



Memorandum

Faculty of Engineering and Technology

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To: Nonkululeko Xuza
CC: Kediemetsi Mokotsi
From: Professor Maurice Ndege
Date: 17 February 2017
Subject: Outstanding Achievements

1. Department of Mechanical Engineering

- **Research Collaboration**

CSIR:

Prof L.M Masu, and 6 Postgraduate students carrying leading towards Masters and Doctorate qualifications

ESKOM -IPPEI

One staff member (**Ms Lethukuthulu Vilikazi**) at the Department of Mechanical is sponsored by ESKOM through IPPEI to undertake MTech qualification at VUT. The staff member will be supervised and co-supervised by Prof A A Alugongo, VUT and Prof. Pieter Rousseau, Department of Mechanical Engineering, **University of Cape Town.**

Accredited in Journals Publications

Staff members have published 2 articles in the following accredited Journals:

- Innovative De-Watering Device for Effective Separation of Mud Slurry and Solids Ore in a Mining Industry, **Procedia Manufacturing 7 (2016) 497-503, Elsevier.**
- Characterization and Evaluation of Distilled Tyre Pyrolysis Oil and its Potential as a Supplement to Diesel Fuel, **Energy Sources, Part A, Volume 38, pg 51-57, 2016**

Accredited in Conference Proceedings

Prof T Tengen, Prof AA Alugongo, and Two MTech Students, namely, Mr. Peter Soab Baohne, and Mr. Bernard Xavier Kuojeou attended SACAM Conference in Potchefstroom to present 7 papers, accruing to 3.5 Research output Units in favour of the Faculty of Engineering and Technology, VUT.

2. Department of Industrial Engineering and Operations Management

- **Research Outputs**

Prof Thomas Tengen: Application of Bernoulli principle in addressing bottlenecks at a local production company in the Vaal region.

South African Industrial Engineering Institute 27th Conference held in Parys, Free State ('Though the Looking Glass') – 27-29 October 2016

Ms TM Mallane; Prof TB Tengen: The Impact of Obesity on musculoskeletal disorder in South African Automotive Industry.

South African Industrial Engineering Institute 27th Conference held in Parys, Free State ('Though the Looking Glass') – 27-29 October 2016

• **Staff Development**

Training Programme	Date	Facilitator	Attendees
Subject Development Training	2016/07/13-14	Dr Jan Smit	Therese van Wyk Thomas Tengen Rishi Sukraj Innocent Khumalo Stephen Adeyemi Gift Nhlabathi Tabitha Mallane
Curriculum Development Training (ECSA orientated)	2016/08/11	Dr Jan Smit	Therese van Wyk Innocent Khumalo Thomas Tengen Tabitha Mallane Gift Nhlabathi
Teaching Perspective Inventory	2016/07/21	Ms Masebala Tjabane	Therese van Wyk Thomas Tengen Rishi Sukraj Innocent Khumalo Stephen Adeyemi Gift Nhlabathi John Sivambu Tabitha Mallane
Working with Tutors	2016/07/21	Ms Sibongile Hlubi	Therese van Wyk Thomas Tengen Rishi Sukraj Innocent Khumalo Stephen Adeyemi Gift Nhlabathi John Sivambu Tabitha Mallane
Essential Financial Management and Financial Project Appraisal for Engineers and	2016/06/06-07	Mr Johan Bosman (The Hill Institute)	Therese van Wyk

