



NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Annual Report

2016





Academic Crest



The parts of the crest either represent national symbols or elements of a unique Namibian landscape and culture. The colours have been selected to represent the national spectrum as influenced by the heritage from Namibia flag:

Red: represents Namibia's most important resource, its people. It refers to their heroism and their determination to build a future of equal opportunity for all.

Blue: represents the clear Namibian sky as well as the Atlantic

Ocean, the country's precious water resources and rain.

Gold: represents life and energy (the sun).

Parts of the Crest

1. The Atom is one of the most basic recognisable symbols of science. Positioned under the sun it symbolizes science and technology as the foundations of illumination at the university.
2. The Arch is the threshold of knowledge. It is the gateway to the future and encourages a thirst for knowledge and discovery. Namibia becomes the threshold for new development - entering new era.
3. The Ribbon is derived from the diverse traditional cultures of Namibian dress, amongst the Damara, Herero, Himba and Ovambo groups; it is an extension of the red band representing 'people. It is a symbol of achievement and prestige, and recognizes traditional cultures of pageantry. The ribbon epitomises flexibility and adaptiveness by which NUST exemplifies and enables its students to achieve higher knowledge.
4. This Sun represents the outcome of scientific and technological innovation and enlightenment. Education is a form of discovery, energy and life that this symbol should highlight through its embodiment of the sun.
5. The Shield is the symbol of learning institutions (traditional) - signaling tradition, strength and readiness.
6. The red Band represents the people and also blood, which gives life. People are the lifeblood of the university and country. It refers to their heroism and their determination to build a future of equal opportunity for all. The position of the red band represents 'crossing through the threshold'.



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List of Abbreviations and Acronyms

BAM	Brand Ambassador of the Month	NIST	Namibia Institute of Space and Technology
CCTV	Closed Circuit Television	NMC	Namibia Medical Care
CEU	Cooperative Education Unit	NQA	Namibia Qualifications Authority
COLL	Centre for Open and Lifelong Learning	NQF	National Qualifications Framework
CRN	Central Records and Archives	NSC	National Skills Competition
DAAD	German Academic Exchange Service	NSEUV	Namibian Solar Electricity Utility Vehicle
DCM	Department of Communications and Marketing	NSFAF	Namibia Students Financial Assistance Fund
DENA	Deutsche Energie-Argentur	NUST	Namibia University of Science and Technology
DICT	Department of Information Communication Technology	ODL	Open and Distance Learning
DILS	Department of Library and Information Services	OFL	Office of the First Lady
DNA	Digital Namibia Archive	PGCHE	Postgraduate Certificate in Higher Education
ELF	English Language Fellow	PMR	Professional Management Review Africa
GRV	Goods Received Vouchers	PoN	Polytechnic of Namibia
GTW	Great Teachers' Workshop	PSP-4	Strategic and Transformation Plan-4
HRMIS	Human Resource Management Information System	SADC	Southern Africa development Community
ICT	Information and Communication Technology	SASCE	Southern African Society of Cooperative Education
InSTEM	Introduction to STEM	SRDT	Student Research Development Teams
IPM	Institute for People Management	SSC-DF	Social Security Commission Development Fund
IRPC	Institutional Research and Publications Committee	STEM	Science, Technology, Engineering and Mathematics
ISW	Instructional Skills Workshop	TLU	Teaching and Learning Unit
ITS	Integrated Tertiary Software	TMAS	Tutor-Marked Assignments
KENET	Kenya Education Network	TMF	Talent Management Framework
KITE	Knowledge Integration and Transparency in Education	VHS	Video Home System
MIS	Management Information System	VoB	Voice of Business
MoU	Memorandum of Understanding	WACE	World Association on Cooperative Education
NASA	National Aeronautics and Space Administration	CEU	Cooperative Education Unit
NCAQS	National Council for Architects and Quantity Survey	WIL	Work Integrated Learning
NCHE	National Council for Higher Education		
NHLS	National Health Laboratory Services		

Campus Community in Figures

 Polytechnic established by Act No. 33 of 1994 of Parliament
1994

 Research Seed Funding
N\$ 1 million

 Polytechnic attains autonomy
1995

 International Partnerships
133

 NUST established by Act No. 7 of 2015 of Parliament
2015

 Student Enrolment
12 753

 Faculties
6

 Graduates in 2015
2 658


 Academic Departments
20

Faculties	Departments
Computing and Informatics	Computer Science
	Informatics
Engineering	Civil and Environmental Engineering
	Electrical and Computer Engineering
	Mechanical and Marine Engineering
	Mining and Process Engineering
Health and Applied Sciences	Health Sciences
	Mathematics and Statistics
	Natural and Applied Sciences
Human Sciences	Communication
	Education and Languages
	Social Sciences
Management Sciences	Accounting, Economics and Finance
	Hospitality and Tourism
	Management
	Marketing and Logistics
Natural Resources and Spatial Sciences	Natural Resources and Agricultural Sciences
	Architecture and Spatial Planning
	Geo-Spatial Sciences and Technology
	Land and Property Sciences

