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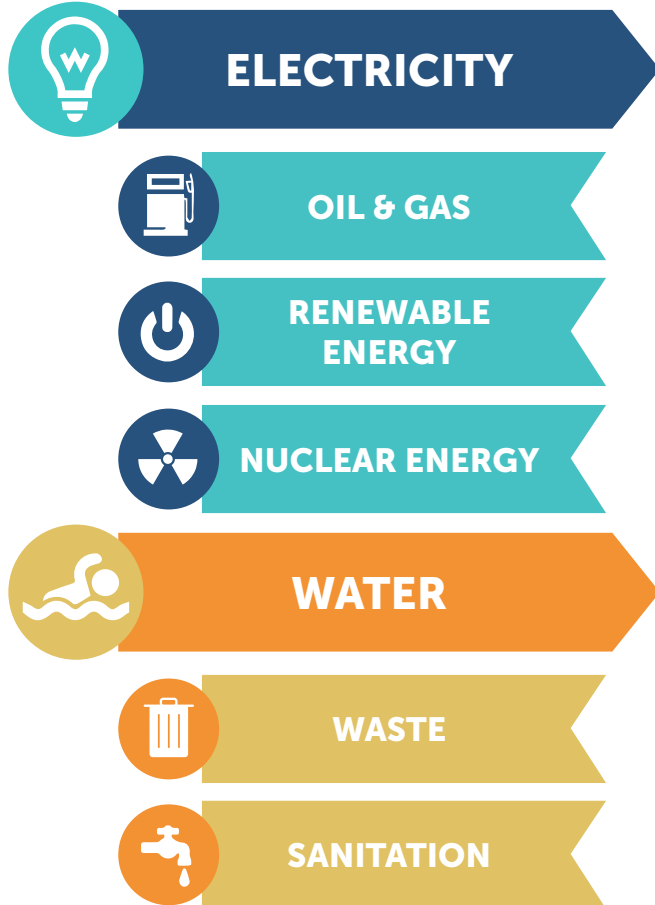
Career Guide |



About the EWSETA

The Energy and Water Sector Education and Training Authority (EWSETA) is one of 21 SETAs established in terms of Section 9 of the Skills Development Act, 97 of 1998, as amended and reports to the Honourable Minister of the Department of Higher Education and Training. Our mandate is to anticipate, build and manage the skills development and training needs of the energy and water services sector through strategic skills planning within the context of the National Skills Development Strategy (NSDS III).

The EWSETA covers the Energy and Water sector in South Africa and includes the following sub-sectors:



Planning your Career in the Energy and Water Sector

The EWSETA offers a number of skills development and training programmes that can help you to achieve your dream career in the energy and water sector. This brochure will explore the different careers available in the energy and water sector and what qualifications you will need to get there.

If you have any questions once you've read this document, please feel free to contact the EWSETA's head office or visit the EWSETA website (www.ewseta.org.za) for more information.

What is the NQF?

The National Qualifications Framework (NQF) is a set of principles and guidelines designed to create a single integrated national framework for learning achievements and to contribute to your full personal development!

The aim of the NQF is to make lifelong learning possible by having a single system that facilitates access, movement and progression within the education system so you can contribute to South Africa's economy. Understanding the levels of the NQF will help you to further your education and advance from one level to the next.

| Levels of the NQF | | | |
|--------------------------------|------------|--|---|
| Sub-Framework: | NQF Level: | Qualification Types: | Institutions: |
| Higher Education and Training | 10 | Doctoral Degree | Universities, Universities of Technology and Private Providers |
| | 9 | Master's Degree | Universities, Universities of Technology and Private Providers |
| | 8 | Honours Degree Master Post-Graduate Diploma | Universities, Universities of Technology and Private Providers |
| | 7 | Bachelor's Degree Advanced Diploma Advanced Certificate | Universities, Universities of Technology and Private Providers |
| | 6 | Diploma Advanced Certificate | Universities of Technology |
| | 5 | Higher Certificate Advanced National Certificate (Vocational) | TVET Colleges, Private Providers and Universities of Technology |
| Further Education and Training | 4 | National Senior Certificate (Grade 10 - 12) | TVET Colleges, Private Providers and Schools |
| | 3 | Senior Certificate (Colleges) | |
| | 2 | National Certificate (Vocational) Level 2 - 4 | |
| General Education and Training | 1 | General Certificate (Grade 9 / ABET Level 4 National Certificates) | Schools and ABET Providers |





What is an Artisan?

An Artisan is someone who has undergone training in an apprenticeship programme and who has passed a trade test. Artisans are associated particularly with engineering fields such as electrical, welding, boiler making and fitting and turning.

What is an Apprenticeship?

An apprenticeship is a technical training system that includes theoretical and practical training and workplace experience and is offered in most trades such as a millwright/fitter. It requires successful completion of a Trade Test after which the learner is then recognised as an Artisan. An Apprenticeship is job-orientated in that they relate to a specific trade. This means that you will learn a trade to fill a specific job post. An Apprenticeship is open to persons 16 years and older and requires good maths and science skills.

What is a Learnership?

A Learnership provides practical, as well as theoretical experience for successful candidates. These programmes are based on scarce skills in South Africa. When completing a Learnership, some candidates may be offered a permanent position, where others will be skilled enough to enter the workforce in other sectors of the country or to start their own businesses.

What is a University and a University of Technology?

Universities are institutions of higher learning and offer qualifications such as certificates, diplomas, and degrees. The education offered by universities is mainly theoretical and is focused on research. Universities of Technology are oriented towards professional qualifications, leading students directly into a career.

Undergraduate studies can lead to a higher certificate, diploma or degree. If you want to specialise further, you can study for post graduate or advanced diplomas, Honours, Masters or Doctoral degrees. Universities equip graduates for anything from science, engineering and medicine to law, business, teaching and acting.

Types of Courses offered at Universities and Universities of Technology:

| Type of Institution: | Entry Level Qualification: | Qualification: | Duration: | Progression: |
|--------------------------|----------------------------|---|-------------|---|
| University of Technology | National Diploma | A qualification which includes theoretical and practical learning | 3 years | BTech MTech DTech |
| University | Degree | A qualification which includes mainly theoretical learning and research | 3 – 4 years | Bachelor's Degree Honours Degree Master's Degree Doctorate |

What is a TVET College?

