydrocarbon refrigerant gas"</b> Refrigeration mechanics doing installation, repairs and maintenance in wide variety of refrigeration and air conditioning systems using Group A1, A2 & A3 refrigerants can apply in this category. They must have completed an apprenticeship in refrigeration or electrical trades and are registered as artisans. Persons applying for registration in this category require training in the safe handling of refrigerants. The Practitioner is required to sign and issue a Certificate of Conformity for installation, maintenance and/or repairs.		
Outcomes	On successful completion of this course the student will have an understanding and skills in relation to the safe handling and usage of Ammonia Refrigerant including the pressure vessel regulations, The OHS act and relevant regulations, the Montreal protocol, SANS requirements, safety, first aid, emergency response to a leak and the basic service procedures.		
<u>Johannesburg Dates</u>	15 Feb - 16 Feb 2024 15 Aug - 16 Aug 2024 12 Dec - 13 Dec 2024	06 Jun - 07 Jun 2024 03 Oct - 04 Oct 2024	11 Jul - 12 Jul 2024 07 Nov - 08 Nov 2024
<u>Durban Dates</u>	18 Apr - 19 Apr 2024	04 Jul - 05 Jul 2024	03 Oct - 04 Oct 2024
<u>Kimberley Dates</u>	Dates Available on Request !		



SOUTH AFRICAN REFRIGERATION & AIR CONDITIONING CONTRACTORS' ASSOCIATION

**Course Name****Welding, Brazing & Cutting***Electric Arc, C02, copper to copper, Oxy/Acetylene and aluminium welding*

Entry Requirements

Basic Literacy and Numeracy

Duration

10 days

Monday - Friday 08h00 until 15h30

Cost

R 15 208,70 excl. vat

**R 17 490,00 incl. vat**

Module Codes

SF 3, AO 1, AO 2, AO 3, AO 4, GC 1, GC 2, GC 3, TA 1, TA 2, TA 3, TA 4

Objectives

Typically for candidates working on general welding i.e.. brackets/condenser brackets. Perform basic arc welding, brazing of copper to copper, copper to brass and use of the cutting torch. Selecting and checking welding equipment and consumables. Operating welding equipment. Applying safety equipment and procedures. Ensuring suitability and strength of weld. Electric arc/C02 and aluminium welding available.

Outcomes

On successful completion of this course the student will be able to interpret job instructions. Identify arc-welding equipment and check it for safety and suitability. Welding consumables are inspected for correct size and suitability. Metals to be welded are inspected for suitability. Things that make metals and/or consumables unsuitable are listed and discussed. Safety equipment and procedures required are listed and discussed. Arc-weld metals. Metals to be welded are prepared for welding process. Work area is inspected for fire hazard, secured and made safe. Appropriate welding process is applied. Weld is cleaned using correct procedure. Consequences of using wrong power setting or wrong consumables are listed and explained. Correct and all safety equipment is used. Apply quality checks on completed weld and correct if necessary. Visual check is conducted to ensure quality weld. Weld is checked for strength. Work-piece is checked for compliance with job sheet. Improper welded sections are made good.

Example of Skills

Arc welding, brazing, cutting, electric arc, C02 welding, copper to copper, oxy/acetylene and aluminium welding.

Johannesburg Dates

19 Feb - 01 Mar 2024

25 Mar - 05 Apr 2024

13 May - 24 May 2024

15 Jul - 26 Jul 2024

30 Sep - 11 Oct 2024

Durban Dates

15 Apr - 26 Apr 2024

29 Jul - 08 Aug 2024

Kimberley Dates

Dates Available on Request !



## Course Name      *Vehicular Air Conditioning (Automotive and Earthmoving / Mining Equipment)*

Entry Requirements      Basic Literacy and Numeracy  
Duration      10 days  
Monday - Friday 08h00 until 15h30  
Cost      R 15 208,70 excl. vat  
**R 17 490,00 incl. vat**

Unit Standards      Basic Automotive - 116355,116703,116708

Objectives      Anyone interested to start working on vehicular air conditioning as well as the following industries:  
Automotive Industries / Car Manufacturers / Rail / Mining / Construction / heavy Earthmoving equipment as well as their sub-contractors, Panel Beaters, Insurance Industry Assessor, Fitment Centre's.