 Centres of Excellence
9

 Employees
795

 Library Acquisition Budget
7.3 million

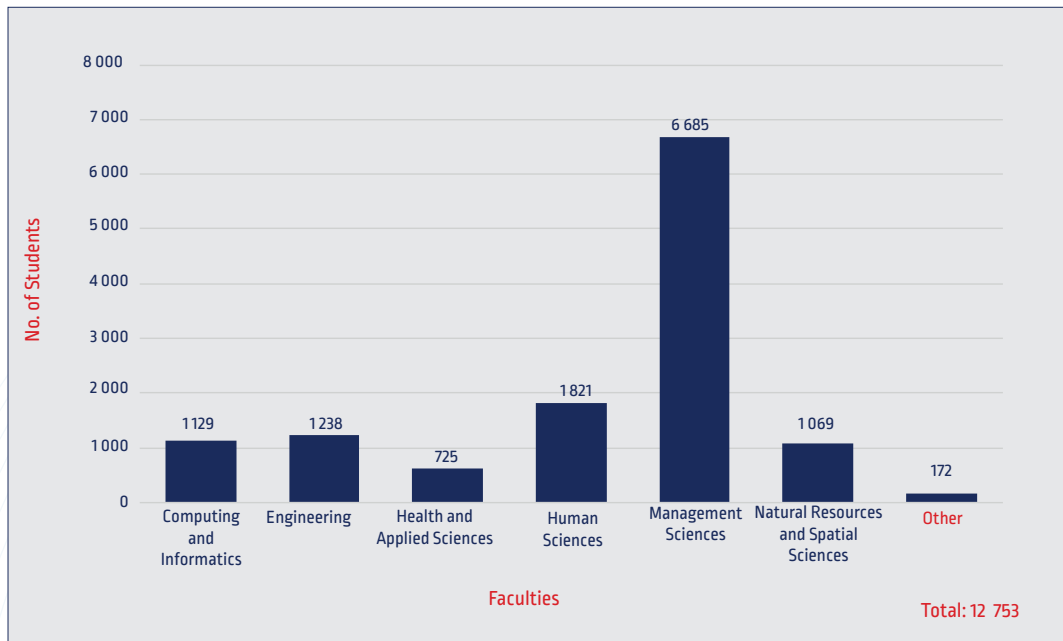
 E-books
146 231

 Printed Volumes in Library
82 912

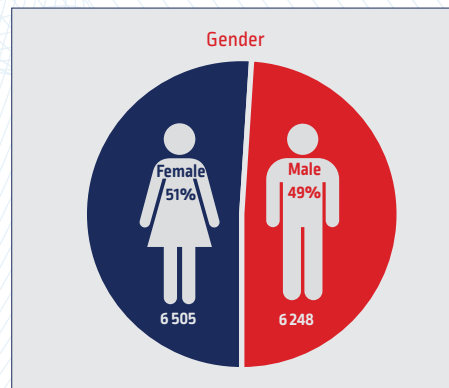
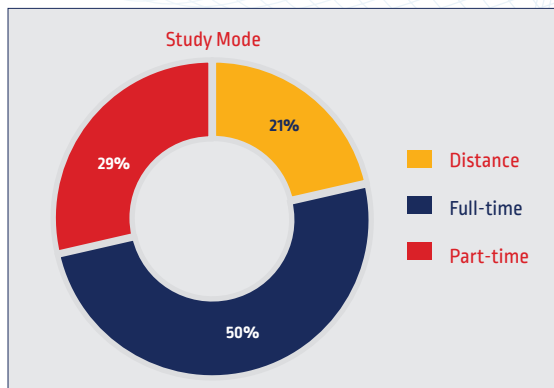
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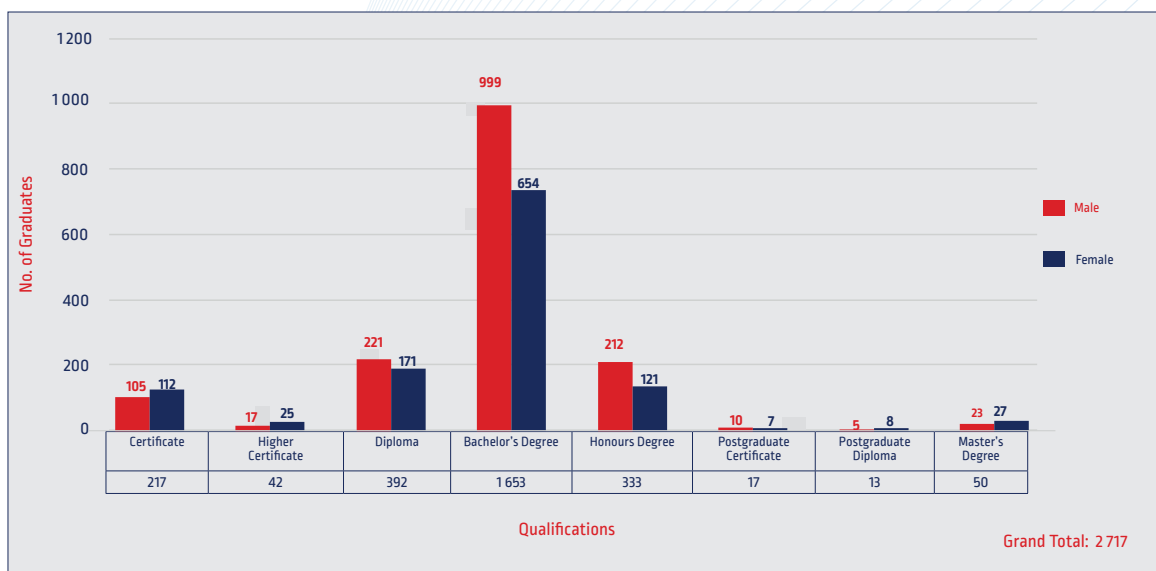
Enrolment



