

PROGRAMME OFFERED	LEVEL	MOLAPO CAMPUS	ROODEPOORT WEST CAMPUS	TECHNISA CAMPUS
Civil Engineering	N1 - N6	✓		✓ (On Distance Learning)
Electrical Engineering	N1 - N6	✓ N1 - N3	✓	✓ (On Distance Learning)
Mechanical Engineering	N1 - N6	✓		✓ (On Distance Learning)
Water and Waste - Water Treatment Practice	N1 - N3		✓ N1 - N3	✓ (On Distance Learning)
Chemical Engineering	N4 - N6		✓	
Multi -Disciplinary Drawing Office Practice	N4 - N5	✓		✓ (On Distance Learning)

2.1 Civil Engineering N1 – N6

N1	N2	N3
<ul style="list-style-type: none"> • Building Science • Building Drawing • Mathematics • Bricklaying and Plastering Trade Theory (OR) • Plumbing Theory 	<ul style="list-style-type: none"> • Building Science • Building Drawing • Mathematics • Bricklaying and Plastering Trade Theory (OR) • Plumbing Theory 	<ul style="list-style-type: none"> • Building Science • Building Drawing • Mathematics • Building and Civil Technology
N4	N5	N6
<ul style="list-style-type: none"> • Building & Structural Surveying • Building & Structural Construction • Quantity Surveying • Mathematics (OR) • Building Administration 	<ul style="list-style-type: none"> • Building & Structural Surveying • Building & Structural Construction • Quantity Surveying • Mathematics (OR) • Building Administration 	<ul style="list-style-type: none"> • Building & Structural Surveying • Building & Structural Construction • Quantity Surveying • Mathematics (OR) • Building Administration

2.2 Electrical Engineering N1 – N6

N1	N2	N3
<ul style="list-style-type: none"> • Electrical Trade Theory • Mathematics • Industrial Electronics • Engineering Science 	<ul style="list-style-type: none"> • Electrical Trade Theory • Mathematics • Industrial Electronics • Engineering Science 	<ul style="list-style-type: none"> • Electrotechnology • Mathematics • Industrial Electronics • Engineering Science
N4	N5	N6
<ul style="list-style-type: none"> • Electrotechnics plus any three of the following • Mathematics • Industrial Electronics • Fault Finding and Protective Devices • Supervisory Management • Engineering Science (only N4) 	<ul style="list-style-type: none"> • Electrotechnics plus any three of the following • Mathematics • Industrial Electronics • Power Machines • Fault Finding and Protective Devices • Supervisory Management • Engineering Physics 	<ul style="list-style-type: none"> • Electrotechnics plus any three of the following • Mathematics • Industrial Electronics • Power Machines • Fault Finding and Protective Devices • Supervisory Management • Engineering Physics



2.3 Mechanical Engineering N1 – N6

N1	N2	N3
<ul style="list-style-type: none"> • Mathematics • Engineering Science • Engineering Drawing <p>and one of the following</p> <ul style="list-style-type: none"> • Motor Trade Theory (OR) • Fitting and Machining Trade Theory 	<ul style="list-style-type: none"> • Mathematics • Engineering Science • Engineering Drawing <p>and one of the following</p> <ul style="list-style-type: none"> • Motor Trade Theory (OR) • Fitting and Machining Trade Theory (OR) • Diesel Trade Theory 	<ul style="list-style-type: none"> • Mathematics • Engineering Science • Engineering Drawing • Mechatotechnology
N4	N5	N6
<ul style="list-style-type: none"> • Mechanical Draughting • Mathematics • Engineering Science • Mechatronics 	<ul style="list-style-type: none"> • Mathematics • Mechatronics • Power Machines • Strength of Materials and Structures 	<ul style="list-style-type: none"> • Mathematics • Mechatronics • Power Machines • Strength of Materials and Structures