Outcomes      On successful completion of this course the student will be able to:  
Be competent to use basic tools and procedures applicable to vehicular air-conditioning. Understand principles of refrigeration, heat and unit used to express heat, specific heat, methods of heat transfer, latent and sensible heat, heat of compression, thermometers and their scales, atmospheric pressure, 16 gauge pressure, absolute pressure, effect of pressure on boiling point of liquid, mechanical refrigeration cycle. Apply leak testing methods. Identify components and explain vehicular components and their function thereof. I.e. Compressor condenser / evaporation / receiver drier / accumulator / orifice tube / expansion valve.

Example of Skills      Repairs and maintenance including evacuation, leak testing, charging, commissioning, safety aspects, common faults and components and accessories as required for vehicular and mobile air conditioning systems.

<u>Johannesburg Dates</u>	22 Jan - 02 Feb 2024	20 May - 31 May 2024	29 Jul - 08 Aug 2024
	16 Sep - 27 Sep 2024	18 Nov - 29 Nov 2024	

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<u>Durban Dates</u>	24 Jun - 05 Jul 2024	30 Sep - 11 Oct 2024
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<u>Kimberley Dates</u>	Dates Available on Request !
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## Course Name **BMS Control Systems**

Entry Requirements	Basic Understanding of Computers (It could be advantageous for the candidate to have a basic understanding of Air Conditioning Systems) including Basic Literacy and Numeracy
Duration	4 days Monday - Thursday 08h00 until 15h30
Cost	R 6 083,48 excl. vat <b>R 6 996,00 incl. vat</b>

Objectives	Control Basics - Have a basic understanding of the control process. Describe what a sensor is, its use and where sensors should be located. Describe how a controller works and how it can be used. Introduction to Direct Digital Control (DDC) - Describe what a DDC is and have a basic understanding of the functions these devices can perform. Describe common terminologies used by a DDC. Understand the fundamentals of how PID loops function. Describe some basic programming blocks used in a DDC configuration. DDC Networking Basics - Have an understanding of why we network DDC's. Understand how DDC's communicate and share information. DDC Programming Basics - Describe a DDC program. Understand the basics of configuration logic and how the program works.
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Outcomes	On successful completion of this course the student will be able to write basic program on a system to operate a controller. Test and run basic program operating a controller.
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<u>Johannesburg Dates</u>	04 Mar - 07 Mar 2024 04 Nov - 07 Nov 2024	03 Jun - 06 Jun 2024	02 Sep - 05 Sep 2024
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<u>Durban Dates</u>	Dates Available on Request !
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<u>Kimberley Dates</u>	Dates Available on Request !
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### *Branches:*

*Gauteng  
Johannesburg*

*Northern Cape  
Kimberley*

*Kwa-Zulu Natal  
Durban*



## TRAINING COURSES - Courses Available on request for groups of 6 or more students

- \* Polyethylene/Aluminium Composite Plastic Refrigerant Tubing
- \* Refrigeration Pipework Installations
- \* Drain Piping for HVAC&R
- \* Steel Piping Installation (pertaining to HVAC&R industry)
- \* Duct Work Installation
- \* Duct Work Manufacturer (on-site training only)
- \* Pipe Grooving Course
- \* Evaporative Cooling Installation/Commissioning
- \* Evaporative Cooling Sizing/System Selection/Design Aspects
- \* Rigging, Bearings & Fans Course

## Apprenticeships & Learnerships

<b>Training Programme</b>	<b>Apprenticeship Refrigeration Mechanic (Industrial &amp; Commercial)</b> The apprenticeship system is a well known technical training system, including practical and theoretical components offered in designated trades to achieve artisan status. We have formed partnerships with stakeholder and can offer full training of the knowledge component, the practical aspects. INFORMATION AVAILABLE ON REQUEST!
Agreement Duration with Merseta	3 - 4 years
Training Duration at ACRA	6 months