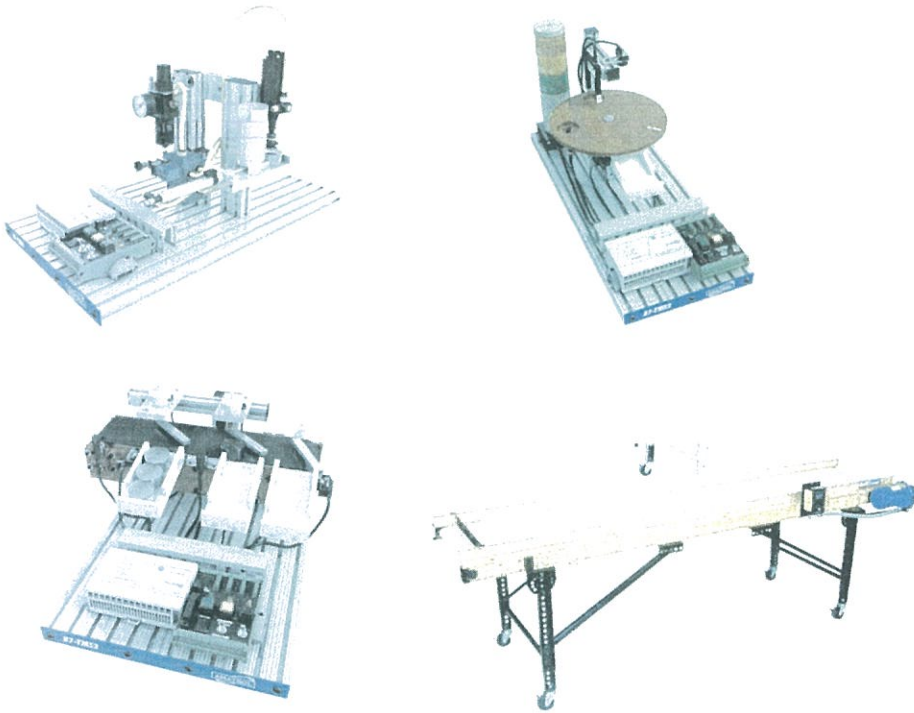
Training Programme	Date	Facilitator	Attendees
Project Managers			
FYE Staff Development workshop	2016/09/09	Dr P Machika	John Ikome

- **Laboratory (R-210)**

New equipment that was bought for the new Laboratory in the RE-block has been installed and are currently used in the R-210 laboratory until the bigger and more suitable new laboratory is available.

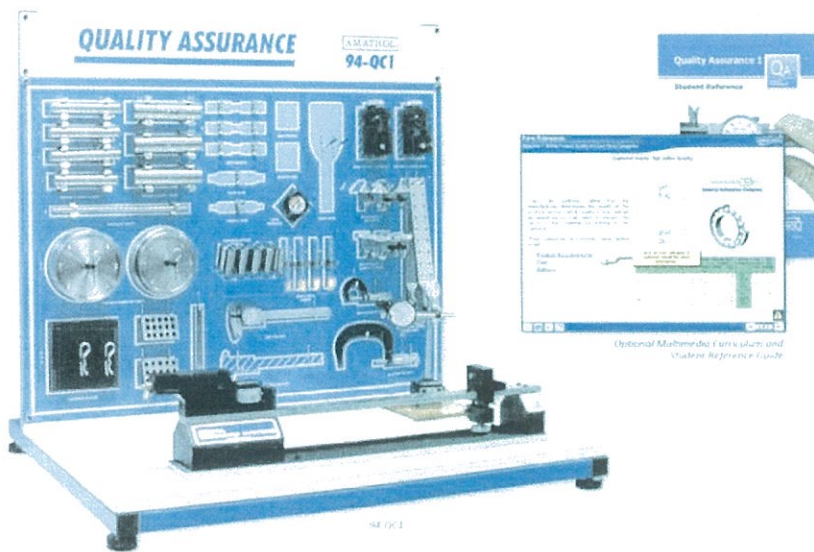
Mechatronics and Conveyors

NO	NAME	DESCRIPTION	QTY
1	Conveyor	Single Conveyor - Bell type	1
2	Conveyor	Single Conveyor - Bell type	2
3	87-TMS3	Mechatronics Distribution System	1
4	87-TMS2	Mechatronics Inspection Station	1
5	87-TMS1	Pick and Place Inventory System	1
6	USB-1761-CB1-PM02	USB Interface for AB PLC and CD	3
7	Plastic Parts - White	Round White Plastic Parts - No 2	6
8	Metal Parts	Round Metal Parts - No 3	6
9	Plastic Parts - Black	Round Black Plastic Parts No 4	3
10	Plastic Parts - White	Round Whit Plastic Parts - No 5	3
11	Red Part Bins -5	Part bins - No 5	2
12	Red Part Bins -6	Part Bins - No 6	1
13	Power Cables	10A 125V	3
14	Table Top Mechatronics - Students	Student Reference Books	3
15	Installation Guide	For 870-PTAB10 - Books	3
16	Instructor Guide	For 870-PTAB10 - Files	3
17	Interactive Multimedia Curriculum	AB-Micro logic 1000 CD	3
18	Supplementary Disk	CD for TT Mechatronics	3
19	Conveyor Extenders	10cm Square tube for conveyor	2
20	Ball and Roller Bearings	Screws and Bearing for Assembly Box	3
21	Nuts and Washers	Nuts and Washers for Assembly Box	1
22	Perspex Boards	4 Parcels Perspex boards +/- 3 each	4