2.4 Water And Waste - Water Treatment Practice N1 - N3 Chemical Engineering N4 - N6

N1	N2	N3
<ul style="list-style-type: none"> • Water Treatment Practice • Plant Operation Theory • Mathematics • Engineering Science 	<ul style="list-style-type: none"> • Water Treatment Practice • Plant Operation Theory • Mathematics • Engineering Science 	<ul style="list-style-type: none"> • Water Treatment Practice • Plant Operation Theory • Mathematics • Engineering Science
N4	N5	N6
<ul style="list-style-type: none"> • Chemical Plant Operation • Chemistry • Engineering Science • Mathematics 	<ul style="list-style-type: none"> • Engineering Physics • Chemicals Plants Operations • Chemistry • Mathematics 	<ul style="list-style-type: none"> • Engineering Physics • Chemicals Plants Operations • Chemistry • Mathematics

2.5 Multi-disciplinary Drawing Office Practice N4 - N5

N4	N5
<ul style="list-style-type: none"> • Mechanical and Drawing – Office Orientation • General Draughting • Mechanical Draughting • Pictorial Draughting 	<ul style="list-style-type: none"> • Building Draughting • Structural Steel Detailing • Electrical Draughting • Technical Illustration • Computer- Aided Draughting

Entrance Requirements: • An Appropriate National Certificate: N3 With Engineering Drawing or Building Drawing or A Senior Certificate With Technical Drawing. **Duration:** • Full - time: Two trimesters



**SOUTH WEST GAUTENG TECHNICAL AND VOCATIONAL™
EDUCATION AND TRAINING COLLEGE**
EDUCATION OF DISTINCTION

ENGINEERING STUDIES NATIONAL CERTIFICATE (VOCATIONAL) [NC(V)] AND REPORT 190/1 NATED



Scan this bar-code to go to our website



www.facebook.com /swgcollege



@SWGCollege

T: 086 176 8849
F: 011 984 1262
headoffice@swgc.co.za
www.swgc.co.za

1. National Certificate (Vocational) [NC(V)]

These vocational programmes are of high skills, high quality and high knowledge programmes introduced at the College. They are intended to directly respond to the priority skills demands of the modern economy.

Entry requirements:

- Minimum requirement is a successfully passed Grade 9, but even better is a successfully passed Grade 10, 11 & 12, with Mathematics & Physical Science
- An NQF Level 1 Qualification; or
- ABET Level 4
- A Recognition of Prior Learning (RPL) assessment to meet the basic requirement for access to NQF Level 2

Fundamental Compulsory Subjects in all programmes:

- First additional language - which must be the language of teaching and learning
- Mathematics
- Life Orientation

Programmes Offered

PROGRAMME OFFERED	LEVEL	MOLAPO CAMPUS	ROODEPOORT WEST CAMPUS
Civil Engineering and Building construction	2 - 4	✓	
Electrical Infrastructure Construction	2 - 4		✓
Engineering and Related Design	2 - 4	✓	

Duration: Three years [NC(V) Level 2 – 4]

Course structure: One year per NQF level

1.1 Civil Engineering and Building Construction NC(V)

The National Certificate (Vocational) (Civil Engineering and Building Construction) is a new Civil Engineering and Building Construction Qualification at each of Levels 2, 3 and 4 of the NQF. This qualification is designed to provide both the theory and practice of Civil Engineering and Building Construction. The practical component of study may be offered in a real workplace environment or in a simulated workplace environment. It will provide students with an opportunity to experience work situations during the period of study.

Vocational Subjects

LEVEL 2	LEVEL 3	LEVEL 4
<ul style="list-style-type: none"> • Construction Planning • Plant & Equipment • Materials 	<ul style="list-style-type: none"> • Construction Planning • Plant & Equipment • Materials 	<ul style="list-style-type: none"> • Construction Planning • Construction Supervision • Materials
and one of the following	and one of the following	and one of the following
<ul style="list-style-type: none"> • Carpentry & Roof Work • Masonry • Plumbing 	<ul style="list-style-type: none"> • Carpentry & Roof Work • Masonry • Plumbing 	<ul style="list-style-type: none"> • Carpentry & Roof Work • Masonry • Plumbing

Career Opportunities

- Participate in operations and maintenance of construction equipment and machinery
- Participate in the construction of roads, bridges, dams, railways and houses
- Take part in designing and construction of tunnel road, factories, reservoirs etc.
- Participate in the erection of reinforced concrete, structural steel, timber and masonry structures.