<b>Training Programme</b>	<b>Merseta Learnership - National Certificate in Air Conditioning, Refrigeration and Ventilation Level 2, 3 &amp; 4</b> <i>A learnership is a structured learning process for gaining theoretical knowledge and practical skills in the workplace leading to a qualification registered on the NQF. INFORMATION AVAILABLE ON REQUEST!</i>
Agreement Duration with Merseta	1 year per level
Training Duration at ACRA	12 weeks per level

## Trade Testing - Refrigeration Mechanic (Industrial / Commercial)

<b>Course Name</b>	<b>Trade Test Preparation - Refrigeration Mechanic (Industrial &amp; Commercial)</b>
Entry Requirements	Approval from Seta - Serial Number
Duration	1 - 10 days Monday - Friday 08h00 until 15h30
Cost	R 1 520,87 excl. vat <b>R 1 749,00 incl. vat per day depending on duration</b>
Objectives	To prepare the candidate for trade testing. Applications for trade testing available at the Academy.
Available Dates	Dates issued after receipt of Trade Test Assessment Dates from Seta The dates will be scheduled 10 days / 5 days prior to the Trade Test Assessment date. The duration of Preparation is subject to your knowledge and experience.

<b>Course Name</b>	<b>Trade Test - Refrigeration Mechanic (Industrial &amp; Commercial)</b>
Entry Requirements	Approval from Seta - Serial Number
Duration	2 days Monday & Tuesday / Wednesday & Thursday - 08h00 until 15h30
Cost	R 4 516,52 excl. vat <b>R 5 194,00 incl. vat per 2 days assessment</b>
Objectives	The Academy is a DHET / QCTO / NAMB / Seta Accredited Decentralised Trade Test Centre (National Certification). Applications for trade testing available at the Academy.
Available Dates	Trade Test dates are issued by a SETA after submission of your Trade Test Application at your nearest SETA office.

## CLASS TIMES AND INFORMATION

### Mondays - Thursday:

Training Start	08:00 am	Training Ends	15:30 pm
Lunch Time	12:00 pm	Lunchtime Ends	12:45 pm
Study Time Start	15:30 pm	Study Time Ends	16:00 pm

### Fridays:

Training Start	08:00 am	Training Ends	13:00 pm
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## Tea Breaks

Tea & Coffee is included and will be served at the following times

Morning - 7:30am to 8:00am

Tea Break - 10:00am to 10:15am

Lunch Time - 12:00pm to 12:45pm

(Cold drinks and snacks are available at Tuck Shop)

## What to Bring

**SAFETY SHOES** - no students will be allowed in the workshop without safety shoes.

Stationary - pen, pencil, ruler, eraser, highlighters, note pad and **calculator** - NO CELLPHONES ALLOWED DURING CLASS

ID / copy of ID / Proof of payment & Suitable clothing for practical training.

## Bookings

See attached 2024 Enrolment form - please complete the form and return

\* **Johannesburg Enrolments** via email to [info@acra.co.za](mailto:info@acra.co.za)

\* **Durban Enrolments** via email to [acrakzn@acra.co.za](mailto:acrakzn@acra.co.za)

\* **Kimberley Enrolments** via email to [frances@acra.co.za](mailto:frances@acra.co.za)

Also send a copy of ID and proof of 50% Deposit paid.

## ACCREDITATION

The Academy carries FULL ACCREDITATION for the training of apprenticeships, learnerships and training courses in air conditioning and refrigeration levels 2 through to 4, with QCTO (Quality Council for Trades & Occupations), NAMB (National Artisan Moderation Body) and DHET (Department of Higher Education and Training) Decentralised Assessment Centre status for Trade Testing and licensing for Safe Handling of Refrigerants for the South African Refrigeration and Air Conditioning Contractors Association (SARACCA). All courses are therefore recognised and are nationally and internationally certificated and/or licensed or carry a Diploma.

