

Tetelo Ngwato

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Eastwood, Pretoria

PROFESSIONAL SUMMARY

I am a Geomatics student seeking a Work Integrated Learning opportunity to apply my academic knowledge in GIS, spatial data analysis, and mapping techniques. Eager to gain hands-on experience, I aim to bridge the gap between theory and practice while contributing to real-world projects. I am excited to develop my skills and learn from professionals in the geomatics field.

EDUCATION

Diploma Geomatics | 2023-Present

Tshwane University of Technology, Pretoria

- Subjects:** GIS, Adjustment of Error and Statistics, Cadastral, Mathematics, Remote Sensing, Computer Surveying Drawings, Geodesy and Map Projection, Engineering Survey Fundamenta
- Average: 73%

Matric | 2021

Uitsig High School, Pretoria

- Subjects:** Physics, Mathematics, Engineering Graphics and Design, Computer Application Technology, Business Studies, Afrikaans
- Average: 61%

EXPERIENCE

Geomatics Control Project | 2024

Tshwane University of Technology, Haartebees

- Contributed to a project focused on collecting geospatial data and calculating unknown coordinates through advanced topographic surveying techniques.
- Conducted data analysis and interpretation to ensure accuracy and precision in mapping.
- Utilized GPS technology for efficient data collection and coordinate determination.

Geographic Information System | 2024

Flood Model, Okhahlamba Municipality

- Led a research team to collect data, create models, and present findings.
- Analyzed and interpreted data for a comprehensive research report.
- Utilized ArcMap and QGIS for data mapping and analysis.
- Prepared reports and presentations using Microsoft Word and PowerPoint.
- Managed task allocation to ensure efficient project progression.

Survey Fundamental Project | 2023 -2024

Tshwane University of Technology, Haartebees

- Collaborated with a team to study the synthesis of novel organic compounds
- Conducted experiments using chromatography, spectroscopy, and other analytical techniques
- Analyzed and interpreted data, contributing to a research paper submitted for publication

AWARDS

- SASA Activist training
- Colours 1 Softball
- First team Hockey

SKILLS

- Topographic Survey
- GIS (Arc GIS, QGIS, Python)
- Computer Survey Drawings
- Data Collection and Research
- Communication
- Creative
- Team work
- Adaptability

LANGUAGES

- English
- Setswana
- Sepedi
- isiZulu

**TO WHOM IT MAY CONCERN
WORK INTERGRATED LEARNING: DIPLOMA IN GEOMATICS (DPGM23)**

STUDENT NAME(S): TETELO
STUDENT SURNAME: NGWATO
STUDENT NUMBER: 231178767
STUDENT ID: 0212010134089

Herewith to confirm that the above-mentioned student is a registered student at the Tshwane University of Technology and enrolled for the course Diploma in Geomatics course (DPGM23). The student is currently registered for her second-year subjects and will continue with Work Integrated Learning (practical) in 2025.

The Diploma in Geomatics course (DPGM23) consists of a total period of three years, two years of theoretical training at the Tshwane University of Technology and one year of Work Integrated Learning in industry. If the student does not complete Work Integrated Learning, he/she cannot obtain his/her diploma.

The student needs to complete one full year of Work Integrated Learning (practical) after two years of theory (Y1 & Y2) at the University.

When the student registers for Work Integrated Learning (practical) he/she receives online access on the *myWIL* portal to continuously submit progress reports and upload supporting documents, conduct self-assessments and provide feedback to the Mentors/Employers and Academic Assessors in real time. Mentors/Employers and Assessors, who are assigned to the student, can access this online platform to review and comment on the student's submissions. Students are also able to view all feedback and assessments from their Mentors and Academic Assessors in real time, including evaluations of completed tasks. Access to the online *myWIL* to external TUT Mentors or Employers will be made after student registration for industry work.

At the end of the Work Integrated Learning training, students provide feedback to the University on curriculum and performance related issues. These feedback reports are an essential component to improving the quality and relevance of the qualifications offered by the University. **It is therefore essential that the student work under the guidance of a qualified Surveyor that is registered with SAGC in the relevant category with relevant experience.** The department will require the SAGC registration number and/or certificate to confirm suitability of the mentor/employer that will be supervising the student. During this period the student and mentor/employer will be visited at least once in the year in person to monitor the student's progress and possibly once again (either virtually or in person). These visits are conducted by TUT academic staff.

