



Central University of
Technology, Free State

CUT Annual Report 2011

INTERGITY

DIVERSITY

INNOVATION

EXCELLENCE

Vision

Mission

Core Values

CUT ANNUAL REPORT 2011

Vision

By 2020, Central University of Technology, Free State, shall be an engaged university that focuses on producing quality social and technological innovations in socio-economic developments, 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

2011



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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Dr
CA
Troskie

My relationship with the Central University of Technology, Free State did not start with my appointment as Chancellor...indeed, my association with the University has been a long and fruitful one.

Over the past three decades, CUT has established itself as a leading academic institution dedicated to using science, engineering and technology to address the socio-economic development of the central region of South Africa, serving as the academic partner to people of all ethnic, religious and socio-economic backgrounds. As new generations of students have entered the lecture halls, the University has been able to adopt and serve new interests and emerging areas of study, and in so doing remain true to the values of academic excellence for which it was established.

The year 2011 was one of the most memorable years in the history of CUT. The whole year was dedicated to celebrations of our 30 years of existence. Indeed, there have been many activities since the beginning of this year to this effect; most prominent being the very exciting week of 19 to 23 September 2011, which coincided with the national annual heritage week celebrations.

The celebration of this important milestone placed us in a favourable position to take advantage of the strategic significance of our role as a university of technology in the central region, which continues to show confidence in our desire to make a

MANAGEMENT


Letter from the Chancellor

contribution to its development. As part of the celebrations, we proudly showcased our research, innovation and broader academic heritage of 30 years which we collectively own as our heritage in social and technological legacy.

As a highlight of the 30th celebrations, we hosted the former Vice-Chancellors of the University including the founding members at a special function billed 'The Founders' Function: 30 years on" which took place on 24 November 2011. The function was dedicated to the founding members of CUT for their foundational contributions to much of its early development.

I look forward to continuing my association with CUT and supporting the University's efforts to entrench Vision 2020 through projects such as the Chancellor's Club. In this, I wish to recognise all CUT's partners for their faith in the University and their continued support of its collaborative programmes. I speak for all at CUT when I say that we look forward to working with you into the future and making this University an aisle of innovation dedicated to promoting the development of the region and the province.

To the next 30 years of excellence and great academic success!


Dr Boet Troskie
Chancellor



Dr
SM
Seane

MANAGEMENT

Message from the Chairperson of Council

This annual report serves to give an indicative account to our partners, including government, business and industry, of how the university has responded to its institutional mandate as bestowed upon management during the period under review.

In reflecting on whether CUT, as an institute of higher learning, is moving in the right direction towards becoming an engaged university that focuses on social and technological innovation for the socio-economic development of the central region of South Africa, the report serves to answer the following critical question: To what extent has CUT achieved its institutional objective to transform into a new-generation university?

Although the intention of this report is not to review the year 2011, but rather to provide a strategic overview of our performance, it is important to stress that the assessment of the university's performance and objectives takes an approach that combines key performance areas with our achievements.

Allow me to express my appreciation towards management and the broader CUT community for their hard work and dedication to making our 30th anniversary celebrations possible. This was also an important year in terms of renewing CUT's commitment to the very core functions of the University, namely teaching, learning, research, and community engagement.

Through our endeavours, we have shown respect and appreciation for having been entrusted with the privilege of leading this institution into the new frontier of innovation. With the support of staff and students, we have continued to ensure that the University is held in the highest esteem both nationally and internationally through research, innovation, and quality graduate output. We have remained committed to our focus on Vision 2020 as we move forward on the challenging but exciting journey ahead.

Once again, I wish to thank our partners, including business and industry, for their unwavering support and continued belief in our collaborative programmes. We look forward to pursuing our partnerships in view of making this University an aisle of innovation that will promote the development of this region and its people.

Dr Sylvan Seane
Chair: CUT Council



Prof.
TZ
Mthembu

MANAGEMENT

Message from Vice-Chancellor and Principal

The year 2011 can be summed up as one during which we continued to embed – and achieve some of the outcomes of – our strategic priorities emanating from Vision 2020. In short, our strategy consists of three strategic sets, namely **building a strong foundation** (internal values, relations and organisational design), **enhancing the academic project**, and lastly **establishing strategic partnerships and enterprises** in support of the first two sets. Within these three strategic sets are 14 institutional objectives and strategies that may vary from year to year.

By this design, therefore, my message focuses on some highlights of the embedding process and the achievements in this regard, which are expanded upon in the report itself.

Building a strong foundation has called on organisational redesign (otherwise known as restructuring) to assist in steering the institution in a direction that makes it fit for purpose and poised to successfully implement the strategies we have selected.

The process of institutional restructuring was finalised during 2011, allowing us to drastically reduce our salary budget from 74% in 2007 to 61% in 2011. This was made possible through savings earned from a careful analysis of our functional efficiency that has guided us away from the previous task-oriented organisational design that tended to be unjustifiably labour intensive for an institution with limited resources in terms of size and capacity. **Enhancing the academic project** has seen the implementation

of an innovative curriculum development initiative we call the Strategic Transformation of Educational Programmes and Structures (STEPS). This process has not only spawned new programmes, but has assisted us to publish papers in accredited journals and to manage innovation and change at CUT.

We have seen seven new and two re-engineered user-focused curricula being established in line with Vision 2020 and its impact-oriented developmental approach, in partnership with business and industry. These curricula have been tabled at Senate and Council, alongside other student support-oriented proposals for improved teaching and learning in large classes, student preparedness, work-integrated learning, continuing education and research, and innovation for socio-economic development. Several existing qualifications have also been identified for re-curriculation to ensure the user-focus and other fundamental elements of our education that emerged from the STEPS process.

Four academic papers on aspects of the STEPS process were presented at the South African Technology Network (SATN) conference in 2011 and will be published in the South African Journal of Higher Education in 2012. The STEPS initiative has been rewarding in terms of not only its many specific academic and research outcomes, but also the greater collaboration it had engendered amongst CUT staff and the experience it has provided in introducing and managing change. By working together, substantial progress has been made towards Vision

2020 – not only benefitting CUT, but also contributing to a broader understanding of the role of universities of technology in the developmental agenda.

The implementation of the STEPS process has required a great deal of external support to ensure that CUT's graduates and innovations are aligned with industrial and developmental goals, thus enabling the academic project to achieve and sustain socio-economic development through focused, applied knowledge and innovation in both social and technological spheres.

The nine curricula mentioned above were prepared for submission to the Department of Higher Education and Training (DHET) for approval under CUT's Programme Qualification Mix, and later to the Higher Education Quality Committee (HEQC) for accreditation.

Establishing strategic partnerships and enterprises to enhance innovation has helped to build our foundations and enhance the academic project.

CUT's Centre for Rapid Prototyping and Manufacturing (CRPM) continues to be an important player in South Africa's additive manufacturing industry, with 496 projects being completed in 2011, and a titanium seminar – the first of its kind in South Africa – being hosted as part of our 30th anniversary celebrations. To enhance the technological platforms available for the CRPM, the university has invested heavily in the purchasing of two new state-of-the-art additive manufacturing machines that will increase our capacity in this area.

In this broad area, medical device manufacturing has become a specialty, with the Medical Research Council recognising this by including CUT amongst other leading universities in the National Medical Device Platform. The National Department of Science and Technology has also awarded CUT a multi-million-rand chair in Medical Device Research and Technology.

The IT Hub, a joint initiative between CUT and the Free State Provincial Government (FSPG), was established in 2010 with the purpose of strengthening the province's software development base. CUT is in partnership with the Johannesburg Centre for Software Engineering based at Wits University and the Software Engineering Institute based at Carnegie Mellon University in the USA. The initial intake of 17 associate software developers has completed the first phase of training, focusing on the

delivery of quality software solutions within a given budget and timeframe and according to the client's specifications and quality expectations. This is revolutionary in an IT industry where budgets for software-based systems are often exceeded.

In the field of social innovation and skills development, the Educator Mentorship Development Project is a multi-million-rand joint initiative with the Telkom Foundation, aimed at improving the disciplinary knowledge and teaching skills of primary-school educators in the fields of science, mathematics and technology. This project has already been implemented in three schools in the Bloemfontein area, with plans to expand on a national level and to initiate a high-school strand of the project.

The projects mentioned above are presented to whet your appetite about social and technological innovation – a revolution that will certainly see long-term outcomes in the socio-economic development of the Free State Province and the rest of the central region.

In closing, I trust that the achievements I have chosen to highlight will give some insight into the progress CUT is making in the effort to firm up our academic foundations, enhance our academic project, grow our research and innovation capital, and ensure socio-economic development in the region.

We would not be able to engage in all these exciting developments without the contributions and support of our strategic partners, namely government, business and industry, as well as broader civil society. The journey towards growing our region's economy and thereby making our region self-sufficient and free of poverty, unemployment and inequality is a long and arduous one, but we are confident that our partners will stand with us through thick and thin.

Prof. Thandwa Mthembu
Vice-Chancellor and Principal

STRATEGIC DIRECTION FOR CUT

In achieving Vision 2020, CUT has based its approach on the Vice-Chancellor and Principal's 15-point strategy (first described in the 2008 Annual Report), which became a fully integrated part of the Institutional Strategy in 2009. The 15 points have been consolidated into **3 strategy sets**:

Strategic set 1 | Building a Strong Foundation

(internal values, relations and organisational design and transformation)

The fundamental idea behind this strategic set is that the success of CUT depends on how it builds a strong foundation through broad transformation, entrenching appropriate values and an academically oriented ethos, and how it redesigns its systems and structures to align with its vision.

There are five objectives under this strategic set:

1. Improving 'fitness for purpose' through institutional reorganisation and redesign
2. Equity and excellence, growth and redress, and development
3. Creation of a culture conducive to excellence, deliberation and innovation
4. Emancipating relations between academics and students and amongst different University community groupings
5. Transformation

Strategic set 2 | The Academic Project

Beyond just having the best of foundations, a university's success depends on the quality of programmes offered and innovations produced; their relevance to the users out there in government, business and industry and the rest of society; and the quality of its staff and its facilities

There are six objectives under this strategic set, as indicated below:

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

Strategic set 3 | Partnerships, Institutional Advancement

Once the Strategic Transformation of Educational Programmes and Structures (STEPS) process has been finalised and implemented, CUT shall need all sorts of external support to ensure that the graduates and innovations CUT produces are aligned with industrial and developmental goals. This will improve the management effectiveness of the academic project in attaining and sustaining socio-economic impact and outcomes through increased, highly focused intellectual production and delivery. CUT has to build focused and purposeful strategic partnerships in order to achieve its Vision 2020.

ACHIEVEMENTS IN 2011

Logical, coherent and productive administrative management system; organisational efficiency in costs and operations; new and leaner management and support staff structure in place; full complement of support staff at executive and middle management; more investment in the academe.

- Student debt has proven to be challenging as a result of the tight economic situation. In this respect, CUT has begun tightening policies and procedures on student debt collection.
- CUT's academic-to-support-staff ratio improved from 57:43 in 2010 to 59:41 in 2011, in favour of academics.

The university designed and implemented an equity and excellence project. As a result funding has been earmarked for staff development and programmes.

- **Higher Education Leadership Skills Academy (HELSKA)** currently runs two programmes to fast-track development at CUT with an allocated R14 million over three years.
- Leaders in Education and Development (LEAD) programme, focuses on the development of administrators and managers. 15 LEAD fellows joined the programme in 2011.
- Stars of Academe and Research (SoAR), is designed to address transformation in the Sciences, Engineering, Technology and other scarce skills areas, and to build capacity in critical areas such as health sciences, social development, and agriculture. Since January 2011, ten fellows – three PhD and seven Master's students have been contracted to the SoAR programme.
- CUT R3 million was earmarked for general staff development projects - a further demonstration of its commitment to people as the most important asset.

HELSKA is an innovative CUT project which responds to the compounding evidence of chronic and pervasive leadership quality challenges across virtually all sectors of society. It is conceived and operated as an academy which provides a support system for talented and gifted young persons who have a basic leadership record and are also deeply committed to their personal quest to develop into skilled exceptional higher education and social leaders.

Planned institutional engagements and debates; regular communication about strategic and institutional culture issues; planned engagements at executive and senior management level.

- CUT celebrated 30 years of technological and social innovation in September 2011, and the celebrations coincided with National Heritage Week. Innovation, research and entertainment were showcased to mark the event (more information in the Special Events section).

In The Leadership Charter a section is devoted to this very important aspect as part of the University expectation of behaviour, especially from lecturers. Implementation of the Charter through workshops is important for the university to ensure students are continually developed and management maintains constructive engagements with student, unions etc.

- The findings of the 2011 Graduate Opinion Survey shows CUT as the university of choice amongst amongst 2011 graduates. (Bloemfontein Campus 98.1%, Welkom Campus 96.2% - value CUT to such an extent that they would recommend it to someone wishing to study further.)

A well-developed and agreed-upon broad framework for transformation is in place to transform all elements of CUT's core business; including issues of race, gender and appointments, focusing on the quality of the institutions core business, outputs and outcomes working towards the accomplishment of Vision 2020 and relevant strategic plans.

- The implementation of the **Strategic Transformation of Educational Programmes and Structures (STEPS)** process is an important part of transformation at CUT.
- Nine new programmes that were identified during the first phase of STEPS and approved by Council in 2011 were submitted to the Department of Higher Education and Training (DHET) for approval in the first quarter of 2012 (more information in the Senate section).

STEPS is a consolidated and co-ordinated curriculum development process that involves the review of the philosophy, content and structures in the academe.

