



Central University of  
Technology, Free State

**2014**  
ANNUAL report



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Technology, Free State

## Vision

In 2010, the Council of CUT approved the following Vision 2020:

By 2020, Central University of Technology, Free State shall be an engaged university that focuses on producing quality social and technological innovations for socio-economic development, primarily in the Central Region of South Africa.

## Mission

In aspiring to fulfil its vision, CUT:

- Delivers high-quality appropriate Science, Engineering and Technology (SET) academic programmes supported by applied research;
- Engages with the community for mutually beneficial development;
- Promotes access with success in attracting potentially successful students and supports them to become employable graduates;
- Attracts and retains expert staff and supports their development and wellbeing; and
- Forges strategic partnerships.

## Core Values

- Customer service
  - Integrity
  - Diversity
  - Innovation
  - Excellence



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# CUT at a Glance

Central University of Technology, Free State (CUT) is the foremost higher education institution in the heartland of South Africa. Located in Bloemfontein; the judicial capital of South Africa, and Welkom, a major gold mining sector in the country. The two campuses brings quality education and training in science, technology, engineering, maths (STEM); as well as management sciences, humanities and education to the central region.

CUT (then still known as the Technikon Free State), opened its doors in 1981 with 285 students enrolled in mainly secretarial, art and design programmes. The institution boasts more than 14 500 students who have decided to make CUT their academic partner in earning a qualification and gaining appropriate work integrated learning to equip and prepare them for professional practice. With the restructuring of the higher education landscape a few years ago, CUT embraced its new status as a university of technology and thus positioned itself to succeed as such.

CUT delivers high quality higher education and training in applied sciences in the following four faculties:

- Engineering and Information Technology,
- Health and Environmental Sciences,
- Humanities, and
- Management Sciences.

## Demand driven user-oriented programmes

As a new-generation institution, contributing to the development of the region and beyond, a career-focused, interdisciplinary curricula is needed. New programmes include:

Community Development Work | Design and Studio Art | Renewable Energy Technologies | Logistics and Transportation Management | Health Management | Hydrology and water Management | and Sustainable Energy Advising.

### We offer programmes in the following fields:

Civil Engineering and Built Environment | Electrical and Computer Systems Engineering | Mechanical Engineering and Applied Mathematics | Information Technology | Agriculture, Environmental Health | Biomedical Technology, Clinical Technology, Radiography, Dental Assisting | Somatology | Emergency Medical Care | Communications Sciences | Marketing, Business Administration, Human Resources Management, Project Management, Office Management and Technology | Accounting, Financial Information Systems | Cost and Management Accounting, Internal Auditing | Government Management | Tourism, Hospitality | Teacher Education.

## Research and Innovation

As a university of technology, all research programmes are directed at solving problems in business, industry, government, and communities (this is known as the quad-helix approach), and are aimed at contributing to the socio-economic development of the region which is included in the Community Engagement strategy that is rolled-out via the curriculum.

## Research Clusters

The cluster is based on a collection of related research programmes, based on the critical mass in a particular field of research, research outputs, completed qualifications and funding awarded.

Although these clusters build strength in areas of focus, the principle of multi-, inter- and trans-disciplinary research, amongst listed programmes, is strongly supported.

CLUSTER	PROGRAMME
Industrial Design, Communication and Development	<ul style="list-style-type: none"><li>• New Product Development and Design</li><li>• Evolvable Manufacturing, Automation and Vision- Systems</li><li>• Sustainable Engineering</li><li>• Water Resource Management</li><li>• Information and Communication Technology</li></ul>
Quality of Health and Living	<ul style="list-style-type: none"><li>• Applied Food Safety and Biotechnology</li><li>• Sustainable Farming Systems</li><li>• Applied Health Technology</li><li>• Environmental Assessment and Management</li><li>• Biotechnology</li></ul>
People and Skills Development	<ul style="list-style-type: none"><li>• Socio-Economic Development Studies</li><li>• Leisure Management</li><li>• Education (sub-themes: Health Science Education, General Education, Service Learning, Academic &amp; Professional Pedagogy, and Scholarship of Teaching and Learning)</li><li>• Research Education</li></ul>

CUT also commands respect with its technology transfer research. Units/Centres such as the:

- Centre for Rapid Prototyping and Manufacturing (CRPM);
- Product Development Technology Station (PDTS);
- Unit for Applied Food Safety and Biotechnology (UAFSB);
- Seda Agricultural Mining and Tooling Incubator (SAMTI); and the newly established
- Unit for Lean Construction and Sustainability (ULCS);

## Internationalisation

The university's vision is that, by 2020, 10% of its students should be international students from Africa and beyond. CUT has strategically positioned the International Office to enhance scholarships, research service and operations in the international education landscape. We are exploring opportunities for international and strategic partnerships.



# CUT LEADERSHIP CHARTER

Excellent, quality and inspirational leadership is the cornerstone of any successful organisation. This value-based leadership charter sets out areas in which managers should lead by example and demonstrate appropriate behaviour to the rest of CUT community. At all times, it is expected of all managers to live by institutional and progressive societal values and exhibit the expected behaviours when discharging their duties.

## I shall:

- provide vision and direction;
- manage the unit or division I am responsible for;
- develop my unit or division;
- manage performance of my subordinates;
- develop people and subordinates;
- develop students;
- engage with internal and external communities;
- communicate regularly and effectively.

This leadership charter should be read and practiced in conjunction with CUT's motto, vision and mission and its core values as reflected below.

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# MANAGEMENT



# MESSAGE FROM THE CHANCELLOR

2014 was a year of considerable achievement for the University, in spite of a challenging and sometimes volatile external environment, we remained steadfast in remaining a leading University of Technology.

My relationship with Central University of Technology, Free State did not start with my appointment as Chancellor. I was a founder member of CUT when it was established from its very humble beginnings in the early 80's as Technikon Orange Free State, our original name when we were established in 1981, to Technikon Free State in 1995, and to Central University of Technology, Free State a status we achieved in 2004. Each of these changes was vital to the future of this university. As I look back into this past and see how little we began with, it is easy to recognise that CUT was indeed destined to grow as a formidable center of learning- a place of scholarship for thousands of South Africans in this country.

In areas of applied research, we are emerging as leaders in creating niche products and solutions that are almost impossible using conventional techniques. CUT staff and students are exploring new approaches to establish new

**“In this pace of time, CUT is breaking new boundaries...”**

parameters in design of prototype and product development for the industry. It is a credit to the many talented and hard-

working academics and professional staff who undertook the extra work required for University.

In sports, our students play far better than students in some traditional universities. We are the only youngest university that has been added to the list of older ones including some UoTs. In academia, we have revolutionized our academic programmes through the Strategic Transformation of Education Programmes and Structures STEPS to offer courses that are demand-driven, relevant to the needs of the industry.

One of our greatest assets is our community and we continued our outstanding program of community outreach and engagement. Each year the University's staff and students volunteer a substantial number of hours in local and regional communities through a diverse range of University projects and Work Integrated Learning Programme.



In this pace of time, CUT is breaking new boundaries and must continue to lead the way as a leading academic institution dedicated to using science, engineering and technology in addressing the socio-economic development of the central region. Its Vision 2020 must guide and ground the University into partnership engagements with business and government – a golden triangle that binds public policy, innovation and commercialization of ideas for greater good and prosperity of this region. As I leave this office, may I take this opportunity to thank the Council, Management for their support and confidence in me? I am confident that CUT will continue to build on its impressive legacy and grow in strength for years to come.

**Dr Boet Troskie**  
Chancellor

# MESSAGE FROM THE CHAIRPERSON OF THE COUNCIL

I am pleased to report that 2014 was yet another successful year for the university. Council demonstrated commitment to its governance oversight role, as informed by the principles of transparency, accountability, responsibility, fairness and social responsibility in the King III Report on Corporate Governance. During the year under review, compliance with these principles was monitored closely by Management and Council, and any perceived or proven deviations were addressed effectively and expediently in terms of the relevant CUT rules, policies and procedures. Furthermore, the university received another clean audit of its financial statements.

Despite our commitment to good cooperative governance practices, there was a time when the stability of the university was presented with challenges. In February this year, a group of rowdy students stormed into the registration centre with the aim of disrupting academic activities and registrations of students. These acts of violence were done in support of international students who were not meeting the requirements to register at CUT. In terms of national laws, international students are required to submit study permits before they may be registered as students at South African institutions. The SRC, in support of international students who demanded to be registered without having submitted study permits, led a student action that was in violation of CUT's Disciplinary Code. Management suspended those involved, and they had to appear before a Disciplinary Committee. The students pleaded guilty and the recommended sanction was expulsion,

effective from 21 July 2014. This matter was referred to Council for consideration. Council was, however, not in a position to undermine the current policies of the university. Council commends CUT Management for dealing swiftly with the disruption of CUT academic and administrative processes and the intimidation of staff and students at the time. Equally, Council wishes to challenge some of our students who think

“striving for excellence  
in various aspects  
of technological and  
social innovations...”

that violence and terrorism are legitimate forms of engagement that could be practised with impunity.

It is also important to mention that CUT was part of a remarkable achievement that is set to change the face of the medical fraternity in this country. We have looked at the extent to which the university has achieved its institutional objectives and priorities since the beginning of the year. Over



the past few years we have seen CUT accelerate towards the progressive realisation of Vision 2020 through its social and technological innovations. One of the things that make us proud is the fact that CUT is taking a lead in 3D technology. This technology is playing a fundamental role in the new industrial revolution, especially within the medical space where innovation can potentially transform people's lives. We are proud to see CUT at the cutting edge of this technology. In June, a team of CUT experts from the Centre for Rapid Prototyping and Manufacturing teamed up with experts to undertake yet another ground-breaking surgical operation on two patients in the Kimberley Hospital. The two patients underwent received titanium implants which were molded with the use of 3D printing from CUT's CRPM. Indeed, CUT is taking a lead in areas of medical development through Additive Manufacturing. As the Chairperson of Council, and on behalf of Council members, I am pleased that the university is creating new opportunities for socio-economic development. CUT has consolidated its position as a true University of Technology, striving for excellence in various aspects of technological and social innovations in order to set a new socio-economic development agenda for the region.

I also wish to express my deepest appreciation to members of Council for their commitment and support to principles of good governance at CUT. It has not been an easy year for us, but we have dealt with all the challenges in the best interest of the university, the students and our community at large.

In closing, I wish to take this opportunity to thank Dr. Boet Troskie, who is stepping down as Chancellor, for his selfless contributions to the establishment of the former Technikon Orange Free State and its advancement over the past three decades. We wish to extend our gratitude and appreciation for the role he has played in this university, and for believing in this university. We commend him for leading CUT from its humble beginning in the 80s as a Technikon, to the fully-fledged University of Technology that it is today. We wish him well in his new ventures abroad.

**Dr Sylvan Maleho Seane**  
Chairperson of the Council



# MESSAGE FROM THE VICE-CHANCELLOR AND PRINCIPAL

The Central University of Technology continues to make remarkable progress as we implement our Vision 2020.

The year 2014 marked the beginning of the second phase (2014-17) of the three phases of the implementation of our Vision 2020. This phase is about adding a solid and focused academic core to the foundations we have built so far. In order to move forward purposefully, we need to reflect on our achievements, especially those that relate to our academic project. Allow me to briefly mention some of the highlights in 2014.

The first of these achievements was the broad-based curriculum transformation process, we introduced in 2010 and concluded in 2012, which we call STEPS (Strategic Transformation of Educational Programmes and Structures). As part of this programme, we reviewed our curricula to make them more demand-driven and user-oriented. The year 2014 witnessed the first fruits of our intensive labour in the four new programmes that were introduced. With the STEPS project and many other curriculum development initiatives, the relevance, excellence and quality of our academic programmes have improved appreciably.

CUT continues to invest in research development as one of its strategic priorities. In 2014, two research centres and 9 research units were established.

For example, the Centre for Rapid Prototyping and Manufacturing (CRPM) was awarded a research grant by the Department of Science and Technology for the increased

roll-out of additive manufacturing in the South African industry in collaboration with the Council for Scientific and Industrial Research (CSIR). Furthermore, the NRF awarded a Research Chair in Medical Product Development through Additive Manufacturing (3D printing). A number of top class local and international researchers have been recruited, including the chair, Prof. Igor Yadriotsev, who was recruited from France.

Our researchers continue to make us proud by being at the forefront of innovation as CUT is proudly taking a lead in innovations geared to change the face of medical product

“For all the success, I am indebted to all stakeholders...”

development through additive manufacturing. CRPM continues with its ground-breaking work on the design, development and manufacturing of medical devices, which benefited 12 patients in 2014. As an engaged university, CUT continues to contribute to the improvement of the quality of education in our schools as part of our contribution to community engagement and socio-economic development in the region. The Schools Advancement Academy continues to support the schooling sector in the Free State and enjoys the sound cooperation of the Free State Department of Education. The Academy is in



the process of being expanded so as to host the post-school sector as well, and moves are afoot to provide support to the TVET Colleges and other post-school education and training institutions. In this regard, merSETA granted CUT funds for a CUT merSETA Chair in Engineering Development for the TVET Sector and Technology Education

Beyond the Central region, we are exploring opportunities for international strategic partnerships that we will continue to build upon in the next phase of the implementation of Vision 2020. In 2014, our internationalisation strategy has been operationalised through the establishment of the International Office. In 2014, 3.5% of our student complement consisted of international students. In order to ensure a diverse student body that will enhance the learning experience of all our students, our objective is that, by 2020, at least 10% of our students would be international students, recruited from the rest of the African continent and beyond.

Whilst this report highlights the progress the institution has made in realising the goals of Vision 2020, it is important to take into account the factors that play an important role in the success of the institution. As a higher education institution, it makes sense for us to channel our financial resources towards our core function.

The year 2014 was another good year for CUT as we received yet another unqualified external audit. With regard to salaries, our expenditure ratio, which was once 49:51 (academic to support), has stabilised at 60:40, in favour of académie. In July 2014, after an independent study by remuneration experts,

all salary packages were improved considerably and pegged at the 50th percentile of the market.

The Resources Allocation Model (RAM), developed in 2013, has resulted in increased flexibility and more efficient allocation of resources and strengthened linkages between planning and budgeting. Resource allocation for the faculties for 2014/15 was implemented according to the model. RAM will be implemented in support services for the 2016 budget year.

With the support from the Department of Higher Education and our Council, we continue to embark on ambitious infrastructural development programme in order to cater for the growing staff and student needs. The University's Master Plan, approved by Council in June 2014, seeks to establish a long-term Estates Framework and a medium-term development plan that supports academic and growth aspirations of the University.

For all the success, I am indebted to all stakeholders for the strong support that made the considerable growth we have experienced possible. There would not be success had our staff and students not worked together diligently.

**Prof. Thandwa Mthembu**  
**Vice-Chancellor and Principal**

# STRATEGIC DIRECTION FOR CUT

## STRATEGIC SET 1 | BUILDING A STRONG FOUNDATION

(internal values, relations, and organisational design and transformation)

Building a sound foundation is an essential part of progressing towards Vision 2020. A number of initiatives have been undertaken towards this end. They are highlighted in the following five performance indicators:

1. Improving “fitness for purpose” through institutional re-organisation and redesign
2. Equity and excellence, growth, and development
3. Creation of a culture conducive to excellence, debate and innovation
4. Improving relations between academics and students and amongst different CUT community groupings
5. Transformation: Priority operational projects to improve fitness for purpose

## STRATEGIC SET 2 | THE ACADEMIC PROJECT

The year 2013 was another year in which notable progress was made in the academic portfolio, in terms of aligning the academic project with Vision 2020. The academic project is the sole reason for CUT’s existence. The importance of offering quality programmes in teaching and learning, and also in research and innovation, cannot be over-emphasised. There are six objectives under this strategic set, as indicated below:

1. Instituting a learner-centred approach to teaching and learning
2. Enhancing Science, Technology, Engineering and Mathematics (STEM), but with a human consciousness
3. Ensuring the supply of quality STEM enrolments
4. Introducing vocational pedagogy and post-school education as a research niche or area of scholarship
5. Creating a critical mass in research and teaching
6. Enhancing technology-orientated research and innovation

## STRATEGIC SET 3 | PARTNERSHIPS, INSTITUTIONAL ADVANCEMENT

CUT relies on focused and purposeful strategic partnerships in order to achieve its Vision 2020. The university also needs external support in order to ensure that the graduates and innovations that are produced are aligned with industrial and developmental goals. This will improve the effectiveness of the academic project in attaining and sustaining socio-economic outcomes and impact through increased, highly focused, intellectual products and delivery.

1. Improving partnerships: The choice of business and industry as primary partners in broader societal development
2. Strategic partnerships with business, industry and government to contribute towards sustainable socio-economic development
3. Advancing internationalisation
4. Building strategic partnerships that contribute to institutional advancement and community engagement



# ACHIEVEMENTS IN 2014

## ATTAIN A FULL COMPLEMENT OF EXECUTIVE TEAM AND SENIOR MANAGEMENT

**Performance indicator:** Executive and Senior Management appointments; a logical, coherent and effective administrative management system.

### Achievements

- With the approval of the CUT Internationalisation Strategy, the International Office has been established and four positions have been filled. Mr Arthur Johnson was appointed as the Director: International Office.
- Registrar's Division: In October 2014, Ms Ntokozo Dlamini was appointed as the Deputy Registrar: Academic Administration, and Ms Kanyisa Magwentshu as Assistant Registrar: Academic Structure and Student Enrolment Services.
- Resources and Operations Division: Professor Neil Garrod officially joined CUT as Deputy Vice-Chancellor: Resources and Operations in April 2014.
- As the need to reconfigure, the Human Resources (HR)

Department had been identified in the institutional HR Turnaround Strategy of 2013, and the new DVC: Resources and Operations, was given a mandate to engage other executives in implementing the HR turnaround strategy. This strategy will transform HR from its conventional mode of compliance, rules and regulations to a vision-driven section, whose core mandate centres on efficient service and efficient management of human capital. The reorganisation of the Human Resources Department was completed on 1 November 2014. The new Director: Human Resources was appointed and commenced work in January 2015. Ms Mpho Letsoara was appointed as Deputy Director: Training and Development, and Ms Helene Kotze as Deputy Director: HR Operations. Both assumed their duties in October 2014.

## DEVELOP HUMAN CAPITAL

**Performance indicator:** Progress regarding the achievement of equity targets, in line with the CUT's Employment Equity Plan 2014 to 2016.

### Achievements

- Regarding designated groups, the target of 672 for African females was exceeded, as 724 were employed, while the target for Coloured females of 76 was not reached, as only 69 were employed in 2014. The target for Indian females fell slightly short, as 7 were employed, against the target of 8. The target for White females, which was 359, was also not reached, as only 315 were in CUT's employ. Regarding Black males, the target for the African male category was not met, as 759 males

were employed against the targeted 768. The target for Coloured males of 59 was exceeded, with 63 employed. The target for Indian males was 13, but 11 were employed. In the case of foreign nationals, the target of 45 for males was exceeded, as 63 were employed. By contrast, 29 female foreign nationals were employed against the target of 19. The increased number of foreign nationals is largely due to the insufficient pool of qualified academics that exists nationally.



## PROVIDE INFRASTRUCTURE FOR TEACHING AND LEARNING, AND STUDENT ACCOMMODATION

**Performance indicator:** Provision of infrastructure that will enhance the teaching and learning environment of the university, and improve student well-being through the provision of suitable accommodation.