Enrollment by Offering Type and Gender



Graduation Statistics





Introducing

the First NUST Chancellor



**Honourable Professor
Peter Katjavivi**

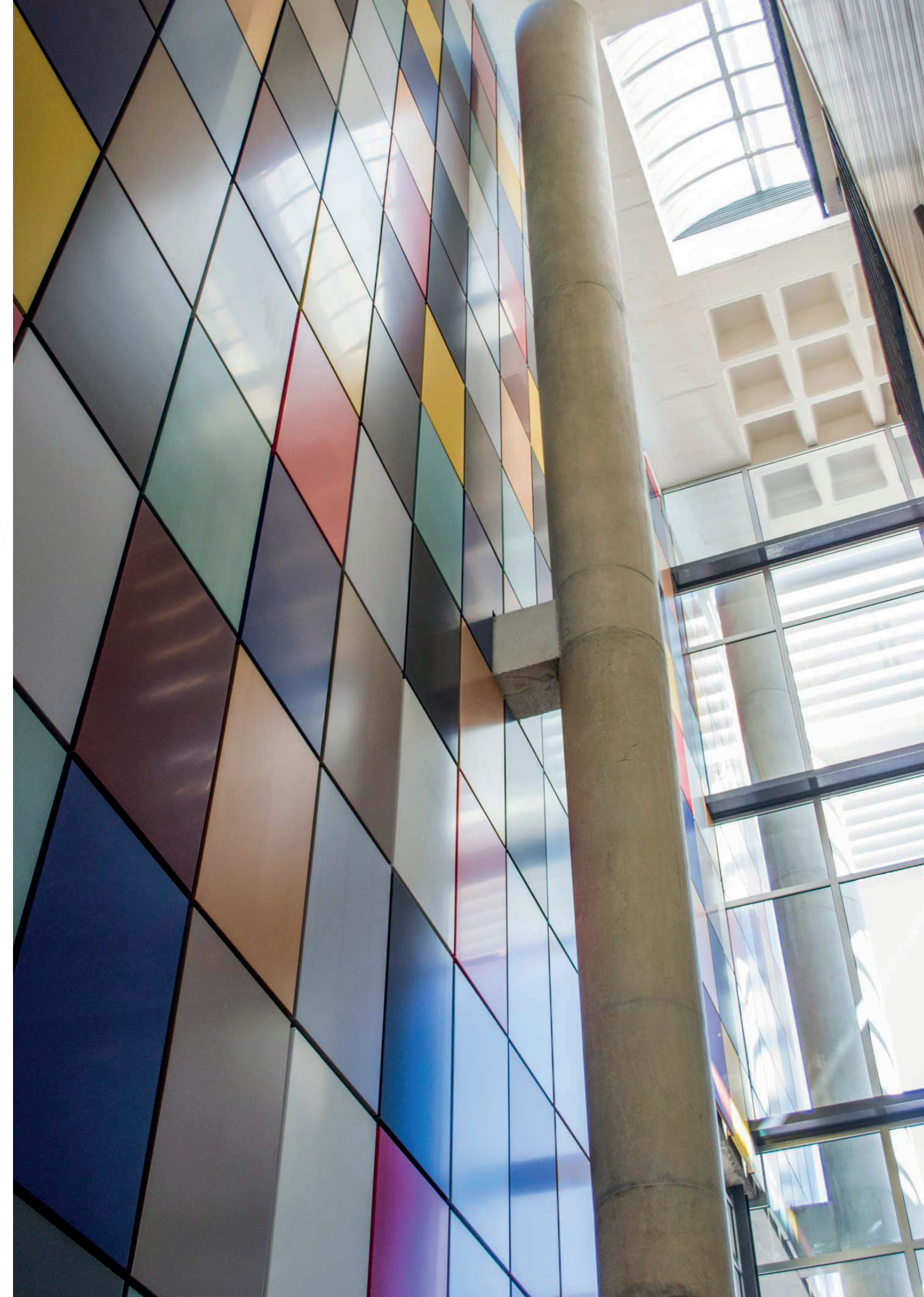
Since the Institution's transformation from a polytechnic to a university, it became Council's prerogative to appoint a Chancellor in accordance with the NUST Act.

Honourable Professor Peter Katjavivi, the current Speaker of the National Assembly, has thus become the first Chancellor of NUST. He obtained his doctorate at St. Antony's College of Oxford University in 1986, and has extensive experience in the education, economic and political sectors. He used the opportunity during his postgraduate studies to research and write about Namibian history, and has been in the forefront of higher education in Namibia. In 1999, he was awarded an Honorary Doctorate by the University of Joensuu, Finland. Apart from being one of the most influential persons in Namibian politics and the National Assembly, Professor Katjavivi has served on the boards of numerous national, regional and international bodies and associations, particularly in the educational and developmental spheres. He was the founding Vice-Chancellor of the University of Namibia, serving it from 1992 to 2003.

NUST is set to become an institution whose scientific research leads to tangible solutions that will address and redress the national challenges, such as water shortages, renewable energy, unemployment, land and housing. And although the Chancellor's role is primarily ceremonial, as the day-to-day operations of the university are under the directorship of the Vice-Chancellor, Professor Katjavivi's highly developed skills will facilitate development and bring the Institution's goals to fruition.

One of his main duties is to be an ambassador of the University, an area in which he has vast experience, having previously been the Namibian Ambassador to the European Union, Belgium, The Netherlands, Luxembourg, Germany, The Vatican and Turkey.







Chairperson's Foreword



"The University has contributed positively to our nation's socio-economic development."

The University continued to show its strengths in all its key performance areas and upheld its mandate through its Strategic Plan, various structures, programmes and activities. Thus in a very real way, the University has contributed positively to our nation's socio-economic development.

In this spirit, I confidently, and in brief, report that NUST continued to:-

1. develop internationally benchmarked curricula in critical areas with the required graduate profiles defined by industry and professions, holding high the technological capabilities as of equal importance as cognitive skills;
2. offer multi-level undergraduate and postgraduate qualifications, especially in scientific and technological disciplines;
3. enrich the national research capability, with a focus on strategic applied research; and
4. grow its profile of international scholars and partnerships.

This was done with great confidence and success. This is evidenced by the numerous awards and accolades the University and its staff members have received, and the demand for its programmes and services. Top amongst these is the prestigious African Leadership Medal of Honour bestowed upon the Vice-Chancellor by Business Leadership Magazine, signifying the Distinguished African Academic Excellence Award, as well as the positive results of Public Management Review Africa placing NUST as the best higher education institution in Namibia as well as the most innovative institution or company in Namibia. These are huge endorsements at the national and continental levels and bring with them confidence in our University.