At CUT it is believed that the focus of the learning process should be on the student and their real needs which mean the consolidated use of distributed and e-learning material as well as the provision of training, exposure to the relevant techniques, and finally improved student support facilities.

- All students were given access to eThuto (Blackboard), CUT's online learning management system.
- Lecture rooms were equipped with the most appropriate audiovisual aids depending on the programmes offered in the venue. 72% (Bloemfontein Campus) and 95% (Welkom Campus) of all lecture rooms have been equipped with data projectors.
- An important benchmarking opportunity in 2011 saw two CUT staff members visit the United Arab Emirates under the auspices of the South African Technology Network (SATN). The trip provided participants with the opportunity to learn how the Higher Colleges of Technology use technology for teaching and learning.

Ensuring a clear preference for SET, then Business, Commerce and Management (BCM) and the Humanities, in that order; The Minister's headline enrolment target for CUT was 50% SET, 28% BCM, 14% Other Humanities and 8% Education, with 5% postgraduate enrolment; four research niche areas in SET to be enhanced or developed; establishment of a Faculty of Humanities to house Education and other humanities-related fields.

- SET headcount enrolments were 43.6% - almost half the student body. Postgraduate student enrolments improved from 4% in 2010 to 6% in 2011.
- Nevertheless, to improve on the low number of postgraduate enrolments, the implementation of a postgraduate development programme called SoAR, launched in 2010, continued in 2011.

Increase in the number of SET-qualifying matriculants in the Free State (through a partnership with the Free State Department of Education) and feeder schools; funds set aside to support excellent Free State students in maths and science.

- CUT, and the Free State Provincial Government, CUT has made remarkable progress in a number of projects to to increase the supply of SET-qualifying matriculants.
- In 2011 Mutual and Federal became a funder of the Saturday School project by contributing R0.5 million. A 100% pass rate was achieved by learners enrolled in the Saturday School project, while 24 of those learners went on to enrol for engineering-related courses at CUT. Some of the others enrolled in medicine, law, engineering, and science courses at other institutions around the country.

- Through the Winter School more than 10 schools managed to improve their overall performance to above 80% on average in their Grade 12 results. More than 2 500 learners have enrolled in this programme, with more than 1 100 learners in Mathematics, Physical Science and Life Sciences.
- At the end of 2011, the two projects (Saturday School Technology Project and Winter School Project) were combined to form the Schools Advancement Academy, so as to create synergy between them.
- A new project, the **Educator Mentorship Development Project (EMDP)**, was launched in 2011 and is financed by the Telkom Foundation to the amount of R4.5 million over a two-year period.

The EMDP is a developmental project aimed at addressing the shortage of skills among teachers in the specific areas i.e. STEM, and the focus is on foundation stage education.



Starting a research niche area or a centre for vocational pedagogy given that there should be expertise in this area at universities of technology.

- Several networks and collaborations were formed with top international researchers and scholars from leading universities including: Prof. Ulrich Holzbaur of Aalen University of Applied Sciences; Prof. Ulrich Teichler of the Centre for Research in Higher Education at Kassel University; Prof. Catherine Odora-Hopper of SARCHI at Unisa; and Prof. Michael Young of the London Knowledge Laboratory (Prof. Young has vast knowledge of the South African higher education system). Collaborations were also formed with Dr Stephanie Allias of the Research in Education and the Labour Market (REAL) Project at Wits EPU, and Prof. Leesa Wheelahan of the University of Queensland in Australia.
- As part of the process of inquiry on vocational and professional pedagogy, research into **Work-Integrated Learning (WIL)** was conducted. This research highlighted key aspects of WIL as a curriculum and pedagogical issue, while the research report makes concrete recommendations for how WIL should be incorporated into programmes at CUT.

Establishing a critical mass of senior professors, professors and senior lecturers in a select number of research and teaching areas; creating, from restructuring savings, a strategic fund from which the institution will fund to the hilt these scientists/professors, their laboratories and postgraduate students; enhancing the current research thrusts and niche areas through partnerships and new staff.

- The **Small Enterprise Development Agency (SEDA) Agriculture and Mining Tooling Incubator (SAMTI)** was established in 2009 with funding from SEDA – R1.5 million was awarded by SEDA for the 2011/12 financial year for this purpose – and is now fully operational. The incubator participants have already been trained by SAMTI in basic business principles, as well as the essentials of mechanical workshop practice.
- CUT is a member of the newly established Medical Devices Innovation Platform (MDIP) that is funded by the Medical Research Council (more information in the Technology and Innovation section).
- A total of eight curriculum developers were appointed. Academic Development and Support presented/co-ordinated training and developmental opportunities for 317 full-time and part-time academic staff members.

WIL offers a holistic approach to education by equipping students not only with the necessary theoretical background, but also with the opportunity to apply the theoretical concepts in practice to enable them to develop the skills required for entry into the workforce upon graduation.

Seda Agricultural and Mining and Tooling Incubator (SAMTI) was established in 2008. It is part of a government project programme initiated by the Department of Trade and Industry through a partnership between Small Enterprises Development Agency (Seda) and CUT. SAMTI promotes the development of small, medium and micro enterprises (SMME's) in the manufacturing of tools for Agriculture and Mining through technology incubation programme.

Identifying strategies to enhance this area; recruiting senior scholars in technology-focused areas; developing modules with a technology and innovation focus; enhancing technology focus and establishing links between academic products and business/industry.

- In 2010 CUT earned 7.85 credits via conference outputs and 31.75 credits via article publications. In total 39.56 credits were awarded to CUT in 2011, which is an average of 0,31 credit outputs per full-time academic staff member.
- The STEPS initiative has been rewarding, not only for its many specific outcomes, but also for the collaboration that it has engendered amongst CUT staff, and experience in introducing and managing change. By working together, substantial progress has been made towards Vision 2020.

CUT, as a technology-oriented institution, to transfer technology to business and industry as primary partners that will give financial and other support to such developments; turning innovations and inventions into products useful to society.

- The **IT Hub Project**, in partnership with the Free State Provincial Government, is making good progress. A total of 17 CUT graduates and alumni were identified for specialised training that started in March 2011.
- The process of diversifying CUT's support base, which commenced in about October 2010, has begun to pay off rather handsomely. Approximately R16 million has been pledged by a number of brand new partners for projects on teacher development, sustainable energy (through turning invasive plants into charcoal), the Saturday School project and Contractor Skills Development project. An astounding figure of R10 million has already been signed into contracts, which represents an increase of more than 200% since the previous year and does not include funds procured from traditional partners for research activities.
- CUT has been awarded its first NRF chair, based at the Centre for Rapid Prototyping and Manufacturing (**CRPM**), which has been awarded R2.5 million towards the development of medical devices (more on CRPM in the Technology and Innovation section).
- The delivery of two state-of-the-art direct metal laser sintering machines from EOS, Germany, which was financed jointly through CUT funds and the CRPM, was a definite highlight for 2011.

A symbiotic relationship between CUT, government and its agencies such as DST, DTI/SEDA, and SETA, was necessary to provide support for collaborative programmes at provincial and local governments.

- CUT is running a series of projects in partnership with many levels of government, at local, provincial and national level. CUT has been able to attract more new companies to partner with us, notably Telkom, Sasol, Mutual and Federal, and Standard Bank.
- A co-operation agreement exists between CUT and the Free State Department of Health. Furthermore, CUT's Faculty of Health and Environmental Sciences and the Free State Department of Health has established a Joint Advisory Committee (JAC).

The IT Hub Project, in partnership with the Free State Provincial Government. The need for software support and development in South Africa, Africa and throughout the world is massive, since software has become part of the world's daily lives and is used for security, entertainment (and more recently social networking), banking, education, transportation, and various other communication activities. These inexperienced CUT IT graduates will be exposed to a real world work environment in Software Development as part of their Team Software Process (TSP) training that will be instructed by an Internationally SEI certified professional through a programme convened by the Johannesburg Centre for Software Engineering (JCSE) from Witwatersrand University.

CRPM is a multi-purpose centre specialising in academic support of students in Mechanical Engineering and in providing support to the South African manufacturing industry and statutory research bodies in the production of prototypes, final products and production moulds using additive manufacturing technologies.

- In addition, CUT has partnerships with the Mpumalanga Department of Education for the training of BEd students in Mpumalanga; with the ETDP SETA for the training of Maluti FET College lecturers in PGCE in Qwaqwa; with the European Union (EU) for a BEd Foundation Phase project; with UP, UKZN, TUT and as DHET for the development of a BEd Foundation Phase programme in mother tongue instruction; with Harmony Gold in Virginia in support of students in the School of Jewellery Design and Manufacturing; with Aalen University for Applied Sciences in Germany, in support of Communication Sciences students; with the University of Lagos in Nigeria for postgraduate supervision; and with the Heidedal community for the development of a community newspaper.

Partnerships within the Southern African Development Community (SADC) region, and other African institutions was central to CUT's internationalisation agenda. This has increased partnerships on staff development programmes (master's and doctoral degrees) for some of the universities within the continent, and increased research collaboration.

- The University hosted a number of important international and national conferences most notable being, SA Society for Educators' Conference, **South African Technology Network (SATN)** Conference (more information in the Special Events section), the first African Clay and Clay Minerals Conference in Africa, the Second International Conference on Geophagia in South Africa, and Horn of Africa Regional Environmental Centre and Network (HoAREC).
- CUT is adopting to new global trends of internationalisation of Higher Education and preparing itself for a larger intake of new international staff members which has increased from 45 in 2010 to 58 in 2011.

Strategies to diversify the support base for the institution – moral, social, financial and otherwise – have to be devised; engaging with various stakeholders and creating strategic partnerships with them should be the focus; increased institutional advancement and better financial sustainability should result from these engagements; reorganisation of centres and business-oriented units should be pursued.

- Community Engagement with the curriculum being the conduit gained momentum in 2011. The respective faculty deans committed to projects, leadership, and the philosophy of Community Engagement and its strategy documents being continuously reviewed to make it a living, vibrant reminder that community engagement is central to CUT's mission.
- In September 2010 CUT established the Diversified Income Project (DIP) that should strategically and operationally drive all efforts to diversify the support base.

The SATN promotes the common interests of the UoT's as well as co-operation between the universities and commerce and industry. CUT's Vice-Chancellor and Principal, Prof. Thandwa Mthembu was re-elected as chairman of the board for SATN in November 2011 for the next 2 years. CUT is adopting to new global trends of internationalisation of Higher Education and preparing itself for a larger intake of new international staff members which has increased from 45 in 2010 to 58 in 2011.

LEADERSHIP AND GOVERNANCE



Prof.
Thandwa
Mthembu
Vice-Chancellor
and Principal



Prof.
Laetus
Lategan
Acting Deputy
Vice-Chancellor:
Academic



Prof.
Mojalefa
Ralekhetho
Acting Vice-Chancellor:
Resources and Operations



Prof.
Talvin
Schultz
Deputy Vice-Chancellor:
Institutional Planning,
Partnerships and
Communications



Dr
Gift
Vinger
Registrar



Dr
Solomon
Makola
Welkom Campus:
Manager

Administrative structures in the support of academic management divisions have been aligned as part of the broader three-phase institutional restructuring exercise, which produced new structures and staff establishment currently in place. CUT's internal administrative/operational structures and controls have shown improvement with the engagement of KPMG as internal auditors towards the end of 2007. The quality of internal audit functions improved significantly throughout 2008, 2009, 2010 and 2011.

Furthermore, the establishment of the Strategy Execution Unit (SEU) took effect in September 2011 to assist the University in implementing Vision 2020 and its various projects. A team of senior policy analysts has been established to strengthen the centre of the university in driving Vision 2020.

Financial Management

The financial state of the university across various divisions has been growing strongly in real terms; putting CUT in a better position to deliver more on its core business as a university of technology. Since 2009 the university has been able to improve its financial system through review of its policies, procedures, and processes.

Fifty six new full-time academic posts were established to increase the capacity and leadership development of the university in research and innovation. As a result, the salary budget ratio of academic to support staff has improved from 49:51 in 2007 to 59:41 in 2011, with the majority of the resources being dedicated to academic staff. CUT has made great strides in shifting resources towards the core business.

The adjusted headline budget for 2011 put the salary bill at 62.23% of the total state grant and tuition fees. As at December 2011, the actual expenditure was 60.67%.

The University's financial management system has evolved fundamentally in such a way that strategic funds could be set aside for implementing the strategic priorities emanating from Vision 2020 and its strategic plans.

During 2011, the University managed to operate within the expenditure guidelines set by the CUT Council. As a result, CUT has been able to accumulate funds and reinvest in other items of

expenditure. The University was thus able to generate a surplus due mainly to investment returns and income from contracts. Long-term investments grew while cash and cash equivalents decreased for the year ending 31 December 2011 (see financial health of the university section for statements).

Human Resources

A considerable amount of work has been done towards the Institutional Performance Management System in 2011. A system is in place for executive management and for post levels P4 to P7. The system is envisaged to be piloted for P5 to P8 in 2012, and will cascade down to all levels thereafter. The structures were consulted with the Labour Relations Forum (LRF) before being approved by the Management Committee (Mancom). The placement process within the Resources and Operations Division and the Institutional Planning, Partnerships and Communications Division has been concluded. Below follows a table depicting the institutions achievements in meeting social responsibility commitments, including staff and student composition.



Long Service Awards 2011 - These committed individuals add value to the institution on a daily basis, and CUT took time to recognise their tremendous contributions. In the institution many dedicated staff members work tirelessly at various tasks to ensure that we can deliver good customer service - one of CUT's core values - together with innovation, excellence, integrity and diversity.