### Achievements

- CUT continues to embark on ambitious infrastructural development projects in order to cater for the growing staff and student needs. CUT has grown substantially over the past few years, with new world-class teaching and research facilities, funded by the then Department of Education's (DoE-140) Infrastructure Development Programme. The funding received from the Department allowed CUT to construct new buildings.
- In addition to the new construction, various facilities (for teaching and learning and sports) were renovated at the Bloemfontein Campus at a cost of R25 million. A further R26 million has been set aside for a similar capital expenditure project in 2015.
- A total of R320 million will go towards new infrastructure development as part of the Department of Higher Education and Training (DHET) 3-300 Infrastructure Development Programme. Of this amount, the DHET contribution is R254 million, while Council will inject R66 million. R131 million have been set aside for the construction of residences on both campuses and R188 million towards academic infrastructure. Construction of the new infrastructure is under way on both campuses, to be completed by the end of 2015.
- Beyond the DHET 3-300 Programme, much emphasis was placed on improving the university's facilities in 2014 to create a more user-friendly campus environment for students and staff members alike. The refurbishment of the cafeterias on both the Bloemfontein and Welkom Campuses is one such project that was completed. Plans are also under way to remodel the area in front of the Bloemfontein Campus Library, to make it a "green" area and one that is conducive to vibrant interaction among the campus community. Finally, the institution is pleased that in 2014 three properties close to the Bloemfontein Campus were acquired, which have created opportunities for the expansion of the institutions academic services.

## ENHANCE THE FINANCES OF THE UNIVERSITY

**Performance indicator:** Ensuring institutional advancement and better financial sustainability through strategic partnerships; and reorganising the university centres and business-oriented units.

### Achievements

- Long-term investments increased by R43 594 million to R238, 332 million, as additional investments of R25, 466 million were made and there were net returns of R18, 128 million. Cash and cash equivalents increased by R20, 446 million to R105, 105 million for the year ending 31 December 2014. This increase in cash is attributable to the DHET infrastructure development grants received.
- Further, the NSFAS loan repayments were received before the year-end, which resulted in the increase in cash available.
- CUT is continually striving to utilise its resources efficiently. To this end, a revenue-driven Resource Allocation Model (RAM) was implemented in the faculties in 2014. Because of the introduction of the RAM, there is now a stronger link



between planning and budgeting, not to mention greater flexibility for faculties to allocate resources in areas of strategic priority. Support services will implement RAM in the 2016 budget year.

- CUT continues to invest in research development as one of its strategic priorities. In 2014, the total research budget was R24 million, received from various sources, e.g. CUT, the National Research Foundation (NRF), the DHET and other sources. Of this total amount, R2 68 million were allocated to postgraduate students. For the year 2015, feedback was received from the NRF for block grants to the value of R3 01 million.
- Arguably, the Centre for Rapid Prototyping and Manufacturing (CRPM) is one of CUT's research and innovation entities that are more prosperous. The year 2014 was a fruitful one for CRPM. The commercial value of the 586 industrial projects completed at the CRPM during 2014 was R4 562 838, representing an increase of 20% compared to 2013 (project value of R3 799 172). Furthermore, a total of R350 530 was financed by the CRPM for 28 research projects, compared to the R201 485 that were spent on research projects during 2013.

## ENHANCE STUDENT SERVICES WITH MAXIMUM IMPACT AND OUTCOMES

**Performance indicator:** Improved academic administration service to students; improved academic support for struggling students; improved student leadership and governance; and enhanced student life and experiences (more detail in the University Life section).

### Achievements

- The most notable of achievements around academic administration was that the online registration system was successfully implemented in 2014. All CUT students registered online, during both the January and July registration periods.
- Students attend workshops on study skills to improve their memory and retrieval strategies. The workshops were learning centred, and students were motivated to visit the Wellness Centre regularly. Such programmes are also presented after hours to students in the residences. Workshops on study techniques, stress management, self-actualisation, writing assessment and communication skills further contributed to the establishment of a learning-centred approach to effective learning at CUT.
- The Student at Risk Programme was piloted in 2012. In 2014, more programmes were introduced, such as C-U-on Top Programme for the support of Academic Exclusion Appeals. The aim is to identify students at risk as early as possible, to render the necessary support and to provide necessary support to those who have been academically excluded. Thus far, 109% (1 166) of the targeted students have been supported in 2014.
- The year 2014 was a prosperous one in the sporting arena.
  - CUT's Ixias rugby team, performed exceptionally well in winning the 2014 Varsity Shield Championships, and was promoted to the FNB Varsity Cup Competition.
  - The second cricket team won the First Division Tournament and it was promoted to the Free State Super League for the 2014/15 season.
  - The soccer team also continued to perform well in the Vodacom League.
  - The CUT Dance Club obtained three top positions in the Gauteng Dance Competition, while the CUT Choir obtained an overall second position in the silver category of the Old Mutual Provincial Competition.
- The Independent Communications Authority of South Africa (ICASA) issued the CUT Radio Station with a broadcasting licence on the frequency FM 105.8, covering a 120 km radius. The station will go live in early 2015.

# IMPROVE ORGANIZATIONAL CLIMATE AND SOUND LABOUR PRACTICES CONDUCTIVE TO OPTIMAL EMPLOYEE CREATIVITY AND PERFORMANCE

**Performance indicator:** A healthy relationship between management and unions.

## Achievements

- For much of 2014, the relations between management and unions were cordial. Engagements and negotiations with management continued through the Labour Relations Forum (LRF) and the Joint Bargaining Forum (JBF). For the 2014 year, there were no wage disputes.
- The university has not experienced a work stoppage or any dispute declared in terms of wage negotiations or other matters before these forums for the 2014 year.
- Towards the end of the year contentious issues were raised by unions in relation to salary negotiations. By the end of 2014, no agreement had been reached by the Joint Bargaining Forum with respect to the 2015 salary negotiations. Engagements with the unions continued in 2015 and an agreement was reached.

## REVIVE THE ALUMNI ASSOCIATION

**Performance indicator:** An Alumni Association that plays an active role in university affairs.

## Achievements

- CUT's revised Alumni Association Constitution was approved by Council in 2014. The Alumni Association replaces what was in the past known as Convocation.
- The Alumni Association is more inclusive, in that it accommodates anyone who is academically affiliated with CUT, including those who studied at CUT, but did not obtain a CUT qualification.
- Elections for an Alumni Association Executive took place in 2014. The election process was broadened using a democratic practice by allowing all qualifying alumni to vote electronically, whereas in the past only those that would attend an Annual General Meeting (AGM) would be involved in electing the leadership. A representative of the Alumni Association will serve on Council in 2015.

## PROVIDE QUALITY TEACHING, LEARNING AND STUDENT ACADEMIC SUPPORT

CUT has adopted an ethos where the focus of the learning process should be on the student, rather than on the lecturer. Teaching methodologies increasingly focus on the real needs of the student.

**Performance Indicator:** Increased and effective use of technology in teaching and learning; improved work-integrated learning (WIL) in all new and re-curriculated learning programmes; and improved student-learning support.

### Achievements

- Over the past three years, there has been a constant increase in active courses on Blackboard – from 70% in 2013 to 80% in 2014.
- CUT is committed to integrating WIL and its sister variants, such as Service Learning, into every new programme introduced at the university. The Centre for WIL and Skills Development negotiated R24,4 million in remuneration for 818 students placed on WIL in 2014.
- CUT is the first South African university of technology to partner with “10 Minutes With”, an innovative global career platform for graduates with a membership of 113

international universities and 143 international companies. Seven CUT students were appointed as ambassadors for this initiative by the organisation.

- A Student Mentorship Programme for all first-year students was implemented in the Faculties of Engineering and Information Technology, Health and Environmental Sciences, and Management Sciences. A total of 3 725 students participated in this programme across these three faculties. The aim of the programme is to provide CUT students with a supportive environment that will motivate and assist them to develop to their maximum personal and academic potential.



Mentoring has been found to increase students' academic success, social skills, self-efficacy, and the ability to refine their professional dispositions.



# PROVIDE RELEVANT AND EFFECTIVE ACADEMIC PROGRAMMES AND CURRICULUM TRANSFORMATION

**Performance Indicator:** New academic programmes implemented in 2014: Re-curriculation of category A and B programmes; alignment with Higher Education Qualifications Sub-Framework (HEQSF) requirements; and Graduate attributes implemented in all new academic programmes.

## Achievements

- The successful implementation of the STEPS process is an integral component of transformation at CUT, which has resulted in four new innovative, demand-driven, and user-oriented programmes being successfully implemented in 2014.
- A total of 149 students were enrolled in the newly implemented programmes in 2014. These include a Higher Certificate in Renewable Energy Technologies (29), a Diploma in Studio Art (53), an Advanced Diploma in Agricultural Extension (13), and a Bachelor's Degree in Radiography (54). The success rate following the implementation of these programmes was very impressive at 73%, 75%, 83%, and 85%, respectively.
- A total of thirteen category B programmes were approved by Senate and submitted to Council on Higher Education (CHE), namely Management Sciences (7), Humanities (3), Engineering (2) and Health Sciences (1). Confirmation on thirty-eight category A programmes was received from CHE.
- Furthermore, the core curriculum was finalised and was incorporated in all new undergraduate and re-curriculated programmes. The core curriculum comprises the following modules: Academic Language Literacy and Communication Studies, Numeracy, Digital Literacy, and Success Skills.
- The CUT Graduate Attributes Project was implemented in January 2014 as part of the Student Peer Mentorship Programme. Ten (10) graduate attributes were approved by Senate. They are the following:
  - 1) Sustainable development;
  - 2) Community engagement;
  - 3) Entrepreneurship,
  - 4) Innovation and problem solving;
  - 5) Technological literate;
  - 6) Numerate;
  - 7) Communication;
  - 8) Technical and conceptual competence;
  - 9) Teamwork; and
  - 10) Citizenship and Global Leadership.

A webpage has been developed and students are developing electronic portfolios and engaging in various projects aimed at equipping them with these attributes.

## PROMOTE ENROLMENTS IN SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) RELATED PROGRAMMES

**Performance indicators:** The headline undergraduate enrolment targets for 2014 were 44.5% for STEM; 25.4% for Business, Commerce, and Management (BCM); 14.4% for Other Humanities; and 15.6% for Education. The 2014 target for postgraduate student enrolment was 7%, as per the Department of Higher Education and Training (DHET) enrolment-planning tables for 2014/15 to 2019/20 (more information in the Statistics section).

### Achievements

- In 2014, CUT's enrolment headcount was 14 334 students, thus exceeding the 2014 target of 13 149 by 9.01%. There is a slight improvement in the priority area of STEM, with an increase in headcounts from 5 789 (43.5%) in 2013 to 6 295 (43.9%) in 2014 – a figure that falls slightly short of the 2014 target of 44.5%.
- The university is taking steps to improve its enrolment in STEM. In this regard, a student recruitment strategy that focuses on the STEM fields was approved in 2013 and partially implemented in 2014.
- The postgraduate student enrolment target of 7% was achieved in 2014. CUT is determined to increase its postgraduate student enrolments further. The implementation of the student recruitment and internationalisation strategies, which were approved in 2014, should make a significant contribution in this regard.

## ENSURE THE SUPPLY OF LEARNERS QUALIFYING FOR SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) PROGRAMMES

**Performance indicators:** An increase in the number of STEM-qualifying school leavers in the Free State and feeder schools in the Central region; funds set aside to support Free State learners who excel in Mathematics and Science.

### Achievements

- CUT continues to contribute to the improvement of the quality of education in schools as part of community engagement and socio-economic development in the region. The Schools Advancement Academy (SAA) continues to support the schooling sector in the Free State and enjoys the sound co-operation of the provincial Department of Education. The Academy is in the process of being expanded to host the post-school sector as well.
- In 2014, the Saturday classes for STEM subjects for Grade 11 and 12 learners experienced a dramatic surge in the number of learners. Although the number of learners that attended fluctuated from week to week, there were 597 registered learners for the Saturday classes, compared to 302 in 2013.
- The National Senior Certificate results of 2014 once again boasted a 100% pass rate for candidates who participated in CUT's Saturday classes, some of whom attained exceptional subject achievements as well.

- The Winter School attracted 1 284 learners who benefited from quality teaching, learning and supplementary programmes.
- The Educator Mentorship and Development Programme (EMDP) moved into its second phase for 2014/15,

involving four primary schools in the Motheo District. The impact made by means of additional resources, teaching aids, classroom practice, lesson plans and professional development of teachers is praiseworthy.

In all of these interventions and community engagement initiatives, the generous contributions of university funding partners, namely the Telkom Foundation, Standard Bank, Mutual and Federal, the Council for the Built Environment and the contribution-in-kind from Interstate Bus Lines should be acknowledged.

## INCREASE THE RESEARCH, INNOVATION AND TECHNOLOGY TRANSFER ACTIVITIES, OUTPUTS AND IMPACT

**Performance indicators:** Improved qualification profiles and development of academic staff, as well as increased research outputs and capacity in terms of the targets set in the CUT Research and Development Plan 2014 to 2020.

### Achievements

- The University is conscious of the fact that building a critical mass in research and optimising opportunities to grow research outputs is of great importance. In order to achieve this, the university policy on research centres and niche areas has been approved by Council.
- It is understood that enhancing the qualifications profile of the academic staff of a higher education institution has positive benefits for teaching and learning, research and community engagement.
- There was a marginal decline in the headcount of permanent academic staff members with Master's degrees, from 114 in 2012 to 112 in 2013. On the other hand, the number of permanent academic staff members with PhDs increased from 72 in 2012 to 88 in 2013.
- Pertaining to research, in 2013, CUT's publication research outputs were 68.48. Although there is a short fall of the target (70 for 2013), improvements can be seen, as the publication of accredited research outputs for 2012 was 52 units.

CUT relies on focused and purposeful strategic partnerships in order to achieve its Vision 2020. The university seeks to enhance the quality of its collaborative partnerships in order to ensure that the graduates and innovations that are produced are aligned with the region's economic and developmental goals.

## ESTABLISH STRATEGIC PARTNERSHIPS WITH BUSINESS, INDUSTRY AND GOVERNMENT

**Performance indicator:** Nurturing strong and symbiotic relationships between the CUT and business, industry and government and its agencies (at national and provincial level as well as with municipalities and SETAs).

## Achievements

- CUT runs a series of projects in partnership with the government at local, provincial and national level, as well as in several partnerships with business. Together with the Department of Science and Technology (DST) and the University of the Free State (UFS), CUT has formed a tripartite alliance, the Regional Innovation Forum, Free State (RIFFS). Facilitated by a DST grant under its Regional Innovation Directorate to CUT, RIFFS gained momentum in 2014 (more information in the Technology and innovation section).
- In March 2014, Miss Jaana Puukka, the main author of the Organisation for Economic Co-operation and Development OECD report (published in 2012) on the role of Higher Education in Regional and City Development in the Free State, visited CUT. At a symposium that was organised by RIFFS, the discussions centred on the developments in the Free State's socio-economic landscape and the role of entrepreneurial education in the larger innovation value chain.



Engaging during the session was representatives from higher education, TIA, and DST. From the back, Mr Koena Motloi and Ms Karen Eksteen, TIA; Prof. Sam Mashele, CUT; and Dean of Natural Agricultural Sciences at UFS, Professor Neil Heidemann.

- Further advancing entrepreneurial education, in the second half of 2014, the Vice-Chancellor and Principal took sabbatical leave for a period of four months, the purpose of which was to conduct research on how universities use innovation and entrepreneurship to advance development in their cities and regions.

The Vice-Chancellor visited ten universities in Ireland, Finland, Germany, Mexico, Spain, the Netherlands and the United States of America – the majority of which have similar characteristics to CUT in terms of size, shape and location. A report was submitted to Council at the end of 2014, which included recommendations on how CUT can develop an innovative and entrepreneurial spirit and products therefrom, for the benefit of society, as Vision 2020 implores us to do. This report will be a key input into the university's plan to develop a strategy for promoting collaborative relationships in the region to promote innovation and entrepreneurship that support social and economic development in the Central region.

## ENHANCE THE INTERNATIONAL STANDING OF THE INSTITUTION THROUGH STRATEGIC INTERNATIONAL PARTNERSHIP FORMATION

**Performance indicator:** Establishing partnerships within the Southern African Development Community (SADC) region; consolidating other partnerships within the continent and in other parts of the world; enhancing partnerships through staff development programmes (masters and doctoral degrees) for some of the universities within the continent; increasing research collaboration with other African institutions; and reaching international student enrolment targets.

## Achievements

- The International Office commenced its operations in February 2014. A range of activities was embarked upon in 2014. As an institution, CUT would like to see internationalisation permeate all spheres of the institution's mandate – in its application of its research, teaching and learning, and community engagement – towards the realisation of Vision 2020.
- Regarding the 2014 target for international student enrolments, 509 students enrolled at CUT against the 762 targeted. Some challenges that are affecting the attainment of the institutional target is among others, a shortage of student accommodation. The construction of student residences through the DHET 3-300 Project will alleviate this problem.
- **Inbound exchanges were doubled.** Furthermore, two European mobility programmes for staff and students, which in principle not only supported the STEM initiative, but the institution's academic profile, were mobilised as well. The International Students Association was also launched at the university.

## ENHANCE COMMUNITY ENGAGEMENT

**Performance indicator: Promote vibrant engagements with community, both local and nationally.**

### Achievements

- CUT participated and collaborated on a number of projects with the South African Higher Education Community Engagement Forum (SAHECEF).
- CUT is also affiliated with the Talloires Network, which affords the university the opportunity of collaborating and sharing information and best practices on community engagement (more information in the Community Engagement section, as well as Special Events).

## FUNDRAISING

**Performance indicator: Devising strategies to diversify the support base for the institution.**

CUT Innovation Services (CUTis) is a Trust whose sole beneficiary is CUT, and is mandated to market and commercialise the university's intellectual capital through short-course management, contract research and consulting, intellectual property management and technology transfer. CUTis actively seeks prospective partners, including companies, entrepreneurs, NGOs, etc., that will take the technology and 'know-how' to market through the commercialisation thereof into new products and services.





# MANAGEMENT AND ADMINISTRATION

Administrative structures in both the support and academic management divisions have been aligned. This section deals specifically with managerial and administrative aspects of the institutions operations.

## Prof. Thandwa Mthembu

Vice-Chancellor and Principal



## Prof. Henk de Jager

Deputy Vice-Chancellor: Academic and Research



## Prof. Neil Garrod

Deputy Vice-Chancellor: Resources and Operations



## Dr Nothemba Mrwetyana

Registrar



## Dr S Makola

Campus Director: Welkom Campus



## FINANCIAL SUSTAINABILITY

The Procurement Policy has been updated to incorporate the latest acts promulgated and the recommendations made by Executive Management in respect of the university's procurement processes.

CUT is a member of Purchasing Consortium South Africa (PURCO), and discussions are underway to see if and how closer collaboration with PURCO would bring yet greater benefits.

Financial aid was awarded to students in 2014, namely R15 141 million from CUT funds and R135 218 million from NSFAS grants. Funding was also received from externally funded bursaries. Student debt will always pose a threat. Strategies have been put in place to recover debt, including internal strategies for students who are still in the system and the use of debt-collecting agencies/attorneys for students

who have left CUT. In this respect, the institution has been tightening the policies and procedures on debt collection, and have developed control mechanisms to manage student debt.