Work Integrated Learning training is regarded as a subject and the student has to register for it the same way as all the other subjects. The registration fees will be determined by the Registration Department and will be adjusted from time to time. **It is important to note that the student must register for the subject within a one-year period.** During this period the student is not allowed to register for fulltime courses that will require the student to attend lectures and undertake practicals on campus. Students may request deviation from this arrangement with the Head of Department and each case is considered on its own merit.

Attached is an example of the activities during a student's training period. These activities are aligned with the South African Geomatics Council's requirements to fulfil the requirements for registration in the Geomatics Practitioner (Engineering Surveying Technician) category. TUT is considered an accredited training site by the Council by virtue of their accreditation of the DPGM23. TUT will issue letters to the student to support the SAGC registration process upon successful completion of the work integrated learning.

I hope the information is satisfactory. For further information, please contact me at the following number or email mentioned below:

Regards,



Mr K Reddy
Geomatics Head of Department

Contact details of Department WIL coordinator to direct all queries (always include your student number and contact details)

Mrs LT Moku-Thipe
Junior Lecturer & WIL Coordinator
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WORK CATEGORIES

The following work categories is extracted from the SAGC Notes for Guidance as part of the work experience required for registration as a Geomatics Technician in the Engineering Surveying category.

COMPULSORY TRAINING.

80 working days in basic survey work comprising:

	TYPE OF SURVEY	WORKING DAYS
1	TRIANGULATION: (Minimum 20 days) <ul style="list-style-type: none">• By angular measurement• By distance measurement• By GPS, where applicable	20
2	LEVELLING: (Minimum 15 days) <ul style="list-style-type: none">• Spirit Leveling• Precise levelling;• Trigonometric levelling;• Heighting by GPS where applicable;• Adjustment of a levelling network.	15
3	TRAVERSING: (Minimum 15 days) <ul style="list-style-type: none">• Using total stations or EDM equipment;• Checked by GPS, if equipment available.	15
4	TOPOGRAPHICAL SURVEYING: (Minimum 10 days) <ul style="list-style-type: none">• Detail surveying by total station, GPS or traditional methods.• Includes Photogrammetric Field Work with an aerial survey firm, Professional Surveyor, Engineering Surveyor, government department or a firm doing similar work.	10

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5	COMPUTER DATA PROCESSING: (Minimum 10 days) <ul style="list-style-type: none"> • Survey and CAD Applications • Computer based reporting • Programming & Data processing • Internet Base OR Trignet GNSS 	10
6	GEOMATICS ENGINEERING / CONSTRUCTION: (Minimum 10 days) <ul style="list-style-type: none"> • Dimension, Verticality & Deformation Monitoring for Structures • Dam, Construction (Road/Rail) Surveys • Metrology 	10
TOTAL DAYS		80

NB!! All these surveys are to satisfy the required standards of accuracy as set out in the Land Survey Act No. 8 of 1997 and Regulations, or as otherwise specified.

ADDITIONAL TRAINING.

A minimum of **140 working days** in the following types of survey of which not less than **10 days** nor more than **120 days** will be acceptable in any four (4) of the following options:

- **Cadastral Surveys** with a Professional Land Surveyor, government department or an organisation doing such work.
- **Control Surveys** with a Professional Surveyor, Engineering Surveyor, a government department or an organisation doing such work.
- **Precise Engineering Surveys** with a Professional Surveyor or Professional Engineer, or Engineering Surveyor, with an engineering or construction company, or local authority, or an organisation doing such work.
- **Topographical Surveys** (in addition to the compulsory training above) with an aerial survey firm, Professional Surveyor, Engineering Surveyor, government department or a firm doing similar work.
- **Engineering/Construction Surveys** (in addition to the compulsory training above) with a Professional Surveyor or Professional Engineer, or Engineering Surveyor, with an engineering or construction company, or local authority, or an organisation doing such work.
- **Hydrographic Surveys** with a government department, the Hydrographic Survey of the Navy or any other operation or firm undertaking such work.

The following should be noted:

- I. The number of working days quoted for compulsory and additional training includes both office and field work
- II. The ratio of office to field work should not exceed 2: 1 and should include calculations, draughting and normal administrative operations.
- III. A detailed day to day diary of all survey work undertaken during the training period shall be kept.
- IV. Experience in the various fields of survey shall not be one-sided and must include adequate and varied training meeting the requirements above.

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