## ACRA's TRAINING PARTNERS

It is ACRA's policy to involve industry role players as training partners ultimately this results in ACRA's training being cutting edge and in line with the latest trends in industry. Our partners introduce the latest technologies and equipment to the training centre. Their assistance with equipment keeps our training costs manageable and our courseware up to date. Our current training partners include:

A-Gas (South Africa) (Pty) Ltd

Belimo

Chint

Copper Development Association Africa

Direct Digital Control Services / Innotech

Eckerle Condensate Pumps

Evapco

Full Gauge Controls

GEA

Innovative Water Cooling (Pty) Ltd

O3 Chemicals

Quickpro Pipes Samsun

Samsung

Seeley International / Breezair

Shamus Rennie

Tecsa Reco

Testo South Africa (Pty) Ltd

Umicore Marketing Services Africa (Pty) Ltd

Victaulic

Whirlpool

## INDUSTRY INVOLVEMENT

ACRA and ACRA's staff are heavily invested in the industry at various levels. Mr Grant Laidlaw is a Past President for SAIRAC (South African Institute for Refrigeration and Air Conditioning) and currently sits on the National Executive Committee in the training and Treasurers Portfolios. Mr Grant Laidlaw has been appointed to represent industry with NAMB as an expert practitioner for the development of occupational qualifications and trade testing. Mr. Laidlaw represents the Industry and the Department of Higher Education as subject matters expert for the curriculum and National Assessment Development. Mr. Laidlaw has published many articles in trade magazines and is a permanent contributor for the RACA Magazine and serves on the Advisory Committee. Furthermore Mr. Laidlaw is a registered DOL/SAQCC Gas Inspector. Mr Laidlaw is involved with the department of the Environment, Forestry and Fisheries working committee for the phase out and phase down of ozone depleting and global warming substances.

Mr. Laidlaw was appointed by SARACCA to develop the new Safe Handling of Refrigerants course, training manual, assessments and all associated documents and to develop the necessary processes for all providers on a national level.

Mr. Gordon Banks is the Vice President and Chairman on the Committee of SAIRAC Kwa-Zulu Natal.

Mrs. Anria Pieterse, Mrs. Annelize Grobbelaar, Mrs. Alicia Leary, Mrs. Magda Human, Mrs. Claudia Lee are all registered SDF's.

## THE ACRA TEAM

### Management

Grant Laidlaw	Managing Director (All Branches)
Anria Pieterse	Administration Manager (All Branches)
Gordon Banks	Branch Manager (Kwa-Zulu Natal - Durban)
James Laidlaw	Workshop Manager (Gauteng - Johannesburg)
Laurie Jacobs	Workshop Manager (Northern Cape - Kimberley)

### Assessors/Moderators/Lecturers/Trade Test Officers:

Grant Laidlaw	Lecturer / Assessor / Moderator / Trade Test Officer (All Branches)
Stewart Laidlaw	Lecturer / Assessor / Moderator / Trade Test Officer (All Branches)
Freddie Upton	Lecturer / Assessor / Moderator / Trade test Officer (Gauteng - Johannesburg)
Manny Grota	Lecturer / Assessor (Gauteng - Johannesburg)
Johan Mynhardt	Lecturer / Assessor (Gauteng - Johannesburg)
Johanna Mahori	Lecturer / Assessor (Gauteng - Johannesburg)
James Laidlaw	Lecturer / Assessor (Gauteng - Johannesburg)
Gordon Banks	Lecturer / Assessor (Kwa-Zulu Natal - Durban)
Rodney Adams	Lecturer / Assessor (Kwa-Zulu Natal - Durban)
Laurie Jacobs	Lecturer / Assessor (Northern Cape - Kimberley)

### Marketing

Alicia Leary	Social Media (All Branches)
Annelize Grobbelaar	Marketing (Gauteng - Johannesburg)
Claudia Lee	Marketing (Kwa-Zulu Natal - Durban)
Frances Reineke	Marketing (Northern Cape - Kimberley)

### Sales and bookings

Magda Human	<b>Gauteng - Johannesburg</b> Course bookings / queries (SDF)(Gauteng - Johannesburg)
Alicia Leary	Course bookings / queries (SDF)(Gauteng - Johannesburg)
Annelize Grobbelaar	Apprenticeship bookings (SDF)(Gauteng - Johannesburg)
Magda Human	Trade Test bookings (SDF)(All Branches)
Anria Pieterse	Projects (Senior SDF)(All Branches)