The overall female-to-male ratio of permanent staff has shifted slightly in favour of females from 49.5% in 2010 to 50.2% in 2011. Whereas the ratio of female instructional/research staff to their male counterparts is 39:61 percent, this is a very slight improvement of about 1% from the previous year. To support the academic project, instructional/research staff comprises 38% of the total permanent staff complement.

Overall, the percentage of African and Coloured staff has risen by 1.1% and 0.8% respectively, while the percentage of their White counterparts has declined by 3.4%.

Control Measures, Governance Reviews and Internal Audit

CUT maintains an internal control system 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 Committee and Council regarding an operational environment that promotes the safeguarding of assets and the preparation and communication of reliable financial and other information. This includes documented organisational structures setting out the segregation of responsibilities, as well as established policies and procedures, including a code of ethics that is communicated throughout the university to foster a strong ethical climate and the careful selection, training and development of its people.

An independent review of the outsourced internal audit was done during 2011. This review was performed on the management of the internal audit activity in terms of the Institute of Internal Auditors (IIA) International Standards for the Professional Practice of Internal Auditing (Standards), Performance Standard 2000 – Managing the Internal Audit Activity.



ACADEMIC ADMINISTRATION

The initial stages of online registration commenced in 2011 with great success. Further preparations are in place to introduce online systems in this area to ensure that staff and student services are delivered faster and more efficiently. As part of quality assurance system in both the academe and in support services, regular audits of the institutions programmes and administrative units are done.

Administrative systems and structures in support and academic management divisions have been aligned as part of the broader three-phased institutional restructuring exercise, which produced new structures and the staff establishment currently in place.

Information and Communication Technologies (ICT)

The year 2011 saw the continuation of training interventions initiated in 2010 to ensure that Information and Communication Technology (ICT) staff is competent and able to support the CUT community. The training included security, ICT governance, virtualisation, and large data storage as areas that are critical to the stable functioning of the ICT environment.

A number of projects were completed within the ICT environment, namely:

- Collaboration enhancement: The decommissioning of the current non-supported e-mail system and its replacement with a stable and supportable system commenced with the testing of the system in November 2011.
- Business continuity:
 - Storage capacity was increased to accommodate the growth of CUT's data environment.
 - The secondary disaster recovery site in the ZR Mahabane Building was extended to allow for a virtual environment hosting critical CUT systems.
- ICT governance: The process of implementing an ICT governance framework (phase one) was launched which included the formulation of an ICT governance framework that is aligned with the King III report.

Risk Management

The University's 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, 1997. 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 in order to focus on certain key activities within the University.

Risk Assessment Workshop

University management conducted a strategic risk assessment workshop in January 2011, which was facilitated by the outsourced internal 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 remains an ongoing process within the University.

Fraud Risk Management

Employees and others have access to a whistle-blowing facility (Ethics Hotline) to anonymously report unethical and risky behaviour. Any dishonesty, when detected, is taken seriously and dealt with on an ongoing basis through forensic investigation.

Examples of Risk Categories

Management is continuously developing and enhancing its risk and control procedures to improve the mechanisms for identifying and monitoring risks.

In order to minimise risk factors CUT will implement the following:

- Beefing up security personnel with the recruitment of new staff.
- Training of current staff in security courses.
- Installation of integrated CCTV cameras.
- Continuous performance evaluation of CUT security, as well as out-sourced security.
- Installation of time attendance devices to control absenteeism and staff coming in late, leaving early and deserting their posts.
- Safe use of workplace machinery and other equipment.

INSTITUTIONAL OPERATIONAL PLAN 2011

The Institutional Operational Plan: 2011 sets out a number of objectives for the University, which the Vice-Chancellor and Principal must drive across the executive portfolios. The report below concentrates on those overarching objectives that the Vice-Chancellor and Principal had to personally drive, but within the confines of the relevant Operational Plan. The Vice-Chancellor and Principal's objectives for 2011 are the following:

- Implementing innovations in stakeholder management;
- Making institutional alignments to the vision and mobilising around the vision, internally as well as externally;
- Devising a programme of resource mobilisation and efficient utilisation, both internally and externally (business and industry, mobilising funds, international foundations, development of strategies to get such bodies/structures on board, etc.); and
- Commencement/establishment of frameworks and action plans for special projects such as spending on the strategic budget, the Excellence and Equity Challenge Project in collaboration with the Acting Deputy Vice-Chancellor: Resources and Operations and the Deputy Vice-Chancellor: Institutional Planning, Partnerships and Communications.

CUT's Institutional Operational Plan 2011-2013 is a rolling plan that covers a period of three years. Like all rolling plans, it is revised each year to take into account changes in the environment, within the overall objectives for the three-year period. It is guided by a number of decisions and policies approved by Council:

- (a) Year 2020: Vision of the transformation agenda;
- (b) Vision 2020 and Strategic Plan 2010 - 2015 and 2016 - 2020;
- (c) Academic Planning Statement; and
- (d) Leadership Charter.

Development in 2011 was guided by CUT's Institutional Operational Plan for 2011 – 2013.

COUNCIL AND SENATE

The 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.

The very nature of any university's business is long-term. While there is a need for short- to medium-term development gains, these opportunities must not redefine the University's longer term goals of developing and deploying human or intellectual capital in the interests of socio-economic development, within a very competitive global economic context. As the transformation position paper stresses, the transformation of the University is a long-term goal where its engagement with staff and students is constantly redefined. The participation of staff and students in these engagements must be supported, encouraged and stimulated. The nature of the University's transformation requires steady and determined development of its capacities – especially its human resources and infrastructure – to consistently deliver the desired outcomes.

Building on the notions of the role of a university of technology in development, CUT has Vision 2020 conceived and has begun to implement its five key principles:

- As a technological university, innovation is essential to the vision as well as social and technological innovation are central to academic, skills development and research programs.
- Measuring the result is also fundamental to the vision – CUT is not about quantity and generalities but about measurable performance, outcomes and impact subjected to systematic and robust monitoring and evaluation.
- Socio-economic and entrepreneurship is at the heart of everything the institution does – CUT's endeavours in knowledge-production and human capital development have to be relevant and aligned to the agenda of improving lives in the Free State province, the central region and South Africa as a whole. In a nutshell, the vision as an engaged university guides and grounds us into partnering with business, government and the broader society – the golden quadrilateral that binds public policy, innovation and commercialisation of scientific and technological ideas for creating greater prosperity.
- CUT's geographical location and the local and regional comparative advantage as a result of the location also matter. The location should reflect and shape CUT's agenda and priorities because the university exist primarily to address the needs of the communities in the province, region and country. Primarily, local and regional development should be the epicentre of the university's revolution.
- Finally, quality and excellence are the glue that holds everything together. CUT has to strive and thrive in providing the best services in education and training, research, innovation and entrepreneurship development.

In 2011, CUT pursued a number of institutional strategies and objectives. Council attended to and addressed a number of matters of significance for the institution, the most important of which were the following:

- Council approved the establishment of an executive support facility to provide more strategic and operational capacity within CUT. Provision was made for added capacity and resources from the strategic budget to execute and implement the decision. It was decided that a five-year position of Executive Director: Strategic Support and Implementation Unit, as well as the other related posts, would be created.
- The Planning, Finance and Resources Committee (PFRC) of Council governs the planning, finance and resources affairs of CUT. It considers and recommends to Council the corporate strategic plans, strategic directions and priorities in human resources, finance and resources governance, as well as the annual budget. Specific issues attended to during 2011 included:
 - the issue of commercial equity, commercialisation and the CUT Services and Enterprises Trust (CSET), the approval of student fees for 2012, the collection agreement between CUT and the National Student Financial Aid Scheme (NSFAS),
 - the Headline Budget 2012, the Institutional Operational Plan 2011-2013,
 - the review of procurement procedures, tenders for the DoE 140 infrastructure projects and other tenders.
 - the long-outstanding issue of the medical pre-funding was partially finalised at the end of 2011, with the endorsement of the implementation strategy for the capping of the post-retirement medical liability.
- The Audit Committee of Council assists the Council in fulfilling its oversight responsibilities. It reviews the annual financial reporting process, the system of internal control and management of financial risks, the audit process, and CUT's process for monitoring compliance with laws and regulations. Specific matters attended to were:
 - the top-priority strategic risks of CUT,
 - the internal audit function review,
 - the allocation of money earmarked for Foundation Programmes,
 - the appointment of new external auditors,
 - the issue of the institution's title deeds with the name change from Technikon Free State (TFS) to CUT, as well as the monitoring of reports on the internal audit findings of 2009
- The Investment Committee of Council reviews, on a quarterly basis, the investment performance of CUT to determine the continued feasibility of achieving the investment objectives set out in CUT's Investment Policy.
 - Much focus and time went into the simplification of the investment process, which included the approval of the institution's investment strategy and investment policy. This also led to the adoption of the strategy to appoint an administrative platform and three multi-managers instead of an investment consultant.

Senate

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.

The academic enterprise at CUT constantly strives to fulfil the institution's mission by:

- Using workplace-inspired teaching and learning strategies to deliver high-quality appropriate Science, Technology, Engineering and Mathematics (STEM) and Management Sciences academic programmes;
- Pursuing applied research and fostering innovation and technology transfer;
- Forging strategic partnerships with various organs of society, including government, business and industry, and engaging with various communities for mutually beneficial development;
- Promoting access with success in attracting potentially successful students and supporting them to become work-ready graduates; and
- Attracting and retaining quality staff and supporting their development and wellbeing

The major focus area for 2011 was a project to transform academic learning programmes to make them viable, especially in terms of uniqueness and responsiveness towards industry needs. In terms of this project, namely STEPS, nine new learning programmes were approved by Senate at the end of 2011:

- Higher Certificate in Community Development Work;
- Advanced Diploma in Agricultural Extension and Advising;
- Advanced Diploma in Health Management;
- Bachelor of Education (BEd) in Senior Phase (SP) and Further Education and Training (FET) Teaching;
- Diploma in Design and Studio Art;
- Advanced Diploma in Logistics and Transportation Management;
- Higher Certificate in Renewable Energy;
- Diploma in Sustainable Energy Advising; and
- Bachelor of Science (BSc) in Hydrology and Water Management



The final STEPS meeting in 2011! Team members were wrapping up the final items on the agenda.

Several other existing qualifications were identified to be re-curriculated for improved WIL, and other recommendations included the extension of continuing education and the fostering of multi-, inter-, and trans-disciplinary research. CUT's annual academic planning remains focused on the realisation of the strategic thrusts of the institution.

Strategies to address the faculties' employment equity profile

The faculties mainly employ the following two strategies to address their employment equity profile (mainly equity in academia): A 'grow-your-own-timber' approach, whereby staff members develop their own developmental plans to facilitate their attainment of higher qualifications and to address areas lacking in skills or knowledge. The faculties support the staff in their quest to successfully follow the development plan, thus allowing them to be promoted to lecturer/senior lecturer/associate professor or professor. The recruitment plan for vacant posts allows for recruitment as widely as possible and, in the case of scarce skills, would also include headhunting. As part of the procedure, once suitable candidates have been selected, the equity profile of the appropriate faculty (per programme and school) is considered.

The tables below present an indication of the student profile within the different faculties per campus in 2011, together with the permanent instructional/research staff in each of the faculties in 2011.

STUDENT PROFILE							
		BLACK		WHITE		HEADCOUNT	
		FEMALE	MALE	FEMALE	MALE		
Faculty of Engineering and Information Technology							
	Bloemfontein Campus	23.1%	60.9%	1.1%	14.8%	3 740	
	Welkom Campus	36.6%	62.4%	0.4%	0.7%	279	
Faculty of Health and Environmental Sciences							
	Bloemfontein Campus	41.2%	34.5%	16.3%	8.0%	1223	
Faculty of Humanities							
	Bloemfontein Campus	48.9%	42.0%	5.5%	3.6%	1989	
	Welkom Campus	58.3%	39.5%	1.2%	1.0%	908	
Faculty of Management Sciences							
	Bloemfontein Campus	54.9%	36.9%	4.0%	4.1%	3 263	
	Welkom Campus	56.9%	42.1%	0.3%	0.7%	953	
	Kimberley NIHE: NC	69.4%	26.0%	3.1%	1.4%	288	
Grand Total		43.6%	45.5%	4.0%	7.0%	12 644	

PERMANENT INSTRUCTIONAL/RESEARCH (ACADEMIC) STAFF

	BLACK		WHITE		HEADCOUNT
	FEMALE	MALE	FEMALE	MALE	
Faculty of Engineering and Information Technology					
Headcount	4	28	12	36	80
Percentage	5.0%	35.0%	15.0%	45.0%	100%
Faculty of Health and Environmental Sciences					
Headcount	3	12	21	10	46
Percentage	6.5%	26.1%	45.7%	21.7%	100%
Faculty of Humanities					
Headcount	13	27	16	13	69
Percentage	18.8%	39.1%	23.2%	18.8%	100%
Faculty of Management Sciences					
Headcount	9	17	26	22	74
Percentage	12.2%	23.0%	35.1%	29.7%	100%

ACADEMIC PROJECT

CUT's annual academic planning remains focused on the realisation of the strategic thrusts of the institution. The major focus area for 2011 was a project to transform academic learning programmes to make them viable, especially in terms of uniqueness and responsiveness towards industry needs. In terms of this project, namely Strategic Transformation of Educational Programmes and Structures (STEPS), nine new learning programmes were approved by Senate at the end of 2011 (see section Senate above).

Academic Partnerships

CUT remains committed to its core activities of teach and learning, research and community engagement as well as the pursuit of excellence within and across these core activities. Consequently, the university strives for continued enhancement of partnerships and co-operation agreements with government, business and industry.