Technical and Vocational Education and Training (TVET) colleges offer National Certificates (Vocational) or NC(V) and Nated (N) qualifications. The programmes are aimed at developing vocational or occupational skills that are needed to do a specific job.

The NC(V) is offered in a variety of vocational fields at NQF levels 2, 3, and 4. It provides both theory and practical experience in a chosen field. NC(V) level 4 is on the same level as the National Senior Certificate that you can get for successfully completing Matric but it is more closely linked to the workplace.

Some fields that are covered by an NC(V) includes finance, economics and accounting, engineering and related design, civil engineering and building construction, office administration, primary agriculture, and more.



Types of Courses offered at TVET Colleges:

| Course Type: | Description: | Qualification: | Duration: | Admission Requirements: |
|---|--|---|--|---|
| National Certificate (Vocational) NC(V) | NC(V) programmes integrate theory and practical training. These provide students with a broad range of knowledge and practical skills within specific industries. | Full Certificate at NQF Level 2, 3 and 4 Certificate is equivalent to the National Senior Certificate (Grade 12) | 3 years | Grade 9 plus college requirements per programme |
| Nated (N) | Nated programmes consist of 18 months of theoretical studies and 18 months of relevant practical training/ workplace experience. Engineering studies range from N1 to N6. Business studies range from N4 to N6. | N6 Diploma | 1 year for N1 – N3 Engineering Studies 1 year for N4 – N6 Engineering Studies 3 years for N4 – N6 Business Studies | Grade 9 for N1 admission Grade 12 for N4 admission |
| National Higher Certificate | National Higher Certificate programmes are offered at the TVET colleges in partnership with higher education institutions. | Unique to each programme | Unique to each programme | Grade 12 plus requirements from the higher education institution and the TVET college |



What is an Artisan?

An Artisan is someone who has successfully completed an apprenticeship programme and has passed a trade test within the energy and water sector. Artisans are associated particularly with engineering fields such as electrical engineering, welding, boiler making and fitting and turning.

What is an Apprenticeship?

An apprenticeship:

- ✓ Is a technical training system that includes theoretical and practical training and workplace experience;
- ✓ Is offered in most trades such as a millwright/fitter;
- ✓ Requires successful completion of a Trade Test – the learner is then recognised as an Artisan;
- ✓ Is job-orientated in that they relate to a specific trade. This means that you will learn a trade to fill a specific job post;
- ✓ Is open to persons 16 years and older; and
- ✓ Requires good maths and science skills.

Becoming an Artisan through an Apprenticeship

Through an employer advertisement, you can apply and become an employee (provided you meet the minimum criteria of having a Grade 9 with Maths and Science). Through a contract entered into with the EWSETA, the employer can enrol you on an apprenticeship programme, combining on the job training and modular based training at a TVET institution which will culminate in a trade test.



Why should I become an Artisan?



ARTISANS ARE IN HIGH DEMAND

As someone possessing a scarce skill, you will be in demand by companies across South Africa

Your remuneration and annual increases are contained in the Manpower Training Act and are legislated and non-negotiable.

TRADES ARE WELL REMUNERATED, WITH ANNUAL INCREASES



You can move easily from one industry to the next. For example, you can move from the energy sector to the fuel sector, by completing a short course to fill industry-related gaps in your knowledge.



WIDE CHOICE OF INDUSTRIES

As an Artisan, you have a passport to career progress in that you can study further to become a technician or an engineer.

STEPPING STONE TOWARDS YOUR DREAM CAREER



You can decide to become self-employed. For example, as a Qualified Electrician you can undergo a few short courses, apply for a wireman's/inspectors licence and become your own boss.



START YOUR OWN BUSINESS

Your qualification is benchmarked against similar qualifications internationally. With a certificate issued in South Africa, you can work in various countries around the world, including Australia and Canada.

INTERNATIONAL JOB PROSPECTS



SO, YOU WANT TO BE AN ARTISAN?



SO, YOU WANT TO BE AN ARTISAN?

What are the steps to becoming a qualified Artisan?

The Department of Higher Education and Training has founded the National Artisan Moderation Body (NAMB), which has developed seven steps you can follow to become a qualified artisan:

01

CAREER MANAGEMENT

School pupils from Grade 7 – 12 will be encouraged to consider career options in technical and vocational programmes that would lead to becoming a qualified artisan.

02

FUNDAMENTAL AND VOCATIONAL THEORY

This step relates to the fundamental vocational engineering theory that is taught primarily at TVET colleges and QCTO Accredited Skills Development Provider that lays the foundation for anyone wanting to progress into an engineering/artisan career.

03

LEARNER PROGRAMME REGISTRATION AND FUNDING

The SETA facilitates and registers an agreement signed by the learner, the employer who is hosting the learner and a TVET college or skills development provider.

04

OCCUPATIONAL KNOWLEDGE AND PRACTICAL TRAINING

During this step the Apprentice enters an accredited Artisan training centre/ TVET College to learn the practical component of the programme.

05

WORKPLACE TRAINING

During this step, learning from steps two and four is applied in the workplace.

06

TRADE TEST

The Apprentice is required to take a trade test conducted at a centre recognised by NAMB and accredited by the QCTO.

07

FINALISATION

The finalisation of the process, the quality assurance and certification of the Apprentice.

How to become an Artisan?

There are four main learning paths you can take to become an Artisan:



ROUTE 1: APPRENTICESHIP

Through an employer advertisement, you can apply and become an employee (provided you meet the minimum criteria of having a Grade 9 with Maths and Science). Through a contract entered into with EWSETA, the employer can enrol you on an apprenticeship programme combining on-the-job training and modular-based training at a TVET institution which will culminate in a Trade Test

ROUTE 2: LEARNERSHIP

By registering with the Department of Labour at a labour centre you will be eligible for selection by an employer for a Learnership combining on-the-job and theoretical training (usually 2 – 3 years depending on the trade) which will culminate in a Trade Test.

ROUTE 3: RECOGNITION OF PRIOR LEARNING (RPL)

If you are already skilled in a certain trade but do not have a qualification, you can apply to be assessed (at a cost) through one of EWSETA's accredited Service Providers who will assist with your assessment. Through the RPL process, the Service provider will assess your competencies and gaps in your skills profile and assist you in closing those gaps through specific training, which will culminate in a Trade Test.

ROUTE 4: SKILLS PROGRAMMES/ PART QUALIFICATIONS

If you are employed, you could approach your employer to assist in placing you in Skills Programmes, which are short courses and ideally modular or unit standard building blocks towards a full Artisan Qualification. Once you have completed a full house of skills programmes/ part qualifications, like the other three routes, it will culminate in a Trade Test.