Progress has been made towards the reduction of the post-retirement medical aid liability, which has been a source of concern for many years. The university negotiated with in-house employees, of which 69% accepted the buy-out offer of 60% of total service. These amounts were paid out into their current pension funds in November 2013. Acceptance of this settlement translated into a R11 853 million saving on the liability as on 31 December 2013. A further settlement payment was made in August 2014. This translated into a surplus of R4 895 million on the liability as in December 2014. The total saving of the settlement was R16 748 million.

CUT has received unqualified audits every year for the past 10 years, meaning that the financial position and performance have not only met the requirements of the Higher Education Act, but have also been in accordance with the International Financial Reporting Standards.

## HUMAN RESOURCES

An issue of long standing is that of salary anomalies. Many of these issues date back to the 2004 merger, but they have not been resolved.

A comprehensive plan was implemented in July 2014 that ensured that all salary scales were Remuneration Policy compliant, and that all individual salaries were within scale, or that a short-term plan was put in place to bring them into scale.

## CONTROL MEASURES, GOVERNANCE REVIEWS AND INTERNAL AUDIT

CUT maintains a system of internal control over financial reporting and the safeguarding of assets against unauthorised acquisition, use or disposal. Such systems are designed to provide reasonable assurance to CUT, the Audit and Risk Committee and Council regarding an operational environment that promotes the safeguarding of assets and the preparation and communication of reliable financial and other information.

Responsibilities and duties are clearly segregated for control purposes. The Code of Ethics and Whistleblowing Policy were combined in 2014 into a Policy and Procedure for Ethical Governance, Management and Operations.

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## INFORMATION AND COMMUNICATIONS TECHNOLOGIES (ICT)

The system for administrative use is ITS Integrator. The planned upgrade to V3 was completed in 2014. A new member of staff was appointed in 2014 to ensure that the different administrative units use the capacity of ITS to full advantage.

Initial work has been carried out in the Finance area, and budget holders already benefit from increased real-time access to the current state of their budgets.

### Management information system

For purposes of information management, CUT has implemented the Higher Education Data Analyser (HEDA) system, which makes use of data sourced from the Higher Education Management Information System (HEMIS) for submission to the DHET. In addition, CUT uses Oracle Discoverer, which draws operational data from the ITS database. The reports generated from these systems are used for planning, monitoring and decision-making across CUT.

During the past few years, CUT has also made use of the ordinary HEMIS sub-system on the ITS system for statutory reporting on various aspects of the core business and other non-academic support functions. Statistical reports and information on the institution's performance in relation to its targets are published periodically in the university Enrolment Monitor, Size and Shape Monitor and the Student Performance Monitor.

## RISK MANAGEMENT

Council has committed CUT to a process of risk management that is aligned to the principles of the King III Report and the Higher Education Act (Act 101 of 1997).

The Audit and Risk Committee, a committee of Council, is specifically responsible for the system of risk management, and thus reviews the risk reports of the university, reporting to Council on key risks facing the university and associated risk mitigation responses. The Constitution of the committee has been revised to incorporate all risk-related issues and, as

such, Council approved the renaming of the Audit Committee to the Audit and Risk Committee towards the end of 2012.

Management is accountable to Council for designing, implementing and monitoring the process of risk management, and integrating it into the day-to-day activities of the university. Management structures continue to be developed to focus on certain key activities within the university. CUT continuously aspires to raise its level of risk management maturity through the revision of the framework for risk management.

### **Risk monitoring includes processes such as:**

- strategic risk workshops, where risks are monitored and adjusted to the unique circumstances of the university;
- registers declaring financial interests and gifts;
- internal audit reviews;
- compliance reviews; and
- senior management reviews on work performed in accordance with policies and procedures.

**Risk assessment:** The management of the university conducted a strategic risk assessment workshop in October 2014, facilitated by the external auditors of the university. Following the strategic risk workshop, an updated Strategic Risk Register was compiled. The management of the risks identified at the strategic workshop is currently being integrated into the day-to-day activities of the university.

Risk assessment and identification remain an on-going process within the university.

**Fraud risk management:** Any dishonesty, when detected, is taken seriously and dealt with on an on-going basis. In response to the recommendations made in the 2014 Internal Audit Report on the management of fraud, the Framework for Fraud Risk Management will be revised in 2015.

**Examples of risk categories:** Management is continuously developing and enhancing its risk and control procedures to improve the mechanics for identifying and monitoring risks. Some of the top 10 risks faced by the university in 2014 include:

- the attraction and retention of skilled staff;
- the institutional culture and climate; and
- positioning, reputation and brand.

### **Institutional risks, such as:**

**Political, social and economic risks:** The university experienced some student unrest in 2014 related to the registration process. The source of the discontent among students was addressed, and further efforts are made to prevent unrest of that nature.

**Reputational risks:** This risk is in the process of being addressed.

**Financial sustainability:** A new Resources Allocation Model was rolled out in 2014 to allow for the more efficient allocation of financial resources.

### **Operational risks, such as:**

**Fraud and theft:** Theft from lecture halls and offices was problematic. In most cases, no force was used to gain access to buildings/offices. The following measures are being implemented to curb theft:

- beefing up security with the recruitment of new staff;
- security training of existing staff;
- installation of integrated CCTV cameras;
- continuous performance evaluation of CUT security staff members, as well as outsourced security officers; and
- installation of time-attendance devices to control absenteeism and incidents of staff members arriving late, leaving early and deserting their posts.

**Physical risk:** Safe use of workplace machinery and other equipment.

### Financial risks, such as:

Financial instruments (interest-rate risk, credit risk, foreign-exchange risk, etc.)

**Financial stability:** Funds have been allocated for the purchasing of safety equipment and for the regular inspection of such equipment, thus ensuring their usability.

**Regulatory/statutory/legal risk:** In terms of adhering to standard regulatory measures to prevent risk, the university has thus far not been subjected to any legal costs in this regard. Data on all staff members who received training in the use of equipment have been provided to the Department of Labour.

**Insurance risk:** If proper safety measures are not implemented, these risks could cost the university dearly in terms of claims lodged by individuals.

## Council and Senate

**T**he University Council is the highest decision-making body at Central University of Technology, Free State and consists of thirty members. Sixty percent (60%) of the members are external members, and have the knowledge and experience relevant to the objectives and governance of CUT.

The Senate is the primary forum in CUT for the discussion and resolution of academic matters and for developing for transmission to Council policies and procedures on academic aspects and implications of any business coming before the Council.

### Council

CUT is committed to the principles of discipline, transparency, independence, accountability, responsibility, fairness and social responsibility, as advocated in the King Report on Corporate Governance. Accordingly, the Council endorses the Code of Conduct for CUT committee members, and the Policy and Procedure for Ethical Governance, Management and Operations for CUT. Compliance with the above principles is monitored closely by management and Council and any perceived or proven deviations are addressed effectively and expediently in terms of the relevant CUT rules, policies and procedures.

The Council exercised its delegated powers conscientiously and with success during the year under review, and fulfilled its responsibilities with regard to governance. During the four meetings and one workshop held, the Council conducted deliberations and took decisions that were based on the principles of good governance. Members of Council observed the provisions of the CUT Code of Conduct and the Ethics Policy that was approved by Council in 2014. Councillors acted in the interest of the CUT, and they declared explicitly and recused themselves when they did not agree on a matter discussed by Council. All the resolutions of Council were recorded in a register.

During 2014, Council attended to and addressed a number of significant institutional matters, the most important of which were the following approval of policies, plans, constitutions and manuals:

- Cllr Dr SM Seane was duly elected as Chairperson of Council for the period March 2014 to March 2016.
- Approved the following policies, plans, constitutions and manuals: Technology and Innovation Plan, 2014–2020; Intellectual Property Policy; Institutional Operational Plan 2014; Alumni Association Constitution; Policy on the naming of buildings; Parameters to inform exit settlements; Admissions Policy and Procedure for 2015; Procurement Policy and Procedure, Policy and Procedure for Ethical Governance, Management and Operations at CUT; Policy on Research Centres, Units and Groups; Disciplinary Procedure for Staff; Procedure for Addressing a Grievance Raised by an Employee; Procedure for Addressing Poor Performance by an Employee; Internal Audit Charter; and the Audit and Risk Committee Charter. Academically related matters that were submitted by the Senate for Council approval are documented in the Senate section.
- Council approved the following Council Key Performance Areas (KPA's): Institutional Sustainability and Risk Management, Transformation and Leadership, Resource Mobilisation and Allocation and Governance Framework.
- Council also approved the following financial proposals: The mandate for salary negotiations 2015 and 2016; the increase in student fees for 2015, 2016 and 2017; the remuneration policy, market alignment and salary anomalies; the extension of external auditors (PriceWaterhouseCoopers) appointment; the authority levels of transferring funds between the cash manager account and the current account; a resources allocation model (RAM) for the CUT; and the preliminary headline budget for 2015 to 2017.
- That a farm/property be purchased. Council agreed on a maximum amount of R4,5 million, inclusive of all other costs, for the purchase of a farm/property. Due to the urgency of the matter, Council mandated the Executive Committee (Exco) of Council to conclude the purchasing of a farm before the end of January 2015.
- The Vice-Chancellor's application for sabbatical leave was in line with the Policy on Sabbatical Leave, and was part of the VC's employment contract. Council approved this sabbatical leave for the period 23 June 2014 to early October 2014. Council also approved all the concomitant management arrangements for the period in question.

The next section summarises the activities of the Council committees during 2014.

## Standing committees of Council

Section 29(1) of the Act provides for the establishment of Council committees to perform any of the Council's functions. The under-mentioned committees were approved by Council to execute the above authority. As 2014 commenced, all committees were operating under constitutions that had been aligned with King III.

**The Executive Committee (Exco) of Council** addresses urgent matters between Council meetings and issues referred to it by Council or its standing committees. It is also the Membership Committee of Council. Chaired by Cllr Dr SM Seane, the Exco of Council held seven meetings during 2014 (three of which were special meetings) to address matters such as the reconstitution of the Convocation/CUT's Alumni Association Constitution; response to a letter from the Minister dated 18 December 2013 regarding the conclusion of the De Bruin Commission of Enquiry or the De Bruin Investigation; the amendment to the Higher Education Act/HESA; co-opting of external experts to serve on standing committees

of Council; report on the Investment Committee of Council; report on Tender T20/2013 – recruitment agencies; report on the IPerMS for final assessments of P1 to P3; term of office of Mrs R van Biljon; nominations of potential candidates to serve as ministerial appointees on a Council of a university; Institutional Operational Plan (IOP) 2014; Strategic Budget 2014; report on Tender O1/2014: Pre-qualification of contractors for construction of DHET 3-300 infrastructure projects; Regional Council Workshop; term of office of the Chairperson of Council; 2013 CUT Annual Report; Vice-Chancellor's sabbatical leave; disciplinary case/expulsion of 12 CUT students; University Chairs of Council



Forum (UCCF), South Africa; report on tender TO5/2014: Professional security services; filling of marketing vacancy on Council/nominations received for external Councillors; New Age article on racism at CUT; request for proposal for a turn-key solution (design, supply, installation, commission and maintenance) for an integrated security system(s) at the Bloemfontein and Welkom Campuses; termination of office as ministerial appointees on the Council of CUT; appointment to serve as ministerial appointee on CUT Council; current Car

Park at the new extension of the BHP Billiton Building; records management; disciplinary case against Welkom students; Tender TO7/2014: The upgrading of the existing sports field lighting; filling of vacancy on the Investment Committee and Finance Committee; Audit and Risk Committee Charter; the Vice-Chancellor's sabbatical leave report; reports on the DHET 3-300 projects; as well as other matters referred by Council for finalisation.

After Council had noted and recorded the termination of the terms of office of the three Ministerial appointees on Council, namely Councillors Loate, Qegu and Setai, Council resolved to reconstitute the standing committees of Council in order to maintain stability.

**The Finance Committee of Council** governs the planning, financial and resources affairs of CUT. It considers and recommends to Council corporate strategic plans; finance and resource governance; and the annual budget. It also monitors performance in relation to the approved budget, and ensures the financial health of the institution as an on-going concern. The Finance Committee is delegated to approve the following: finances with regard to new positions on the permanent staff establishment; loans and overdraft agreements; the creation of foundations/trusts and other legal entities; the construction of permanent buildings; the purchasing and long-term lease of fixed property; etc.

The Finance Committee met five times during 2014, chaired by Cllr T Loate. Specific issues attended to during 2014 included Tender T20/2013 – Invitation to professional recruitment agencies to submit a tender for the recruitment and supply of temporary personnel for both campuses; the mandate for salary negotiations 2015; the increase in student fees 2015–2017; the strategic project proposals 2014; the progress on the Institutional Operational Plan for 2014; the salary anomalies/market-related salary structure at CUT; the Procurement Policy and Procedure; the CUT Campus Master Plan; the Annual Financial Statements for 2013; the DHET infrastructure projects; the report on broad-based black economic empowerment (BBBEE) procurement; Tender TO5/2014: Professional security services; a request for

proposal – A turn-key solution (design, supply, installation, commission and maintenance) for an integrated security system(s) at the Bloemfontein and Welkom Campuses; Management's report on financial performance; income statement and balance sheet; a report on the analysis on the report on the Ministerial Committee for the review of the funding of universities; A Resources Allocation Model (RAM) for CUT; the preliminary Headline Budget: 2015 to 2017; Tender TO7/2014: The upgrading of the existing sports field lighting; DHET enrolment planning tables for 2014/15 to 2019/20; The status of Central University of Technology Innovation Services (CUTIS); Institutional Operational Plan 2015; and a proposal on the agri-centre/farm.

**The Audit and Risk Committee of Council**, in keeping with sound governance principles, Council delegated the governance of risk and information technology (IT) to the Audit and Risk Committee of Council. The Audit and Risk Committee of Council is independent and chaired by an external member. The committee assists Council in fulfilling its overview responsibilities. It reviews the annual financial reporting process; the system of internal control and management of institutional risks; the audit process; and CUT's process for monitoring compliance with laws and regulations. The Committee, chaired by Cllr Prof. B Setai in 2014, held four meetings and one workshop during the year. Specific matters attended to include the progress on internal and external audit findings; a special request by Quartile Capital on internal audit review on the procurement processes and the implementation of projects related to the DHET 3-300 infrastructure projects; quarterly reports for internal and external auditors; the Strategic Risk Mitigation Progress Report; the CUT's Strategic Risk Assessment Report; the Internal Audit Plan for the period January to December 2014; a review of the Internal Audit Function; the Policy and Procedure for Ethical Governance, Management and Operations at the CUT; the annual financial statements **2013**; **the Procurement Policy and Procedure**; **the**



external auditors' appointment; a meeting with the Auditor-General; the Audit and Risk Committee Charter; the Internal Audit Charter; the Information and Communication Technology (ICT) Governance Framework; and the External Audit Plan for the year ending 31 December 2014.

Councillors' attendance of the Audit and Risk Committee meetings in 2014 is summarised in Table 4 below.

**The Investment Committee of Council** reviews the investment performance of CUT on a quarterly basis to determine the continued feasibility of achieving the investment objectives set out in CUT's Investment Policy. It should ensure the maintenance of a financially sound investment structure, as well as sufficient reserves to meet the strategic objectives of the institution. The Committee, chaired by Cllr R van Biljon, met four times during the year and attend to matters such as the reinvestment of funds, cash flow reports and the progress of the DHET 3-300 projects. The three appointed multi-managers for CUT's investments gave feedback on investments.

**The Human Resources Committee of Council** recommends appropriate strategic directions and priorities in human resources governance to the CUT Council, e.g. performance management, conditions of service and employee relations. The Committee, which has fully delegated power to approve new positions on the permanent staff establishment of the institution, was chaired by Cllr MM Mohohlo in 2014. Four regular, quarterly meetings were held during the year. The Committee attended to matters such as the implementation of the Institutional Performance Management System

(IPerMS); medical pre-funding/post-retirement medical aid liability; the Policy on Higher Education Studies for Employees and their Dependents; staff movements and absenteeism; the recruitment of a Registrar; the matter related to the chairing function of the Selection Committee; the recruitment of a Deputy Vice-Chancellor: Resources and Operations; the implementation of the Bill of Rights; parameters for settlements with employees; the Grievance Policy and Procedure; and the Policy on the Promotion of Academic Staff.

**The Remuneration Committee of Council**, which attends to remuneration issues specifically mandated by Council, was chaired by Cllr Dr SM Seane, and met once in 2014 to discuss the Remuneration Policy, market alignment and salary anomalies for Peromnes levels 1 to 3 and Peromnes levels 4 to 16.

## GOVERNANCE CHALLENGES

### Appeal against suspension of 12 CUT students

Despite the commitment of CUT to cooperative governance, there are times when cooperative governance presents challenges. In terms of national laws, international students are required to submit study permits before they may be registered as students at South African institutions. In 2014, the Student Representative Council (SRC), in support of international students who demanded to be registered without having submitted study permits, led a student action that was in violation of the CUT Disciplinary Code. Management suspended those involved, and they later had to appear before a Disciplinary Committee. The students pleaded guilty and the recommended sanction was expulsion, effective from 21 July 2014.

In accordance with the CUT Disciplinary Rules, the students lodged an appeal against the sanction. The Disciplinary Appeal Committee recommended that all 12 appellants be expelled from CUT, the expulsion to be wholly suspended for a period of three years. Should the appellants be found guilty of the same or similar misconduct within the next three years the expulsion would come into effect.

According to the Student Disciplinary Rules, the recommendations of the Appeals Committee are submitted to the Vice-Chancellor for a final decision. The Acting Vice-Chancellor considered the recommendations and ruled that the appellants be suspended from their studies at CUT for a





period of 12 months from 21 July 2014. Should the appellants be found guilty of the same or similar misconduct within three years of their return to their studies, expulsion from CUT would be automatic.

The students and members of the public marched and presented a memorandum, addressed to the Chairperson of Council, seeking the intervention of Council. A special meeting of Exco was convened to address the matter. After a lengthy discussion, Exco resolved to uphold the Appeal Committee's recommendations and set aside the ruling of the then Acting Vice-Chancellor.

The convening of the special Exco meeting and the decisions taken by Exco raised governance questions. Was Exco authorised, in terms of CUT regulatory documents and the CUT Calendar, to overturn the Acting Vice-Chancellor's final decision to suspend the 12 students? The Central University of Technology, Free State (CUT) Council is the highest disciplinary

authority at CUT. Exco concluded that Council could consider the decisions made and come up with a final decision when requested to do so. In the case under consideration, there was an appeal to Council, and Exco is delegated by Council to deal with urgent matters, especially those matters that could be detrimental to the effective functioning of the institution (according to the Constitution of Exco). It was noted, however, that in the process of exercising the right of considering referred disciplinary matters, Exco should not create a situation where all dissatisfied employees and students approach the Exco, turning it into an appeal body when the rules do not stipulate so. In addition, Exco decisions should not undermine CUT regulations. Management, on the contrary, argued that, by setting aside the Acting Vice-Chancellor's ruling, Exco/Council was not only playing its governance role, but was undermining the existing rules and managing the institution. That could easily result in dysfunction. Ultimately, Council resolved to uphold the Acting Vice-Chancellor's ruling.

## COOPERATIVE GOVERNANCE

The quarterly Management Reports to Council address the management of stakeholder participation and relationships. Student leadership was involved in the major governance and management structures of CUT. The Institutional President and the Welkom Campus President of the Students' Representative Council (SRC) are members of both Council and Senate.