Be that as it may, there are still a number of critical issues to attend to, and high on the agenda is public funding and infrastructure development. As the Council, we cannot be at rest and not appeal to the Government until we are assured that NUST receives its fair share of resources and fully develops its infrastructure and all the required systems to appropriately serve current and future generations adequately.

I thank all the stakeholders for their wonderful participation and support.

Faithfully

Adv Esi Schimming-Chase, LLB Honours
Chairperson

Vice-Chancellor's Review



“More than two-thirds of our academic programmes are in STEM fields and student enrolments in these disciplines have grown substantially.”

As the national university of science and technology, our mandate extols us to create new technological fields that promote the science, technology, engineering and mathematics (STEM) disciplines as well as applied research and innovation. As a result, more than two-thirds of our academic programmes are in STEM fields and student enrolments in these disciplines have grown substantially.

The University graduated 2 187 students at its two ceremonies held in April and October. Of these, 635 were graduates in the STEM fields, which represented 29% of the cohort.

The milestones in this Annual Report include research projects that are ongoing and those that were successfully completed which are aligned to our STEM mandate. NUST's uniqueness is rooted in four pillars namely, science, technology, research, and innovation. Currently, the University is primarily focused on applied research, with the following projects underway:

- » The Namibian Energy-Fuel Mix and its implications for Climate Change.
- » A Water-secure Future: Building Climate Smart Cities in Namibia project.
- » Researching how the Moringa Tree can be used for medicinal purposes, as well as the use of its seeds for water purification.

Our commitment to innovation is demonstrated by various initiatives across the Institution - from business management processes to new inventions such as the following:

- » The production of the first prototype of the Namibian Solar Electricity Utility Vehicle (NSEUV), commonly referred to a Solar Taxi. This vehicle is set to revolutionise the Namibian public transport as it uses energy from the sun.
- » Student-manufactured drones which provide solutions to the health-care industry and anti-poaching campaigns. The drones can be used to deliver medical supplies to remote areas and monitor and track down poachers.
- » The “LARRY” project, a self-driving autonomous robot rover designed to navigate roads and eliminate human error, the major cause of motor vehicle accidents.

The University is a hub for knowledge creation and each year it attracts scholars, researchers and students from top universities in Africa, USA and Europe to study and conduct research on pertinent issues such as sustainable development (water-food-energy nexus) technology, housing and indigenous knowledge.

NUST is a sought-after partner to local and global companies because it is known for its pro-activeness and relentless pursuit of excellence. This is exemplified by the various local and international partnerships such as with Airbus (in aerospace technology) and Credit Suisse for student internships.

To everyone who has contributed to the growth of this Institution, I say, thank you for your immense dedication and service to humanity in general and to this University specifically.

Faithfully

Tjama Tjivikua, BA, MS, PhD (Chem), DSc (*Honoris Causa*), DLitt (*Honoris Causa*)
Founding Vice-Chancellor



Office of the Registrar



Mr Corneels Jafta
Registrar

The Office of the Registrar carries broad institutional responsibility for the functions listed below:

- » Strategic management of the Registry and Secretariat to Governance Bodies, as well as contributing to strategic management of the Institution as member of the Executive Committee;
- » Applications, admissions and registration of students, including student recruitment (a joint responsibility with the Department of Communications and Marketing);
- » Faculty Administration;
- » Governance and Committee work, including custody of student rules and regulations;
- » Assessment Administration;
- » Graduation and Promotion;
- » Institutional Timetabling;
- » Central Records and Archives.

Strategic Management

The year under review was, within the limited resources available, a period of rolling out the new brand and identity of the Namibia University of Science and Technology. The Registrar played a leading role in procuring the seal of the University, facilitating the election and appointment of the Chancellor and acquiring the new academic dress.

This Office continued the process of transformation of its ethos, staff morale and team spirit, thereby developing staff into a strong and cohesive team.

The Registrar lead the process of revising and developing new Statutes, Rules and Regulations for the University.

The Registrar further continued to represent the Institution on the NQA and NCHE Councils, as alternate for the Vice-Chancellor and Deputy Vice-Chancellor: Academic respectively.

Applications, Admissions and Registration

The online application system was further refined to make it more user-friendly and to remove barriers to its use. The fee charged for online applications was removed, resulting in more than 15 000 applications being received for the 2017 academic year.

The goal of e-administration was pursued by the introduction of system-generated email responses to applicants. Applicants received emails, text messages and hard copy admission letters, while also being able to track their applications online.

The semester-based registration processes were smooth with new computer-literate students being allowed to do self-help registration after having gone through the authentication and admission and payment processes.

Faculty Administration

The Department function is to provide efficient administrative academic services and support to students, staff and the general public.

The promotion of students was improved, thus resulting in the smooth graduation ceremonies in April and October. The department further updated the academic structure with NQF information on qualifications dating back to 2008.

The staff assisted, together with their colleagues of the Department of Communication and Marketing, at various shows and career fairs throughout the country, reaching more than 60% of potential applicants.



Governance and Committee Work

This department provides secretarial services to governance bodies of the University. No Council was in place from 1 December 2015 until 3 August 2016, when the Minister of Higher Education, Training and Innovation appointed the first NUST Council in accordance with the Namibia University of Science and Technology Act, Act No. 7 of 2015. The newly appointed Council subsequently attended an orientation session, a workshop on governance, three ordinary and two special meetings of Council.