A venture undertaken to co-operate with industry and to promote access with success was the linking of curricula with industry through the involvement of relevant stakeholders.

The following highlights are some of the key partnerships, co-operation agreements and links to industry for 2011:

Partnership with European Academe

The School of Electrical and Computer Systems Engineering has a sound relationship with the Hochschule Ulm in Germany and is busy strengthening relations with Mittweida, Aalen and Chemnitz universities in Germany. Two students from Ulm University and one from Aalen University were hosted by the school, while a BTech student in the School attended Mittweida University for four months.

The School of Information Technology is a member of Association for Computing Machinery (ACM), the Euro Africa Cooperation Forum on ICT Research, and Science Technology and Innovation for Development of Africa.

A long-term partnership between the Public Engineering School of the University of Lyon, France, and members of the CRPM was initialised during a visit by **Dr Igor Yadroitsev - from the Ecole Nationale d'Ingénieurs de Saint-Etienne (ENISE), Laboratory Diagnostic and Imaging of Industrial Processes (DIPI), University of Lyon, Saint-Etienne, France** - to CUT during the second-last week of June 2011. Collaborative projects will focus on innovation for the industrial development in the niche area of process monitoring of metal laser sintering.



Dr Ina Yadroitsava, Dr Igor Yadroitsau, Prof. Michèle Truscott, Professor in Applied Mathematics, and Ms Makhabo Ramosoou, Junior Lecturer in Applied Mathematics.

Partnership between CUT and NIHE: NC

CUT and NIHE: NC signed a working agreement to collaborate on the implementation of the DHET policy on higher education provision in the Northern Cape Province. To consolidate this collaboration even further, negotiations were held in view of seeing all CUT operations at the New Park Campus site being incorporated into NIHE: NC in 2011, the rollout of the implementation of the agreement, role clarification, as well as handover of administrative functions to the NIHE: NC was facilitated.

In 2011 CUT offered programmes in the Faculty of Management Sciences to 288 part-time students, while twenty-four part-time lecturers were employed at the New Park Campus of NIHE. Video-conferencing and Blackboard e-learning support, in addition to library services, form part of CUT's academic support.

Faculty of Engineering and Information Technology

Co-operations with JCSE, Carnegie Mellon University and the Free State Provincial Government

Three staff members underwent high-level software development training through the Johannesburg Centre for Software Engineering (JCSE) and the Software Engineering Institute (SEI) based at the Carnegie Mellon University in the USA. The Free State Provincial Government entered into an agreement with CUT regarding the establishment of an IT Hub based on a concept paper drawn up by CUT. This co-operation is underway and a software development project is in process.

Co-operations with Free State Public Works

The Centre for the Built Environment completed the re-training of Free State Public Works employees and submitted Adult Basic Education and Training (ABET) study material to the Department of Public Works and Transport.

Working with Industry: Rapid Prototyping and Manufacturing

At the CRPM an astounding 496 projects were completed during 2011, ranging from titanium part manufacturing for the medical and aerospace industries to rapid tooling.



Prof.
Alfred
Ngowi

Dean: Faculty of Engineering
and Information Technology

Faculty of Health and Environmental Sciences

Co-operation with Free State Department of Health

CUT has established an over-arching agreement between the Faculty and the Free State Department of Health (FSDH), while the Faculty and Free State Department of Education (FSDE) have also established a Joint Advisory Committee (JAC). The Faculty also has agreements in place with private radiology practices in Bloemfontein and Kimberley for the training of students.

Working with Industry: Department of Health and Private Practices

In 2011, members of the Biomedical Technology learning programme worked with private pathology laboratories (Pathcare and Van Rensburg Pathologists) in Bloemfontein and Kimberley, as well as with the National Health Laboratory Service (NHLS).

The Clinical Technology programme provided services to the Western Cape Government and FSDH. Private practices (industry) and state hospital units were represented on the Clinical Technology Advisory Board.



Prof.
Linda
de Jager

Dean: Faculty of Health
and Environmental Sciences

Faculty of Humanities

Partnership with Standard Bank and the Free State Department of Education

The School of Teacher Education has strategic partnerships with Standard Bank and the Free State DoE. An annual Winter School which continues with a second phase in September called the Spring School aims to help the learners to better understand subject content and to prepare them for the final Grade 12 examinations. Standard Bank donated a whopping R1.4 million for the Winter School and R995 000 for the Spring School. CUT sponsored a 120 learners from six schools in the region, collectively, institutions of higher education and business can make a change for the better.



Prof.
David
Ngidi

Dean: Faculty of Humanities

Working with Industry: Experts in Jewellery Design

The School of Jewellery Design and Manufacturing were supported by jewellery design professionals which led to the school participating in the Thuthuka jewellery development project and the Jewellery Fair held in the Sandton Covention Centre, gaining valuable exposure to the industry for students.

Working with Industry: Graphic Design and Fine Art

The Institute of Packaging South Africa (IPSA), where two Graphic Design students became finalists in the National Gold Pack 2011 competition. Third-year Graphic Design students designed a label for the Moliza Milk Company specifically milk sachets. This label can be seen in shops all over South Africa.



Thelma van Deventer, third year Graphic Design student, Brian Mathibe, third year Graphic Design student, Erick Strydom, second year Graphic Design student and Cindy van Zadelhoff, third year Graphic Design student.

Faculty of Management Sciences

Co-operation with Local Government Sector Education and Training Authority (LGSETA) and Public Administration Leadership and Management Academy (PALAMA)

Two official partnerships between CUT's School of Government Management and the Local Government Sector Education and Training Authority (LGSETA) and with the Public Administration Leadership and Management Academy (PALAMA) continued in 2011. A number of programmes designed to provide municipal support were devised and agreed upon with the municipality (e.g. National Certificate: Municipal Planning and Development, National Diploma: Infrastructure Planning and Maintenance and National Certificate: Accounting).

Working with Industry: Staff members take up mantle as Chairpersons of organisations in South Africa

CUT academic was elected as Chairperson and President of the Association of Southern African Schools and Departments of Public Administration and Management (ASSADPAM).

The School of Government Management serves on various provincial committees: Chairperson of the Risk Management Committee of the Department of Co-operative Governance and Traditional Affairs and the Department of Human Settlements; Deputy Chairperson of the Cluster Audit Committee for the Free State Provincial Department of Co-operative Governance and Traditional Affairs and the Department of Human Settlements.



Prof.
Albert
Strydom

Dean: Faculty of
Management Sciences

Staff members of the School of Tourism, Hospitality and Sport have leadership roles and membership on various regional and national bodies: Free State Gambling and Racing Board, USSA Athletics, National Tourism Skills Development Forum, National Tourism Skills Research and Knowledge Committee, Association of South African Travel Agents, Maloti Drakensberg Tourism Route, FEDHASA, Karoo Development Foundation.

Working with Industry: Commissioned research

A major South African hotel group appointed a staff member from the School of Tourism, Hospitality and Sport to investigate the effectiveness of its staff induction programme on an ongoing basis.

ACADEMIC DEVELOPMENT AND SUPPORT

Academic Development and Support 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.



Prof.
Mabokang
Monnapula-
Mapesela

Dean: Academic Development
and Support

Significant progress has been achieved in the various areas of Academic Development and Support (ADS), which include:

- A proposal for a teaching and learning grant for the 2011-2012 academic year was submitted to the Department of Higher Education and Training (DHET), and an amount of R3,966 million was received in September 2011. The funds will be used to enhance the quality of teaching and learning practices at CUT.
- New faculty-specific Academic Language Proficiency (ALP) learning material, which draws its methodology from the latest research in English second-language pedagogy, was developed for students in Hospitality Management.
- ADS presented/co-ordinated training/developmental opportunities for 317 full-time and part-time academic staff members during 2011.

COMMUNITY ENGAGEMENT

Community Engagement, with the curriculum being the conduit, gained momentum in 2011. This pace was facilitated by the initiation of Community Engagement Committee meetings, the respective Faculty Deans committing to projects, the leadership, philosophy of Community Engagement, and its strategy documents being continuously reviewed to make it a living, vibrant reminder that Community Engagement is the third mission at CUT. Community Engagement is executed through the two focus areas of Education and Development, further divided into the following programmes: Teaching, Training, Development, Skills Development and Professional Development.

Education is vital in collaborating with partners to better the communities, and teaching and training are the techniques used. Many of the community members value the involvement of CUT in enriching its members. Training assists the students to create new knowledge, to enhance their knowledge base and to graduate with valuable graduate attributes. They develop the ability to work autonomously in the workplace and to think creatively – these are just some of the attributes developed through their engagement in Service Learning projects.

Development is necessary in Community Engagement, since it improves the status of communities. It is also vital in transforming communities in socio-economic terms. Projects should also strive to be sustainable whilst taking cognisance of the above factors.

The following projects are highlights of 2011 at CUT in Community Engagement:

- Saturday School Technology Project:** The purpose of the project was to enable learners to better prepare and to improve their grades for admission to SET-related courses in higher education. Extra tuition in Mathematics, Natural Sciences, Life Sciences and English is offered to Grade 11 and 12 learners on Saturdays. Learners from high schools in Bloemfontein, Botshabelo and Thaba’Nchu attend classes sponsored by ENGEN, DG Murray Trust, Toyota SA, Kwezi V3 Engineers, Carl and Emily Fuchs Foundation, and Interstate Bus Lines. While on campus, learners are also exposed to Engineering-related programmes at CUT.



- **Annual Career Guidance Workshop:** Faculty of Engineering and Information Technology provided specific, programme related information to Grade 10 to 12 learners over three days during the June recess period. High-school learners from the Free State, Northern Cape and Eastern Cape attended the Winter School, which is aimed at making learners more informed about the admission requirements and content of different Engineering programmes. Prospective students were taken through a variety of programmes including Civil Engineering, Built Environment, Electrical Engineering, Computer Systems Engineering, Mechanical Engineering and Information Technology. A number of activities were arranged for the learners to have a first-hand glimpse into the real world of science, engineering and technology through site visits to Bloemspruit Airbase, Centlec, Pacofs and South African Truck Bodies.
- **Computer Building and Restoring:** CUT students received training in the assembly and repair of computers, thereby enabling them to earn a living. In this module, the emphasis is on the hardware aspect of a personal computer in view of enhancing curricula-based learning and teaching skills for entrepreneurial development. With CUT as the partner and first-semester students as the community, focus areas include: Developing skills and enhancing achievement; establishing entrepreneurial skills; serving as a practical demonstration of the curriculum; and serving as a practical example of what is expected in a job environment. BTech students supervised the students to build computers.
- **Free State and Northern Cape Tourism Town of the Year Competition:** The aim was to contribute to the general neatness and readiness of towns in the provinces for the 2010 Soccer World Cup and beyond. CUT's School of Tourism, Hospitality and Sport took the initiative to develop criteria according to which towns would be adjudicated. The winning town received various prizes from multiple partners in the project, namely the tourism associations in the various towns of the Free State and Northern Cape; Volksblad; Capitec Bank; PricewaterhouseCoopers; and AHL. Through this competition, participating towns in the Free State and Northern Cape became better geared towards tourism. Their infrastructure was upgraded in the process, the general level of neatness increased and pollution decreased. Clarens was the winner of the competition in 2011.
- **Training in Aspects of Human Resources to Officials of the Free State Department of Education (FSDE):** CUT offered a short course in Human Resources to officials of the FSDE. This course forms part of the syllabus of the National Diploma in Human Resources Management, in partnership with the FSDE. CUT lecturers and five FSDE officials provided short-course training in Human Resources to 60 officials of the FSDE on a block-release basis in Bloemfontein, Welkom, Sasolburg and Phuthaditjhaba. The aim is to improve the formal training levels of government employees, eventually resulting in improved qualifications.
- **Offering of Module in Restaurant Service at Selected Schools in Bloemfontein:** Senior Hotel School students train learners from selected schools in Bloemfontein in all aspects of restaurant service. The training equipped learners with the necessary skills to be employed as waiters in restaurants and earn income. A total of 80 learners were trained in the module by 27 third-year students in 2011. The programme has been running for about four years and an estimated 250 learners have already been trained. Protea Hotels accepts learners who have completed the module into their in-house training programme.
- **Training in Basic Financial Aspects for Municipal Employees in Mangaung Local Municipality:** Training in Basic Financial Aspects was offered to municipal employees according to the Local Government Accounting Certificate developed by the Association of Accounting Technicians South Africa. CUT's partners are the Mangaung Local Municipality (MLM) and the South African Institute of Chartered Accountants (SAICA). The first successful candidates received their qualifications in 2011.
- **Public Administration and Management Academy Executive Development Programme (EDP):** The aim of this project was to provide training to senior managers in the national public service as part of a consortium of training providers. Training was offered at all three levels of government in South Africa. The partners are PALAMA, NWU and Vaal University of Technology (VUT). On successful completion, candidates could be admitted to the MTech: Public Administration. The project has proven successful in capacity-building amongst senior managers in the public service and will continue in 2012.
- **CENTLEC Project Management Programme:** Supervisory personnel of CENTLEC are offered training in Project Management at CUT. Training is provided in the following modules on BTech level: Project Management Process; MS Project 2007 Software; Strategic Management; Entrepreneurship; Project Quality; Project Resources; Project Research; Project Accounting; Operational Research; Excel QM; and QM for Windows. Twenty attendees attended lectures at CUT and the course concluded in 2011.