SO, YOU WANT TO BE AN ARTISAN?

What is a Trade Test?

During an Apprenticeship, modular and phase tests are conducted to assess your grasp of skills being taught and prepare you for the final Trade Test. A Trade Test is a final external summative assessment included in the occupational qualification for a listed artisan trade. Trade Tests are conducted by an assessor registered with the National Artisan Moderation Body (NAMB) at a Trade Test Centre accredited by the Quality Council for Trades and Occupations (QCTO). Only when you have passed a Trade Test will you be recognised as a qualified artisan.



SO, YOU WANT TO BE AN ARTISAN?

What is needed to enter a training programme to become an Artisan?

You will need:



PASS GRADE 9 WITH MATHS AND SCIENCE




CERTIFICATE OF PHYSICAL FITNESS





EXPERIENCE IN AN INDUSTRY / TRADE OR N-COURSE FROM A TVET

What are the registered Trades in the energy and water sector?

| Trade Name: | Job Description: | Benefits: | Qualities and skills needed: | Who will employ me: |
|--|---|--|--|---|
|  Fitter / welder | Lays out, positions and secures parts and assembles according to specifications, welds components using electricity or gas and installs or repairs equipment such as lead pipes, valves, floors and tank linings. | <ul style="list-style-type: none"> • Secure, good employment; • Competitive salary; and • Challenging but rewarding work. | <ul style="list-style-type: none"> • Physical strength and stamina; • Good co-ordination and manual dexterity; • Mechanical aptitude; and • Ability to work in close quarters. | <ul style="list-style-type: none"> • Contractors involved in manufacturing, construction or maintenance and repair; • Large engineering works and industrial plants; factories and iron and steel plants; • Shipyards and government departments; • Transnet; and • Mines and garages. |



| Trade Name: | Job Description: | Benefits: | Qualities and skills needed: | Who will employ me: |
|--|--|--|--|--|
|  Fitter and Turner | <p>Manufactures, constructs, assembles and fits components for machinery, vehicles and installations. Also maintains and repairs such equipment. From the blueprint for a piece of equipment, the fitter and turner crafts the rough metal into its final form, fits the parts and inspect and test the final assembly of the machine.</p> | <ul style="list-style-type: none"> • Opportunity to specialise; • Secure, good employment; • Competitive salary; • Challenging, but rewarding; and • Job satisfaction of seeing the results of your work. | <ul style="list-style-type: none"> • Be at least 16 years old; • Enjoy working with your hands; • Be practical; • Meticulous accuracy; • Mathematical aptitude; • Ability to read 3D drawings; • Ability to concentrate; and • Be responsible. | <ul style="list-style-type: none"> • Fitting and turning contractors involved in manufacturing, construction or maintenance and repair; • Large engineering works and industrial plants; • Power stations, factories and iron and steel plants; • Shipyards and government departments; • Transnet; and • Mines and garages. |
|  Electrician | <p>Electricians are involved in the generation, transmission, distribution and usage of electricity. They install, repair and maintain electrical equipment and detect electrical faults. You may supervise the erection of pylons, the connection of high-tension cabling on pylons, install transformers and switchboards at substations. Electricians at power stations install and maintain power generators and/ or perform inspections on motors, switchgear and transformers.</p> | <ul style="list-style-type: none"> • Variety of work tasks and locations; and • Job satisfaction through solving problems and working with your hands. | <ul style="list-style-type: none"> • Be at least 16 years old; • Enjoy working with your hands; • Be responsible; • Ability to work under pressure; • Communicate well with colleagues ; • Have good health, with good eyesight and able to see colours. | <ul style="list-style-type: none"> • Transport companies; • Government departments, parastatals, municipalities,; • Factories, mines and industries; • Private electrical businesses; and • Self-employment is also an option. |

SO, YOU WANT TO BE AN ARTISAN?




SO, YOU WANT TO BE AN ARTISAN?



Instrument Mechanician

| Trade Name: | Job Description: | Benefits: | Qualities and skills needed: | Who will employ me: |
|-------------|---|--|--|---|
| | <p>Installs, repairs, maintains and adjusts indicating, recording, telemetering, and controlling instruments and test equipment; disassembles malfunctioning instruments or test equipment, such as bar graphs, electrical ovens, multimeters, environmental cabinets, and weatherometers, and examines and tests mechanisms and circuitry for defects; replaces or repairs defective parts using hand tools; reassembles instrument or test equipment, and tests assembly for conformance to specifications and inspects instruments and test equipment periodically and adjusts calibration to ensure functioning within specified standards.</p> | <ul style="list-style-type: none">• Rewarding if you enjoy identifying and solving problems; and• Good job prospects. | <ul style="list-style-type: none">• Be detail-oriented;• Good analytical skills;• Knowledge of mathematics; and• Ability to work to precise specifications. | <ul style="list-style-type: none">• Companies in the manufacturing sector, in industries such as food processing, textile mills, chemicals, fabricated metal products, motor vehicles, and primary metals.; and• Government agencies, public utilities, mining companies and other establishments in which industrial machinery is used. |



| Trade Name: | Job Description: | Benefits: | Qualities and skills needed: | Who will employ me: |
|--|---|---|---|--|
|  Plumber | Installs, maintains, tests and repairs above-ground soil waste and vent systems and sanitary ware appliances; installs, maintains, tests and repairs below-ground drainage systems and performs basic building work; installs, maintains, tests and repairs cold and hot water systems as well as rain water systems. | <ul style="list-style-type: none">• Fulfilling career that allows you to combine knowledge and innovation with the ability to create and build with your hands.• Great remuneration benefits and career potential. | <ul style="list-style-type: none">• Be mechanically inclined.• Be in good physical shape.• Punctuality, good co-ordination skills and problem-solving skills.• Good communication skills and dedication. | <ul style="list-style-type: none">• Homeowners, rental/leasing agents and body corporates.• Companies in most sectors.• Construction companies.• Self-employment. |

SO, YOU WANT TO BE AN ARTISAN?



What is a Learnership?

A Learnership provides practical, as well as theoretical experience for successful candidates. These programmes are based on scarce skills in South Africa. When completing a Learnership, some candidates may be offered a permanent position, where others will be skilled enough to enter the workforce in other sectors of the country or to start their own businesses.