Examinations and Assessment Administration

The Department is not only responsible for the formal assessment administration of the University, but was requested by several other institutions to assist several other institutions to administer their Distance Education examinations. This includes the setting up of venues, receipt and distribution of examination papers for examination sessions. The Department also had to deal with the administration of extra time for students with special needs. During and after the examinations, the Department was responsible for the capturing and release of examination marks on the ITS system. Marks are released electronically through the Institution's website, the intranet and SMS systems. The Department administered the immediate Supplementary Examinations in January and July for the first time since 2006, after Senate having resolved to move these examinations to those months again.

In January, 6 359 students wrote Supplementary and second opportunity exams; in June, 9 089 students wrote first opportunity examinations; in July, 8 383 students wrote supplementary and second opportunity exams.

The new NUST certificates, printed off-shore, contain modern high security features, thereby improving their integrity and protecting the value of qualifications.

Institutional Timetabling

This Department focuses on supervising and co-ordinating the Institutional Timetabling function, thus ensuring the co-ordinated and optimal use of the teaching and learning facilities of the University.

No new policies were introduced but the Department focussed on creating awareness and the successful implementation of current policies and protocols.

System data was continually updated, software upgraded and training sessions for new Timetablers were administered successfully, thus minimising timetabling activities. This included the training of ITS Support Offices to facilitate interface operations between the ITS and Celcat Systems.

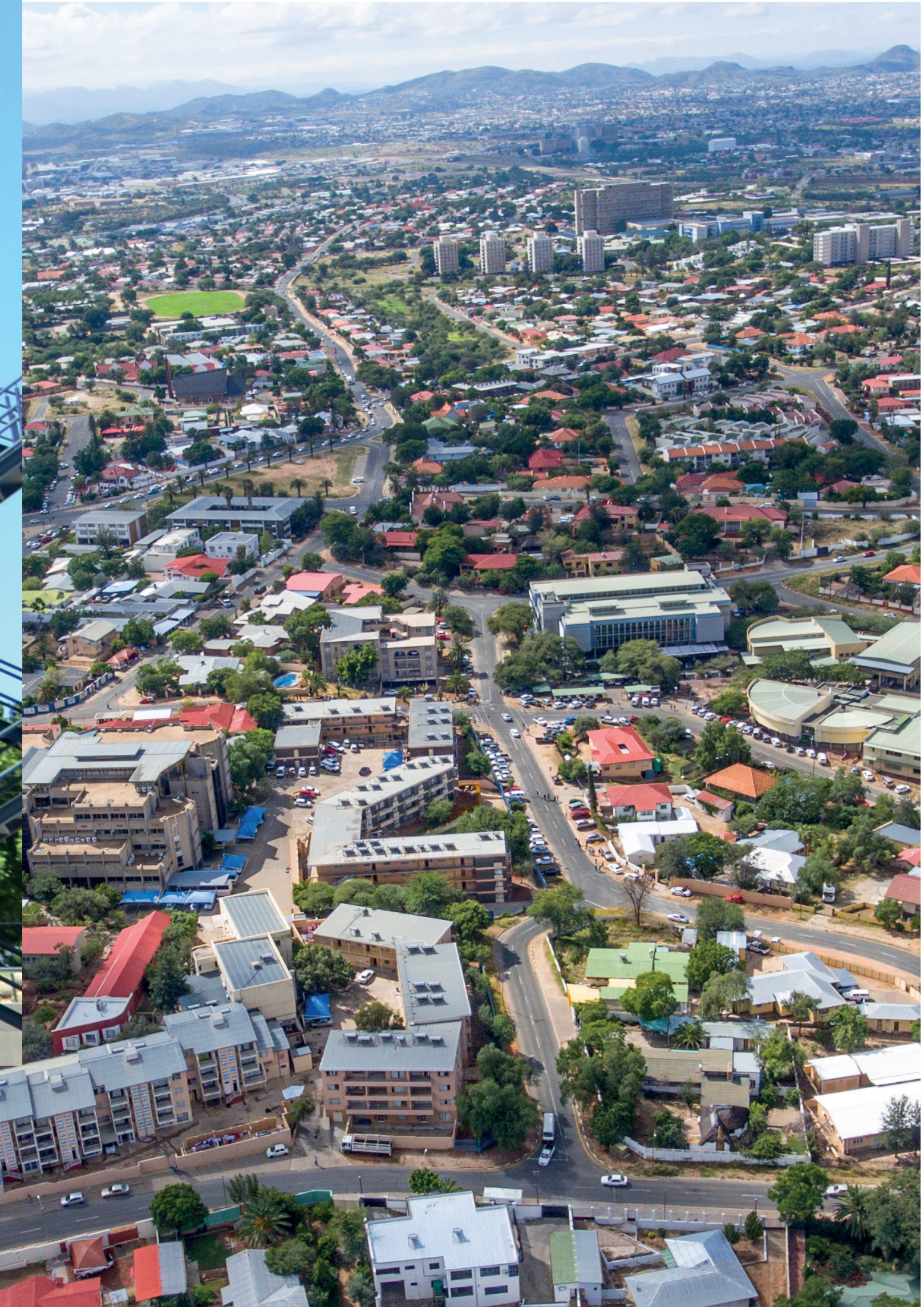
Teaching timetables were compiled and communicated to students in advance of classes commencing, thereby ensuring the smooth delivery of courses and programmes.

Central Records and Archives

The CRA Unit is responsible for the management and safeguarding of the entire Institution's records and archives and plays a key role in the provision of quality information for effective decision making.

Continuous improvements were made, including the following:

- » Transfer of approximately 40 linear meters of non-active student record files to off-site storage.
- » Finalising the destruction of redundant Polytechnic of Namibia (PoN) publications and letterheads.
- » Finalising the destruction of approximately 25 linear meters of unsuccessful applications according to the requirements of the National Archives of Namibia.
- » Sorting and arranging a complete set of the University's publications for safekeeping.