Integrated Development Planning (IDP): CUT offered training in IDP to municipal managers and officials in the Free State and Northern Cape provinces, with the aim of improving municipal service delivery. Attendees operate at the level of executive mayor, councillors, municipal managers, IDP managers, senior planners, city/district development managers, and provincial IDP co-ordinators. CUT's partner in this project was LGSETA. This project was successfully concluded in 2011.



The first group of students to complete the National Certificate in Municipal Integrated Development (IDP) Planning offered only at CUT. Three of the 38 students, Mr Monnamoholo Potsane, Ms Pulane Sebeela and Mr Paki Dlomo during the Certificate Ceremony

- **Computer Training and Secretarial Skills:** Identified individuals from the Bloemfontein Shelter for Abused Women received training in computer skills. Since these individuals had only been schooled up to Grade 10 level, this training taught them the extra skills needed to successfully apply for employment.
- **Audit and Performance Management Committee: Moqhaka Municipality:** The establishment of an effective performance audit committee is a requirement in terms of the Municipal Planning and Performance Regulation. As a member of this Performance Audit Committee, CUT assisted the council and management of this municipality with inputs into the internal audit process related to performance measurement.
- **Awareness amongst primary schools regarding feeding programmes:** The project entailed extension and training in primary schools toward the safe and effective implementation of the primary schools' nutritional programme. CUT's partners are the FSDE and selected schools in Mangaung. The National School Nutrition Project has also been integrated in postgraduate studies.
- **Training and extension to redistributed and up-and-coming farmers:** The project entailed extension and training in various aspects of livestock and crop farming for up-and-coming and redistributed farmers in the Free State. CUT's partners are the Free State Department of Agriculture and Rural Development, selected farmers and municipalities in the province. The plan is to provide mentorship and training.
- **Awareness of hand-washing and basic hygiene to improve food safety:** The project entailed extension and training in the Free State Province for consumers, healthcare facilitators, informal vendors, domestics and small-scale caterers regarding the basics of personal hygiene and safe food preparation and provision. CUT's partners are the Free State Department of Health, selected vendors, and formal and informal industry. The project is of great value, as hand-washing is important in the preparation of food to avoid contamination and the spread of germs. The project has been incorporated into the awareness programme on nutrition.
- **Fundamental waste management and processing:** Extension and training in aspects of waste management are offered to local government in the Free State and neighbouring provinces. CUT's partners are the Free State Department of Health, Chris Hani District Municipality and Fezile Dhabu District Municipality. A bio-gas plant for abattoir waste has been established in Queenstown (Chris Hani). There are ongoing recycling and waste management operations in Fezile Dhabu.

- **Establishment of a platform in microbial adaptation modelling:** The project entailed the accumulation of various projects under the Unit for Applied Food Safety and Biotechnology (UAFSB) into one overarching project that aims to commercialise outcomes and transfer technology. Organic acids are tested in foods to check if the preservatives used are effective in preventing food spoilage and are safe for consumption.
- **HIV and nutritional supplementation:** This project investigated the effect of a combination of nutritional supplements on the immune and health status of adult HIV-positive patients, in partnership with the National HIV Council, health clinics, and Red Cross community workers. Nutritional supplements were provided to patients on a continuous basis. Although the project was concluded in 2011, the patients forming part of the research group continue to receive nutritional supplements as part of the service.
- **Genetic selection and breeding optimisation ('Gene-ET') of Mukota pigs:** The project involved small farmers working with indigenous pigs, focusing on the artificial insemination and libido of these pigs. CUT's partner was Quantum Leap Farms. Trials are continuing.
- **Sewing Technology and Crafts:** Senior students of the Department of Clothing and Fashion trained unemployed women from the Kagisanong Township in all aspects of sewing by hand and with sewing machines. The training took place under the supervision of a lecturer in the department. Community members are trained in all aspects of sewing and craft skills and are empowered to start their own small businesses in the sewing industry.
- **Basic Welding Skills:** The project involved the teaching of basic welding skills to young people to prepare them for more formal training in the welding industry, in partnership with the One Stop Justice Centre. Two groups of youngsters were trained in basic welding skills in view of being taught to make clothes hangers from a round bar. Some of these youngsters have already been recruited to train at SA Truck Bodies.
- **Design, creation and building of the paediatric ward's playroom at the Universitas Hospital:** The School of Graphic Design and Visual Art transformed Ward 10B at the Universitas Hospital (children's cancer ward) into a stimulating and healing environment (for young patients spending months or even years in the hospital) by painting a mural, synthetic grass and a storytelling corner. The playroom was officially opened on 2 December 2011.



- **HIV and breast-milk project:** This research project investigated the nutritional component of breast-milk in HIV-positive mothers, in partnership with the National HIV Council, health clinics and Red Cross community workers. This research project involved 200 female patients divided into three groups: Fifty patients who are on ARVs, 50 who are HIV negative, 50 with a CD count under 500, and 50 with a CD count over 500.

Work-Integrated Learning (WIL)

Sector Education and Training Authorities (SETAs) advertised skills development initiatives, targeting students and graduates through the Work-Integrated Learning (WIL) Office, which in turn negotiates and co-ordinates recruitment processes. An estimated figure of R10 million in the form of salaries and wages, as well as free accommodation and meals, was secured from the SETAs and from students' employers in 2011.

Furthermore, the following achievements deserve mention:

- Eighty-five students received funding from various SETAs.
- Relationships were established with 257 employers for WIL student placements.
- A total of 767 students were placed for WIL in 2011.



RESEARCH DEVELOPMENT AND INNOVATION

The Unit for Research and Innovation supports the vision through the creation and implementation of new knowledge. Core to new knowledge creation is the innovative nature of knowledge. Innovative knowledge simply means that knowledge is created differently from the linear fashion in which knowledge is normally created.

Based on these four key goals, the following challenges are identified for research and innovation for the next three years (2011–2013):

- Translate Vision 2020 to the research and innovation activities of the University (emphasis on research, innovation, outcome, impact, socio-economic development and sustainable development);
- Integrate research, teaching and engagement;
- Grow more research participation, outputs and funding basis (on the basis of the research clusters);
- Grow University and triple-helix partnerships;
- Transfer and innovate activities;
- Internationalise research; and
- Grow the next generation of researchers.



Prof.
Laetus
Lategan

Dean: Research and Innovation

Basis for research participation and productivity

In acknowledging the research cycle and the execution of the research assignment as a core University value, the following categories for research participation and productivity are identified:

- Study towards highest qualification in field of study;
- Participation in research training;
- Publication writing;
- Conference presentations;
- Postgraduate supervision;
- Research grants;
- Professional research engagement (editorial boards, review panels, assessment panels, etc);
- Transfer and innovation.

These categories concentrate on (i) developing research skills and (ii) creating an enabling research environment. These outcomes will be integrated into four leading principles articulated in Vision 2020. These principles are sustainable development, socio-economic development, input leading to outcomes, and outcomes leading to impact. The following research clusters, programmes and foci serve as the platform for the research and innovation activities. The Central Research Committee identified fourteen strategic SET research programmes to facilitate research and innovation. Benchmarks for strategic research programmes are the number of postgraduate students enrolled and graduated, postdoctoral fellows, amount of external funding awarded to the programme, number of active researchers, rated researchers, research publications (books, articles, published conference proceedings and reports) and commercial work. These programmes were integrated into three research clusters.

Research clusters and programmes

Cluster	Programmes
Industrial design, communication and development	<ul style="list-style-type: none"> ▪ New product development and design ▪ Evolvable manufacturing, automation and vision systems ▪ Energy management ▪ Water resource management ▪ Information and communication technology
Quality of health and living	<ul style="list-style-type: none"> ▪ Applied food safety and biotechnology ▪ Sustainable farming systems ▪ Applied health technology ▪ Environmental assessment and management ▪ Biotechnology
People and skills development	<ul style="list-style-type: none"> ▪ Socio-economic development studies ▪ Leisure management ▪ Education (sub-themes: health science education, general education, service learning, vocational pedagogy) ▪ Research education

Based on this approach, the following plan facilitated the development of research and innovation:

Research and Development Plan

Objective	Activity	Progress
Scholarly engagement with the research process and research cycle	<ul style="list-style-type: none"> ▪ Pre-doctoral training ▪ Doctoral training ▪ Post-doctoral training ▪ Programme on postgraduate supervision ▪ Programme on scientific writing ▪ Programme on tech transfer and innovation ▪ Annual faculty research seminars ▪ Colloquiums and discussion groups 	<p>Five research workshops conducted:</p> <p>The Research Process (2 x);</p> <p>Research in MIT Perspective, Formative Postgraduate Assessment, the Postgraduate Research Curriculum.</p>
Capacity growth of research projects	<ul style="list-style-type: none"> ▪ Multi-, inter- and trans-disciplinary research ▪ Joint ventures with national and international universities, research bodies and research councils ▪ Joint ventures with government/ business/ industry 	<p>Collaboration with SU, UCT, CPUT, UFS, TUT, NMMU. Projects on food security and safety, machine vision, research education and medical product development.</p> <p>CUT partners with UFS in Medical Ethical Committee. Preliminary discussions with UFS on collaboration in Animal Ethics Committee.</p> <p>Collaborations with international universities, namely Aalen, Ulm and Charité (Germany), Loughborough and Wales (UK), IUPUI (USA), Kigali Institute of Science and Technology (Rwanda) and Chinhoyi University of Applied Science (Zimbabwe), on projects relating to food safety and security, machine vision, management, research education and medical product development.</p>
Strengthening of research capacity	<ul style="list-style-type: none"> ▪ Student retention and throughput ▪ Publications ▪ Conference attendance ▪ Patents ▪ Rated researchers ▪ Research funding 	<p>During 2011, 187 Masters and 69 Doctorate degree students were registered with CUT.</p> <p>57 articles were published.</p> <p>51 national and 58 international grants were awarded.</p> <p>Currently CUT has seven NRF-rated researchers.</p> <p>Academic staff with M degrees: 88. Academic staff with D degrees: 58.</p> <p>More than R 7.4 m in external research funding for 2011.</p>

To develop the institutional level of involvement and expertise in technology transfer and innovation

- IP Act of 2008 and Technology Transfer Office training
- Training of staff and students in innovation cycle
- Identification of research outputs for possible innovation
- Studying sustainable technological development
- Supporting the community in efforts at innovation and new product development.

As part of the STEPS process multi-, inter- and trans-disciplinary research methodologies and practices are currently being developed.

Progress and outcomes

The four faculties (Engineering and Information Technology, Health and Environmental Sciences, Humanities and Management Sciences) committed themselves to outputs based on their capacity to address the growth in their research for the next three years (sustainability approach).

The following table represented the outcomes and analysis of progress made in 2011:

Summary of research achievements during 2011

The next table is a summary of the performance against the set research outputs for 2011:

Outputs	Committed 2010	Achievements 2010	Committed 2011	Achievements 2011	Performance
Accredited articles	52	45	42	57	>100%
Papers read at South African conferences	60	76	55	51	93%
Papers read at international conferences	45	41	32	58	> 100%
Post-doctoral Fellows	6	3	3	3	100%
Completed M degrees	33	28	27	17	63%
Completed D degrees	7	6	8	3	38%
Research focus areas	13	13	16	16	100%
Full-time researchers	10	10	9	11	>100%
Rated researchers	10	7	4	6	>100%
Amount of external funding	R 4.95m	R 5.42m	R 3.87m	R 7.44m	>100%

Research Grant Awards Fund

A valuable support system for staff and postgraduate students is CUT's system of awarding research grants. The purpose of these grants is to create a research culture, to empower staff and students to be engaged in research and to address equity in research. Ten categories of bursaries are awarded:

- Full-time postgraduate students
- Part-time postgraduate students
- Staff studying for a postgraduate qualification at CUT
- Postdoctoral fellows
- Research fellows/associates
- Project costs
- Top-up funding for external research projects
- Seed money for a research activity to be developed into a niche area
- Research assistance related to the development of an activity into a niche area
- Development of externally funded projects

The next table show the specific awarding of internal research grants:

Category	Number of people supported	Total awarded
Master's Degree Awards	33	R 827 170
Doctoral Degree Awards	13	R 596 910
Postdoctoral Fellows	2	R 282 078
Specialised Equipment	3	R 220 000
Staff Projects	2	R 129 936
Supplementation: Thuthuka	5	R 663 703
Supplementation: IRDP	7	R 333 333
Supplementation: Academic Qualifications	4	R 500 000
Supplementation: NRF Researchers	2	R 40 000
Total		R 3 598 130

Technology and Innovation

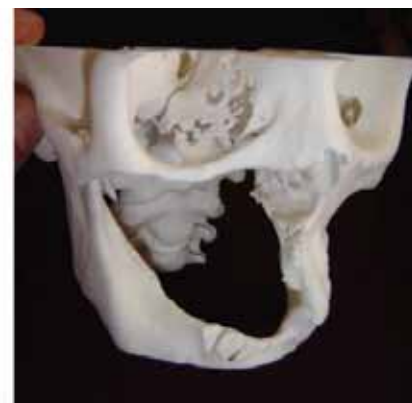
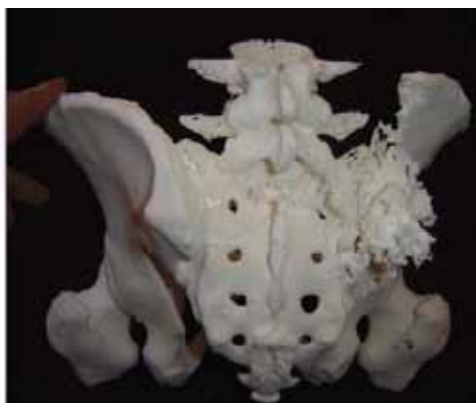
The Intellectual Property Rights from Publicly Financed Research and Development Act (Act no. 51 of 2008) and its accompanying regulations were implemented on 6 September 2010. CUT established an official Technology Transfer Office to administratively manage the implementation of the Act at CUT. The Technology and Innovation Office was tasked with this responsibility and submitted the prescribed reports to the National Intellectual Property Management Office (NIPMO).