Who can apply for a Learnership?

Anyone can apply for a Learnership, for example:

- ✓ Young people leaving school and college;
- ✓ Unemployed or employed people; and
- ✓ People of all ages.

Why should I apply for a Learnership?



GET A JOB!

Although it is not guaranteed or compulsory that the employer who provided you with the Learnership offers you a job, with a qualification and work experience, you will be in a much stronger position to get a job.

With the tools and experience you will learn through the Learnership, you will be able to start your own business if this is a path you want to pursue.

START YOUR OWN BUSINESS!



ACHIEVE YOUR DREAM CAREER!

After finishing your Learnership, you may decide that you want to study further to achieve your desired career – for example, become an Electrical Engineer.

The employer must pay a learner allowance called a stipend to each candidate selected for a Learnership Programme. The stipend IS NOT a salary but an allowance which is to be used by the learner to enable him/her to attend training. The amount depends on the type of Learnership and on the employer. By law, there are minimum levels of allowances and conditions of employment that apply, but an employer can decide to pay more. The allowances and conditions of employment are agreed with each learner before the programme begins.

IT'S FREE!



How long does a Learnership take?

The length of Learnerships differ, but will **not be less than one year**. There is an opportunity for learners to progress from one Learnership level to the next. For example, from an N1 – N3, becoming more skilled in a particular career field as one progresses. However, each level would take a minimum of one year.



Who is involved in a Learnership and what are their roles?

01

THE LEARNER

The learner is placed in a Learnership, signs a legal agreement with an employer, stating the rights and responsibilities of the learner, and follows the learning programme.

02

THE EMPLOYER

The employer provides the work experience part of the learnership and signs the same legal agreement stating the employer's rights and responsibilities, including agreements on the level of the learnership allowance.

03

EWSETA

- EWSETA will organise and facilitate the funding of Learnership and ensure that the training is up to standard (quality assurance)

04

THE DEPARTMENT OF LABOUR

Department of Labour (DoL) recruits, selects and refers unemployed people who meet the minimum criteria for a particular learnership to employers looking for learners. The employer makes the final decision.

**FAST TRACK YOUR CAREER
THROUGH A LEARNERSHIP**





FAST TRACK YOUR CAREER THROUGH A LEARNERSHIP

What will I get at the end of a Learnership?

After successfully completing a learnership you will be awarded with a **National Certificate** as proof of your skills and knowledge. This certificate is recognised both in South Africa and internationally.

How do I apply for a Learnership if I am unemployed?

- ✓ Register as a work seeker at your nearest Department of Labour centre.
- ✓ The labour centre will then contact you if you meet the minimum criteria for the learnership of a specific employer. If you meet the criteria, you may be called in for a briefing session and possible assessment prior to final selection.
- ✓ Look out for Learnership advertisements in newspapers or online and apply if you meet the requirements.
- ✓ Engage your Ward Councillors as very often they are aware of Learnership opportunities

What Learnerships are available through the EWSETA in the energy and water sectors?

Below you will find a full list of all learnerships available in the energy and water sectors:

Registered Energy Learnerships:

| NQF Level: | Title/Qualification: | SAQA ID: | Learnership: |
|------------|---|----------|---|
| Level 2 | FET: Measurement Control and Instrumentation | 74530 | 1. National Certificate in Measurement Control and Instrumentation |
| Level 3 | FET: Measurement Control and Instrumentation | 74532 | 1. National Certificate in measurement Control and Instrumentation |
| Level 4 | FET: Measurement Control and Instrumentation | 74531 | 1. National Certificate in Measurement Control and Instrumentation |
| Level 5 | FET: Measurement Control and Instrumentation | 49746 | In process of being developed |
| Level 3 | FET: Power Plant Auxiliary System Operation (Nuclear, Fossil and Hydro) | 61549 | 1. National Certificate in Nuclear Power Plant Auxiliary System Operation |
| | | | 2. National Certificate in Fossil Power Plant Auxiliary System Operation |
| | | | 3. National Certificate in Hydro Power Plant Auxiliary System Operation |
| | | | 4. National Certificate in Fossil Power Plant Auxiliary System Operation (Non-Eskom Plants) |



| NQF Level: | Title/Qualification: | SAQA ID: | Learnership: |
|------------|---|----------|--|
| Level 4 | 19. FET: Power Plant Operation (Nuclear, Fossil and Hydro) | 61569 | 1. National Certificate in Nuclear Power Plant Operation |
| | | | 2. National Certificate in Fossil Power Plant Operation |
| | | | 3. National Certificate in Hydro Power Plant Operation |
| Level 5 | 20. FET: Power Plant Process Control (Nuclear, Fossil and Hydro) | 61570 | 1. National Certificate in Nuclear Power Plant Process Control Operations |
| | | | 2. National Certificate in Fossil Power Plant Process Control Operations (Eskom Utilised Plants) |
| | | | 3. National Certificate in Fossil Power Plant Process Control Operations (Non-Eskom Utilised Plants) |
| | | | 4. National Certificate in Hydro Power Plant Process Control Operations |
| Level 1 | GETC: General Education and Training in Basic Technical Practice (Energy) | 49753 | GETC in Basic Technical Practice (Energy) |
| Level 2 | FET: Electrical Engineering | 73313 | 1. National Certificate in Electrical Engineering (Construction) |
| | | | 2. National Certificate in Electrical Engineering (Generation GX) |
| | | | 3. National Certificate in Electrical Engineering (Distribution DX) |
| | | | 4. National Certificate in Electrical Engineering (Transmission TX) |