Administration and Finance

In the midst of an economic crisis



Dr Gert Günzel
Deputy Vice-Chancellor:
Administration and Finance

The Division supports the Vice-Chancellor with the formulation of appropriate policies and procedures and the implementation of and compliance with Acts, laws, policies and regulations applicable to the University. This ensures transparency and accountable governance.

The University complies with and enforces internationally acceptable standards of accountability, responsibility, fairness and integrity. It endorses the principles contained in the King III Report on Corporate Governance and strives to lead and manage accordingly.

The University's sustainability is affected by a wide range of factors, most which depend on government funding, including the development and maintenance of infrastructure.

State subsidy is the largest source of income for the University. Unfortunately the down-turn in the global economy, coupled with local economic underperformance, led to many uncertainties, leading to a further decrease in funding from Government. The underfunding is leading to stunted growth and a deteriorating quality of infrastructure and facilities, services, and Internet speed which remained below the standards required to operate optimally. Enhanced land acquisition and the development of urgently needed capital projects could not continue as planned.

Nevertheless, the University remained adequately covered against all major types of risks, including all assets, primary liability, professional indemnity, electronic equipment, motor fleet, crime and riots.

The reduced subsidy, a fee increase capped at 5%, and the escalation of cost due to inflation will pose a huge challenge in the new financial year. It will be extremely challenging to manage the University with a meagre income.

Finance

The Department plays a key role in adhering to and implementing the fiscal policies of the Institution. Furthermore, it is responsible for advising all other departments and staff on all financial matters pertaining but not limited to:

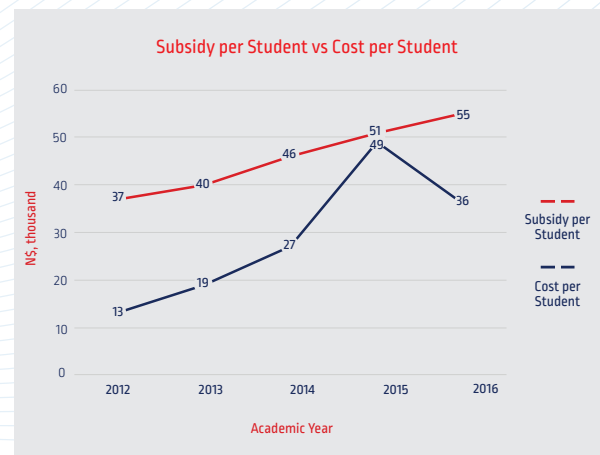
- » Budget and Control
- » Debt Management
- » Payroll Administration
- » Procurement

Performance

Financial management is governed by international best practice and principles defined by the Council. One of these principles, sustainability, is entrenched in the core functions of the Institution. To enhance accountability and transparency, fundamental policies and procedures were implemented with the aim to manage spending and to provide assurance that the business of the Institution is

transacted, executed and recorded in accordance with the International Financial Reporting Standards.

The cost per student in 2016 amounted to N\$58 021 whilst the subsidy per student was a mere N\$30 406, thus creating a deficit of N\$27 615. This is due to a decrease in subsidy for 2016 as well as the non-implementation of the funding formula which defines for funding per student.

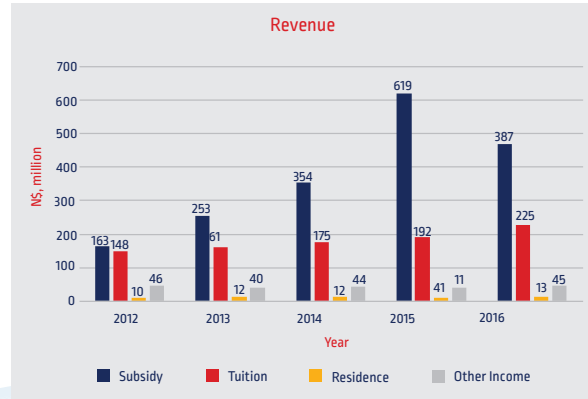




Statement of Comprehensive Income

Revenue

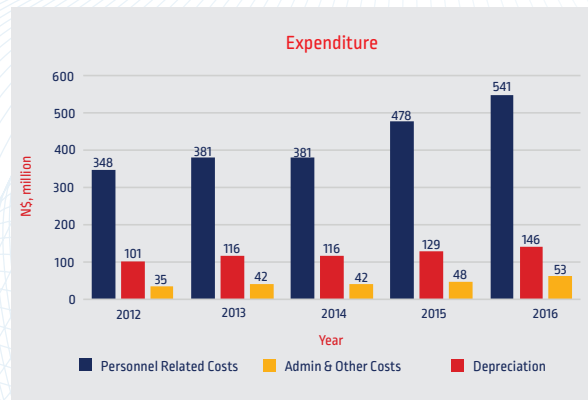
Income is primarily derived from government subsidy which stands at N\$387 million for the current year, followed by tuition fees at N\$225 million. Other sources include income from short courses, donor funds, hotel school, rentals, etc. It is worthwhile noting that the promised subsidy of N\$587 million was never realised, as it was reduced by about 34%.



Expenditure

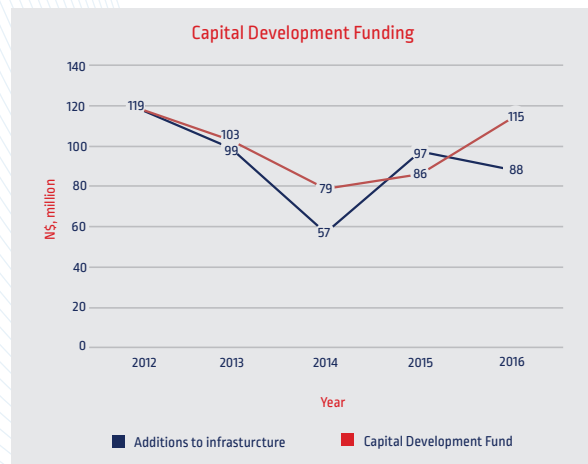
Total expenditure increased from N\$656 million in 2015 to N\$740 million in 2016, representing a 12% increase. Personnel cost (72%) has increased steadily over the years due to growth in staffing and salary adjustments. However, there is an improvement on the 2015 and 2016 (5%) data when compared to 2014 and 2015 (20%).