The Student Services Council (SSC), which comprises 50% staff and 50% students, attended all matters relating to services affecting students. For example, after a discussion on the effective use of the IntelliCard system, the SSC resolved that CUT should negotiate with the managers of merchants such as Pick 'n Pay Waterfront, Checkers Westdene, Captain DoRego's and Clicks, to include them as vendors the students can use.

The Student Academic Affairs Committee (SAAC) attended to all academically related issues that have a direct impact on students. Constructive comments and inputs from students were incorporated in effecting improvements and critical change. For example, in response to students' concerns regarding Academic Exclusion processes (i.e. communication and decisions), as part of a strategy to streamline processes critical in enhancing student academic support, the Academic Appeals Committee was requested to organise a workshop to be held during the course of the third week of January 2015. In addition, to ensure that the socio-economic challenges that affect students' academic performance are minimised, Faculties were urged to put in place mechanisms through which they will assist in identifying students who are in need of assistance. Student Accounts and Bursaries, and the Wellness Centre would be consulted and their expertise utilised.

## Senate

Senate, as a statutory body, made an important contribution to the positioning of CUT aligned with Vision 2020 as a leading 21st century university of technology. Contributions by the various committees of Senate, namely:

- the Executive Committee of Senate, the four Faculty Board committees,
- the University Academic Appointments and Promotions Committee,
- the University Academic Planning and Quality Committee,
- the University Engagement Committee, the University Research and Innovation Committee,
- the University Internationalisation Committee,
- and the University Teaching and Learning Committee

were discussed at the four regular Senate meetings held during the year, with specific recommendations to Council.

Senate provided strong academic leadership through strategic inputs on matters pertaining to teaching, learning, research, innovation, community engagement and through scrutiny of academic processes and their implementation. Senate focused on the challenge of maintaining the university's academic excellence by providing excellent academic leadership and focused and relevant academic programmes with high impact (discussed in the strategic management section). Senate also approached the core activities on a multidisciplinary and interdisciplinary basis, so that, CUT was able to take giant strides forward as far as the academic project was concerned.

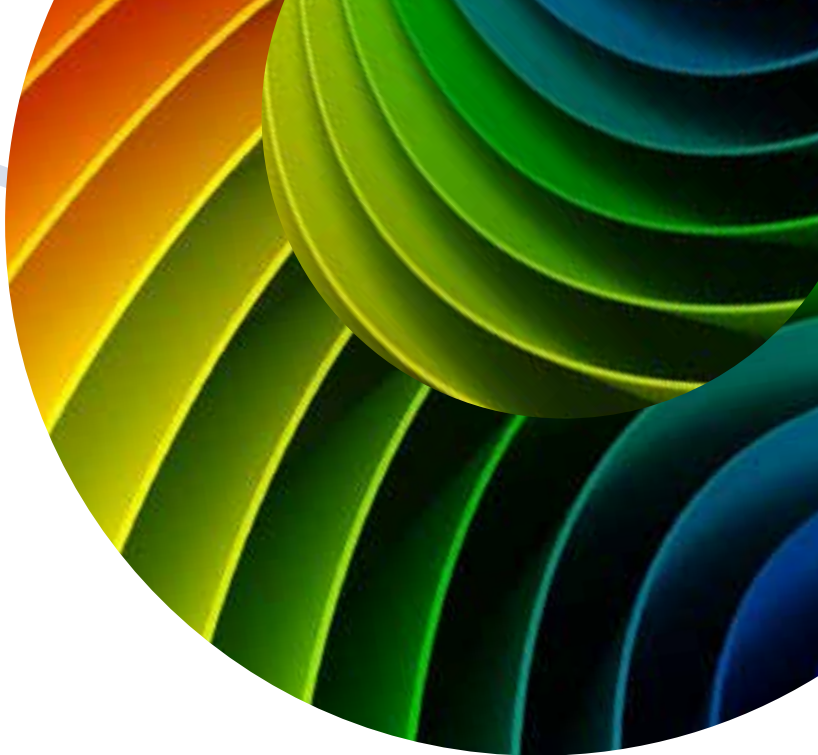
Matters that received attention in Senate meetings included the recommendation of a number of new academic programmes for approval by Council; the recommendation of a number of policies to Council; and the discussion of teaching, research and community activities that are related to the academic project.

The following were some of the matters approved by Senate and recommended to Council for approval in 2014:

- The Technology and Innovation Plan 2014 to 2020;
- The Intellectual Property Plan and Policy;
- The Policy on the Attraction and Retention of Scarce and Critical Skills;
- Admissions Policy and Procedure for 2015;
- The Policy on Research Centres, Units and Groups;
- The bestowal of an Honorary Doctorate in Language Practice upon Prof. Zakes Mda;
- Reports by Faculties, Academic Support Sections, Senate standing committees and their committees;
- Work-integrated Learning Policy;
- Community Engagement Strategy and Plan 2015 to 2020;
- Student Assessment Manual for 2015;
- Quality Enhancement Strategy;
- Certification Policy;
- Category A, B, & C academic programmes submitted to DHET and CHE;
- Proposed changes to curricula structures, assessment criteria and others for a variety of academic programmes;
- Centre for Applied Food Safety and Biotechnology;
- Centre for Rapid Prototyping and Manufacturing;
- Unit for Research on Informatics for Droughts in Africa (ACRID); and
- The CUT Quality Enhancement Project Baseline Report for the Council on Higher Education (CHE).







# ACADEMIC PROJECT

# ACADEMIC ACHIEVEMENTS

The CUT has made outstanding progress in enhancing the academic project. A number of academic achievements were recorded during 2014. CUT is known for many things, but none so 'jaw-mending' as the case involving the Centre for Rapid Prototyping and Manufacturing (CRPM) illustrates. During 2014, doctors successfully performed the country's first 3D-printed jawbone implantation in the Kimberley Hospital.

The patient, a 31-year-old man who was suffering from facial disfigurement because of a form of cancer. He received a brand-new titanium jaw implant. The surgery was headed by Dr Cules van den Heever, Extraordinary Professor at CUT, who has extensive experience in prosthetic jaw implantation. The implant serves to fix the facial contour and restore its normal appearance and function. The customised jaw was designed and manufactured on site at CRPM laboratory in Bloemfontein with titanium powder on an EOS M280 machine to replace the lower jaw (more details in the Technology and Innovation section).

Furthermore, the institutions partnership with industry were strengthened with the establishment of a merSETA Chair in Engineering Development for the Further Education and Training (FET) sector and Technology Education at CUT for a three-year period.



Mr Wayne Adams, COO of merSETA, and Professor Thandwa Mthembu officiate the signed Memorandum of Understanding between merSETA and CUT – partners in Engineering Development.

Linked to academic achievements, CUT's students excelled once again during 2014. Mechanical Engineering students were crowned worthy champions of the 2014 Sasol Baja SAE, following two days of action-packed vehicle testing and racing at Gerotek. Competing with universities across the country, CUT's team won the trophies for overall winner and most exciting car (handling and acceleration), and achieved first place in the performance test and second place in the endurance race. Furthermore, Mss Tshepang Mokhatla and Carly Willemse, second-year Tourism Management students, were awarded the first prize in the Free State EnterPrize Job Creation Challenge Competition for the most innovative business idea. They received a prize of R150 000 to fund their business idea.

In addition, the ENACTUS students, a society to promote education entrepreneurship, received top prizes in the Local Economic Development category during the 2014 national competition, competing with twenty-six other institutions.

Lastly, as part of the Strategic Transformation of Educational Programmes and Structures (STEPS) Project, a further four accredited new academic programmes were introduced in 2014, namely an Advanced Diploma in Agricultural Extension, a Higher Certificate in Renewable Energy Technologies, a Diploma in Studio Art, and a Bachelor's Degree in Radiography.

One of CUT's institutional objectives for 2014 was to pursue strategic partnerships, and a number of faculty-related events took place in this area of activity. The following highlights are some of the key partnerships, co-operation agreements and links to industry, as well as success stories for faculties.

## FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGY

**Prof. Alfred Ngowi**

Dean: Faculty of Engineering and Information Technology



### Achievements

- The Faculty occupied their allocated space in the new Engineering Technology Building (ETB), which became fully functional in 2014. This meant more laboratory space, and in turn added more value to the quality of teaching and learning.
- Most of the computer labs in the Faculty were refurbished in order to accommodate more PCs and therefore more computer stations for use by students.
- The Department of Information Technology and the Department of Electrical, Electronic and Computer Engineering started using clicker technology with great success in their classrooms and during assessments.
- All the academic programmes in the Engineering disciplines and Built Environment are accredited by the relevant professional bodies.
- The Faculty initiated digital scholarship in 2014 with the aim of engaging students using digital technologies to enhance their experience at CUT.



- Twenty-eight staff members read towards their master's degrees and fifteen towards their doctoral studies.





- Thirty-three publications appeared in accredited journal, compared to the twenty-five articles published in 2013.

- Seventy-six papers were delivered at conferences nationally and internationally, compared to the forty-eight presented in 2013.



- Forty-three per cent of papers read at conferences were published.

- Sixteen staff members served as peer reviewers for national and international journals, compared to the fifteen of 2013.



- Seventeen staff members served on editorial boards nationally and internationally, compared to the four staff members that served on editorial boards in 2013.

- CUT's Electrical Engineering students obtained a commendable third place in the Annual Cyber Junkyard competition.

- Mechanical Engineering students obtained a respectable third position in the 1927 Tractor Restoration Competition organised by Nampo.



The final product, with Sasha the dog, Marno Ferreira, Eric Newby, André Heydenrych and Allan Kinnear.  
Photo: Francois Heydenrych

- Staff members of the Department of Mechanical and Mechatronic Engineering served on the Executive Committee of the Rapid Product Development Association of South Africa (RAPDASA) and they are members of the regional Technology Innovation Agency (TIA).

## Awards/Donations

A total of R3 090 117 was made available by the National Research Foundation (NRF), the Water Research Commission and the Technology Innovation Agency (TIA) to researchers in the faculty.

## Significant Highlights

- Staff members in the Faculty were appointed as moderators and external examiners at a number of universities, including the Walter Sisulu University, Nelson Mandela Metropolitan University, Makerere University, Stellenbosch University and the Tshwane University of Technology.
- Various staff members in the Faculty served as reviewers for a number of technical journals. This include the Journal of Construction Project Management and Innovation; Journal of Built Environment Project and Asset Management; Journal of Engineering, Project, and Production Management; South African Journal of Business Management; International Journal of Construction; Journal of Tourism Management; Journal of Transportation Engineering (ASCE); International Journal of Pavement Engineering; African Journal of Agricultural Research; Journal of Water Management; Journal of Risk and Reliability (UK); The American Journal of Experimental Agriculture (AJEA); and the European Journal of Engineering Education (EJEE).
- Various staff members in the Faculty served on the editorial boards of technical journals, such as the International Journal of Teaching and Case Studies (Prof. F Emuze); Journal for New Generation Sciences (Dr M Mostafa and Dr JG van der Walt); and International Journal of Agricultural Policy and Research (Dr EM Masinde).
- The Faculty established linkages and fostered collaboration with a number of partners. This included the International Labour Organisation (ILO); the National Department of Public Works; NMMU; UJ; the London South Bank University; the University of Minnesota; Jimma University (JU) in Ethiopia; the Johannesburg Centre for Software Engineering (JCSE), the Free State Provincial Government; the University of Nebraska in Lincoln, USA; the University of Southern Queensland in Australia; Linköping University in Sweden; the Hochschule Ulm in Germany; the Kigali Institute of Science and Technology (KIST) in Rwanda; the University of Dodoma in Tanzania; and the National University of Burundi.
- The Faculty engaged with a number of industrial partners and agencies during 2014, including SA Truck Bodies; Transnet; the Free State Department of Economic Development, Tourism and Environmental Affairs; the Technology Innovation Agency (TIA); the Free State Development Corporation; the Council for Scientific and Industrial Research (CSIR); the Industrial Development Corporation (IDC); the National Aerospace Centre in Johannesburg; and AMTS.
- The Department of Information Technology is a member of the Euro Africa Cooperation Forum on ICT Research and Science Technology and Innovation for the Development of Africa.





**Prof. Sam Mashele**  
Acting Dean: Faculty of Health and Environmental Sciences

## Achievements



- Twenty-three articles were published in accredited journals, and one patent was registered.

- Twenty-four papers and posters were presented internationally and nationally.



- Forty presentations were made at international and national conferences and workshops.

- Ten staff members served on the editorial boards of national and international journals.



- Twelve staff members served as internal and external assessors and moderators.

- Staff members in the Faculty served on the Toyota New Harvest of the Year Competition Board; the SEDA Agriculture and Mining Tool Incubator; the Southern African Institute for Agricultural Extension and Rural Development; the Free State Nguni Cattle Project; the Advisory Board of the MEC for Agriculture in the Free State; the Comprehensive Africa Agriculture Development Programme; and the National Research Foundation (NRF) for the Blue Skies Concept Notes – Agricultural Sciences, Botany and Ecology.
- The Department of Agriculture entered into a three-year renewable agreement with the Mokhachane Community Property Association (CPA), a farming project located at Wesselsbron in the Lejweleputswa District Municipality.

- The Minister of Science and Technology appointed Prof. Carlu van der Westhuizen as Council Member of the South Africa Council for Natural Scientific Professions.

- Ms Belinda van der Merwe was elected as the President of the National Council of the Society of Radiographers.

- Prof. Hesta Friedrich–Nel was elected to Secretary for SAAHE at National Executive level.

- Ms Hildah Ntsoelinyane received the award for the best poster presentation at the second international conference and exhibition on Pharmacognosy, Phytochemistry and Natural products, held from 25 to 27 August 2014 in Beijing, China.

- Dr Olga de Smidt was elected as a member of the Diversity Steering Committee of the Sugar Milling Research Institute (SMRI).
- Ms Jeanne Oosthuisen was elected as a member of the HPCSA Board for Dental Therapy and Oral Hygiene Task Team.

## Awards/Donations

A total of R2 055 000 (in NRF and CUT grants) was awarded to researchers in the Faculty for the academic year 2014, and R1 512 030 were sourced for postgraduate students.

## Significant Highlights

- The Faculty established linkages and fostered collaboration with a number of partners, including Cornell University, USA; the University of West of Scotland in Glasgow, Scotland; the New York School for Medical and Dental Assisting; and the University of Kimpa Vita in Angola.
- The Faculty also had agreements with private radiology practices in Bloemfontein and Kimberley for the training of students.
- Biomedical Technology programme members worked with private pathology laboratories (PathCare and Van Rensburg Pathologists) in Bloemfontein and Kimberley, as well as the National Health Laboratory Services (NHLS).
- The Clinical Technology programme provided services to the Western Cape Government and the Free State Department of Health. Private practices (industry) and state hospital units were represented on the Clinical Technology Advisory Board.

## FACULTY OF HUMANITIES



**Prof. David Ngidi**  
Dean: Faculty of Humanities

## Achievements



- Forty-five articles (39.0 publication units) were published in accredited journals.

- Twenty-six papers were presented at national and international conferences.



- Seven staff members served as peer reviewers of articles in accredited journals.



- Nine staff members served as external examiners of postgraduate students of other universities.



- Two staff members served on editorial boards of journals.

- **The undergraduate pass rate was 77.11% in 2014.**

77.  
11%



- Ten master's students and six doctoral students graduated in 2014.

- Dr Pule Phindane was nominated to serve on the Pan South African Language Board, as well as nominated by the Department of Arts and Culture to be part of Terminology development in the Life Orientation Intermediate Phase.

- Mr Gideon Zwane hosted SABC journalists to contribute to the documentary on "Free State economy's declining mining cause high unemployment".
- Dr B Khoboli successfully organised the 12th Annual SAARMSTE Research School for Mathematics, Science and Technology Education hosted by CUT.
- Ms Luzaan Schlebusch was elected as part of the Item Writing Team (CAT) for the DBE.
- Dr Victor Moeketsi conducted research in respect of 2014 Grade 12 examination papers for UMALUSI. He also compiled an analysis of Sesotho drama texts for the Department of Education (DoE) through Pearson Publishers and completed a manuscript for the South African Folklore Society Journal.

## Awards/Donations

- Financial support of R27 317 706m was provided by the Funza Lushaka Bursary Scheme to Teacher Education students.
- A total of R231 450 was awarded by the NRF and R240 000 by CUT to researchers in the Faculty.
- A total of R968 220 was provided by CUT to thirty-two master's and seven doctoral students.

## Significant Highlights

- Staff members in the Faculty were appointed as moderators and external examiners at a number of universities, including North-West University, the University of Johannesburg; the University of the Free State; Rhodes University, the University of South Africa, the Nelson Mandela Metropolitan University, the University of KwaZulu-Natal, the Walter Sisulu University and the University of Pretoria.

- Various staff members in the Faculty served as reviewers for a number of technical journals including the JRE Journal; Journal of Social Sciences (JSS); Journal of Sociology and Social Anthropology (JSSA); Journal of Social and Socio Anthropology; Journal for Social Science; and the Journal for New Generation Sciences.
- Various staff members in the Faculty served on the editorial boards of technical journals, including The Qualitative Report (online journal); Journal for New Generation Sciences (JNGS); and The Athens Journal of Education.
- The Faculty established linkages and fostered collaboration with a number of partners. This included the Department of Basic Education on the Delmas project; Mahasarakham University; Chiang Mai University; Rajabat Mahasarakham University (all from Thailand); the University of Pretoria (UP), the University of KwaZulu-Natal (UKZN), the Tshwane University of Technology (TUT); the Maryland Institute College of Art (USA); the Vaal University of Technology (VUT); Thomas More University (Belgium); Aalen University (Germany) and the University of the Free State (UFS).

## FACULTY OF MANAGEMENT SCIENCES

**Prof. Albert Strydom**  
Dean: Faculty of Management Sciences



### Achievements



- Nineteen papers were presented at national/international conferences.

- Twenty-two articles were published in accredited journals.



- Nine master's students and one doctoral student graduated in 2014.

- Staff members in the Faculty served as members and other on various boards and structures, including the Bar Council (Advocates); Attorney's Bar; assessor for the South Africa Netherlands Research Programme on Alternatives in Development; Finance Committee of the Universitas Hospital Board of Management; member of the Joint Advisory Committee of the University of the Free State; Chairperson of the Risk Management Committee of the Department of Cooperative Governance and Traditional Affairs and the Department of Human Settlements; member of the Institute of Business Advisers of Southern Africa (IBA); registered assessor for LGSETA; regional member of the Association of South African Travel Agents (ASATA); the South African Institute for Drug-Free Sport's Tribunal; the Audit Committee of the War Museum; and the Free State Residential Care Centre.
- Three staff members were registered as full members of the South African Institute of Chartered Accountants (SAICA); one as full member of the South African Institute of Professional Accountants (SAIPA); two students as student members of the Chartered Institute of Management Accountants (CIMA); and one staff member as full member of the Association of Accounting Technicians (AAT).

- Dr René Haarhoff received accreditation as a trainer for International Fares for Beginners as well as Fares within Africa. In addition, Prof. Dennis Dzansi received the Vice-Chancellor's Excellence Award for Established Researcher, whilst Ms Leandi Steenkamp received the prize for the best paper in Auditing at the 2014 SAAA conference in Potchefstroom.