CUT is a member of the Talloires Network, an international organisation of more than 180 universities, all of which have elements of Community Engagement as a formal educational outcome. Possible ways to maximise potential benefits to be derived by CUT from this membership, as well as other related developments in inter-institutional networking, are currently being investigated by Research and Innovation – especially with respect to the University's possible contribution to sustainable socio-economic development.

CUT management embarked on a process of introducing sustainable development as a formal operational and educational philosophy.

Medical Device Innovation Platform (MDIP)

The Board of the Medical Research Council (MRC) approved the establishment and financing of a Medical Device Innovation Platform – represented by four traditional universities and CUT. It is recognised that technology, and more specifically medical devices, are playing an increasingly important role in healthcare globally. The healthcare challenges of the African region as a whole, and South Africa in particular, have resulted in a need for increased activity and government support in medical device innovation in South Africa. Consequently those institutions of higher learning that are involved in innovation and science and technology research indicated a desire to establish a Medical Device Innovation Platform (the MDIP) to conduct research and development of innovative medical devices for exploitation in the South African and International Market.



CUT's inclusion in the core group came as no surprise because for a number of years, the availability of specialised expertise and state of the art manufacturing facilities have enabled staff and students of the CUT to be involved in the development and manufacture of such devices.

Centre for Rapid Prototyping and Manufacturing (CRPM)

The Centre for Rapid Prototyping and Manufacturing (CRPM) specialises in Additive Manufacturing (AM).

The CRPM was established 1997 as a centre that does commercial work as well as research. Operating inside the Integrated Product Development Research Niche area, the research focuses on Rapid Prototyping, Rapid Manufacturing, Rapid Tooling and Medical Product Development.

The AM technologies opened the possibility to go directly from Computer-Aided Design (CAD) to a physical prototype/model. These prototypes were used by product/industrial designers for form and function test as well as final prototypes before tooling commences. The CRPM was able to manufacture prototypes in plastic, metal and sand with a total commercial value of R3 105 593.

The delivery of two state-of-the-art direct metal laser sintering machines from EOS, Germany, which was financed jointly through official CUT and CRPM funds, was a definite highlight for 2011. The one machine will be used to manufacture titanium parts for the medical and aerospace industries, while the other will be used to manufacture parts and moulds in a type of tool steel, as well as in stainless steel.



TEACHING AND LEARNING ACTIVITIES

The Teaching and Learning section contains relevant statistics, referring to and containing information on the student headcounts, enrolments, and details on CUT student performance in 2011. The information presented for groups defined in terms of Higher Education Management Information Systems (HEMIS).

The following table represents student headcount data for 2011

Post- and Undergraduate Enrolments, Graduates, and Graduation rate by major fields of study.



Main study area	Postgraduate/ Undergraduate	2010			2011		
		Headcount	Graduates	Graduation Rate	Headcount	Graduates	Graduation Rate
BUSINESS/ MANAGEMENT	Occasional	1	0	0.0%	1	0	0.0%
	Postgraduate	41	2	4.9%	45	3	6.6%
	Undergraduate	3737	824	22.0%	3312	848	25.6%
BUSINESS/MANAGEMENT Total		3779	826	21.9%	3359	851	25.4%
EDUCATION	Postgraduate	364	182	50.1%	533	248	46.5%
	Undergraduate	1467	141	9.6%	1496	235	15.7%
EDUCATION Total		1831	323	17.6%	2029	483	23.8%
OTHER	Postgraduate	27	1	3.7%	37	6	16.2%
HUMANITIES	Undergraduate	1567	308	19.7%	1705	317	18.6%
OTHER HUMANITIES Total		1594	309	19.4%	1742	323	18.6%
SCIENCE/ ENGINEERING TECHNOLOGY (SET)	Postgraduate	123	14	11.4%	130	19	14.7%
	Undergraduate	5257	940	17.9%	5384	1128	21.0%
SET Total		5379	954	17.7%	5513	1147	20.8%
Grand Total		12583	2412	19.2%	12644	2805	22.2%

In the field of Business and Management Sciences, the student headcount shows a decline of 3.4% compared to the previous year, while the fields of Education, Other Humanities and Science, Engineering and Technology experienced an increase of 1.6%, 1.1% and 0.8% respectively. CUT is delighted to report that these changes were in line with the targets set by the Department of Higher Education and Training.

In the field of SET, postgraduates showed a slight increase in terms of student headcount, and a noticeable increase in terms of graduate rate. In the case of undergraduates, both student headcount and graduate rate increased. It is encouraging to see a constant and noticeable improvement in the graduation rate within the field of SET, i.e. from 15.9% in 2009 to 17.7% in 2010 and to 20.4% in 2011. For the University as a whole, the total graduation rate has increased by 2.6%.

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The following table represents enrolments by population group per major field of study

Headcount	African			Coloured			Indian			White		
	2009	2010	2011	2009	2010	2011	2009	2010	2011	2009	2010	2011
CESM Category	2009	2010	2011	2009	2010	2011	2009	2010	2011	2009	2010	2011
BUSINESS/ MANAGEMENT	29.7%	31.5%	27.8%	29.1%	28.7%	27.0%	23.2%	23.7%	27.0%	17.0%	19.8%	17.1%
EDUCATION	9.8%	16.4%	17.8%	4.0%	10.6%	12.9%	1.8%	6.1%	10.4%	3.1%	2.9%	4.2%
OTHER HUMANITIES	15.2%	12.2%	13.7%	22.4%	19.0%	18.7%	16.1%	12.9%	16.3%	14.7%	13.9%	12.5%
SCIENCE/ ENGINEERING TECHNOLOGY	45.2%	39.9%	40.8%	44.6%	41.7%	41.5%	58.9%	57.2%	46.3%	65.1%	63.4%	66.1%
Grand Total	10 129	10 592	10 723	457	482	489	41	38	45	1 578	1 471	1 387

The table above gives the success or pass rates by major field of study sorted according race. The following observations are noteworthy. In Business and Management Sciences, all population groups experienced a decline (as shown in table) with the exception of the Indian population group, which experienced a 3.3% increase in student headcount. In the field of SET, the number of African and White students increased by 0.9% and 2.7% respectively.

Success/pass rates by major field of study and population group

CESM Category	African		Coloured		Indian		White	
	2010	2011	2010	2011	2010	2011	2010	2011
BUSINESS/MANAGEMENT	69.6%	73.4%	69.1%	80.5%	74.7%	50.2%	78.1%	82.2%
EDUCATION	77.9%	75.9%	66.3%	73.8%	82.3%	52.2%	77.4%	67.4%
OTHER HUMANITIES	77.4%	76.9%	79.1%	76.2%	94.0%	78.4%	82.7%	83.4%
SCIENCE/ENGINEERING TECHNOLOGY	70.9%	75.7%	71.1%	74.7%	75.2%	75.9%	77.4%	78.9%
Grand Total	73.1%	75.4%	72.0%	76.3%	79.2%	67.2%	78.4%	79.7%

CUT is pleased to report that the success rates recorded amongst students in the African and Coloured population groups exceeded the targets set in the Ministerial Statement on Student Enrolment Planning 2011/12 - 2013/14 (April 2011).

Student performance and full-time equivalents (FTEs) across the major fields of study by gender

CESM Category		2010		2011			Total
		Female	Male	Total	Female	Male	
BUSINESS/MANAGEMENT	Success rate	72.2%	67.4%	70.3%	77.1%	69.8%	74.2%
	FTE	1 414	919	2 333	1 328	894	2 222
EDUCATION	Success rate	78.7%	76.3%	77.6%	76.1%	74.6%	75.5%
	FTE	890	769	1 659	982	829	1 811
OTHER HUMANITIES	Success rate	79.6%	75.5%	78.0%	78.8%	75.4%	77.4%
	FTE	1 130	697	1 827	1 080	733	1 812
SCIENCE/ENGINEERING	Success rate	77.5%	68.7%	72.0%	80.5%	73.6%	76.1%
TECHNOLOGY	FTE	1 511	2 533	4 044	1 459	2 460	3 919
Total FULL-TIME EQUIVALENT (FTE)		4 944	4 918	9 863	4 849	4 915	9 764
Total Course Passes		76.7%	70.6%	73.7%	78.3%	73.3%	75.8%

The table above presents the annual changes in student performance across the major fields of study, by gender. The following observations are noteworthy:

- The University's overall success or pass rate increased from 72.4% in 2009 to 73.7% in 2010 and to 75.8% in 2011, which exceeds the target set by the DHET.
- As in the previous year, the overall success rate of each gender differed in favour of females, with that difference being 5% in 2011.
- In contrast to the previous year's decline, the success rate in the field of SET improved by 6.1%, from 72.0% in 2010 to 76.1% in 2011.

Pass rate as FTE credits/FET enrolments

		2010		2011	
		Actual	Target	Actual	Target
Pass Rate (FTE Credits/ FTE Enrolments)	Overall Pass Rate	73.65%	76%	75.80%	75%
	Overall Undergraduate	73.92%	85%	76.64%	75%
	Postgraduate to Master's Level	78.20%	41%	60.20%	70%
	Master's	31.10%	52%	63.85%	61%
	Doctorate	18.40%	43%	35.47%	53%
	Overall Postgraduate	65.93%	45%	59.05%	60%
	Science, Engineering & Technology	71.99%	77.%	76.13%	70%
	Business & Management Sciences	70.31%	88.%	74.18%	76%
	Education	77.58%	86.%	75.44%	76%
	Other Humanities	78.03%	92.%	77.44%	86%
	African	73.10%	-	75.36%	-
	Coloured	72.03%	-	76.25%	-
	Indian	79.19%	-	67.20%	-
	White	78.44%	-	79.68%	-

Absence of figure in the Target column: no set target by DHET.

Noteworthy: the target for the institutions pass rate, undergraduate studies, and the target for SET was exceeded in 2011.

Graduation Rate

Theme	Subtheme	2010		2011	
		Actual	Target	Actual	Target
Graduate Output	Headcount	2412	2809	2805	2680
	Science, Engineering & Technology	955	1187	1 147	980
	Business & Management Sciences	826	1032	851	955
	Education	323	275	483	350
	Other Humanities	309	315	323	395
	Undergrad: Engineering	379	-	442	-
	Undergrad: Life & Physical Sciences	68	-	48	-
	Undergrad: Health Professions & Related Clinical Sciences	194	-	215	-
	Undergrad: Teacher Education	141	-	235	-
	Undergraduate Diplomas/ Certificates	1387	1768	1611	1 740
	Undergraduate Degrees	826	908	918	750
	Postgraduate Qualifications below Master's	181	78	242	154
	Master's	15	42	29	30
	Doctorate	3	13	5	6
	African	1 906	-	2 310	-
	Coloured	99	-	113	-
	Indian	4	-	11	-
	White	403	-	371	-

The graduation rate amongst undergraduates and postgraduates improved by 3.1% and 1.7% respectively. Overall the graduate output target for 2011 was exceeded.



Dr Awelani Rambuda,
Programme Head: Teacher
Education - Welkom Campus,
Mahloko Mahloko, graduate with
Magister Educationis, and
Dr Solomon Makola,
CUT Welkom Campus Manager.

Student Financial Aid

Financial aid was awarded to students on the basis of academic performance and financial need. Financial aid totalling R165 245 379 was awarded to students in 2011 – an amount made up by CUT funds, NSFAS grants, and externally funded bursaries and scholarships.

Loans: The same criteria as those applicable to the awarding of NSFAS loans apply to CUT-funded loans. Students who complete their studies successfully within the same academic year in which the loan was awarded also receive a 40% discount on the loan amount, awarded in the form of a bursary.

Bursaries: In total, R8 563 508 was allocated for bursaries.

- First-year students who scored 34 points or more on the Swedish rating scale, calculated on the basis of their National Senior Certificate (NSC) results, were awarded bursaries totalling R355 795.
- Senior students who achieved an average pass mark of 70% or more for the previous academic year were awarded bursaries totalling R2 475 997.
- Sports bursaries totalled R437 300.
- Leadership bursaries totalled R35 255.
- Vice-Chancellor's bursaries (top 10 learners) totalled R126 648.
- Work-study bursaries totalled R13 958.
- Bursaries to financially needy students totalled R1 606 517.

- Postgraduate bursaries totalled R2 556 101.
- SRC bursaries totalled R298 834.
- Senior staff bursaries totalled R318 742.
- Deans' vouchers totalled R197 273.
- Regional Feeder Schools Bursary Programme totalled R317 020.
- Eduloan bursaries totalled R582 286.
- Research bursaries totalled R1 805 346.
- DHET Special Allocation amounted to R44 840.
- Vice-Chancellor's prestige scholarships and bursaries totalled R1 010 044.

NSFAS loans: Criteria for these loans were based on NSFAS requirements – that is, the candidate had to be academically deserving and financially needy. The total allocation for 2011 amounted to R104 196 635.

External donors: These awards, which were based on the external donors' own criteria, amounted to a total of R61 048 744. NSFAS bursaries amounted to R103 906 308 and R290 327 for disabled students.



INSTITUTIONAL ADVANCEMENT

The Bloemfontein Campus houses a full array of modern buildings with well-equipped laboratories and lecturing venues. The campus has extensive 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.