### Accounts:

Alicia Leary	Accounts (SDF)(All Branches)
Anria Pieterse	Accounts Manager (SDF)(All Branches)

### Sales and bookings

Gordon Banks	<b>Kwa-Zulu Natal - Durban</b> Course bookings / Queries (Kwa-Zulu Natal - Durban)
Claudia Lee	Course bookings, Apprenticeship bookings, queries (SDF)(Kwa-Zulu Natal - Durban)
Magda Human	Trade Test bookings (SDF)(All Branches)

### Accounts:

Claudia Lee	Accounts (SDF)(Kwa-Zulu Natal - Durban)
Alicia Leary	Accounts (SDF)(All Branches)
Anria Pieterse	Accounts Manager (SDF)(All Branches)

### Sales and bookings

Frances Reineke	<b>Northern Cape - Kimberley</b> Course bookings, Apprenticeship bookings, queries (Northern Cape - Kimberley)
Magda Human	Trade Test bookings (SDF)(All Branches)

### Accounts:

Frances Reineke	Accounts (Northern Cape - Kimberley)
Alicia Leary	Accounts (SDF)(All Branches)
Anria Pieterse	Accounts Manager (SDF)(All Branches)

## 2024 GAUTENG - JOHANNESBURG COURSE DATES SUMMARY

TECHNOLOGY 1	ELECTRICAL ONE	TECHNOLOGY 2	New AUTHORISED REFRIGERATION PRACTITIONER LICENSE	Renewal AUTHORISED REFRIGERATION PRACTITIONER
08 Jan - 19 Jan 2024 29 Jan - 09 Feb 2024 26 Feb - 08 Mar 2024 08 Apr - 19 Apr 2024 06 May - 17 May 2024 03 Jun - 14 Jun 2024 10 Jun - 21 Jun 2024 08 Jul - 19 Jul 2024 05 Aug - 16 Aug 2024 02 Sep - 13 Sep 2024 07 Oct - 18 Oct 2024 21 Oct - 01 Nov 2024 04 Nov - 15 Nov 2024 11 Nov - 22 Nov 2024 02 Dec - 13 Dec 2024	22 Jan - 02 Feb 2024 12 Feb - 23 Feb 2024 25 Mar - 05 Apr 2024 22 Apr - 03 May 2024 20 May - 31 May 2024 24 Jun - 05 Jul 2024 22 Jul - 02 Aug 2024 19 Aug - 30 Aug 2024 16 Sep - 27 Sep 2024 21 Oct - 01 Nov 2024 18 Nov - 29 Nov 2024	08 Jan - 19 Jan 2024 05 Feb - 16 Feb 2024 20 May - 31 May 2024 03 Jun - 14 Jun 2024 08 Jul - 19 Jul 2024 05 Aug - 16 Aug 2024 02 Sep - 13 Sep 2024 30 Sep - 11 Oct 2024 04 Nov - 15 Nov 2024 02 Dec - 13 Dec 2024	08 Jan - 12 Jan 2024 22 Jan - 26 Jan 2024 05 Feb - 09 Feb 2024 11 Mar - 15 Mar 2024 15 