## Awards/Donations

- A total of R640 510 was awarded by the NRF and CUT to researchers in the Faculty.
- The Culture, Arts, Tourism, Hospitality and Sport Education and Training Authority (CATHSSETA) awarded R1 206 000 in the form of sponsorships to the Department of Tourism and Event Management.

## Significant Highlights

- The Department of Tourism and Event Management was chosen as the South African partner to participate in the Horn of Africa Regional Environmental Centre and Network (HoAREC), together with the Vrije University of Amsterdam; the Katholieke Universiteit Leeuven; Jimma University; Addis Ababa University; Hawassa University; Mizan-Tepi University; and Arba Minch University.
- The Faculty was involved in a number of partnerships with national and international universities including the University of the Free State; North-West University, the Vaal University of Technology, the Tshwane University of Technology, the University of Pretoria, the University of KwaZulu-Natal; Aalen University of Applied Sciences; and the Hochschule Harz in Germany.
- The Faculty awarded an Honorary Doctorate (DTech: Business Administration Honoris Causa) to Dr Gill Marcus, Governor of the SA Reserve Bank.
- The Faculty presented the inaugural Herman Mashaba Annual Lecture on Entrepreneurship. It was presented by Dr Mashaba, holder of a CUT Honorary Doctorate.
- The Faculty presented two public lectures in conjunction with PricewaterhouseCoopers.
- The Department of Accounting and Auditing received a trophy from the Advancement of Black Accountants in Southern Africa (ABASA) for the best supporting organisation in 2014.
- The Faculty was involved in a number of partnerships with government, business and institutions including the Executive Development Programme (EDP) of the National School of Government; the Accounting Technicians (AAT) programme; the South African College for Tourism; training of guesthouse managers for the trans-frontier national parks; training in restaurant service to various schools; Centlec; Maccaulei Learning Academy; Thabiso Skills Training Centre; and the Faculty hosted the Business Ethics Project Awards function in conjunction with PricewaterhouseCoopers.
- In 2014, CUT offered programmes in the Faculty of Management Sciences to students at the New Park Campus of NIHE. CUT made a strategic decision in 2013 to phase out learning programmes offered at the Kimberley Learning Site as from 2014. A rental agreement was finalised with the newly established Sol Plaatjie University as from 2015.

## ACADEMIC DEVELOPMENT AND SUPPORT



**Prof. 'Mabokang Monnapula-Mapesela**  
Dean: Academic Development and Support

Academic Development and Support (ADS) focuses on preparing staff – especially novice, young and designated academics – to embrace new trends and innovations in teaching and learning (e.g. streamlining learner-centred approaches to teaching and learning). This enables the effective implementation of mixed modes of instructional delivery and learning by embedding technologies in teaching and learning. It also allows for an improved response to socio-economic needs, international/global, national and institutional change and transformation imperatives, as well as the effective design and implementation of innovative programmes that are not only aligned to the Higher Education Qualifications Framework (HEQF), but also pursue CUT's Vision 2020. This is achieved through four centres, namely Teaching and Learning, Work-Integrated Learning, Curriculum Development, and E-Learning and Educational Technology.

Significant progress has been achieved in the various areas of ADS, which include:

- The Academic Language Proficiency (ALP) programme was transferred to the Department of Communication Sciences as a credit-bearing and subsidy-earning programme with effect from 1 January 2014. The programme is now called Academic Language Literacy and Communication Studies, and is part of the CUT core curriculum.
- HESA awarded a two-year project titled "The incorporation of HIV-AIDS into the curriculum" to CUT to the value of R450 000.
- A number of training sessions and workshops were offered to staff and students.
- A Project titled "Researching the Scholarship of Teaching and Learning" was launched involving eight mentors and thirty-three mentees in the project researching teaching and learning practices. Fourteen scholarly papers were presented in 2014.
- Four-hundred and twelve online student evaluations of content and academic staff were conducted and feedback reports submitted to academic staff during 2014.
- Feedback was received from the Council of Higher Education (CHE) on thirty-eight category A programmes. Re-curriculation of the eleven category B programmes was undertaken, and fourteen new programmes were developed.
- Prof. Mabokang Monnapula-Mapesela was reappointed on the Umalusi Council, whilst Mr Nico Baird was appointed as member of the Executive Committee of the South African Association of Health Educationalists, and member of the Executive Committee of Andes. Mr Henri Jacobs was appointed as Chairperson of the SATN Work-integrated Learning (WIL) Task Team.

## Access to selected courses and academic progress in different disciplines and study areas

CUT faced several challenges in 2014 with regard to student access to the institution at large and into specific courses of study. Progression in different levels of study, as well as in different disciplines, also poses major challenges to the institution. Some of the challenges related to access, and consequently to throughput and success, including the following:

- Under-preparedness of first-time entering students;
- Late applications and dependency on student walk-ins;



- Students enrolling in programmes that are not their first choice;
- Capping of numbers in some programmes and a lack of space in others;
- High drop-out rate at first-year level;
- Low levels of academic language proficiency; and
- Limited laboratory space in some faculties.



A number of academic support interventions have been undertaken to alleviate the above mentioned matters:

- One of the interventions in place to address access is the newly approved Admission Requirements for NCV (4), N3, N4, N5 and N6 qualifications.
- Various teaching and learning interventions were implemented, such as Supplement Instruction (SI), the Student Peer Mentorship Programme, the Scholarship of Teaching and Learning Project and the Graduate Attributes project.
- All new undergraduate programmes incorporated the core curriculum modules. The three modules including Personal Information Management (PIM) were delivered as planned.
- There has been a consistent growth and increase in the number of subjects/modules using e-learning/blended learning - from 19.63% in 2009 and 76.46% in 2013, to 87% in 2014.
- A DHET Teaching Development Grant was awarded for various projects for the support of teaching and learning, improvement of student success and development of academic staff capabilities for the period 2014/15, 15/16 and 16/17.

## Work-integrated Learning (WIL) and Skills Development

A total of R24,4 million in remuneration was negotiated for 818 students placed for WIL. Furthermore, WIL was incorporated in all the new Engineering programmes and the BEd FET programme, as well as in all three- to four-year new undergraduate programmes that were developed, and in 14 re-curriculated programmes.

4 254 students were registered for WIL in 2014, which, per faculty, are as follows:

- Engineering  680
- Health and Environmental Sciences  680
- Humanities  2420
- Management Sciences  638

Difficulty securing placements for Electrical Engineering Heavy Current students are still being experienced, since there are only a few companies offering WIL opportunities for these students.

## Supplemental Instruction

The university implemented Supplemental Instruction to enhance student success. Supplemental Instruction uses peer-assisted study sessions to improve student retention and success within targeted modules. All students who obtained less than 50% in a test were referred for Supplemental Instruction (SI). There was an increase in SI subjects offered and in students' attendance.

## Careers Office

In 2014 the Careers Office subscribed to "10 Minutes With", which is an innovative global career platform built for graduates with offices in London, Beijing and Singapore and has 113 international universities and 143 international companies as members. CUT is the first South African University of Technology (UoT) to collaborate with "10 Minutes With".



In addition, the Careers Office engaged with SEDA, ILO and Universum Global, and it is a member of SAGEA. Career fairs were held on both campuses (6 May in Welkom and 13-14 May in Bloemfontein) with 29 companies and 1 991 students taking part in the fair. Ten company presentations were also held on campus. A CV Clinic was offered from 10-11 April as part of the Mangaung Youth Week in Bloemfontein.

The Careers Office, in partnership with the South African Graduate Employers' Association (SAGEA), enabled CUT students to take part in an International Students' Virtual Career Fair where they could connect with employers all over Africa in an online environment during the months of August and September.

# COMMUNITY ENGAGEMENT

The need to obtain a specific profile and the foci area of the community engagement (CE) projects resulted in CUT revising its CE template. As a result, the CE Model has been transformed to a Comprehensive Developmental Model.

- CE concentrates on two foci, namely development and education;
- CE foci have four activities, namely eradication of poverty, promoting human dignity and health, increasing social capital and sustainable development;
- Community Engagement has five modes of delivery, namely teaching, training, research, skills development and professional engagement;
- Community Engagement spin-out/spin-in from entrepreneurship/innovation/ incubation via quadruple relationship; and
- Community engagement focuses on inputs from and benefit by social communities.

## THE CUT COMMUNITY ENGAGEMENT MODEL

The CUT Community Engagement Model was further enhanced during 2014, and twenty-six projects were successfully completed across the four faculties and the CUT School Advancement Academy. Furthermore, the university participated and collaborated in a number of projects with the South African Higher Education Community Engagement Forum (SAHECEF). CUT is also affiliated with the Talloires Network, which affords the university the opportunity of collaborating and sharing information and best practices on community engagement.

## MAJOR COMMUNITY ENGAGEMENT PROJECTS DURING 2014

The following is a brief overview of a number of the major community engagement projects during 2014:

- Contractor Development Project: Construction management skills were offered to 107 learner contractors on construction-related Information Technology (IT) toolkit training at emerging, small- and medium-size construction enterprises. Internal staff participants were from the Faculty of Engineering and Information Technology and external partners included the Department of Police and the Department of Roads and Transport, Free State.

- Luckhoff Farmer Mentor: This project aimed to mentor young previously disadvantaged farmers at the Aloekop Farm, Luckhoff, Free State with the view to sustainable sheep and cattle production. The areas of intervention included inter alia sheep and cattle breeding and selection, animal health monitoring and control, feeding management, financial management, water reticulation and maintenance and creation of jobs. Mentoring these young farmers ensure that they are empowered to develop into sustainable commercial farmers.



Prof. Dennis Umesiobi and Mr MoKhachane, Director of Mokhachane CPA sealed the deal.

- Luckhoff Farmer Mentor: This project aimed to mentor young previously disadvantaged farmers at the Aloekop Farm, Luckhoff, Free State with the view to sustainable sheep and cattle production. The areas of intervention included inter alia sheep and cattle breeding and selection, animal health monitoring and control, feeding management, financial management, water reticulation and maintenance and creation of jobs. Mentoring these young farmers ensure that they are empowered to develop into sustainable commercial farmers.
- Life Sciences Students' Organisation (Lisso): This student organisation were actively involved in a number of community engagement projects which included the Welkom Clean Up Campaign, Marathon Marshalls at Bloemstriders Organised

Marathons, Granny Sebothelo who is talking care of seven foster children, Ebola Awareness campaign and the Bohlabela Orphanage Home.

- **Leratong Small Farm:** During the second semester, Service Learning was undertaken at Leratong Farm (two 10 x 30 m tunnels) where a feasibility study was conducted by the agriculture students with an objective to assist the previously disadvantaged women to run a smallholder farm successfully. With the information in hand, students assisted with compilation of production plan for cucumbers, tomatoes and Swiss chard; the farm marketing plan and a business plan with enterprise and cash flow budgets.
- **Dental Assisting Programme:** Students visited Kganya Crèche in Rocklands where they provided oral health education to pre-primary children, their parents and the caregivers. Pre-primary schoolchildren were given toothpaste, toothbrushes and cups to keep their toothbrushes. These items were bought by the money raised by the Dental Assisting students. The students also painted the crèche.
- **Somatology:** The Somatology students provided treatments to patients of the Oncology Unit of the National Hospital, Bloemfontein. The project included first-, second- and third-year students, based on their knowledge and skills.
- **Health and Awareness: Health-Related Aspects:** This is a service-learning project that focused on high school learners and prisons. Drug and/or substance abuse is common in many of the aforementioned institutions. This project focused on educating learners and inmates on the effects of drugs on their health. They were also educated on the causes, spreading, control, and prevention of diseases.
- **Bloemfontein Crèche Wall Mural:** The Extended Curriculum Programme of Design and Studio Art students and lecturers completed the annual community project at Bloemfontein Crèche. The school's inner wall was in need of repainting as the current paint was in bad condition. The planning phase of this project started in January 2014 when the school was identified as a potential community partner. The ECP Programme provided the raw materials needed for this project, while the ECP students designed artworks for the wall and painted wall murals as part of their curriculum.
- **Strongbow Project:** The Strongbow project, sustainable tourism based on natural resource management with gender balance towards women, is a four-year capacity-building project, which started in January 2011 and ended in December 2014. The principal targets of achievement for staff of the five Ethiopian universities (Addis Ababa University, Jimma University, Mizan-Tepi University, Hawassa University and Arba Minch University) are staff capacity development, curriculum revision, strengthening research skills and demand driven action research methodologies, partnership development and setting up mechanisms for sustainable income generation in Ethiopia.
- **Enactus/Recycling Project:** The Matjhabeng local municipality had a concern regarding a land that was informally occupied. Harmony Gold Mining Co Limited and Matjhabeng Municipality decided on turning Thabong industrial area into a formal business sector. Enactus CUT compiled a questionnaire and conducted interviews with the occupants of the business area (feasibility study). Enactus CUT prepared a report with these findings and made recommendations on a recycling project to be implemented in this area, which were presented to Harmony and Matjhabeng Municipality.
- **CUT Annual Winter School:** Winter School 2014 at CUT started on 30 June and ended on 11 July 2014. A total of 1 284 learners registered and eight subjects were offered by 18 experienced tutors. Engineering Graphics and Design an expanded module for Computer Assisted Design leading to 3D printing was also offered. The project received a generous funding from CSI SBSA of R1 million for the year 2014.
- **CISCO Entrepreneurship Courses:** Eight students enrolled for the CISCO entrepreneurship courses, offering free online training modules in Entrepreneurship (which supplemented the skills gained through the core NetAcad ICT curricula). These programme also included modules on an Introduction to Cyber Security, Introduction to Cisco Data Centre and Getting Connected. This helped students to prepare for new career opportunities.

# RESEARCH DEVELOPMENT AND INNOVATION



**Prof. Laetus Lategan**  
Dean: Research and Innovation

CUT's Research and Development Plan 2014–2020 was implemented during the first term of 2014. The University's Vision 2020 articulates the four leading principles as Sustainable development, Socio-economic development, Input leading to outcomes and Outcomes leading to impact. Consequently, CUT's Research and Development Plan aligned its strategies with the four key research goals, namely:

- the development of a sustained, relevant and responsive research culture;
- the qualitative and quantitative improvement of research outputs;
- socio-economic development through transfer and innovation; and
- the development of strategic research and innovation partners and programmes.

A process of re-defining research clusters of the university was undertaken, and the report was presented at the University Research and Innovation Committee (URIC) on 27 November 2014. Furthermore, as part of the Senate-approved University Research and Innovation Committee (URIC), a Research Ethics and Integrity Committee (REIC) was established in 2014 that will address ethical matters related to research.

## RESOURCE ALLOCATION FOR RESEARCH IN 2014

In March 2014, Council approved R13 million to support the university's strategic research and development programmes, and research and innovation operational budgets. The budget allocations were based on four objectives:

- growing research participation and outputs;
- growing priority areas such as STEM research, black female staff members with doctorates and a next generation of researchers;
- attracting high quality students that can complete especially doctoral studies; and
- outputs based on performance in publications and completed qualifications.



Through the DHET Research and Development Grant the university was awarded R5 190 000 for the period 2014 to 2015. The grant's major focus is on capacity development through growing the number of staff with master's and doctoral qualifications. The university is mindful that the growth of a research culture depends on a number of challenges. Some of these challenges are:

- uneven participation in research activities (internally – supervision, publications and externally grant applications);
- limited funding for staff and students (as a result of limited internal resources and low participation in external research grant applications); and
- absence of well-equipped laboratories in some academic programmes, high volume of part-time postgraduate students and a small critical mass of staff contribute to limited participation in research activities.

## Research and Development capacity-building initiatives

A series of Research and Development workshops were presented during 2014, including workshops on the research process, research ethics and integrity, publication writing and the Research and Development strategic breakaway, with the theme “Fingerprints”. Key critical research enablers were identified in promoting a culture of research within the university. **The approach to research requires collaboration and a vibrant research culture supported by a clear research agenda;** a balanced ratio or proportion of teaching versus research involvement; alignment with regional and continental strategic imperatives; internationalisation of curriculum (e.g. the change from DTech to PhD); growing the university's

research community; building a critical mass in research; and financing of the research strategic plan.

Furthermore, the Faculty of Humanities completed a dedicated edition on research from master's and doctoral dissertations and theses during 2013 and 2014, which was published as Interim 13 (1). The Faculty of Management Sciences completed a dedicated edition on several topics related to Management Sciences, which was published as Interim 13 (2). Lastly, Prof. Susan Tilley, Professor in Undergraduate and Graduate Studies in the Faculty of Education at Brock University, Canada, visited the university during March 2014.

## Research centres, units and groups

On 25 August 2014, the Senate approved a university Policy on Centres, Units and Groups. Council approved the policy on 12 September 2014. The policy was informed by the University Research and Development Plan 2014 to 2020 that was approved by Senate and Council in 2013. The objectives of this plan are directed at building a critical mass in research and optimising opportunities to grow research outputs. The plan identified the approved research clusters and programmes as a meaningful vehicle to meet the outputs of the plan by 2020. Strategy 2 of the plan suggests meaningful structural support to achieve the desired outputs. One such mechanism is research performed by a critical mass organised in centres/

units/groups. The university is conscious of the fact that this exercise is the most important process, which has been undertaken by the institution in the grouping and identification of research niche areas. In order to ensure success of the process and sustainability of the approved entities, the process allows a progressive development of entities – from group to unit to centre. Such development would involve a peer review mechanism that will assist in achieving outputs and refocusing research within faculties. In 2014, seventeen applications consisting of four centres, nine units and four groups were received by the University Research Committee, on recommendation by the Faculties.

## RESEARCH OUTPUTS IN 2014

The table below outlines the progress made on committed research outputs as per DHET-category.

CATEGORY	COMMITTED TARGET	PROGRESS	COMMENT
Accredited journal articles credit units	73	71.83	98% of the target has been achieved.
Completed master's degrees	40	37	93% of the target has been achieved.
Completed doctoral degrees	10	13	100% of the target has been achieved.

Progress on committed research outputs.

## External funding managed by Research and Development Unit

AGENCY	FUNDING	AMOUNT
NRF	Block grants, Thuthuka, rating incentives	R7 600 000
CSIR	Laser rental/access programme	R351 000
PA & A Malan Trust	Studies in art and project on research education	R150 000
DHET R & Grant 2013-2014	In support of R & D Grant	R4 430 000
Cut R & D Grant	In support of R & D Grant	R13 000 000
<b>TOTAL</b>		<b>R25 531 000</b>

Reported in the following sections, amongst others, is the income earned through CRPM projects. The amount of R6 607 838 contributed to the more than R32 million that were available for Research and Innovation activities.

# RESEARCH AND DEVELOPMENT PLAN (2014 TO 2020)

The university's Vision 2020 articulates the four leading principles as sustainable development; socio-economic development; input leading to outcomes; and outcomes leading to impact. Consequently, CUT's Research and Development Plan aligned its strategies with the four key goals:

- The development of a sustained, relevant and responsive research culture.
- The qualitative and quantitative improvement of research outputs.
- Socio-economic development through transfer and innovation.
- The development of strategic research and innovation partners and programmes.