FAST TRACK YOUR CAREER THROUGH A LEARNERSHIP



FAST TRACK YOUR CAREER THROUGH A LEARNERSHIP

| NQF Level: | Title/Qualification: | SAQA ID: | Learnership: |
|------------|---|----------|--|
| Level 3 | FET: Electrical Engineering | 72051 | 1. National Certificate in Electrical Engineering (Construction) |
| | | | 2. National Certificate in Electrical Engineering (Generation GX) |
| | | | 3. National Certificate in Electrical Engineering (Distribution DX) |
| | | | 4. National Certificate in Electrical Engineering (Transmission TX) |
| | | | 5. National Certificate in Electrical Construction and Entrepreneurial Learnership |
| | | | 6. National Certificate in Electrical Repairs Learnership |
| Level 4 | FET: Electrical Engineering | 72052 | 1. National Certificate in Electrical Engineering (Construction) |
| | | | 2. National Certificate in Electrical Engineering (Generation GX) |
| | | | 3. National Certificate in Electrical Engineering (Distribution DX) |
| | | | 4. National Certificate in Electrical Engineering (Transmission TX) |
| Level 4 | FET: Electrical Network Control | 48978 | NC: in Electrical Network Control |
| Level 4 | FET: Electrical Network Control on Gas Turbine Plants | 48978 | NC: in Electrical Network Control on Gas Turbine Plants |
| Level 5 | FET: Electrical Network Power Dispatch Control | 57693 | National Diploma in Electrical Network Power Dispatch Control |
| Level 3 | NC: Radiation Monitoring | 49596 | NC: Radiation Monitoring |
| Level 4 | FETC: Radiation Protection | 50329 | FETC: Radiation Protection |
| Level 5 | NC: Radiation Protection | 57631 | NC: Radiation Protection |

Registered Water Learnerships:



| NQF Level: | Title/Qualification: | SAQA ID: | Learnership: |
|------------|--|----------|---|
| Level 2 | FET: Water and Waste Water Reticulation | 60169 | 1. National Certificate in Water Reticulation |
| | | | 2. National Certificate in Waste Water Reticulation |
| Level 3 | FET: Water and Waste Water Reticulation | 60155 | 1. National Certificate in Water Reticulation |
| | | | 2. National Certificate in Waste Water Reticulation |
| Level 4 | FET: Water and Waste Water Reticulation | 60189 | 1. National Certificate in Water Reticulation |
| | | | 2. National Certificate in Waste Water Reticulation |
| Level 2 | FET: Water and Waste Water Treatment Operation | 58951 | 1. National Certificate in Water Treatment Operation |
| | | | 2. National Certificate in Wastewater Treatment Operation |
| Level 3 | FET: Water and Waste Water Treatment Operation | 60190 | 1. National Certificate in Water Treatment Operation |
| | | | 2. National Certificate in Wastewater Treatment Operation |
| Level 4 | FET: Water and Waste Water Treatment Operation | 61709 | 1. National Certificate in Water Treatment Process Control Supervision |
| | | | 2. National Certificate in Wastewater Treatment Process Control Supervision |
| Level 2 | FET: Community Water, Health, Hygiene and Sanitation Promotion | 61689 | 1. National Certificate in Community Water, Health, Hygiene and Sanitation Promotion (General) |
| | | | 2. National Certificate in Community Water, Health, Hygiene and Sanitation Promotion (Sanitation Builder) |

**FAST TRACK YOUR CAREER
THROUGH A LEARNERSHIP**



FAST TRACK YOUR CAREER THROUGH A LEARNERSHIP

| NQF Level: | Title/Qualification: | SAQA ID: | Learnership: |
|------------|---|----------|---|
| Level 3 | FET: Community Water, Health, Hygiene and Sanitation Monitoring | 64589 | 1. National Certificate in Community Water, Health, Hygiene and Sanitation Monitoring (Sanitation Builder) |
| | | | 2. National Certificate in Community Water, Health, Hygiene and Sanitation Monitoring (General) |
| | | | 3. National Certificate in Community Water, Health, Hygiene and Sanitation Monitoring (SMME) |
| Level 4 | FET: Community Water, Health, Hygiene and Sanitation Facilitation | 61669 | 1. National Certificate in Community Water, Health, Hygiene and Sanitation Facilitation (Operation and Maintenance) |
| | | | 2. National Certificate in Community Water, Health, Hygiene and Sanitation Facilitation (Educator) |
| | | | 3. National Certificate in Community Water, Health, Hygiene and Sanitation Facilitation |
| | | | 4. National Certificate in Community Water, Health, Hygiene and Facilitation (General) |
| Level 1 | GETC: General Education & Training Certificate in Water Services | 48495 | GETC in Water Services |
| Level 2 | NC: Industrial Water Treatment Support Systems Operations | 77163 | National Certificate in Industrial Water Treatment Support System Operations |

Scarce skills are those occupations in which there is a scarcity of qualified and experienced people, either because such skilled people are not available (absolute scarcity) or they are available but do not meet the employment criteria (relative scarcity).

If you meet the criteria for an occupation that is classified as a scarce skill, you stand a very good chance of securing a job.

Below is a list of the Scarce Skills in the Energy and Water Sector:

| Occupation: | OFO Code: |
|---|-----------|
| Electrical Engineer | 215101 |
| Engineering Manager | 132104 |
| Programme or Project Manager | 121905 |
| Electrician | 671101 |
| Health and Safety Manager | 121206 |
| Quantity Surveyor | 214904 |
| Construction Project Manager | 132301 |
| Environmental Manager | 134901 |
| Fitter | 653303 |
| Fitter and Turner | 652302 |
| Program or Project Administrator | 441903 |
| Water Process Controller | 313201 |
| Civil Engineer | 214201 |
| Stock Clerk / Officer | 432101 |
| Welder | 651202 |
| Boiler Maker | 651302 |
| Production / Operations Manager (Manufacturing) | 132102 |
| Energy Engineer | 215103 |
| Water Quality Analyst | 213306 |
| Application Development Manager | 133104 |
| Concentrated Solar Power (CSP) Plant Process Controller | 313106 |
| Instrument Mechanician | 672105 |
| Pipe Fitter | 642607 |
| Diesel Mechanic | 653306 |
| Environmental Engineer | 214301 |
| Environmental Engineering Technician | 311906 |
| Millwright | 671202 |
| Plumber | 642601 |
| Power Generation Operations Manager | 132105 |





Below you will find a full list of TVET colleges in South Africa that offers a number of learning programmes, including learnerships, apprenticeships, skills programmes, etc. Get in touch with a TVET close to you and start your journey to a career in the energy and water sector!