Apr - 19 Apr 2024 06 May - 10 May 2024 27 May - 31 May 2024 24 Jun - 28 Jun 2024 22 Jul - 26 Jul 2024 12 Aug - 16 Aug 2024 26 Aug - 30 Aug 2024 16 Sep - 20 Sep 2024 07 Oct - 11 Oct 2024 21 Oct - 25 Oct 2024 11 Nov - 15 Nov 2024 09 Dec - 13 Dec 2024	10 Jan - 11 Jan 2024 24 Jan - 25 Jan 2024 07 Feb - 08 Feb 2024 13 Mar - 14 Mar 2024 17 Apr - 18 Apr 2024 08 May - 09 May 2024 29 May - 30 May 2024 26 Jun - 27 Jun 2024 24 Jul - 25 Jul 2024 14 Aug - 15 Aug 2024 28 Aug - 29 Aug 2024 18 Sep - 19 Sep 2024 09 Oct - 10 Oct 2024 23 Oct - 24 Oct 2024 13 Nov - 14 Nov 2024 11 Dec - 12 Dec 2024
ELECTRICAL TWO	TECHNOLOGY 3	ELECTRICAL THREE	TECHNOLOGY 4	VEHICULAR AIR CONDITIONING
19 Feb - 01 Mar 2024 08 Apr - 19 Apr 2024 18 Jun - 28 Jun 2024 05 Aug - 16 Aug 2024 23 Sep - 04 Oct 2024 14 Oct - 25 Oct 2024 02 Dec - 13 Dec 2024	04 Mar - 15 Mar 2024 29 Apr - 10 May 2024 01 Jul - 12 Jul 2024 02 Sep - 13 Sep 2024 28 Oct - 08 Nov 2024 25 Nov - 06 Dec 2024	18 Mar - 28 Mar 2024 27 May - 07 Jun 2024 01 Jul - 12 Jul 2024 29 Jul - 08 Aug 2024 02 Sep - 13 Sep 2024 25 Nov - 06 Dec 2024	22 Apr - 03 May 2024 18 Jun - 28 Jun 2024 19 Aug - 30 Aug 2024 18 Nov - 29 Nov 2024	22 Jan - 02 Feb 2024 20 May - 31 May 2024 29 Jul - 08 Aug 2024 16 Sep - 27 Sep 2024 18 Nov - 29 Nov 2024
BMS Control Systems	INSTALL, FAULT FIND, MATAIN & REPAIR A/C UNITS	WELDING, BRAZING, CUTTING	COC Certificate of Conformance	Ammonia - Cat A (only)
04 Mar - 07 Mar 2024 03 Jun - 06 Jun 2024 02 Sep - 05 Sep 2024 04 Nov - 07 Nov 2024	02 Apr - 12 Apr 2024 13 May - 24 May 2024 10 Jun - 21 Jun 2024 15 Jul - 26 Jul 2024 19 Aug - 30 Aug 2024 07 Oct - 18 Oct 2024 11 Nov - 22 Nov 2024	19 Feb - 01 Mar 2024 25 Mar - 05 Apr 2024 13 May - 24 May 2024 15 Jul - 26 Jul 2024 30 Sep - 11 Oct 2024	08 Mar 2024 31 May 2024 23 Aug 2024 25 Oct 2024	12 Feb - 16 Feb 2024 03 Jun - 07 Jun 2024 08 Jul - 12 Jul 2024 12 Aug - 16 Aug 2024 30 Sep - 04 Oct 2024 04 Nov - 08 Nov 2024 09 Dec - 13 Dec 2024