Strategic partnerships

One of CUT's institutional objectives for 2011 was to pursue strategic partnerships, and a major highlight for 2011 was:

Sustainable Development Project @ CUT receives UN Decade for Education award

In 2010, CUT decided to implement sustainable development as a central characteristic of its strategy and everyday operations. UNESCO acknowledged the joint effort of CUT and Aalen University of Applied Sciences to implement a system for Sustainable Development at CUT during its spring meeting. The German National Committee of UNESCO awarded the title of 'Project of the United Nations Decade for Education for Sustainable Development' for 2011/12 to Central University of Technology, Free State.



Handover of UN Decade of Education Award: Profs. Thandwa Mthembu and Ulrich Holzbaur.

Memorandum of Understanding: CUT and AHI

On 25 October 2011 CUT and AHI undersigned a MOU. The partnership between CUT and AHI was not a new endeavour but now has been formalised and both organisations are looking forward to a fruitful working partnership. Sessions were held to identify fields of interest where the two organisations can join hands.



In CUT's mechanical workshop, Ronald Masheane, Mechanical Engineering BTech student shows Prof. Mojalefa Ralekhetho, acting Deputy Vice-Chancellor: Resources and Operations, Ms Rothea van Biljon, and Dr André van den Berg, AHI BFN management a concept car that could potentially assist the disabled.

Memorandum of Understanding: CUT and FABCOS

On 27 October 2011 CUT and FABCOS undersigned a MOU, and committed to identifying as well as set in motion shared processes to develop mutually beneficial joint projects which should exploit respective organisational strengths for the benefit of the socio-economic development.



Prof. Talvin Schultz, Deputy Vice-Chancellor and Principal: Institutional Planning, Partnerships and Communications, and Mr Paul Mohosho, Chairperson of FABCOS in the Free State Province during the signing ceremony at CUT.

Memorandum of Understanding: CUT and MERSETA

In September 2011, CUT and MERSETA undersigned a MOU. The purpose of the collaboration between CUT and MERSETA is to exploit their respective organisational strengths for the benefit of the socio-economic development and advancement of the Central Region. The MOUs can be seen as the outcome of various consultative processes between CUT and the partners and the signing of the MOUs served as an important milestones to demonstrate the value of these partnerships in driving CUT to strive for even higher goals and making the institution's endeavours a continuing success story.

There are joint partnerships and collaborative projects in place in various areas, such as:

- The Faculty of Engineering and Information Technology is involved in joint partnerships and collaborative projects in various areas, such as (1) IT Hub in Welkom under the auspices of the School of Information Technology, and the Contractor Development Programme in collaboration with the Free State Provincial Government (FSPG); (2) Software development project in collaboration with the Johannesburg Centre for Software Engineering (JCSE), based at the University of Johannesburg (UJ), as part of an international co-operation agreement with the Software Engineering Institute (SEI) at Carnegie Mellon University in the USA.
- Schools in the Faculty of Engineering and Information Technology had talks with industry partners and government regarding the possible implementation of a course in Sustainable/Renewable Energy, to be included in research activities and integrated into the new curriculum.
- The Faculty of Engineering and Information Technology, in collaboration with Texas A & M University and Norman Borlaug Institute for International Agriculture, held a workshop in May 2011, which was the first in a series of training sessions in the Soil Water Assessment Tool (SWAT) aimed at strengthening the capacity of SWAT modelling in South Africa and on the African continent as a whole.
- As part of the international exchange programme, two students visited Ulm University in Germany for a five-month period, while two students from Aalen University of Applied Sciences in Germany visited the School of Electrical and Computer Systems Engineering for a period of two months.
- Discussions between the Department of Mechanical and Aeronautical Engineering at the University of Pretoria (UP), the Council for Scientific and Industrial Research (CSIR) and CUT staff led to the identification of collaborative projects and interactive discussions on process monitoring of metal laser sintering and the analysis of powders for metal sintering.

The Faculty of Health and Environmental Sciences offered a number of short courses during the year under review:

- Radiography: Short course in breast imaging, 22 to 25 March and 13 to 15 June 2011.
- Radiography: Short course in conflict, quality, control and gentle imaging, 28 to 29 October 2011.
- Dental Assisting: Short course in mouth-guards, 16 April 2011.
- The Faculty also hosted an international conference on Geophagia, 19 to 21 October 2011.

The Faculty of Humanities was engaged in the following strategic partnerships during 2011:

- Partnership with Mpumalanga Department of Education: Training of BEd students in Mpumalanga.
- Partnership with the Education, Training and Development Practices Sector Education and Training Authority (ETDP SETA): Postgraduate Certificate in Education (PGCE) training to Maluti FET College lecturers in Qwaqwa.
- Partnership with European Union (EU): BEd foundation-phase project.
- Partnership with UP, University of Kwazulu-Natal (UKZN), Tshwane University of Technology (TUT) and DHET: Development of BEd foundation-phase programme in mother-tongue instruction.
- Partnership with Harmony Gold: Support of students enrolled at the School of Jewellery Design and Manufacturing in Virginia.
- Partnership with Aalen University in Germany: Support of Communication Sciences students.
- Partnership with University of Lagos in Nigeria: Postgraduate supervision.
- Partnership with Heidedal community: Development of community newspaper.
- The School of Tourism, Hospitality and Sport was one of the main sponsors of the annual Volksblad Tourism Town of the Year competition, with other sponsors being Volksblad, Capitec, PricewaterhouseCoopers and the Afrikaanse Handelsinstituut (AHI).



Neria Semela, AAT student awarded certificate by Ms Chantyl Mulder, SAICA Senior Executive: Professional Development, Transformation and Growth.

- The School of Government Management, as a partner in the Executive Development Programme (EDP) of the Public Administration, Leadership and Management Academy (PALAMA), was involved in a number of facilitation sessions in collaboration with the consortia of several different universities, including North West University (NWU) [Leader Consortium], University of the Free State (UFS), UKZN, Durban University of Technology (DUT), Vaal University of Technology (VUT) [Leader Consortium], University of Stellenbosch (US), TUT, and University of the Witwatersrand (Wits).
- In partnership with the Local Government Sector Education and Training Authority (LGSETA), the School of Government Management again facilitated learning and conducted quality assurance with regard to the National Certificate in Integrated Development Planning (IDP). LGSETA granted full programme-approval status to CUT as a provider of education, training and development for the mentioned qualification, as registered on the National Qualifications Framework (NQF) of the South African Qualifications Authority (SAQA).
- The Local Government Accounting Certificate (LGAC), which was launched in 2010 in collaboration with the **Association of Accounting Technicians (AAT)**, continued in 2011. Accounting technicians work in all sectors of the economy, including accountancy practice, industry and commerce, and the public sector. Nine students received the LGAC in September 2011, while 19 students received the AAT Certificate in November 2011. Accounting technicians work in all sectors of the economy, including accountancy practice, industry and commerce, and the public sector. Nine students received the LGAC in September 2011, while 19 students received the AAT Certificate in November 2011.

- FSDE requested that CUT act as service provider to build capacity in its Human Resources Department as part of its skills development programme. In terms of this groundbreaking project, which falls under the leadership of SEBD and is targeted for completion in January 2014, a total of 55 CUT students work with the FSDE and study under special conditions at four sites in the Free State Province, namely Bloemfontein, Welkom, Sasolburg and Phuthaditjhaba.
- SEBD provided project management training to mid-level managers employed by Centlec. Since this project was launched in 2010, 22 of the 28 participants have successfully completed their studies.
- The Faculty of Management Sciences has an active partnership with Aalen University of Applied Sciences in Germany, which allowed for the exchange of lecturers and/or students. The Faculty hosted Prof. Ulrich Holzbaur from Aalen University as a visiting professor in 2011.

FACILITIES AND MAJOR CAPITAL PROJECTS

Since the University's incorporation of the Welkom Campus in 2004, particular attention has been paid to the development of its academic infrastructure and the Programme Qualification Mix (PQM).

CUT is one of the better maintained universities in the country, despite current maintenance backlogs and inadequate funding. Six construction projects took place or is currently in process on the Bloemfontein and Welkom campuses, as reported in 2010. The total budget for all six projects is approximately R284 million. The projects, which are at different stages of development, are:

Completed in 2011:

- **24-hr Student Academic Support Centre (Bloemfontein Campus)**
- **Welkom Campus are the Teacher Education and Student Academic Support Building**



Student Academic Support Centre



Teacher Education and Student Academic Support Building at Welkom Campus.

To be completed in 2012:

- **Extension to the BHP Billiton Engineering Building**
- **Teachers' Education Complex**
- Extension to the Dirk Coetzee Building (Health and Environmental Sciences) on the Bloemfontein Campus.
- Welkom Campus Lecture Hall Complex



BHP Billiton Engineering Building



Teachers' Education Complex

All projects are on schedule for delivery.

The outsourcing of cleaning services in 21 buildings on campus, including the five student residences, was initiated in 2011 to able the university to reduce its dependence on temporary staff and labour agencies within the cleaning and maintenance environment. The concept of team leaders within the cleaning and gardening corps was also introduced in 2011. The concept provides reasonable prospects of opportunities, growth and acquisition of supervisory skills to manage and lead others in the future.

Energy management and sustainability

As an ongoing project initiated in 2010, the Facilities Management Unit continued in 2011 to explore avenues that will assist in managing and curtailing rising energy costs – for instance the replacement of light-bulbs with low-energy alternatives, and engagement with Eskom on a number of initiatives, including the installation of water-saving showerheads, power-saving light fittings, and solar-powered heat pumps to replace electric geysers.

Vehicle fleet management

The following vehicles were purchased in 2011 as part of the vehicle replacement programme, including: one 22-seater Volkswagen minibus; three Quantum minibuses; four 9-seater Hyundai vehicles, one of which was earmarked for the Welkom campus fleet; and two Hyundai Elantra sedans.

SPECIAL EVENTS



CUT celebrated 30 years of technological and social innovation, as well as the university's heritage, from 19 to 23 September 2011.

CUT's 30th anniversary coincided with the national Heritage Week, which was considered an important platform to celebrate the CUT's heritage in the context of what it has contributed to the socio-economic development of the central region. During its existence, CUT has witnessed many changes and tremendous achievements in serving the central region of South Africa and the country as a whole. This milestone is a reflection of the University's pursuit of quality education and academic excellence.

The university celebrated its heritage by showcasing its intellectual products, as well as social and technological innovations.

Here are just some of the highlights during the week long festivities:

- Open Exhibition of social and technological innovations in each of the four faculties.
- La Boule Competition (a French ball game), 20 September 2011.
- Basketball Hoop Shooting Competition, 20 September 2011.
- Academic Development and Support Seminar, 20 September 2011.
- Community Engagement Workshop, 20 September 2011.
- Beer and Tapas evening with Loyiso Gola, 20 September 2011.
- **Titanium processing with direct metal sintering seminar, 21 September 2011.**
- Celtic vs. CUT, 21 September 2011.
- Cultural Exhibition, 21 September 2011.
- Talent show by student groups including the dance club, poetry club, 21 September 2011.
- Fun Run, 21 September 2011.
- Sparkling Wine and Sushi evening with Jeannie D and Chef Janice Mentor, 21 September 2011.
- City Tour and Gourmet Picnic, 22 and 23 September 2011.
- Public Lecture with Dr Daan Velthausz (Netherlands), Entailed innovation reflecting on what happened and will be happening in technology and innovation around the world, 22 September 2011.
- Food and Wine pairing with Ryk Neethling and Lize Jacobs, 22 September 2011.
- Dean's Seminar on the next generation of academics, 23 September 2011.

The CRPM hosted a titanium seminar as part of CUT's 30th anniversary celebrations. This was the first meeting of its kind in South Africa where all the parties involved in titanium research could meet to present papers on the progress being made with titanium direct laser sintering and to map out future developments in this very new industry.

Founding Function

On 25 November, the celebrations came full circle when the founding members - who were instrumental in the establishment of the institution, were invited back to the campus to observe the progress made and reminisce about the beginnings of Central University of Technology, Free State. CUT began as a Technical Institution in temporary buildings on 1 January 1981 and the administrative staff component was two an administrative officer and a secretary. Only 280 students enrolled in 1981 and measured against the thousands today, one can but smile at the humble beginnings.

At the event, Prof. Thandwa Mthembu said 'Welcome back to a university that so many of you helped to build. Our foundations are strong because of you'. Founders who graced the campus included Prof. Japie van Lill, Prof. Chris Van Rensburg, Prof. Bertus Koorts who were the administrative heads of the University from 1981 to 2006.



The sportsman, Ryk Neethling, chatted about his 20-year swimming career and the Olympic Gold medal he and three team members received in the 4 x 100m freestyle relay during Food and Wine pairing event on 22 September 2011.



Prof. Thandwa Mthembu, Dr Boet Troskie, Chancellor, Mr Tate Makgoe, MEC of Education in the Free State, Prof. Japie van Lill, and Prof. Bertus Koorts at the Founders' Function.



Public Lecture with Dr Daan Velthausz, 22 September 2011. Dr Daan Velthausz from the Netherlands was the guest speaker and the lecture entailed innovation – reflecting on what has happened and will be happening in technology and innovation around the world. From left: Dr Gift Vinger, Registrar, Dr Velthausz, and Prof. Laetus Lategan, Acting Deputy Vice-Chancellor: Academic.



Dr Oliver Damn, provided an overview on the Titanium Centre of Competence (TiCoC) at the Titanium processing with direct metal sintering Seminar hosted on 21 September 2012.



Sparkling Wine and Sushi evening with Jeannie D and Chef Janice Mentor on 21 September 2011. From the left: Head Chef Lize Jacobs, Jeannie D, and Chef Janice Mentor.