Eastern Cape:

| College Name: | Physical Address: | Contact Information: |
|--------------------------------------|---|---|
| Buffalo City TVET College | Cnr. Lukin Road and King Street, Selborne, East London, 5201 | Tel: 043 722 5453 Fax: 043 743 4254 Web: http://www.bccollege.co.za |
| East Cape Midlands TVET College | Cnr. Cuyler and Durban Street, Uitenhage, 6229 | Tel: 041 995 2000 Fax: 041 995 2008 Web: http://www.emcol.co.za |
| Ikhala TVET College | Cnr. Robinson and Zeiler Street, Queenstown, 5320 | Tel: 047 873 8843 Fax: 047 873 8844 Email: queenstown@ikhalacollege.org.za |
| Ingwe TVET College | Cancele Road, Mt Frere, Eastern Cape, 5090 | Tel: 039 255 0346 Fax: 039 255 0532 Email: sipamla@ingwecollege.org.za |
| King Hintsafet TVET College | Factory no. 1234, Acrytex Building, Crane Road, Butterworth, 4960 | Tel: 047 401 6400 Fax: 047 491 3730 Email: teki@kinghintsafetcollege.org.za |
| King Sabatha Dalindyebo TVET College | Engcobo Road, Cnr. Cicira, Eastern Cape | Tel: 047 536 0923 Fax: 047 531 3297 Email: jola@ksdfetcollege.org.za |
| Lovedale TVET College | Amatola Row, King Williams Town, 5600 | Tel: 043 642 1331 Fax: 043 642 1388 Email: snstofile@lovedale.org.za |
| Port Elizabeth TVET College | 139 Russell Road, Central, Port Elizabeth | Tel: 041 585 7771 Fax: 041 582 2281 Email: pec@rrc.ac.za |

Free State:

| College Name: | Physical Address: | Contact Information: |
|-----------------------------|--|---|
| Flavius Mareka TVET College | Cnr. Hertzog Road and Fraser Street, Sasolburg, 1947 | Tel: 016 976 0815 Fax: 016 973 1618 Web: http://www.flaviusmareka.net |
| Goldfields TVET College | 14107 Ndaki Road, Thabong, 9463 | Tel: 057 392 1310 Fax: 057 392 1082 Email: lmfourie@goldfields-college.edu.za |
| Maluti TVET College | Mampoi Street, Phuthaditjhaba, Qwaqwa, 9866 | Tel: 058 713 3048 Fax: 058 713 6492 Email: centraloffice@malutifet.co.za |
| Motheo TVET College | Cnr. St George and Aliwal, Bloemfontein, 9300 | Tel: 051 406 9300 Fax: 051 406 9340 Email: maboya@motheofet.co.za |

Gauteng:

| College Name: | Physical Address: | Contact Information: |
|---------------------------------|---|---|
| Central JHB TVET College | 5 Ubla Street, Parktown, 2041 | Tel: 011 481 1388 Fax: 011 642 7358 Web: http://www.cjc.co.za |
| Ekurhuleni East TVET College | Sam Ngema Road, Kwathema, Springs, 1560 | Tel: 011 736 4400 Fax: 011 736 1489 Web: http://www.eec.edu.za |
| Ekurhuleni West TVET College | Driendek Street, Cnr. Sol Road, Germiston, 1400 | Tel: 011 323 1600 Fax: 086 323 1601 Email: hellenn@ewc.edu.za |
| Sedibeng TVET College | 37 Voortrekker Street, Vereeniging, 1930 | Tel: 016 422 6645 Fax: 016 422 6930 Email: abe@sedcol.co.za |
| South West Gauteng TVET College | Koma, Cnr. Molele Road, Molapo Section, Soweto | Tel: 011 984 1260 Fax: 011 984 1262 Email: nkosidl@swgc.co.za |
| Tshwane North TVET College | Cnr. Potgieter and Pretorius Street, Pretoria, 0001 | Tel: 012 401 1950 Fax: 012 323 8683 Email: info@tnc4fet.co.za |





LIST OF TVET COLLEGES IN SOUTH AFRICA

| College Name: | Physical Address: | Contact Information: |
|----------------------------|--|---|
| Tshwane South TVET College | Lyttleton Tekbase, College Street, Centurion, 0140 | Tel: 012 660 8501 Fax: 012 660 8547 Email: cindy.snyman@tsc.edu.za |
| Western College for TVET | Kiewiet Street, Helikon Park, Randfontein, 1760 | Tel: 011 693 3608 Fax: 011 412 3047 Email: louis@westcol.co.za |

Kwazulu-Natal:

| College Name: | Physical Address: | Contact Information: |
|----------------------------|--|---|
| Coastal TVET College | No. 50051 Old Main Road, Kwamathutha, 4125 | Tel: 031 905 7000 Fax: 031 905 3246 Web: http://www.coastalkzn.co.za |
| Elangeni TVET College | 15 Portsmouth Road, Pinetown, 3610 | Tel: 031 716 6700 Fax: 031 716 6777 Web: http://www.efet.co.za |
| Esayidi TVET College | 22 Veronica Gamalakhe, Port Shepstone, 4249 | Tel: 039 684 0110 Fax: 039 318 1514 Web: http://www.esayidifet.co.za |
| Majuba TVET College | 52 Voortrekker Street, Newcastle, 2940 | Tel: 034 326 4888 Fax: 034 326 4855 Web: http://www.majuba.edu.za |
| Mnambithi TVET College | 77 Murchison Street, Ladysmith, 3370 | Tel: 036 638 3800 Fax: 036 631 4146 Email: chettyd.mnacao@feta.gov.za |
| Mthasana TVET College | 266 South Street, Vryheid, 3100 | Tel: 034 980 1010 Fax: 034 980 1012 Email: mthasana@telkomsa.net |
| Thekwini TVET College | 262 Daintree Avenue, Asherville, 4091 | Tel: 031 250 8400 Fax: 031 208 3653 Web: http://www.thekwinicollege.co.za |
| Umfolozu TVET College | Via Richardia, Naboomnek, Richards Bay, 3900 | Tel: 035 902 9503 Fax: 035 789 1811 Web: http://www.umfolozicollege.co.za |
| Umgungundlovu TVET College | 4 Prince Albert Street, Pietermaritzburg | Tel: 033 341 2100 Fax: 033 345 9893 Email: khuzwayo.s@ufetcollege.co.za |