**Johannesburg Schedule - For bookings please call Alicia Leary or Magda Human on  
Tel: (011) 393 1642, (011) 609 1118, 082 936 4183**

## 2024 KWA-ZULU NATAL - DURBAN COURSE DATES SUMMARY

TECHNOLOGY 1	ELECTRICAL ONE	INSTALL, FAULT FIND, MAINTAIN & REPAIR A/C UNITS	AUTHORISED REFRIGERATION PRACTITIONER LICENSE	Renewal AUTHORISED REFRIGERATION PRACTITIONER
08 Jan - 19 Jan 2024 19 Feb - 01 Mar 2024 02 Apr - 12 Apr 2024 06 May - 17 May 2024 10 Jun - 21 Jun 2024 08 Jul - 19 Jul 2024 05 Aug - 16 Aug 2024 02 Sep - 13 Sep 2024 16 Sep - 27 Sep 2024 07 Oct - 18 Oct 2024 28 Oct - 08 Nov 2024 11 Nov - 22 Nov 2024	22 Jan - 02 Feb 2024 11 Mar - 22 Mar 2024 20 May - 31 May 2024 08 Jul - 19 Jul 2024 16 Sep - 27 Sep 2024 28 Oct - 08 Nov 2024 18 Nov - 29 Nov 2024	19 Feb - 01 Mar 2024 15 Jul - 26 Jul 2024 12 Aug - 23 Aug 2024 16 Sep - 27 Sep 2024 14 Oct - 25 Oct 2024 11 Nov - 22 Nov 2024	12 Feb - 16 Feb 2024 04 Mar - 08 Mar 2024 15 Apr - 19 Apr 2024 03 Jun - 07 Jun 2024 24 Jun - 28 Jun 2024 22 Jul - 26 Jul 2024 12 Aug - 16 Aug 2024 26 Aug - 30 Aug 2024 09 Sep - 13 Sep 2024 21 Oct - 25 Oct 2024 11 Nov - 15 Nov 2024 09 Dec - 13 Dec 2024	14 Feb - 15 Feb 2024 06 Mar - 07 Mar 2024 17 Apr - 18 Apr 2024 05 Jun - 06 Jun 2024 26 Jun - 27 Jun 2024 24 Jul - 25 Jul 2024 14 Aug - 15 Aug 2024 28 Aug - 29 Aug 2024 11 Sep - 12 Sep 2024 23 Oct - 24 Oct 2024 13 Nov - 14 Nov 2024 11 Dec - 12 Dec 2024
TECHNOLOGY 2	ELECTRICAL TWO	TECHNOLOGY 3	ELECTRICAL THREE	TECHNOLOGY 4
05 Feb - 16 Feb 2024 03 Jun - 14 Jun 2024 22 Jul - 02 Aug 2024 02 Sep - 13 Sep 2024 30 Sep - 11 Oct 2024 02 Dec - 13 Dec 2024	04 Mar - 15 Mar 2024 02 Apr - 12 Apr 2024 18 Jun - 28 Jun 2024 14 Oct - 25 Oct 2024	18 Mar - 28 Mar 2024 06 May - 17 May 2024 01 Jul - 12 Jul 2024 28 Oct - 08 Nov 2024	02 Apr - 12 Apr 2024 20 May - 31 May 2024 29 Jul - 08 Aug 2024 25 Nov - 06 Dec 2024	22 Apr - 03 May 2024 19 Aug - 30 Aug 2024
WELDING, BRAZING, CUTTING	AMMONIA (Cat A Only)	Renewal AMMONIA	COC	VEHICULAR AIR CONDITIONING
15 Apr - 26 Apr 2024 29 Jul - 08 Aug 2024	15 Apr - 19 Apr 2024 01 Jul - 05 Jul 2024 30 Sep - 04 Oct 2024	17 Apr - 18 Apr 2024 03 Jul - 04 Jul 2024 02 Oct - 03 Oct 2024	08 Mar 2024 31 May 2024 23 Aug 2024 25 Oct 2024	24 Jun - 05 Jul 2024 30 Sep - 11 Oct 2024

**Durban Schedule - For bookings please call Gordon Banks or Claudia Lee on  
Tel: (031) 202 3103, 064 908 2677**

## 2024 NORTHERN CAPE - KIMBERLEY COURSE DATES SUMMARY

TECHNOLOGY 1	ELECTRICAL ONE	INSTALL, FAULT FIND, MAINTAIN & REPAIR A/C UNITS	AUTHORISED REFRIGERATION PRACTITIONER LICENSE	Renewal AUTHORISED REFRIGERATION PRACTITIONER
15 Jan - 26 Jan 2024 More Date on Request.	19 Feb - 01 Mar 2024 More Date on Request.	Available on Request.	08 Jan - 12 Jan 2024 12 Feb - 16 Feb 2024 More Date on Request.	10 Jan - 11 Jan 2024 14 Feb - 15 Feb 2024 More Date on Request.
TECHNOLOGY 2	ELECTRICAL TWO	TECHNOLOGY 3	ELECTRICAL THREE	TECHNOLOGY 4
29 Jan - 09 Feb 2024 More Date on Request.	Available on Request.	Available on Request.	Available on Request.	Available on Request.
WELDING, BRAZING, CUTTING	RIGGING, BEARINGS & FANS	BASIC HANDTOOLS	AMMONIA	COC
Available on Request.	Available on Request.	Available on Request.	Available on Request.	Available on Request.

**Kimberley Schedule - For bookings please call Frances Reineke on  
Tel: (053) 833 1903, 083 261 5728**