CUT's Career Fair and Open Day

Career Fair: Prospective employers came to CUT's Career Fair in order to showcase a range of employment opportunities, and to facilitate the possible placement of CUT's senior students within the respective companies, 3 August 2011.

Open Day: Learners from across the central region were invited to explore CUT's Bloemfontein Campus on 6 August 2011. The four faculties arranged exhibitions and tours of their high-tech facilities, 6 August 2011.



SATN Conference 2011

'Curriculum Transformation at Universities of Technology towards the development of new generation universities' was the theme for the fourth annual conference of the South African Technology Network (SATN) proudly hosted by CUT from 27 to 29 November 2011.



International guest speaker Prof. Leesa Wheelahan (right) from LH Martin Institute for Higher Education Leadership and Management at the University of Melbourne delivered a keynote address on the forms of knowledge and type of tertiary education focusing on the implications for UoT's. 'Theoretical knowledge connects the past, present and future', said Prof. Wheelahan. She reported that Work Integrated Learning should ensure that applied disciplines are transferred to knowledge curriculums, a task for UoT's as applied knowledge institutions.

On day two Prof. Neil Garrod (left), Deputy Vice-Chancellor at the University of Greenwich in London delivered his keynote address on the quality, standards, programmes and structures of UoT's. He discussed various aspects of restructuring that took place in United Kingdom Universities and observed that UoT's have a unique opportunity to be an enjoyable environment and have the power to be innovative as well as distinctive and cutting edge.

Guest lecture series

CUT has made great strides over the past two years with the public lecture series - an initiative that encourages critical discourse and supports an institutional culture of dialogue and diversity in the Free State region. Experts in fields such as economics, politics, sustainable development, business management, trend analytics, and assessment in higher education shared their experience, knowledge and thoughts with us.

[7 lectures were presented throughout 2011]



It's time to extricate ourselves from victim mentality. Prof. Sipho Seepe and Prof. Thandwa Mthembu at Guest Lecture.

Professorial Inaugurations

CUT inaugurated two professors in 2011. Prof. Elmien van der Heever-Kriek delivered her inaugural address entitled HIV: The Trojan Horse, 24 February 2011. Prof. Almon Shumba presented his inaugural address on child abuse as a form of violence to children, which is practiced by perpetrators, including some teachers who are entrusted to protect and guide learners.

Varsity Shield Champions

CUT's FNB Ixias won the 2011 Varsity Shield Rugby Tournament - a tremendously good result, taking into consideration that CUT was the smallest rugby club of all the participating universities.



FNB CUT Ixias and Prof. Thandwa Mthembu, Vice-Chancellor and Principal at the start of the tournament.

University Life



The Student Services Section continues to provide quality services to students through various activities on both the Bloemfontein and Welkom campuses. These services were rendered through the following Student Services operational units: Governance and Student Life, Residences, Wellness Centre, and Operational Sport.

Leadership training and development

Six highlights in leadership and training of students during the year were:

- An SRC gender equity workshop was held on 20 April 2011.
- An information session was hosted by the Vice-Chancellor and Principal on 8 September 2011 in order to prepare the outgoing SRC (2010/2011) for the challenges of life beyond the SRC.
- An SRC leadership training and development workshop was held on 8 and 9 September 2011 at the Maselspoort resort.
- SRC explored the activities of the Sustainable Development and Community Service project on 30 September 2011.
- The SRC attended an equity and diversity seminar, as well as a seminar of the Student Transformation Forum, during the second quarter of 2011.
- Four editions of the student newspaper, Speculum, were published during the year on a quarterly basis, with the editorial team receiving training from Media24 journalists.

Student Services

The Student Services Section continues to provide quality service to students through various activities on both the Bloemfontein and Welkom campuses. In 2011, these services were provided through the following operational units: Governance and Student Life, Residences, Wellness Centre, and Operational Sport.

The SRC election process, which was successfully held on 23 August 2011, was overseen by the Free State provincial office of the Independent Electoral Commission (IEC) and duly declared free and fair. There was a marginal increase in voter turnout on both the Welkom and Bloemfontein campuses in 2011.



Health and Wellness

CUT's Wellness Centre is responsible for providing a number of comprehensive services, namely: health and psychological counselling services, academic support, reading development, social work services, chaplaincy services, and the selection of prospective students. Psychological and Social Services can be found on the second floor of the Lapeng Student Centre, while the Medical Centre is situated alongside the Welgemoed residence.

The unit dealing with psychological and social work issues, within the Wellness Centre, offers a wide variety of services to CUT students, with emotional and social wellbeing at the core. A large number of students come from difficult backgrounds with serious family and financial problems, thus the focus is on student support from a holistic wellness perspective, following an approach whereby the main areas of wellness, i.e. physical, social, mental, emotional and spiritual wellness, are all addressed via individual support or group sessions. Students are given individual support by means of psychological and therapeutic interventions. A number of group sessions and workshops are offered in areas where numerous students have reported the same problems.



Reading development and academic study courses

As students generally struggle with the volume of academic reading work, courses were presented to improve not only their reading ability but also their comprehension and retention of information. The Reading Development programme is structured in the academic timetable via the academic departmental heads and the Wellness Centre. Following on the decision to make Reading Development compulsory for all first-year students, approximately 2 308 students were accommodated in the programme in 2011.

The new Student Academic Development and Support Building in Bloemfontein has served to increase laboratory capacity to 80 stations, which will go a long way towards enhancing student performance.

Courses in study techniques, stress management, self-actualisation and communication skills further contribute to the establishment of a learning-centred approach to teaching and learning at CUT.

Extracurricular activities

Extraordinary achievements in the area of extracurricular activities by CUT students in 2011 are:

- The **CUT Choir** competed in a number of local, regional and national competitions and received several awards and trophies, namely: Second place overall in the Free State round of the Old Mutual National Choir Festival; The choir won three awards at the Sedibeng Choir Competition; and first place in the FRACMA competition held on 30 October 2011 in Kroonstad. This was the choir's first time participating in the larger section.
- A group of students from different associations conducted an environmental cleaning campaign in Bochabelo.
- The Carnival Committee was involved in a project focusing on the collection of food and other essentials for donation to various charities in the Bloemfontein metro-municipal area.
- Dance Club: World trials and interprovincial championships from 19 to 21 August 2011 in Mpumalanga (placing second and third respectively); and University Sports South Africa (USSA) dance competition from 11 to 15 December 2011 and South African championships from 16 to 18 December 2011 in Bloemfontein (placing second and third respectively).
- Chess Club: Five members of the CUT Chess Club participated in the USSA chess tournament held from 28 November to 2 December 2011 at the University of Fort Hare, with two members advancing to the semi-finals.



Sport

Activities such as beach volleyball, wall-climbing, mountaineering, hiking, informal sporting events and fun days were organised for students not participating in formal sport codes. Sports equipment was provided to different student organisations and campus-based sports leagues.

Various league events for soccer, rugby, athletics, basketball, volleyball, netball, cricket, hockey, tennis, table tennis, karate and golf were held during the course of the year. In addition, disadvantaged learners were given the opportunity to participate in coaching clinics for hockey and cricket, organised by CUT's cricket and hockey clubs in collaboration with Free State Cricket and SA Hockey respectively.

CUT's sports facilities were also made available to the community, including some schools, for practice sessions and matches, namely:

- Cheetahs Super 15 rugby team;
- Development cricket teams for u/13 and u/15 players;
- Hockey clinics for disadvantaged schools;
- Chevrolet Knights cricket team;
- Kaizer Chiefs soccer team;
- Sand du Plessis High School (rugby match);
- HTS Louis Botha (soccer matches);
- Free State Summer League (hockey);
- Lesotho netball team;
- South African Football Association (SAFA) level-one coaching course;
- Bloemfontein Celtic soccer team;
- Roseview Primary School;
- Eunice (hockey clinics);
- Free State Sport Science Institute (FSSSI) for netball, cricket, rugby, tennis and hockey; and
- SA Schools and Free State Schools cricket tournaments.

FINANCIAL HEALTH OF THE UNIVERSITY

During 2011, the University managed to operate within the expenditure guidelines set by CUT Council. As a result, CUT has been able to accumulate R 59.303 million to be reinvested in other items of expenditure, for instance in the academic sector.

The cost of the salary bill has been a concern for several years. The restructuring of middle management, which took place in 2009, was intended to address this by having a positive impact on the salary budget. The budget proportion for salaries was increased from 61.74% in 2010 to 62.23% in 2011. The reorganisation of all other staff levels will be finalised in the course of 2012 when all savings brought about by the restructuring will be realised.

For 2011 the University was thus able to generate a surplus of R 59.303 million (2010: R76.040 million) due mainly to investment returns of R36.562 million and income from contracts of R19.762 million.

Long-term investments grew by R6.453 million to R 169.781 million, while cash and cash equivalents decreased by R21.582 million to R 202.699 million for the year ending 31 December 2011. This decrease in fund are attributable to payments to contractors on the DHET Infrastructure development project.

The net asset position improved with an amount of R 86.046 million. Moreover, an unqualified audit report was received from the external auditors.

Statement of Financial Position at 31 December 2011

	2011	2010
	R '000	R '000
ASSETS		
Non-current assets	534 727	441 569
Property, plant and equipment	363 452	276 285
Investment property	794	1 336
Other non-current financial assets	169 781	163 328
Non-current receivables	700	620
Student loans	-	-
Leasehold asset	700	620
Current assets	243 863	250 975
Other current financial assets	4 005	-
Receivables and prepayments	37 159	26 694
Student debtors	19 601	21 193
Current portion of student loans	2 307	-
Other debtors	15 251	5 501
Cash and cash equivalents	202 699	224 281
Total assets	778 590	692 544
FUNDS AND LIABILITIES		
Funds available	507 429	453 536
Property capital fund	-	-
Restricted use funds reserves		
Other - Education and general	134 424	122 018
Unrestricted use funds reserves - Education and general	373 005	331 518
Non-current liabilities	217 175	194 403
Interest bearing borrowings	1 307	128
Post retirement obligations	53 251	54 639
Deferred income	162 617	139 636
Current liabilities	53 986	44 605
Accounts payable and accrued liabilities	51 342	41 785
Leave accrual	271	376
Current portion of interest bearing borrowings	1 154	2 444
Current portion of deferred income	1 219	-
Total funds and liabilities	778 590	692 544

**Statement of Comprehensive
income for the year ended December 2011**

**2011
R'000**

**2010
R'000**

	Unrestricted	Specifically Funded Activities Restricted	SUB - TOTAL	Student and staff Accom- modation Unrestricted	TOTAL	TOTAL
TOTAL INCOME	465 358	43 288	508 647	9 145	517 791	474 257
State appropriations - subsidies and grants	268 226	14 653	282 879	-	282 879	258 474
Tuition and other fee income	164 516	5 375	169 890	9 145	179 035	158 106
Income from contracts	-	14 387	14 387	-	14 387	20 591
Sales of goods and services	1 641	-	1 641	-	1 641	5 592
Private gifts and grants	175	3 112	3 286	-	3 286	5 038
SUBTOTAL	434 558	37 527	472 085	9 145	481 229	447 801
Finance income	11 810	5 761	17 571	-	17 571	26 456
Gain on investments realised	18 991	-	18 991	-	18 991	-
TOTAL EXPENDITURE	414 746	33 386	448 132	10 357	458 488	398 216
	414 746	33 386	448 132	10 357	458 488	398 216
Personnel	269 708	10 619	280 326	4 198	284 525	257 086
Salaries	264 417	10 619	275 035	4 198	279 234	251 718
Post retirement benefits cost	5 291	-	5 291	-	5 291	5 368
Other current operating expenses	127 472	22 767	150 239	6 158	156 397	118 281
Depreciation	17 199	-	17 199	-	17 199	16 550
SUBTOTAL	414 378	33 386	447 764	10 357	458 120	391 917
Finance costs	313	-	313	-	313	2 292
Loss on disposal of assets	55	-	55	-	55	4 007
SURPLUS FOR THE YEAR	50 613	9 902	60 514	(1 212)	59 303	76 040
OTHER COMPREHENSIVE INCOME						
Actuarial gain on post retirement benefit plan	6 679	-	6 679	-	6 679	1 237
Net gain on available-for-sale financial assets	6 241	-	6 241	-	6 241	9 635
OTHER COMPREHENSIVE INCOME FOR THE YEAR	12 920	-	12 920	-	12 920	10 872
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	63 533	9 902	73 435	(1 212)	72 223	86 912

Statement of Cash flows for the year ended 31 December 2011

	2011 R '000	2010 R '000
Operating activities		
Cash generated from operations	45 409	69 084
Net cash flows from operating activities	<u>45 409</u>	<u>69 084</u>
Investing activities		
Acquisition of property, plant and equipment	(103 890)	(63 004)
Proceeds on the disposal of assets	12	17
Non current financial assets - realisation at fair value / matured	40 058	47 132
Increase in other non-current financial assets	(40 000)	(51 028)
Interest received	13 054	19 213
Net cash flows used in investing activities	<u>(90 766)</u>	<u>(47 670)</u>
Financing activities		
Repayment of borrowings	(111)	(4 646)
Interest paid	(313)	(2 292)
Increase in Government grant	24 200	-
Net cash flows used in financing activities	<u>23 775</u>	<u>(6 939)</u>
Net increase / (decrease) in cash and cash equivalents	(21 582)	14 476
Cash and cash equivalents at 1 January	224 281	209 805
Cash and cash equivalents at end of year	<u>202 699</u>	<u>224 281</u>



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