Limpopo:

| College Name: | Physical Address: | Contact Information: |
|--------------------------------|--|---|
| Capricorn TVET College | Cnr. Dort and College Street, Polokwane, 0700 | Tel: 015 297 8389 Fax: 015 297 5448 Email: kmadzhie@capricorncollege.co.za |
| Lephalale TVET College | Cnr. Nelson Mandela and Ramathodi Street, Onverwacht, 0557 | Tel: 014 763 1014 Fax: 014 763 2253 Web: http://www.lephalalecollege.co.za |
| Letaba TVET College | No. 1 Claude Wheatley Street, Tzaneen, 0850 | Tel: 015 307 5440 Fax: 015 307 4493 Web: http://www.letabafet.co.za |
| Mopani South East TVET College | Cnr. Combretium and Harlem, Phalaborwa, 1390 | Tel: 015 781 5725 Fax: 015 781 5346 Email: administration@mopanisefet.co.za |
| Sekhukhune TVET College | Stand No. 676, Motetema, 0473 | Tel: 013 269 0278 Fax: 013 269 0450 Web: http://www.sekfetcol.org |
| Vhembe TVET College | 203 Sibasa, Unit A, Sibasa, 0970 | Tel: 015 516 4773 Fax: 015 516 4773 Web: http://www.vhembefet.co.za |
| Waterberg TVET College | 36 Hooge Street, Mokopane, 0600 | Tel: 015 491 8581 Fax: 015 491 8579 Web: http://www.waterbergcollege.co.za |

Mpumalanga:

| College Name: | Physical Address: | Contact Information: |
|---------------------------|---|--|
| Ehlanzeni TVET College | 29 Bell Street, Nelspruit | Tel: 013 752 7105 Fax: 013 752 4902 Web: http://www.ehlanzenifet.co.za |
| Gert Sibande TVET College | 18A Piet Retief Street, Standerton, 2430 | Tel: 017 712 9040 Fax: 017 712 9058 Web: http://www.gscollge.co.za |
| Nkangala TVET College | Cnr. Haig and Northey Street, Witbank, 1035 | Tel: 013 690 1460 Fax: 013 690 1450 Email: qwabe.p@lantic.net |





Northern Cape:

| College Name: | Physical Address: | Contact Information: |
|----------------------------------|------------------------------|--|
| Northern Cape Rural TVET College | Steve Naude Street, Upington | Tel: 054 331 3836 Fax: 054 331 1183 Web: http://ncrtvet.com/ |
| Northern Cape Urban TVET College | Jan Smuts Avenue, Kimberly | Tel: 013 690 1430 Fax: 013 690 1450 Web: http://ncutvet.edu.za/ |

North West:

| College Name: | Physical Address: | Contact Information: |
|-----------------------|---|---|
| Orbit TVET College | Bosch Cnr. Fatima Bhayat Street, Rustenburg, 0300 | Tel: 014 592 7014 Fax: 014 592 7013 Web: http://www.orbitcollege.co.za |
| Taletso TVET College | Kgora Building, Dr Albert Luthuli Drive, Next to SABC, Mmabatho, 2735 | Tel: 018 384 2346 Fax: 018 381 7410 Email: sybilgelderbloem@telkomsa.net |
| Vuselela TVET College | 113 OR Tambo Street, Klerksdorp, 2570 | Tel: 018 462 5821 Fax: 018 406 7810 Web: http://www.vuselelacollege.co.za |

Western Cape:

| College Name: | Physical Address: | Contact Information: |
|------------------------|--|--|
| Boland TVET College | 85 Bird Street, Stellenbosch, 7600 | Tel: 021 886 7111 Fax: 021 886 8182 Web: http://www.bolandcollege.com |
| College of Cape Town | 334 Albert Road, Salt River, Cape Town, 7925 | Tel: 021 404 6700 Fax: 021 404 6709 Web: http://www.cct.edu.za |
| False Bay TVET College | Westlake Drive, Westlake, 7966 | Tel: 021 701 1919 Fax: 021 701 2693 Web: http://www.falsebaycollege.co.za |
| Northlink TVET College | Detijger Office Park, Unit 1, Corner Haneslow and McTier Street, Parow | Tel: 021 970 9064 Fax: 021 930 5729 Web: http://www.northlink.co.za |

| College Name: | Physical Address: | Contact Information: |
|-------------------------|---|--|
| South Cape TVET College | Tommy Joubert Building (South), Cnr. Courtenay and Cradock Street, George, 6529 | Tel: 044 884 0359 Fax: 044 884 0361 Web: http://www.sccollege.co.za |
| West Coast TVET College | Rainier, Cnr. Kerk Street, Clicks Building, 2nd Floor, Voortrekker Road, Malmesbury, 7300 | Tel: 022 482 1143 Fax: 022 487 3983 Web: http://www.westcoastcollege.co.za |



LIST OF TVET COLLEGES IN SOUTH AFRICA



LIST OF UNIVERSITIES AND UNIVERSITIES OF TECHNOLOGY OF TECHNOLOGY

Below you will find a list of universities and universities of technology in South Africa. Please contact one near you or visit their website to see what programmes they offer and what requirements are needed to apply for a qualification from these institutions.

| University Name: | Campuses Situated in: | Contact Information: |
|--|-----------------------|---|
| Nelson Mandela Metropolitan University | Eastern Cape | Tel: 041 504 1111 Fax: 041 504 2574 Web: http://www.nmmu.ac.za Email: info@nmmu.ac.za |
| North West University | North West | Tel: 018 299 4897 Fax: 018 299 4910 Web: http://www.nwu.ac.za Email: jacoline.jansenvanvuuren@nwu.ac.za |
| Rhodes University | Eastern Cape | Tel: 046 603 8111 Fax: 046 603 7350 Web: http://www.ru.ac.za Email: registrar@ru.ac.za |
| University of Cape Town | Western Cape | Tel: 021 650 2128 Fax: 021 650 5189 Web: http://www.uct.ac.za Email: admissions@uct.ac.za |
| University of Fort Hare | Eastern Cape | Tel: 043 704 7139 Web: http://ufh.ac.za Email: mgcilitshana@ufh.ac.za |
| University of Johannesburg | Gauteng | Tel: 011 559 4555 Web: http://www.uj.ac.za Email: myfuture@uj.ac.za |
| University of Kwazulu-Natal | Kwazulu-Natal | Tel: 031 260 8596 Web: http://www.ukzn.ac.za Email: enquiries@ukzn.ac.za |
| Sefako Makgatho University | Gauteng | Tel: 012 521 4111 Fax: 012 560 0086 Web: http://www.smu.ac.za |
| University of Mpumalanga | Mpumalanga | Tel: 013 002 0001 Web: http://www.ump.ac.za Email: info@ump.ac.za |
| University of Limpopo | Limpopo | Tel: 015 268 3332 Fax: 015 267 0152 Web: http://www.ul.ac.za |
| University of Pretoria | Gauteng | Tel: 012 420 3111 Web: http://www.up.ac.za Email: vida.moses@up.ac.za |