Administrative costs comprised 20% of operational costs. The main contributors to the N\$26 million cost were campus upkeep at 45% and software acquisition and upkeep (18%). Municipal services (14%) and travel expenses (9%) also greatly contributed to the total expenditure.



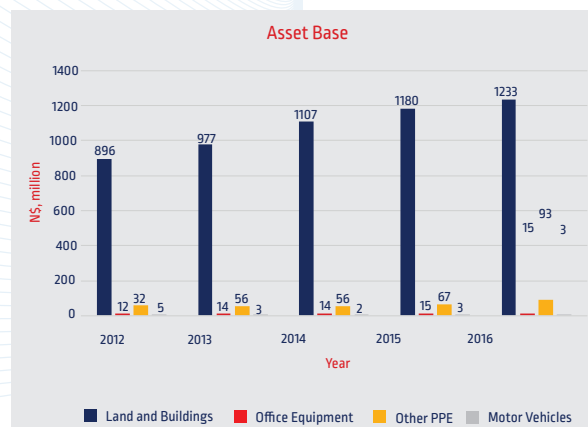
Capital Development Funding

The University has made great strides in investment in capital projects over the years despite its disadvantaged financial position. The focus has been mainly to work on projects already started in the previous years and there were limitations in undertaking new projects because, partly, the Council was only appointed towards the end of the year.



Asset Base

The Institution maintains a strong asset base that supports current and future operations. Net assets increased from N\$896 million in 2011 to over N\$1,6 billion in 2016. The book value of land and buildings include adjustments from revaluations.





Human Resources

Significant progress was made on the journey of change, which is guided by the strategic roadmap for 2014 - 2018.

The University takes pride in recognising that staff play a significant role in determining the success of the Institution and the fulfilment of its strategic objectives. This is particularly so during a time when the University is undergoing structural and cultural change, having transitioned from a polytechnic to a university.

One of the most notable events was the launch of the Brand Ambassador of the Month (BAM) Award Programme in July. This programme aims to recognise desired behaviours aligned to the institutional values across the diverse range of roles, bolster employee engagement, and workplace happiness.

The criteria are aligned to the University's 2016 theme, "Sustainable Innovation," thus focus is placed on innovation as a core value of the University. BAM is more than just a programme, it is a platform that seeks to deepen our philosophical value system that award positive behaviour. The motto, "Attitude Counts," speaks to the very core of the programme.

The development and roll-out of the University's Integrated Talent Management Framework (TMF) is yet another accomplishment of the Department. The framework is aimed at aligning the Institution's human

resource inventory to the University's strategy plan. This defines the various skills segments, critical roles and organisation-wide skills gaps to ensure that interventions are put in place to improvise and compensate for current and future limitations in human resource capabilities at the Institution. The framework in its entirety is used to drive performance and serves as a basis for the understudy programme, succession and recruitment plans. It further serves as a foundation and standpoint for human resource capacity building at the University.

Recruitment and Retention of Staff

The availability of suitably qualified and experienced Namibians to lecture in the scarce disciplines such as architecture, engineering, criminal justice, health science and computer science remains a challenge. The University, for years to come, will continue to depend in great part on international academic expertise.

The Strategic and Transformation Plan puts an emphasis on postgraduate education and training and thus recruitment efforts are mainly aimed at those holding Master's and Doctoral degrees.

Insufficient funding negatively affected the recruitment and retention strategy. Faculty and 37 administrative resigned staff which translates to a staff turnover of 6.8%, while three staff members degrees.

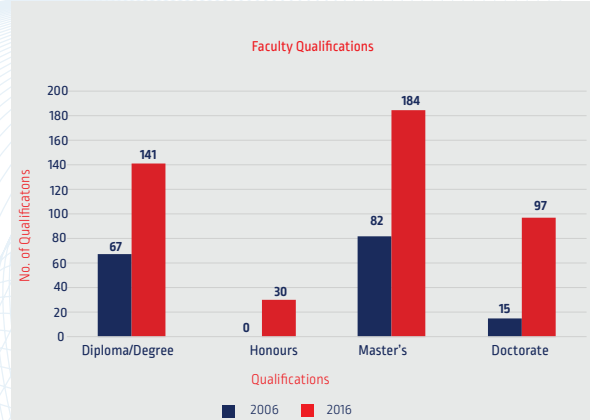
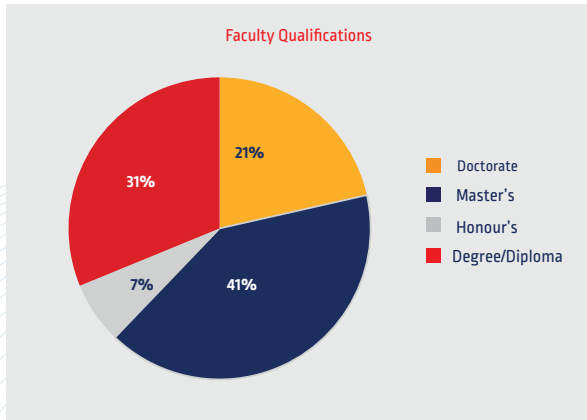
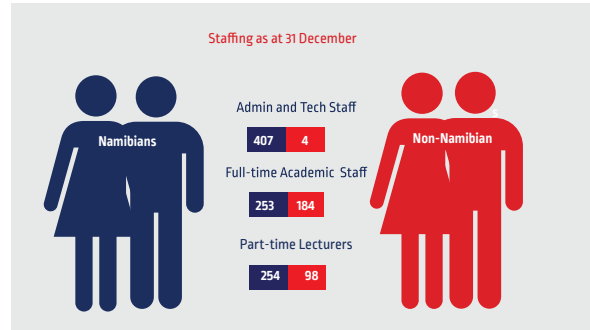
Academic positions were filled by 21 Namibians and 57 international staff. Fifty six (56) administrative positions were filled by Namibians.