The four leading principles became the main performance indicators of Research and Innovation. This approach corresponds with international best practice in research management. The focus of all research and development activities is that they result in outputs, outcomes and impact. The importance of the above-mentioned approach is that, whilst an enabling environment is created in support of research, the policy directives and management of research are aimed at maximising the outputs, outcomes and impact of research. The following plan was drafted:

## Research and Development activities

FOCUS	OBJECTIVE	ACTIVITY
Scholarly development through research and innovation training	Scholarly engagement with the research process and research cycle.	<ul style="list-style-type: none"> <li>• Pre-doctoral training</li> <li>• Doctoral training</li> <li>• Post-doctoral training</li> <li>• Programme on postgraduate supervision</li> <li>• Programme on scientific writing</li> <li>• Programme on technology transfer and innovation</li> <li>• Annual faculty research seminars</li> <li>• Colloquiums and discussion groups</li> </ul>
Research partnership development	Capacity growth of research projects.	<ul style="list-style-type: none"> <li>• Multi-, inter- and transdisciplinary research.</li> <li>• Joint ventures with national and international universities, research bodies and research councils.</li> <li>• Joint ventures with government/business/industry.</li> </ul>
Development of research clusters and programmes	Strengthening of research capacity.	<ul style="list-style-type: none"> <li>• Student retention and throughput</li> <li>• Publications</li> <li>• Conference attendance</li> <li>• Patents</li> <li>• Rated researchers</li> <li>• Research funding</li> </ul>
Development of technology transfer and innovation	To develop the institutional level of involvement and expertise in technology transfer and innovation.	<ul style="list-style-type: none"> <li>• IP Act of 2008 and Technology Transfer Office training.</li> <li>• Training of staff and students in innovation cycle.</li> <li>• Identification of research outputs for possible innovation.</li> <li>• Studying sustainable technological development.</li> <li>• Supporting the community in efforts of innovation and new product development.</li> </ul>

The following strategies will support this plan: Human skills and potential development, structural development, intellectual skills development, resources, and policies.

STRATEGIES	1	2	3	4	5	6
Human Skills and potential development	Ten integrated support programmes to grow research capacities.	Increasing the enrolment of postgraduate students.	Growing the seniority of the academic staff profile.	Introducing research leave to optimise the opportunity for research participation.		
Structural Development	Reactivation of the Graduate School in support of the faculties.	Implementing the approved constitution of the URIC.	Training for faculty research managers.	Research and Technology and Innovation administrative support would be implemented at the Welkom campus as from 2014.		
Intellectual Skills Development	Rolling out of a scientific writing skills programme.	Implementing a revised Interim publication structure.	Increasing the research outputs of postgraduate students.	Funding for conference attendance based on defined criteria.	Rolling out of institutional training programmes.	Defining criteria for academic staff research outputs in a 3-year cycle.
Resource	Allocation of Institutional Research Grant.	Allocation of DHET Research and Development Grant.	Revising the allocation of publication incentives.	Strategising to grow research equipment and facilities.	Revise funding allocation to students.	
Policy	Revising institutional research policies to reflect the new institutional framework for Research and Development.					

## TECHNOLOGY AND INNOVATION

The Technology and Innovation Unit had a successful 2014 with various projects in support of the academic project and with a direct impact on the socio-economic development of the region and nationally.

### Incubator

The incubator has been revived by the recruitment of new incubator tenants. **Seven new businesses moved into the incubator working spaces** during the course of the year. At least four of these entities are functioning well and meeting all their obligations. In this manner, employment has been created for nineteen individuals through ownership of the incubated enterprises, appointments and a part-time appointment. **Technology and Innovation (T&I) also launched an incubator on the Welkom Campus.** Currently only two businesses are incubated in this facility. Fourteen business clinic courses were offered to incubator tenants, Vision 2020 Innovation and Incubation Programme grant holders and a few IT students.

### Vision 2020 Innovation and incubation programme

Four applications for grants in this programme were approved and good progress was made with the rollout of the respective projects. An Innovation Competition was also offered as an element of this programme.

### TIA Seed Fund

TIA's Seed Fund initiative was also rolled out by the Technology and Innovation Unit, and an amount of R1 430 000 was paid over to CUT to manage the execution of four projects. Due to a delay in the transfer of these funds the execution of the projects are currently behind schedule.

### Technology Transfer Office (TTO)

Six applications for Intellectual Property (IP) registration, consisting of one final patent, two provisional patents and three design registrations, were submitted to the Companies and IP Commission, whilst a further five applications are being prepared by the TTO, with the assistance of patent attorneys, for registration. The registration of one application has been discontinued for technical reasons. A funding application has been submitted to NIPMO for the appointment of a business

development officer. The application was approved and an amount of R1 146 096, as well as a moderate amount for training and administrative expenses, is to be availed over a period of three years. **A comprehensive booklet titled Becoming IP Wise was developed by the TTO and used as a guiding document during a short course in IP offered to staff, students and incubator tenants.**

### SEDA Agricultural and Mining Tooling Incubator (SAMTI)

The SAMTI is an element of the Science and Technology Programme of the Small Enterprise Development Agency (SEDA). It is funded by the Department of Trade and Industry and is aimed at the development of an enhanced technical capacity in tool making, with special emphasis on the agricultural and mining sector. The Director: Technology and Innovation is the head of this entity and functions as liaison between CUT and SAMTI. Five participants of SAMTI graduated from the incubator at the end of 2014. A water jet cutter of SAMTI, financed to a value of approximately R1 million with a donation from Eskom, has been commissioned and is available for use by CUT if needed. **This unit has been requested by several regional role-players to extend its services to Gwaqwa, Welkom and Kimberley.** These possibilities are now being investigated.

# Centre for Rapid Prototyping and Manufacturing (CRPM)

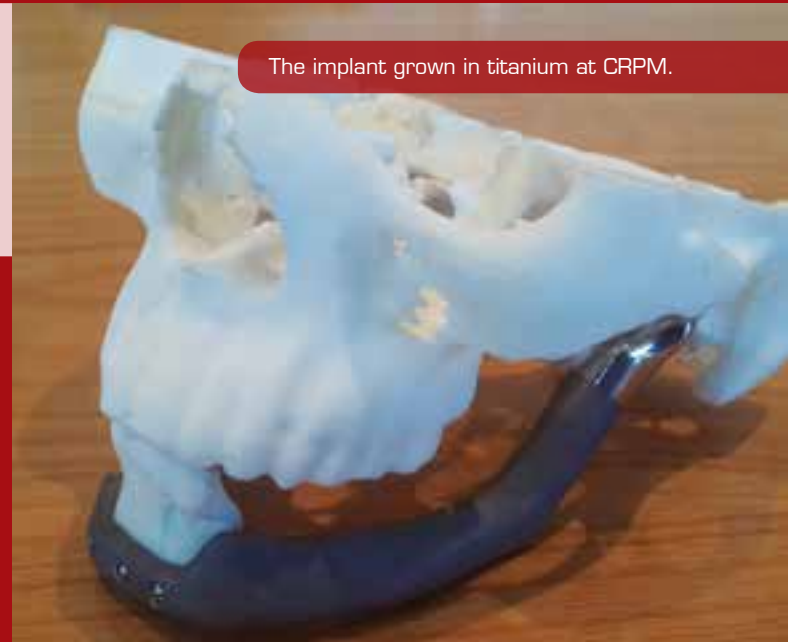
The Centre for Rapid Prototyping and Manufacturing (CRPM) had a very successful 2014. **The budgeted turnover was exceeded by 9% and the commercial value of the 586 industrial projects completed** at the CRPM during 2014 was R4 562 838, representing an increase of 20%, compared to 2013.

2014	NUMBER OF INDUSTRY-SUPPORTED PROJECTS	VALUE OF INDUSTRY-SUPPORTED PROJECTS	NUMBER OF RESEARCH PROJECTS	VALUE OF RESEARCH PROJECTS
Quarter 1	138	R1 151 590	6	R76 700
Quarter 2	171	R1 354 260	10	R76 925
Quarter 3	139	R1 015 665	21	R180 290
Quarter 4	138	R1 041 323	4	R16 615
<b>TOTAL 2014</b>	<b>586</b>	<b>R4 562 838</b>	<b>28</b>	<b>R350 530</b>

## Summary of operations for 2014

CRPM highlights for the year 2014:

- The highlight for CRPM in 2014 was a state-of-the-art medical procedure to correct facial disfiguration created by cancer on a 31-year-old man in Kimberley. Doctors successfully performed the country's first 3D-printed jawbone titanium implant. The implant fixed the facial contour and restored its normal appearance and function. The customised jaw was designed and manufactured on site at CRPM with titanium powder.
- Prof. Igor Yadroitsev joined the Department of Mechanical Engineering as Research Professor; whilst Dr Ina Yadroitsava was appointed as a postdoctoral fellow at CUT.
- The CRPM was awarded R230 000 for the on-going Titanium Centre of Competence programme. The Advanced Metals Initiative (AMI) is a programme funded by the Department of Science and Technology. The CRPM forms part of the Titanium Centre of Competence network, which is a sub-programme of the AMI.



The implant grown in titanium at CRPM.



# Materialise



Dr Cules van den Heever (middle), Mr Gerrie Booyesen (left), and Mr Johan Els were invited speakers at the Mimics Innovation Conference in Leuven, Belgium.

- CRPM was successful in three applications (total value of R1 215 000) for Technology Innovation Agency (TIA) seed funding. These projects entail developing, in conjunction with the University of the Free State, polymer and mechanical human heart valves as well as assistive devices for disabled people.
- Dr Cules van den Heever, Mr Gerrie Booyesen and Mr Johan Els were invited as speakers at the Mimics Innovation Conference hosted by Materialise at their headquarters (Leuven, Belgium). Their presentations focused on how Additive Manufacturing (AM) and design can benefit cranio-maxillofacial reconstructions.
- Good progress was made on the ISO certification to facilitate the establishment of CRPM as an accredited medical device manufacturer.
- Mr Gerrie Booyesen organised the RAPDASA pre-conference workshop on medical product development held on 5 November 2014 in Stellenbosch, and assisted in organising an Additive Manufacturing (AM) Industry Open Day held at the CSIR in 2014.
- CRPM was successful in an application to the CSIR National Laser Centre under their laser rental programme. A laser of R400 000 was availed for research on the centre's M250 additive manufacturing machine.
- CRPM received R600 000 from the CUT Strategic Fund for support for medical case studies and the upgrading of its M250 SLM machine.
- Mr Gerrie Booyesen, Director: CRPM was awarded the Vice-Chancellor's Award for Innovation for his work on medical implant design and manufacturing through additive manufacturing.

## Product Development Technology Station (PDTs)

PDTs is functioning well. A number of visitors to CUT have been exposed to the product development work at the station.

## Human Resource Development

Six Practical Semester 1 students, five Practical Semester 2 students, in Mechanical Engineering and nine interns were employed at the PDTs in 2014. They are all CUT graduates and diplomats and received continuous practical training to improve their skills and employability in preparation for their careers in industry.

## Client contacts

During the third quarter of the 2014/15 financial year, the PDTs met with forty-one SMEs/individuals on possible projects as indicated in the table below. All the proposals that may result in a development project will follow the New Product Development Plan of the PDTs.

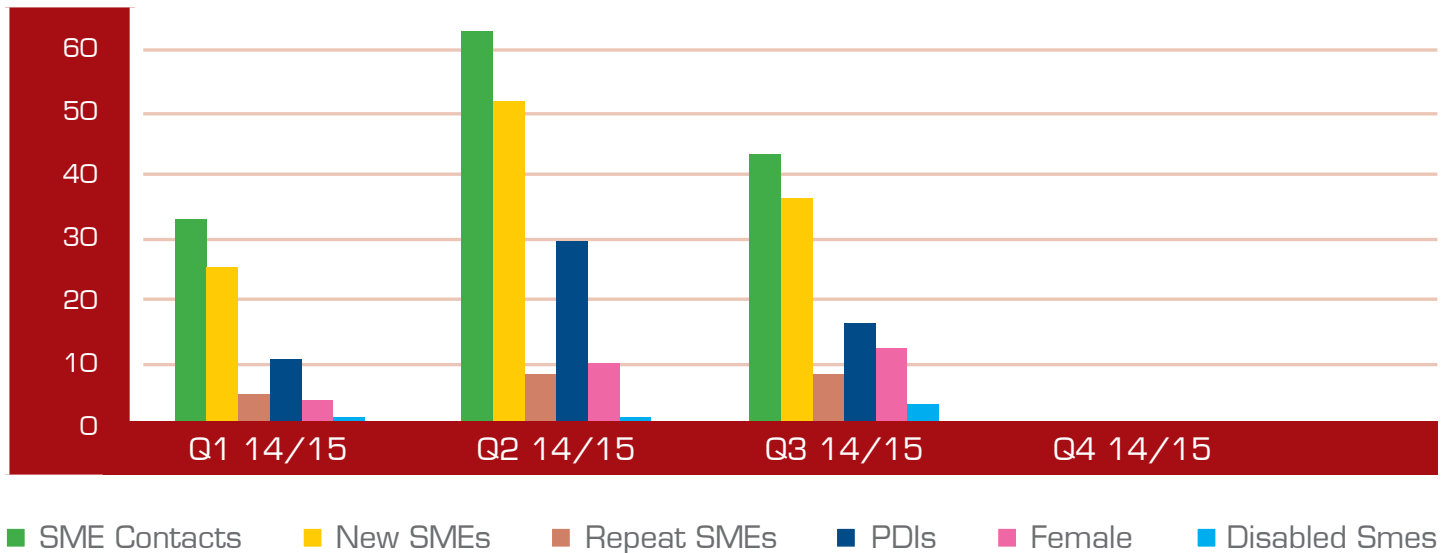


Figure 2: Client contracts by PDTs

## Projects

At the end of 2014, PDTS was actively involved in forty-five projects. These projects can be categorised into four groups, as indicated in table below.

CATEGORY	NUMBER OF PROJECTS
For commercialisation purposes	16
For the customer's own use	26
Research projects	2
Project not to be put to any formal use	1

Categorisation of 2014 projects for PDTS.

## FABLAB

The CUT Fablab is currently in its ninth year of operation since its official opening on 23 October 2006. Since the Department of Science and Technology decided to terminate the national FabLab programme, CUT has financed this entity as from April 2014. The Fablab receives a large number of users in a seasonal manner, depending on the academic calendar and due dates for the completion of academic projects. The table below shows a typical distribution of FabLab users.

School learners	15%
CUT students	70%
UFS students	10%
Private individuals / entrepreneurs	5%

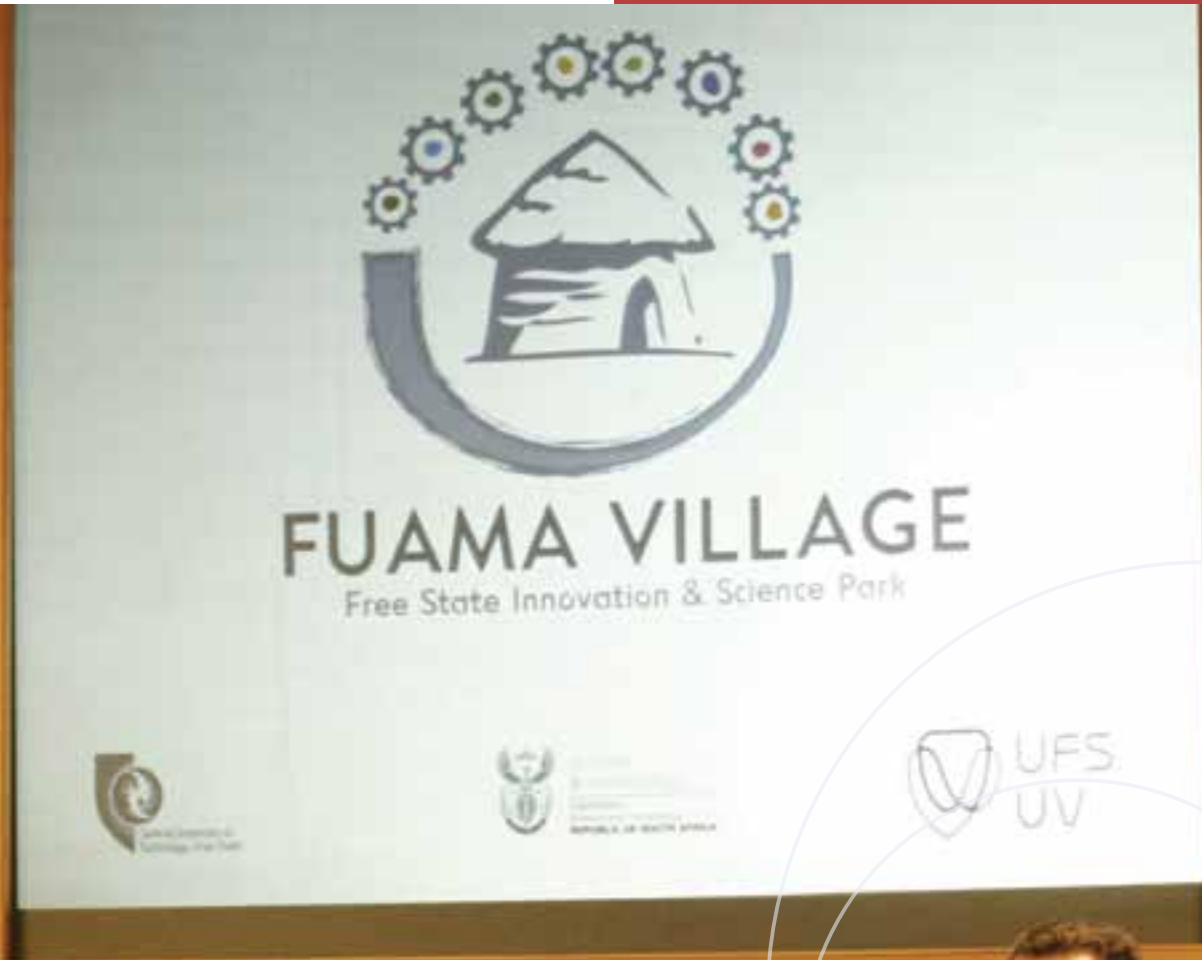
Typical distribution of FabLab users.

Some of these projects included a control system for a model vehicle; wooden trays; earrings; models of buildings, roads and bridges; Arduino home automation controller; greenhouse temperature control models; model of a sport stadium; architectural bridges and engraved torches. **A learner of Jim Fouche High School won a gold medal at the National Expo for Young Scientists with a project that he had built at the FabLab.**

## Regional Innovation Forum, Free State (RIFFS)

Some of the highlights recorded by the Free State Regional Innovation Forum during 2014 are listed below.

- The contractual agreements relating to the RIFFS 2014-2016 grant were finalised by the DST.
- A comprehensive business plan was composed for the RIFFS, according to a standard template provided by DST.
- A service-level agreement (SLA) between UFS and CUT regulating collaboration in the Free State Science Park feasibility study has been concluded.
- The proposal for the Free State Science and Technology Park (Fuama Village) was finalised.



The name Fuama Village was unveiled by Gerhard Verhoef, consultant appointed by UFS on 11 February 2014.

- The concept of a design school at CUT was developed during 2014.

- The concept of a CUT-ILO Innovation and Manufacturing Hub (with support from the Office for Technology and Innovation) was developed.

- In collaboration with ILO, DESTEA and CUT's Hotel School, RIFFS partook in the planning (late 2014), launch and implementation of the Free State Master Caterers

Challenge 2015 under the umbrella of the Free State *enterPRIZE* Job Creation Challenge.

- RIFFS has collaborated with the UFS Business School in the TIA Entrepreneurship and Business Development Programme.

- The RIFFS co-ordinator visited a number of science parks and innovation centres in Denmark during a combination visit to present a paper at the ICFMH Conference in Nantes, France. Entities visited and collaborations forged include the COBIS Science Park, Aalborg University and University of Denmark Innovation entities.