Quality Control Equipment

a. Quality Assurance Learning System.



Includes:

- i. 910-QC1-B-H Modular Gauging System;
- ii. T9006-A Statistical Parts Kit;
- iii. 91-400 Precision Measurement Tools Set 1;
- iv. 91-401 Precision Measurement Tools Set 2;
- v. 91-200 Standard Shapes Package;

- vi. 91-410-B Digital Caliper;
- vii. 91-501 Amatrol Data Management Software;
- viii. 91-500-A Amatrol SPC Software
- ix. 91-601 Computer Interface;
- x. 30123 Gauging Power Supply;
- xi. 91-203 Quality Assurance Workstation;
- xii. 26886 USB to DB9 Serial RS232 Adapter;
- xiii. B11105 Student Learning Activity Packets;
- xiv. C11105 Teacher's Assessment Guide;
- xv. D11105 Installation Manual;
- xvi. H11105 Student Reference Guide.
- xvii.

- a. Multimedia Courseware - Quality Assurance
- b. Metrology Courseware
- c. Multimedia Courseware - ISO 9000 and TS 16949
- d. Multimedia Courseware – Quality Tools

- **Quality Control**

The QPU (Quality Promotion Unit) assisted the department in doing a Departmental Review during the fourth quarter of 2016. A Departmental report was submitted and a review panel, consisting of Industrial Engineering academics from other institutions came to evaluate the department on 10 November 2016. We are still awaiting the outcome of this review.

3. Department of Civil Engineering

- ***Pioneer Research Project***

The department of Civil Engineering and Building, Vaal University of Technology has in the past year developed a research group christened the Water Sensitive Settlement Design Research Group (WSSDRG). The research group also incorporates members from other departments within the University who have relevant expertise to the needs of the WSSDRG. The current membership of WSSDRG is as follows:

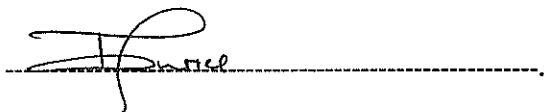
Name	Affiliation (department)	Staff / Student No.	Category
Prof G M Ochieng	Civil Engineering & Building	2014152	Lead Researcher and Team Leader
Dr Taile Leswifi	Chemical Engineering	2015575	Researcher and Member
Ms Zinhle Marrengane	Biotechnology	20090194	Researcher and Member

Ms N D Mkolo	Civil Engineering & Building	215262670	Researcher, M Tech Student
Mr Motlhodi	L Civil Engineering & Building	214252248	Researcher, M Tech Student
Mr Mashiya	L Civil Engineering & Building	2034015	Researcher, M Tech Student

The WSSRG is currently undertaking a research project that is funded by the Water Research Commission (WRC) to the tune of one million Rand (R 1 000000). The project title is “*Hybrid Water Supply Systems and Conjunctive Use in the Context of Water Sensitive Settlements: A Case Study of Sekhukhune District Municipality, Limpopo Province*”. This project aims to actualise the concepts of Water Sensitive Urban Design (WSUD) as envisaged in the Water Sensitive Urban Design Framework for South Africa, 2015. The major milestone in this research project is that since the approval of the Water Sensitive Urban Design Framework for South Africa, 2015, this is the first project to be undertaken in the rural and peri-urban setting. Hence, it is a *pioneer* project.

4. Department of Metallurgical Engineering

The department has completed its refurbishment of four laboratories with the aid of a DHET infrastructure grant of R4.1 Million.



Professor Maurice Ndege

Executive Dean: Faculty of Engineering and Technology