LIST OF UNIVERSITIES AND UNIVERSITIES OF TECHNOLOGY

| University Name: | Campuses Situated in: | Contact Information: |
|---|------------------------------|---|
| University of South Africa | South Africa (All Provinces) | Tel: 012 441 5888 Web: http://www.unisa.ac.za Email: study-info@unisa.ac.za |
| University of Stellenbosch | Western Cape | Tel: 021 808 9111 Fax: 021 808 3822 Web: http://www.maties.com Email: info@sun.ac.za |
| Sol Plaatje University | Northern Cape | Tel: 053 491 0000 Web: http://www.spu.ac.za Email: information@spu.ac.za |
| University of the Western Cape | Western Cape | Tel: 021 959 2911 Web: http://www.uwc.ac.za Email: info@uwc.ac.za |
| University of the Free State | Free State | Tel: 051 401 9111 Web: http://www.ufs.ac.za Email: info@ufs.ac.za |
| University of Venda | Limpopo | Tel: 015 962 8000 Fax: 015 962 4749 Web: http://www.univen.ac.za Email: registrar@univen.ac.za |
| University of the Witwatersrand | Gauteng | Tel: 011 717 1000 Web: http://www.wits.ac.za |
| University of Zululand | Kwazulu-Natal | Tel: 035 902 6000 Web: http://www.unizulu.ac.za |
| Walter Sisulu University | Eastern Cape | Tel: 047 502 2111 Fax: 047 532 6820 Web: http://www.wsu.ac.za Email: postmaster@wsu.ac.za |
| Cape Peninsula University of Technology | Western Cape | Tel: 021 959 6767 Web: http://www.cput.ac.za Email: info@cput.ac.za |
| Central University of Technology | Free State | Tel: 051 507 3911 Web: http://www.cut.ac.za |
| Durban University of Technology | Kwazulu-Natal | Tel: 0860 10 31 94 Web: http://www.dut.ac.za Email: info@dut.ac.za |
| Mangosuthu University of Technology | Kwazulu-Natal | Tel: 031 907 7111 Web: http://www.mut.ac.za |
| Tshwane University of Technology | Gauteng | Tel: 086 110 2421 Fax: 012 382 5114 Web: http://www.tut.ac.za Email: general@tut.ac.za |



LIST OF COMMUNITY COLLEGES

Below you will find a list of community colleges around South Africa. Find one near you and get in touch with them to find out more information about the learning programmes they offer.

| Name of College: | Address: | Province: | Identified Site for Hosting: |
|--|---|---------------|---|
| Eastern Cape Community Education and Training Centre | Nelson Mandela Metropolitan University, Missionvale Campus PO Box 77000 Port Elizabeth 6031 | Eastern Cape | Nelson Mandela Metropolitan University |
| Free State Community Education and Training College | Manguang University Community Partnership Programme (MUCPP) | Free State | University of Free State – South Campus (MUCPP) |
| Gauteng Community Education and Training College | CJC Crown Mines Campus Shaft 17 Road Crown Mines 2092 PO Box 4137 Southgate Mall 2082 | Gauteng | CJC Crown Mines Campus |
| Kwazulu-Natal Community Education and Training College | DUT Indumiso Campus FJ Sithole Street 3201 Edendale CC Imbali Pietermaritzburg | Kwazulu-Natal | Durban University of Technology |
| Limpopo Community Education and Training College | Pax College 656 LS Valkop Farm Matlala Road Polokwane Municipality 0700 | Limpopo | Catholic Institute for Education - Pax College |
| Mpumalanga Community Education and Training College | Nkangala TVET College CN Mahlangu Campus Training Centre Road Industrial Site Siyabuswa 0472 | Mpumalanga | Nkangala TVET College |



| Name of College: | Address: | Province: | Identified Site for Hosting: |
|--|--|---------------|-----------------------------------|
| Northern Cape Community Education and Training College | Northern Cape Rural TVET College Upington Campus 1 Steve Naude Street Upington 8800 | Northern Cape | Northern Cape Rural TVET College |
| North West Community Education and Training College | Mmakau ABET Project Stand No. 1783, Hebron, 2193 P.O. Box 1498 Rosslyn 0200 | North West | Catholic Institute for Education |
| Western Cape Community Education and Training College | ELGIN Learning Foundation No. 9 Appletizer Road Grabouw P.O. Box 654 Grabouw 7160 | Western Cape | Elgin Community College - Grabouw |

LIST OF COMMUNITY COLLEGES



LIST OF SETAS IN SOUTH AFRICA:

| SETA Name: | Website: |
|--|---|
| Agricultural SETA (AgriSETA) | http://www.agriseta.co.za/ |
| Bank SETA | http://www.bankseta.org.za/ |
| Construction SETA (CETA) | http://www.ceta.org.za/ |
| Chemical Industries SETA (CHIETA) | http://www.chieta.org.za/ |
| Culture Arts, Tourism, Hospitality and Sports SETA (CATHSETA) | http://www.cathseta.org.za/ |
| Energy and Water SETA (EWSETA) | http://www.eseta.org.za/ |
| Education Training and Development Practices SETA (ETDPSETA) | http://www.etdpseta.org.za/ |
| Financial and Accounting SETA (FASET) | http://www.fasset.org.za/ |
| Fibre Processing and Manufacturing SETA (FPGM SETA) | http://www.fpmseta.org.za/ |
| Food and Beverage Manufacturing Industry SETA (Foodbev SETA) | http://www.foodbev.co.za/ |
| Health and Welfare SETA (HWSETA) | http://www.hwseta.org.za/ |
| Insurance Sector Education and Training Authority (INSETA) | http://www.inseta.org.za/ |
| Local Government SETA (LGSETA) | http://www.lgseta.co.za/ |
| Media, Advertising, Information and Communications Technology SETA (MICT SETA) | http://www.mict.org.za/ |
| Manufacturing, Engineering and Related Services SETA (MERSETA) | http://www.merseta.org.za/ |
| Mining Qualifications Authority SETA (MQA) | http://www.mqa.org.za/ |
| Public Service SETA (PSETA) | http://www.pseta.gov.za/ |
| Safety and Security SETA (SASSETA) | http://www.sasseta.org.za/ |
| Services SETA | http://www.serviceseta.org.za/ |
| Transport SETA (TETA) | http://www.teta.org.za/ |
| Wholesale and Retail SETA (WRSETA) | http://www.wrseta.org.za/ |

NOTES



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