## LIBRARY AND INFORMATION SERVICES (LIS)

### Synopsis of major activities

- The South African Library Week was celebrated throughout the country from 15 to 22 March 2014. Three major events were organised in Bloemfontein to commemorate the South African Library Week, namely the unveiling of CUT's Institutional Repository, and training on the Research Support Database and EBSCO Discovery Services.
- The library was expected to expand the range of library resources using e-books. In this regard CUT approved R500 000 through strategic funding in 2013 to support the library to pilot the subscription to e-books. In the course of 2014, the library secured subscription to 2 500 e-book titles from Elsevier.

- A book exhibition was held at the Welkom Campus from 26 to 27 May 2014. Three vendors were invited to exhibit, namely Vuga Books, Van Schaik and Sherwood. A total of 1 014 books and seventy-eight DVDs amounting to a total cost of R884 630,31 were selected for the library.

- The University Librarian attended the International Federation of Library Associations' Congress in Lyon, France from 12 to 22 August 2014, he also attended the pre-conference with the theme: Copyright and Beyond: Libraries in the Public Sphere held in Strasbourg.

## Information services

Throughout the year, the library provided information services to staff and students. Information services were offered in different formats. Assistance rendered ranged from providing basic skills in information searching (mostly for undergraduate students) to conducting in-depth and complex information searches on behalf of students and staff (mostly for postgraduate students and academics). **There were substantial increases in the number of training activities from 2013 (3 615) to 2014 (5 907).** On the contrary, there was a decrease in the number of postgraduate information queries in 2014 (2 229) compared to 2013 (2 464).

Undergraduate quick-reference queries increased significantly during the year (1 552) under review in relation to statistics gathered in 2013 (818). Furthermore, the interlibrary loan services are intended to supplement the library's effort to meet the information needs of clients. This service is provided in terms of an agreement between university libraries in South Africa to borrow materials from one another, which they do not have in their own collections. **This service is only provided to postgraduate students and staff. Records show that in 2014 the transactions of interlibrary loans almost doubled in number (2 051) as opposed to 2013 (1 121).**

## Acquisitions

Records show that R1 709 052 was spent on library materials in 2014. In the previous year the amount was R2 067 373 – a difference of R358 320,57. The library continued to give priority to STEM in the acquisition of library materials. In 2014, for example, the largest share of library allocations for the acquisition of materials was apportioned to the Faculty of Engineering and Information Technology. This is in sharp contrast to 2013, when the largest amount was allocated to the Faculty of Management Sciences.

## Databases and electronic books

Subscription to databases is paramount in building the research capacity. Fortunately, Library and Information Services (LIS) could maintain subscription to twenty-four databases – five relating to individual e-journals and eight associated with systems operations. Full-text databases included world-renowned information databases such as EbscoHost, ProQuest, ScienceDirect, and the Web of Science and SA e-Publications. These have high percentage coverage of peer-reviewed titles. Subscription to the five individual e-journals included access to paper copies of each title. The systems include the LIS integrated system software (Innopac); tools for

the cataloguing department (e.g. SabiCat); and a referencing assistance tool (RefWorks). It is also significant to note that CUT researchers had access to open access titles.

In 2013, the LIS took a decision to embrace and acquire electronic books as a strategy to broaden the base of library resources. To this effect subscription to e-books commenced in 2014. Henceforth the library will provide **comparative statistics on the use of e-books from year to year. In the year 2014 it was noted that 10 459 full-text downloads were recorded.**

## Teaching and Learning Activities

Records show that R1 709 052 was spent on library materials in 2014. In the previous year the amount was R2 067 373 – a difference of R358 320,57. The library continued to give priority to STEM in the acquisition of library materials. In 2014, for example, the largest share of library allocations for the acquisition of materials was apportioned to the Faculty of Engineering and Information Technology. This is in sharp contrast to 2013, when the largest amount was allocated to the Faculty of Management Sciences.



# STATISTICS

This section serves to highlight CUT's performance against the performance targets set by the DHET).

These performance agreements result from a process of constant communication and consultation between CUT and DHET that took place during May and June 2013. On 15 January 2013, CUT provided its submission, which was revised in 15 August 2013. The revised submission responded to the DHET Enrolment Planning Cycle 2014/15 to 2019/20 Priorities as presented during June 2013 consultations and subsequently approved by DHET as per a letter dated 23/09/2014, and these targets for 2014 are reflected as the agreement in this report.

## SIZE AND SHAPE

In 2013, CUT enrolled 2 204 more students than the number agreed upon with DHET (i.e. 19.9% in excess) while in 2014 the target was exceeded by 1 203 student headcounts (i.e. 9.2% in excess). In as far as the first-time-entering students at undergraduate level are concerned, 2013 shows that CUT exceeded the target of 3 230 by 178 students (i.e. 5.5% above target), whereas in 2014 the target was exceeded further by 7.0%, which is 249 students headcount. In 2013, the institution exceeded the targets in the African and Coloured population groups by 24.8% and 15.4%, respectively, while the Indian and White categories did not reach the set target and fell short by 15.4% and 12.0%, respectively.

In 2014, the target was again exceeded in the African population group by 14.5%. However, during the same academic year, the institution did not reach the set target in Coloured, Indian and White population groups; it fell short by 4.4%, 12.5% and 26.3%, respectively. Lastly, the SET field of study only managed to reach 43.9% as the proportion of the entire student body, instead of the set target of 46.0%. This is an improvement of 0.4% from 2013, as the SET proportion was sitting at 43.5%. While other fields of study have exceeded their targets, Other Humanities also did not manage to reach its target, sitting at 15.3% instead of 17.0%. All these figures are presented on Table 12 on the next page.

# STUDENT HEADCOUNT DATA FOR 2014

THEME	SUBTHEME	2012			2013			2014		
		ACTUAL	TARGETS	%	ACTUAL	TARGETS	%	ACTUAL	TARGETS	%
Student enrolments (Distance + Contact)	Headcount	12 724	11 250		13 303	11 099		14 352	13 149	
	Science, Engineering, Technology	5 585	5 600	43.90	5 789	5 495	43.52	6 300	5 857	43.90
	Business & Management	3 325	3 160	26.14	3 396	3 108	25.53	3 520	3 344	24.53
	Education	1 956	900	15.37	2 037	888	15.31	2 332	2 049	16.25
	Other Humanities	1 857	1 590	14.59	2 080	1 610	15.63	2 197	1 899	15.31
	First-time entering undergraduates	3 213	3 300	25.25	3 408	3 230	25.62	3 805	3 556	26.51
	African	10 902	9 348	85.68	11 588	9 285	87.11	12 750	11 137	88.84
	Coloured	480	442	3.77	502	435	3.77	490	513	3.41
	Indian	44	48	0.35	44	52	0.33	46	53	0.32
	White	1 298	1 412	10.20	1 169	1 328	8.79	1 066	1 446	7.43
	Female	6 079	5 600	47.78	6 307	5 575	47.41	6 780	6 351	47.24
	Male	6 645	5 650	52.22	6 996	5 525	52.59	7 572	6 798	52.76
	Undergraduate diploma/certificates	8 446	8 071	66.38	8 547	8 060	64.25	8 851	8 781	61.67
	Undergraduate degrees	3 466	2 629	27.24	3 873	2 482	29.11	4 506	3 483	31.40
	<b>Total undergraduate</b>	<b>11 912</b>	<b>10 700</b>	<b>93.62</b>	<b>12 420</b>	<b>10 542</b>	<b>93.36</b>	<b>13 357</b>	<b>12 265</b>	<b>93.07</b>
	Postgraduate below master's	524	290	4.12	566	287	4.25	631	576	4.40
	Master's	202	205	1.59	223	210	1.68	251	220	1.75
	Doctorate	85	55	0.67	93	60	0.70	112	88	0.78
	<b>Total postgraduate</b>	<b>811</b>	<b>550</b>	<b>6.37</b>	<b>882</b>	<b>557</b>	<b>6.63</b>	<b>994</b>	<b>884</b>	<b>6.93</b>
	Occasional students	1	-		1	-		1	-	

Overall, **CUT has exceeded the success rate targets set for the past three consecutive years.** Only in 2014, CUT has dropped its success rate to the set target of 74.9%. Targets for undergraduate studies were not met for both the 2013 and 2014 academic years. For postgraduate studies, the 53% target was exceeded, achieving 76.2% in 2012. Also in 2013, the target of 64.3% was exceeded to reach 80.6%. However, in 2014 the set target of 78.3% was not met. During the 2012 academic year, the success rate targets set for each field of study were not reached except in SET, where the set target of 71.0% was exceeded, reaching 76.2%. In 2013, the success rate targets set for SET and Other Humanities were exceeded, while they were met during the 2014 academic year for both fields of study. It is in Business/Management Sciences and Education that set targets have not been met for three consecutive years.

## FULL-TIME EQUIVALENTS (FTE) ENROLMENTS

THEME	SUBTHEME	2012		2013		2014	
		ACTUAL	TARGETS	ACTUAL	TARGETS	ACTUAL	TARGETS
FTE	Unweighted (Distance + Contact)	9 745	8 915	9 963	8 800	10 823	10 177
	Total undergraduate	9 235	8 725	9 426	8 590	10 209	9 745
	Postgraduate to masters level	436	12	457	15	519	344
	Masters	46	140	50	150	57	54
	Doctors	28	38	30	45	37	34
	Total postgraduate	509	190	536	210	614	432
	Science, Engineering, Technology	4 004	4 226	4 081	4 136	4 487	4 639
	Business & Management	2 150	2 204	2 131	2 200	2 166	2 392
	Education	1 794	640	1 889	616	2 239	1 438
	Other Humanities	1 797	1 845	1 861	1 848	1 931	1 708
	African	8 451	-	8 757	-	9 718	-
	Coloured	348	-	381	-	362	-
	Indian	31	-	31	-	28	-
	White	915	-	793	-	714	-

## Full-time Equivalents (FTE) enrolments

THEME	SUBTHEME	2012		2013		2014	
		ACTUAL	TARGETS	ACTUAL	TARGETS	ACTUAL	TARGETS
Pass rates (FTE credits/ FTE registered)	Overall pass rate	77.0%	75.0%	76.4%	76.0%	74.9%	74.9%
	Overall undergraduate	77.0%	76.0%	76.2%	76.3%	74.7%	74.8%
	Postgraduate to masters level	83.8%	67.0%	81.2%	73.3%	82.3%	83.7%
	Masters	36.3%	56.0%	75.9%	70.0%	48.8%	62.3%
	Doctors	21.6%	34.0%	79.8%	42.2%	64.8%	48.5%
	Overall postgraduate	76.2%	53.0%	80.6%	64.3%	78.1%	78.3%
	Science, Engineering, Technology	76.2%	71.0%	74.3%	73%	74.6%	74%
	Business & Management	74.3%	76.0%	74.1%	76%	72.3%	74%
	Education	79.9%	82.0%	79.2%	81%	75.2%	77%
	Other Humanities	78.8%	82.0%	80.9%	80%	78.3%	78%
	African	77.4%	-	78.7%	-	74.6%	-
	Coloured	70.5%	-	83.6%	-	75.8%	-
	Indian	46.3%	-	98.4%	-	58.5%	-
	White	65.6%	-	107.8%	-	79.6%	-

CUT has exceeded its overall headcount graduation output targets set for the past three years in a row (i.e. for the 2012 and 2013 academic years); however, in 2014, the institution for the first time did not reach its target.

# GRADUATION OUTPUTS

THEME	SUBTHEME	2012		2013		2014	
		ACTUAL	TARGETS	ACTUAL	TARGETS	ACTUAL	TARGETS
Graduate outputs	Headcounts	3 159	2 650	3 217	2 665	3 249	3 306
	Science, Engineering, Technology	1 203	980	1 230	985	1 356	1 321
	Business & Management	906	958	890	960	808	888
	Education	638	345	688	340	696	696
	Other Humanities	411	367	408	380	365	401
	Undergrad: Engineering	467	-	526	-	582	-
	Undergrad: Life & Physical Sciences	108	-	86	-	105	-
	Undergrad: Health Professions And Related Clinical Sciences	221	-	213	-	244	-
	Undergrad: Teacher Education	322	-	292	-	299	-
	Undergraduate diploma/certificates	1 691	1 750	1 606	1 810	1 553	1 768
	Undergraduate degrees	1 122	700	1 179	640	1 267	1 131
	Postgraduate qualification below masters	320	161	383	175	385	358
	Masters	21	32	37	33	32	40
	Doctorate	5	7	12	7	12	10
	African	2 661	-	2 727	-	2 803	-
	Coloured	129	-	124	-	115	-
	Indian	13	-	12	-	7	-
	White	356	-	354	-	324	-

The overall graduation rate targets were set at 24% for both 2012 and 2013, respectively. The target for the 2012 academic year has not been met, probably for the simple reason that the headcount enrolments have increased during these years. The fact that the graduation outputs have also improved cannot just be ignored, but the graduation rate ought to drop whenever the headcount enrolment increases, even though the graduate headcount has increased. However, the graduation rate target for 2013 has been reached, achieving 24,1%, and the graduation rate for 2014 has dropped to 22,6% instead of reaching the 25% set target.

# GRADUATION RATES

THEME	SUBTHEME	2012		2013		2014	
		ACTUAL	TARGETS	ACTUAL	TARGETS	ACTUAL	TARGETS
Graduation rates (Graduates/ Headcount enrolment)	Overall	23.5%	24%	24.1%	24%	22.6%	25%
	Science, Engineering, Technology	20.8%	-	21.3%	-	21.5%	-
	Business & Management	24.1%	-	25.7%	-	23.0%	-
	Education	31.8%	-	33.0%	-	29.8%	-
	Other Humanities	20.7%	-	19.5%	-	16.6%	-
	Undergraduate diploma/ certificates	18.5%	-	18.9%	-	17.5%	-
	Undergraduate degrees	31.5%	-	30.1%	-	28.1%	-
	Postgraduate qualification below masters	59.7%	-	66.4%	-	61.0%	-
	Masters	8.4%	-	16.6%	-	12.7%	-
	Doctorate	5.9%	-	12.9%	-	10.7%	-
	African	23.0%	-	23.5%	-	22.0%	-
	Coloured	25.0%	-	24.7%	-	23.5%	-
	Indian	29.5%	-	27.3%	-	15.2%	-
	White	26.3%	-	30.0%	-	30.4%	-





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# INSTITUTIONAL ADVANCEMENT

The Bloemfontein Campus houses a full array of modern buildings with well-equipped laboratories and lecturing venues. The campus has all-encompassing Library and Information Services, while the Lapeng Student Centre is a vibrant venue hosting a wide variety of student activities and services. Excellent sporting facilities on campus cater for the needs of sport enthusiasts, who can choose from a host of formally organised sport codes, ranging from athletics, soccer, rugby and cricket, to basketball, volleyball and netball.

CUT's Welkom campus is situated 160km northeast of Bloemfontein, and is in the hub of the Free State goldfields with several gold mines, a thriving industry in South Africa. Welkom campus facilities for students include: a library and information services, student cafeteria, 24-hour computer laboratory, equipped laboratories for programmes offered, a wellness centre supports staff and students with psychological matters, counseling, supplement studies, social services, and a wide range of sport facilities is available.

Both campuses offer a variety of student organisations, cultural activities as well as health services to advance access to quality education and to support students during their university years.

## Campus Development

The Campus Master Plan approved by Council in 2014 sets out the overall development concept for both the Bloemfontein and Welkom Campuses. This includes the refurbishment of existing facilities as well as the erection of new academic buildings and student residences on both campuses. **An increase in student residence places is a major priority for CUT.** Other developments:

- A number of properties in close proximity to the Bloemfontein Campus were acquired to accommodate the expansion of the campus. The DHET-funded extension to the BHP Billiton Building for the Faculty of Engineering and Information Technology is being constructed on a portion of the land acquired.
- During 2014, the construction of five new buildings – two at Welkom and three at Bloemfontein – commenced. At the Bloemfontein Campus, additional extensions to the Engineering and Teacher Education Buildings are being constructed. Furthermore, a new student residence with 98 beds is being constructed.
- At the Welkom Campus, a 216-bed residence and a building for hosting Information Technology and the Languages Department are being constructed.
- It is envisaged that the construction of both buildings would be completed by December 2015.

# FACILITIES AND MAJOR CAPITAL PROJECTS

During 2014, a state-of-the-art Active Learning Centre (ALC) was installed at the Hotel School. The ALC is being used for interactive group work, collaboration, research, and shared teaching and learning. It is equipped with mobile devices, an interactive white board and recording equipment to enhance the learning experience.



State-of-the-art Active Learning Centre



The following major maintenance projects were approved, commenced and completed in 2014:

- The total upgrading of Mannheim Ladies Residence, the Humanitas Building, the E-Learning building, the Art Building and the Ceramic Building, as well as the external upgrading of Eendrag Residence and the Health Sciences Building.
- Major upgrading to a number of venues and areas was completed, including the CUT Cafeteria, the One On Park Restaurant at the Hotel School, the 24-hour study area at the LIS Building, various PC labs in the BHP Billiton Building for the IT Department, and a smoke detection and intercom system at the LIS Building.
- A number of improvements and additions were undertaken during 2014. This included the installation of barricades in President Brand Street to improve student safety when crossing the road, the installation of a new spa at Somatology, the development of new Radiology facilities in the Dirk Coetzee Building, and the installation of floodlights at the main sports stadium required to facilitate the television coverage of the Varsity Cup matches.



# SUSTAINABLE DEVELOPMENT PROJECT

In 2014, it was recognised that sustainability has an impact on all aspects of the university and not just on or, primarily, the academic endeavour. Consequently, it was decided to relocate the Sustainability Office to the Resources and Operations Division. Furthermore, it was agreed that there would be three major strands to sustainable development at CUT, namely operational, academic and financial. These three aspects of sustainability would be worked and reported on separately with the agreed longer-term goal of closer assimilation.

## Operational focus

CUT requires a substantial amount of energy to operate. With an energy bill of over R13 million for the 2013 financial year, escalating energy rates, and a strong commitment to climate action, the university is using an array of strategies to reduce campus energy consumption as well as burning fuels in the generation of energy for its campuses. Gaining benchmark figures on usage in different areas is critical here; hence, a programme of meter installation is underway for both electricity and water. The recording of energy usage is important in terms of financial control, but is also a vital tool targeting carbon reduction at the university. **The goal is to achieve a zero or positive net impact on climate change by the year 2025 by consistently reducing emissions, improving air quality and implementing sustainable habits and practices that will lead to emission reductions by 2020.** The setting of an emission reduction target will improve cost efficiency, demonstrate

leadership and improve brand recognition in an increasingly environmentally conscious marketplace.

An important piece of legislation affecting CUT is the South African Carbon Tax Policy Paper on reducing Greenhouse Gas Emissions (GHGe) and facilitating the transition to a green economy. South Africa's strategy to contribute towards greenhouse gas-emission mitigation was adopted by the government in 2011. This was after the commitment made by South Africa at the 2009 Copenhagen Conference of Parties ("COP17") to undertake appropriate national action to curb greenhouse gas emissions by 34% by 2020 and a further 42% by 2025. As of 1 January 2016, the Department of Environmental Affairs (DEA) will require mandatory reporting on GHGe in South Africa.