Career Paths

- Architectural Technology
- Drainage Inspection
- Industrial Designing
- Quantity Surveying
- Sanitation Engineering
- Road Construction Engineering
- Civil Construction Engineering
- Building Construction

1.2 Electrical Infrastructure Construction NC (V)

The National Certificate (Vocational) (Electrical Infrastructure Construction) is a new Electrical Infrastructure Construction Qualification at each of Levels 2, 3 and 4 of the NQF. This qualification is designed to provide both the theory and practice of electrical infrastructure construction. The practical component of study may be offered in a real workplace environment or in a simulated workplace environment. It will provide students with an opportunity to experience work situations during the period of study.

Vocational Subjects

LEVEL 2	LEVEL 3	LEVEL 4
<ul style="list-style-type: none"> • Electrical Principles and Practice • Electronic Control and Digital Electronics • Workshop Practice 	<ul style="list-style-type: none"> • Electrical Principles and Practice • Electronic Control and Digital Electronics • Electrical Workmanship 	<ul style="list-style-type: none"> • Electrical Principles and Practice • Electronic Control and Digital Electronics • Electrical Workmanship
and one of the following	and one of the following	and one of the following
<ul style="list-style-type: none"> • Physical Science • Electrical Systems and Construction 	<ul style="list-style-type: none"> • Physical Science • Electrical Systems and Construction 	<ul style="list-style-type: none"> • Physical Science • Electrical Systems and Construction

Career Paths

- Work at a power station
- Work as an electrician at an energy producing company or power plants
- Work as an electrical technician at a telecommunications company
- Work at a recording studio as an electrical engineer
- Work at a theatre as a technician.

Career Opportunities

- Electrical Engineering
- Electrician
- Industrial Engineering
- Sound Technology
- Theatre Technology
- Process Level Control
- Digital Electronics
- Instrumentation

1.3 Engineering and Related Design (Mechanical) NC (V)

The National Certificate (Vocational) (Engineering and Related Design) is a new Engineering and Related Design Qualification at each of Levels 2, 3 and 4 of the NQF. This qualification is designed to provide both the theory and practice of Engineering and Related Design. The practical component of study may be offered in a real workplace environment or in a simulated workplace environment. It will provide students with an opportunity to experience work situations during the period of study.



Vocational Subjects

LEVEL 2	LEVEL 3	LEVEL 4
<ul style="list-style-type: none"> • Engineering Fundamentals • Engineering Technology • Engineering Systems 	<ul style="list-style-type: none"> • Engineering Practice & Maintenance • Material Technology • Engineering Graphic and Design 	<ul style="list-style-type: none"> • Engineering Processes • Professional Engineering Practice • Applied Engineering Technology
and one of the following	and one of the following	and one of the following
<ul style="list-style-type: none"> • Welding • Fitting & Turning • Automotive Repair and Maintenance 	<ul style="list-style-type: none"> • Welding • Fitting & Turning • Automotive Repair and Maintenance 	<ul style="list-style-type: none"> • Welding • Fitting & Turning • Automotive Repair and Maintenance

Career Opportunities

- Participate in designing and construction of buildings
- Take part in manufacturing of tools, machines and engines
- Take part in the operation maintenance of machines
- Extraction of metallic and non-metallic minerals
- Design of shaft and ventilation systems
- Interpret and produce engineering drawings, maps and sketches
- Extract tools, equipment, methods and processes to produce components

Career Paths

- Metallurgical and Materials Engineering
- Fitting and Machining
- Mechanical Engineering
- Car Manufacturing
- Aerospace Engineering
- Tool Making
- Automotive Repair and Maintenance

2. Engineering Studies Report 190/1 Nated N1 - N6 - Campus Spread

Entrance Requirements:

Minimum requirement is a successful passed Grade 9, but even better is a successful passed Grade 10, 11 or 12 with Mathematics and Physical Science

Recognition of Prior Learning (RPL)

The College acknowledges the value of prior learning

Recognition of Prior Learning (RPL)

Students register three times in the year (Trimesters) ; January, May, and September.

Duration: three year diploma course

18 Months (N1 – N6) Theory

18 Months Practical Experience

Career Opportunities

- Apprentice
- Electrician
- Artisan
- Electronic
- Technician
- Engineer
- Engineering Technician and Technologist