

Mechatronics Modules	Level	Duration
Logic systems	LS1/2	3 days
Programmable controller (Introduction)	PL1	3 days
Programmable controller (Intermediate)	PL2	3 days
Programmable controller (Advanced)	PL3	3 days
Human Machine Interfacing (Introduction)	HMI1	2 days
Human Machine Interfacing (Intermediate)	HMI2	2 days
Drives (Introduction)	DR1	1 day
Drives (Intermediate)	DR2	2 days
Industrial Networks (Introduction)	IN1	2 days
Function Block (Introduction)	FB1	1 day
Scada (Introduction)	SCA1	2 days
Scada (Intermediate)	SCA2	3 days
Scada (Advanced)	SCA3	3 days

Additional Programmes and Services	Level
Product Certified level1 User - Completion of 8 skills programs	PL2, PL3, HMI1, HM2, SCA1, DR1, FB1, IN1
Product Certified User – Completion of all	All skills programs
Mechatronics Academy (NQF Level: 2-5)	Fulltime
Higher National Certificate/Diploma – HNC/HND	2 years - Fulltime
On-site training	All skills programs
Part-time training	All skills programs
TVET N-COURSES: Industrial Electronics support tutoring	All levels
Road to Registration for Candidates - Pr. Eng. Registration	1 CPD point



MECHATRONICS ACADEMY



Tel: 011 023 8606

Email: straussner@polytechafrica.co.za

Address: 2 Ann Arbor Road, Bramley Park, Sandton, 2090

Website: www.polytechafrica.co.za

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What is Mechatronics?



The term “Mechatronics” is a combination of **mechanics** and **electronics**, and is a multidisciplinary field of engineering that includes a combination of mechanical engineering, robotics, electronics, computer engineering, telecommunications engineering, systems engineering and control engineering. The aim of Mechatronics is a design process that unifies these subfields.

Why should I consider Mechatronics as a career?

The world of Mechatronics is a key player in the fourth industrial revolution and is required in every corner of the international world.

About the Mechatronics Academy

The Mechatronics Academy is presented by Polytech Africa, a proudly B-BBEE Level 4 start-up offering engineering consulting and training services specialising in industrial automation. Astrid Straussner, the MD of Polytech is currently completing her Masters Degree in Science and Technology and has over 20 years experience in the engineering training field.

Astrid and Polytech are associated with various engineering and academic bodies and have developed a MERSETA accredited Mechatronics Academy.

The Academy is supported by ElectroMechanica, a specialised direct importer and wholesale distributor of industrial switchgear, including products for automation, such as the Delta industrial automation range.

The Mechatronics Academy is a specialised academy of the Mechatronics learnership offered by Polytech Africa at a state-of-the-art training facility in Bramley Park, Johannesburg.

The Mechatronics Academy will be offering a learnership programme starting on an NQF2 and progressing to an NQF5.

The Mechatronics NQF2 learnership focuses on essential aspects of precision mechanical engineering, electronics and computer design systems which are used to control and automate mechanical products with electrical signals.

Career Opportunities

On completion of a Mechatronics qualification, a certificate holder will have access to careers in any of the following sectors:

- Mechanical/Electrical Engineering
- Pneumatics and Hydraulics
- Robotics
- Programmable Logic Controllers (PLCs)
- Computer Numeric Control (CNC)
- Industrial Information Technology
- Automotive sector
- Precision Welding

Knowledge of Mechatronics will allow the student to work and control various processes and maintain systems efficiently, such as:

- Precision robotics
- Conveyor belt systems
- Milling industries
- Packaging systems
- Rail and light control

Mechatronics is widely used in our day to day lives. Be it contact-free magnetic bearings, digitally controlled combustion engines, robots, automated guided vehicles or other machine tools, mechatronics is present everywhere.



Requirements

In order to qualify for admission into the Mechatronics NQF2 learnership, you must:

- Be an SA citizen or have an SA work permit, and;
- Have a Matric with strong Maths, Science, and Technical Drawing, or;
- Have a minimum of a N3 in the Electrical or Mechanical field, or;
- Have a minimum of 2 years work experience in the Electrical or Mechanical field (preferably with a trade test).

What are the benefits to my employer?

Mechatronics is a rapidly growing field in Africa, and we see tremendous benefits to any company in entering an employee into a SETA accredited learnership:

- More educated and technical employee base, enabling better service
- Investment into high performing employees that would like to study industrial automation
- Tax deduction under Section 12H of the income tax act
- Spend on SETA accredited training can be recovered against SDL spend
- Youth employment incentive scheme
- B-BBEE points for skills development and employment equity

How will the Academy work?

The student will be required to attend classroom sessions during the academy terms for the year long NQF2 learnership. It is required that students work part-time at an employer in a related field. The students will be available to work full time outside of term dates - and part time during term dates.

How do I apply?

Applications for the learnership must be submitted at <https://mechatronics-academy.breezy.hr/>

For additional information on the course outline contact: straussner@polytechafrika.co.za