## Academic focus

The sustainability development project was further enhanced in the academic project during 2014. Some of the activities included the following:

- The Research Unit on Lean and Sustainability that has been approved by Senate;
- The Sustainable Bio-environments Research Group that was established in the Faculty of Health and Environmental Sciences;
- Sustainability aspects that have been introduced into the curricula of the Built Environment programme;
- The Department of Electrical Engineering embarked on two renewable energy projects, namely the Solar Flower aimed at recharging services using solar power anywhere and PV panels combined with a wind turbine to power devices in the laboratories during load shedding and periods of low solar intensity.
- The incorporation of sustainability content within the curriculum of new academic programmes continued.



# SPECIAL EVENTS

CUT has witnessed many changes and tremendous achievements in serving the central region of South Africa and the country as a whole. The university's pursuit of quality education and academic excellence, have brought forth great milestones. Here follows a few of the significant events for 2014:

## Doctorate for Governor of the SA Reserve Bank

An Honorary Doctorate in Business Administration was conferred on Ms Gill Marcus, former Governor of the Reserve Bank, in March 2014. Ms Marcus' extensive involvement in the business sector since the dawn of South Africa's democracy made her an ideal candidate for the tribute.



Professor Thandwa Mthembu, Dr Sylvan Seane, Chairperson of CUT Council; Dr Gill Marcus, and Dr Boet Troskie, CUT Chancellor.



The Cuban Ambassador, His Excellency Carlos Fernandez de Cossio.

## Public lectures

A series of public lectures focusing on a range of topics were held throughout the year. To mention but a few, a lecture entitled “20 Years of Cuban and South African Diplomatic Relations” was presented by the Cuban Ambassador to South Africa, His Excellency Carlos Fernandez de Cossio. Furthermore, Dr Herman Mashaba, a CUT alumnus who was awarded an Honorary Doctorate by CUT in 2013, delivered his inaugural lecture on entrepreneurship.

Prof. Tim Noakes, renowned nutrition and health expert, presented a seminar entitled “The Great Diet Debate: Is the low-fat diet the single worst medical error of the past 100 years?”



Prof. Tim Noakes presented his diet at CUT's Faculty of Health and Environmental Sciences' Prestige Research Day.

A prestige lecture was held in August 2014. The title of the lecture, delivered by Dr Bridgette Gasa, was “The National Development Plan and Vision 2030”. Dr Gasa is the founder and managing director of a company that specialises in programme and project management consulting, infrastructure planning and development, as well as agricultural enterprises.



## CUT hosts 1st Annual Bram Fischer Lecture

The Mangaung Metropolitan Municipality and CUT hosted the inaugural Bram Fischer Memorial Lecture on 23 April 2014. The memorial lecture coincided with the birth of Bram Fischer on 23 April 1908, the 20 years of democracy and 10 years of CUT as a second-generation university. Bram Fischer is counted among a few men and women of his race in this country who fought for the freedom, justice and non-racialism that all South Africans enjoy today.



Professor Thandwa Mthembu, Minister Naledi Pandor, and Cllr Thabo Manyoni, Executive Mayor of Mangaung Local Municipality.



## CUT contributed towards a sustainable environment for the city on Mandela Day

On 18 July 2014, the institution joined the rest of the world in commemorating Nelson Mandela Day. CUT collaborated with the Mangaung Municipality in clearing litter from the streets of surrounding neighbourhoods.

HESA assigned 2014 as a year in which twenty years of democracy would be celebrated by all higher education institutions. Since CUT also celebrated ten years of existence as a university of technology, the campaign took on the theme "20-10" celebrations. CUT hosted a variety of events in keeping with HESA's Common Campaign Days project.

## 2014 Varsity Shield Champions!

Once again CUT Ixias have done CUT proud, as they were crowned the 2014 Varsity Shield Champions after beating the University of Kwazulu-Natal Impi by 35 to 26 score in a home game final at CUT FNB Stadium. This is third time in a row that Ixias have been able to defend their championship title with such ease. The team will move up to Varsity Cup League in 2015. Ixias won the shield in 2011, 2013 and 2014.



Mr Skillie Bester, Ixias Coach; Alec Mahlangu, Ixias star player; and Prof. Henk de Jager, Deputy Vice-Chancellor: Academic and Research who accepted the signed players jersey on behalf of CUT.





## CUT Alumna ploughs back

Mrs Zola Budd Pieterse, a renowned former South African Athlete and World Record Holder, CUT alumna, who was a top athlete with national colours, for the former Technikon Free State, visited the institution on 23 September 2014 as part of her ploughing back program. Following a brief in-house presentation on the day, Zola took the athletes to the soccer field to conduct running clinics. During the drills, she demonstrated and shared some few tips on the dynamics behind warm-up exercises that sets the body muscles on the right tone before one embarks on a marathon.



## CUT hosted the 2nd Annual Innovation in Education Summit

CUT hosted the second annual Innovation in Education summit in 2014. The main objective of the annual gathering is to bring together educators, researchers, students, organisations, entrepreneurs, and professionals to the round table to discuss and explore related issues that are currently at the forefront of technology in teaching and learning. The partners in the summit include Royal Haskoning DHV (Pty) Ltd, Institute for Innovation in Education (IIE), Learning Academy Worldwide, Beijing Royal School, Communications Management Support (Pty) Ltd and CUT who gathered to share new ideas and innovative approaches to meet the constantly changing phases in education, social and commercial arenas that are rapidly growing and challenging.



Attendees at the 2nd annual innovation in Education Summit

# STUDENT SERVICES

Student life at CUT is vibrant and covers a broad spectrum of activities such as student development, student governance, community service activities, residence life, working opportunities for CUT students, sports, academic support programmes, student counselling and medical services – to name but a few.

## STUDENT LEADERSHIP

Two Student Parliament members attended the CHE Quality Enhancement Workshop in Kempton Park during April 2014. The SRC attended several leadership development seminars and workshops, such as a Capacity-building Weekend Programme (28 to 30 November 2014) with the theme Student Activism and Leadership: Ensuring Effective Co-operative Governance within the post-1994 Higher Education Setting, and a NASDEV Student Leadership Summit (10 October 2014).

The SRC Elections 2014/2015 were conducted by the provincial office of the South African Independent Electoral Commission (IEC) in September 2014, and were declared free and fair.

On issues of student leadership and governance, the SRC, the supreme student body, receives inputs from students through the Student Parliament, which serves a critical advisory and supportive role to the SRC. The Student Parliament, constituted by 65 SRC registered student organisations, elects its Cabinet to work hand-in-hand with the SRC Secretary General on operational matters. The elected Cabinet members relate with the Student Services Council by being members of this Council

to advance the issues that were captured at the Student Parliament and to support the broader student inputs led by the SRC. The SRC, the House Committee Representatives and Student Parliament work collaboratively in advancing the interests of students within the Student Services Council, where the SRC sits on Institutional Forum. The SRC relates with Council through the two Presidents who serve on Council.

CUT hosted the second annual Innovation in Education summit in 2014. The main objective of the annual gathering is to bring together educators, researchers, students, organisations, entrepreneurs, and professionals to the round table to discuss and explore related issues that are currently at the forefront of technology in teaching and learning. The partners in the summit include Royal Haskoning DHV (Pty) Ltd, Institute for Innovation in Education (IIE), Learning Academy Worldwide, Beijing Royal School, Communications Management Support (Pty) Ltd and CUT who gathered to share new ideas and innovative approaches to meet the constantly changing phases in education, social and commercial arenas that are rapidly growing and challenging.



CUT's SRC launched the RED Card campaign against women and child abuse, hate crimes, stigma and discrimination against homosexuality on 9 May 2014.

The Student Parliament played a supportive role to the SRC in 2014, including acting on the latter's behalf in key meetings where the SRC was unable to attend. The structure has thus created its own internal cooperation, irrespective of the parties' political interests.

The SRC Elections 2014/2015, which were conducted by the Independent Electoral Commission's Free State Office, were held in September 2014, and were declared free and fair.



## HEALTH AND WELLNESS

The compulsory reading development workshops improved first-year students' reading ability, as well as their comprehension and retention of information. **Workshops on study techniques, stress management, self-actualisation, assessments and communication skills also contributed to the establishment of a learning-centred approach to effective learning at CUT.** Students at risk were identified as early as possible, and they were afforded the necessary support.

In the year under review, HIV counselling and testing were also conducted on a regular basis. CUT continues to participate in national projects, as initiated and driven by the Higher Education HIV/AIDS Programme (HEAIDS).

To assist students in managing their physical wellness, the Medical Centre collaborated with strategic service providers in an attempt to provide even better quality service to students and staff. The Centre has a registered sessional medical doctor, a full-time professional nurse and a part-time nurse to render critical primary health care services to students on a day-to-day basis.

## RESIDENCES AND WORK OPPORTUNITIES FOR STUDENTS

Although a shortage of accommodation is still experienced, the university has four male residences and three female residences that provide accommodation to 759 out of 14 352 (a 5% student accommodation provision) students in a clean and safe environment, which is also conducive to learning. The University Residences are 100% occupied, and the Student Private Accommodation service providers' accreditation project is progressing well.

Work opportunities for students were made available in different capacities, such as receptionists in the residences during the June/July, September and December 2014 holidays to assist delegates who made use of residence accommodation, and being appointed on a rotational basis to assist during the registration process.



## EXTRACURRICULAR ACTIVITIES

During August 2014, the University had the opportunity to host the Old Mutual Provincial Choir Competition, and CUT's choir made us proud by achieving an overall second position. Students participated in a range of activities, including the Human Rights and Democracy Summit, the Intra-Varsity Sports and Cultural Event, and the annual CUT Student Multicultural Celebration event.



In September 2014, the CUT Radio Station was issued with a broadcasting licence by ICASA on the frequency FM 105.8, covering a radius of 120 km.

CUT students continued to be involved in community service projects such as the Brilliance Extra Classes Project (a motivational and career guidance workshop for the Xhariep District learners in April 2014); the Adopt-a-Family Programme (organising food parcels for a destitute family in Phase 7, Bloemfontein); and the Carnival Cheque Handover Ceremony (benefiting seven welfare organisations located in the Xhariep District and the Mangaung Metro, each receiving R12 000).

## SPORT

Operational Sport, as opposed to recreational sport, is more competitive. League matches in soccer, rugby, athletics, basketball, volleyball, cricket, hockey, table tennis, karate, golf and netball took place throughout the year, whilst students also participated in various sporting codes in South African student tournaments, such as the USSA tournament held in Port Elizabeth from 23 to 24 April 2014.

The CUT Soccer Team continues to participate effectively in the ABC Motsepe League. The Ixias Rugby team won the FNB Varsity Shield and qualified to participate in the FNB Varsity Cup in 2015, and several CUT athletes competed in the Free State Championships.



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# FINANCIAL HEALTH OF THE UNIVERSITY



During 2014, the university managed to operate within the expenditure guidelines set by Council. To assure the university's financial health, Council has five budgetary parameters it monitors, namely:

- Control over the salary bill: The salary bill shall be in the range of 58% to 62% of the total revenue from the government grant and tuition fees. This is to ensure that the salary bill does not get out of control.
- Focus of revenue towards academic salaries: There shall be a 60:40 percentage split in favour of academic versus support-services salaries, with the 60% for academic positions being just a minimum. This is to ensure that the university invests in its core business.
- Capital expenditure: The capital expenditure provision shall be at least 5% of revenue. This is to ensure that funds are available to keep the infrastructure in good shape and to buy the necessary working equipment.
- Operational expenditure: This expenditure shall be at most 25% of revenue.
- Provision for strategic projects and 'rainy' days: A minimum of 3% of revenue shall be set aside to spend on new projects relating to the strategic plan or for interim reserves that would be reinvested in the university later.

Some strategic projects from 2013 were uncompleted in that year, and the unspent funds contributed to the surplus reported in 2013. These projects were completed in 2014, and since they are strategic by nature, their unspent balances were rolled over to 2014 when payment was made. Being excluded from the 2014 budget and funds for them not having been transferred from reserves, this expenditure has contributed to the reported deficit. The other primary contributor was the granting of unfunded NSFAS bursaries and loans to students. Procedures have been modified and improved to ensure scrutiny and control of the bursary and loan function. A proposal to change the extant Policy on Budget Setting will generate further clarity around unspent funds.

The level of student provision reflects current CUT policy that academically performing students are not excluded on financial grounds alone. Given the increase in debt that has resulted, this policy would be revisited.

Despite the deficit, the financial health of CUT remains sound. Reliance on state subsidy dropped from 54% of the total

income in 2013 to 51.5% in 2014. Operating cash flows increased by R20 million from 2013 and cash equivalents increased by a similar amount. Investment in the CUT estate is reflected in a growth in property, plant and equipment of some R100 million. Long-term investments grew by R40m.

The total salaries bill for 2014 was 61.99% of the total subsidy, grants and tuition and other fees charged. Long-term investments (1) increased by R43 594 million to R238 332 million, as additional investments of R25 466 million were made and net returns of R18 128 million were reinvested.

Although cash and cash equivalents show a healthy increase, the volatility of the cash position has increased in 2014, and this is expected to persist in the future. Government subsidy payments come in quarterly payments and in arrears. The timing of the receipt of student bursary and loan payments from NSFAS is difficult to predict. The awarding and timing of private bursaries are beyond the control of the university.



# FINANCIAL STATEMENTS

STATEMENT OF FINANCIAL POSITION AT 31 DECEMBER 2014

STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDED DECEMBER 2014

STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 31 DECEMBER 2014

# CONSOLIDATED STATEMENT OF FINANCIAL POSITION

## as at 31 December 2014

ASSETS	Note	2014 R '000	2013 R '000	2012 R '000
<b>Non-current assets</b>		<b>828 248</b>	<b>687 937</b>	<b>635 242</b>
Property, plant and equipment	5	588 182	491 544	472 375
Investment property	6	794	794	794
Other non-current financial assets	7	238 332	194 739	161 293
Non-current receivables		940	860	780
Leasehold asset	9	940	860	780
Student Loans	8	-	-	-
<b>Current assets</b>		<b>189 951</b>	<b>196 201</b>	<b>215 070</b>
Other current financial assets	7	-	-	33 205
Receivables and prepayments		84 846	111 542	35 643
Student debtors	10	70 834	82 609	17 889
Student Loans	8	-	18 049	-
Other debtors	10	14 012	10 884	17 754
Cash and cash equivalents	11	105 105	84 659	146 222
<b>Total assets</b>		<b>1 018 199</b>	<b>884 138</b>	<b>850 312</b>
<b>FUNDS AND LIABILITIES</b>				
<b>Funds available</b>		<b>450 001</b>	<b>547 571</b>	<b>515 089</b>
Restricted use funds reserves				
Other Education and general		159 312	212 252	187 157
Unrestricted use funds reserves				
Education and general		290 689	335 319	327 932
<b>Non-current liabilities</b>		<b>424 612</b>	<b>215 735</b>	<b>244 205</b>
Interest bearing borrowings	12	5 792	3 514	1 375
Post retirement obligations	13	31 831	42 330	64 278
Deferred income	14	386 989	42 330	178 552
<b>Current liabilities</b>		<b>143 586</b>	<b>120 832</b>	<b>91 018</b>
Accounts payable and accrued liabilities	15	101 650	55 859	63 827
Leave accrual	16	291	358	314
Current portion of interest bearing borrowings	12	3 950	2 818	1 931
Current portion of deferred income	14	37 695	61 797	24 946
<b>Total funds and liabilities</b>		<b>1 018 199</b>	<b>884 138</b>	<b>850 312</b>

# CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

for the year ended 31 December 2014

		2014 R '000			2013 R '000	
Note	Council Controlled Unrestricted	Specifically Funded Activities Restricted	SUB- TOTAL	Student and staff Accom- modation Unrestricted	TOTAL	TOTAL
<b>TOTAL INCOME</b>	<b>559 497</b>	<b>68 707</b>	<b>628 204</b>	<b>12 759</b>	<b>640 963</b>	<b>611 534</b>
State appropriations - subsidies and grants	313 964	31 516	345 480	-	345 480	357 532
Tuition and other fee income	234 580	4844	239 424	12 759	252 183	208 106
Income from contracts	-	32 309	32 309	-	32 309	23 347
Sales of goods and services	-	-	-	-	-	8 708
Private gifts and grants	120	13	133	-	133	1 972
<b>SUB-TOTAL</b>	<b>548 665</b>	<b>68 682</b>	<b>617 347</b>	<b>12 759</b>	<b>630 105</b>	<b>599 665</b>
Finance income	19.1	10 832	26	10 858	-	10 858
Gain on investments realised	20	-	-	-	-	-
<b>TOTAL EXPENDITURE</b>	<b>685 552</b>	<b>53 925</b>	<b>739 477</b>	<b>13 653</b>	<b>753 130</b>	<b>589 124</b>
Personnel	17.1	349 666	20 466	370 132	5 683	375 815
Salaries		350 266	20 466	370 732	5 683	376 415
Post retirement benefits cost	13	(600)	-	(600)	-	(600)
Other current operating expenses	18.1	301 419	33 459	334 878	7 970	342 847
Depreciation	18.1	33 973	-	33 973	-	33 973
<b>SUBTOTAL</b>		<b>685 058</b>	<b>53 925</b>	<b>738 983</b>	<b>13 653</b>	<b>752 636</b>
Finance costs	21.1	494	-	494	-	494
Loss / (Profit) on disposal of assets		-	-	-	-	300
<b>SURPLUS / (LOSS) FOR THE YEAR</b>		<b>(126 055)</b>	<b>14 782</b>	<b>(111 273)</b>	<b>( 894)</b>	<b>(112 167)</b>
<b>OTHER COMPREHENSIVE INCOME</b>						
Items that will not be reclassified to profit / (loss)						
Actuarial (loss) / gain on post retirement obligation	13	(2 052)	-	(2 052)	-	(2 052)
Items that may be subsequently classified to profit / (loss)						
Change in value of available-for-sale financial assets	7	13 582	-	13 582	-	13 582
<b>OTHER COMPREHENSIVE INCOME FOR THE YEAR</b>		<b>11 530</b>	<b>-</b>	<b>11 530</b>	<b>-</b>	<b>11 530</b>
<b>TOTAL COMPREHENSIVE INCOME FOR THE YEAR</b>		<b>(114 525)</b>	<b>14 782</b>	<b>(99 743)</b>	<b>( 894)</b>	<b>(100 637)</b>

# CONSOLIDATED STATEMENT OF CASH FLOWS

## for the year ended 31 December 2014

	NOTE	2014 R '000	2013 R '000
<b>Operating activities</b>			
Cash generated from / (utilized in) operations	25	(4 859)	(26 885)
Net cash flows generated from / (utilized in) operating activities		(4 859)	(26 885)
<b>Investing activities</b>			
Acquisition of property, plant and equipment	5	(138 820)	(55 378)
Proceeds on the disposal of assets		-	300
Other financial assets - realisation at fair value / matured	7	-	8 115
Increase in other non-current financial assets	7	(25 465)	-
Interest received		5 629	2 595
Net cash flows used in investing activities		(158 656)	(44 368)
<b>Financing activities</b>			
Increase / (Repayment) of obligations		(8 541)	(12 342)
Interest paid	21.1	( 494)	( 425)
Increase in deferred income	14	192 996	22 455
Net cash flows from / (utilized in) financing activities		183 961	9 688
Net increase / (decrease) in cash and cash equivalents		20 446	(61 565)
Cash and cash equivalents at 1 January	11	84 659	146 224
Cash and cash equivalents at end of year	11	105 105	84 659



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