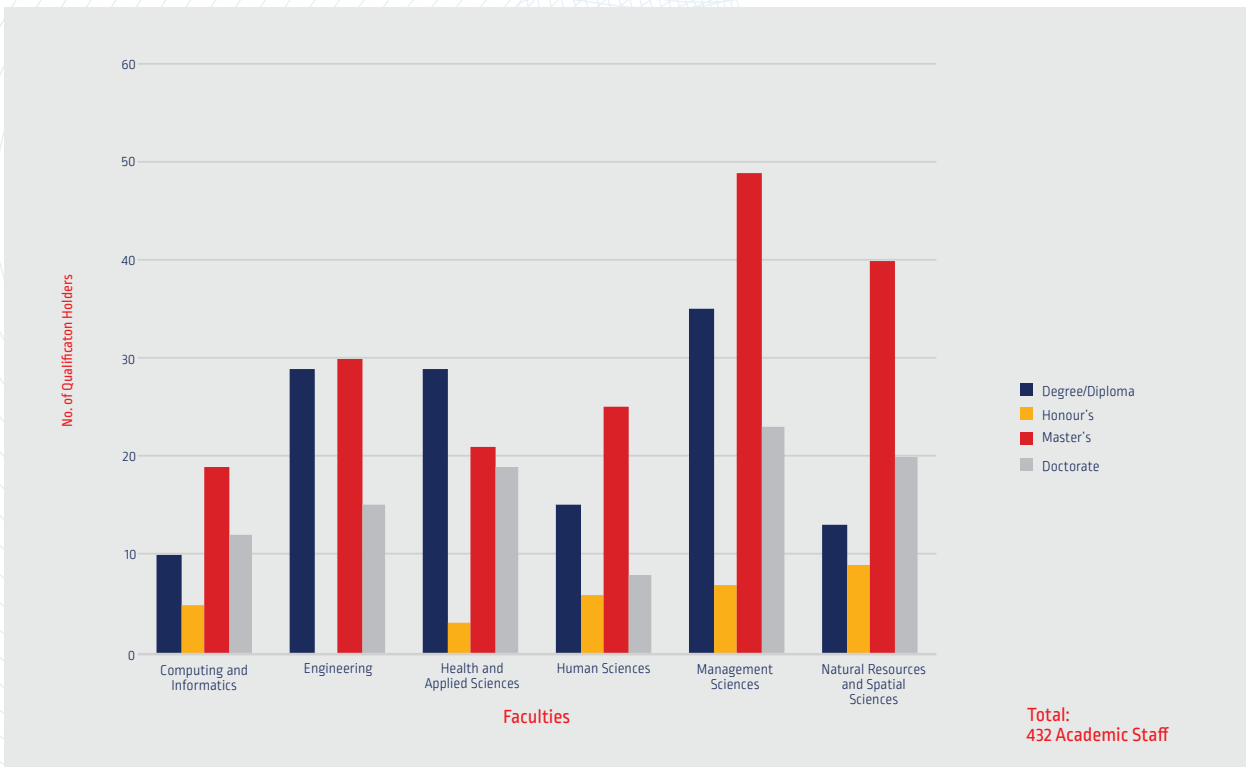


Staff Expenditure

The University spent N\$670 000 on scholarships to enable staff members to pursue their Master's and Doctoral degrees at accredited universities. A total amount of N\$2 301 650 was credited to staff members' rebates to allow staff members and their dependants to study at the Institution.



Qualifications Profile per Faculty





Employee Wellness

The HR Department in collaboration with Namibia Medical Care (NMC) held a Wellness Day for all staff members under the Theme “Health is a State of Body, Wellness is a state of Being”. This event provided employees with an opportunity to connect with a variety of health practitioners, internal departments that support health and well-being, and an on-site health risk assessment.

Other Milestones

Re-engineering of HR business processes

Like many areas across the University, finding ways to maximise efficiency and effectiveness is an ongoing priority. Throughout the year, the Department actively reviewed and streamlined its business processes with the aim of creating efficiencies, while at the same time making improvements to the way it services customers. Focus was mainly placed on improvements in critical contemporary modern measures of performance, such as inter- and intra-departmental communication, collaboration, quality, service excellence and speed.

The re-engineering exercise was a planned and programmed effort to maximise the value of HR, which has resulted in the development of a Human Resource Management Information System (HRMIS).

Induction programme

The induction programme ensures that new staff members are integrated seamlessly into their new roles and working environment.

The process review entailed the revamping of the entire programme, in which new components were added to the induction and on-boarding process to facilitate a continuous and structured orientation process which is conducted in developmental stages, namely the introduction of pre-arrival and arrival inductions as well as academic and departmental inductions.

A customised Induction e-book was developed to guide new staff members throughout the induction process and contains information on the University highlighting important policies and procedures that govern their employment.

Manager engagement is encouraged during the early stages of employment to build strong manager-employee relations, promote buy-in on shared goals and minimise the loss of talent as a result of job dissatisfaction.



Information and Communications Technology

Insufficient funding puts the urgently needed upgrading and maintenance of the ICT systems at high risk. This, negatively impacts university operations which depend on state-of-the-art equipment and software and the required standard of IT support.

ITS Systems

Online Registration

The Online registration programme was revamped to allow first-year students to register online for the first time in January. As a result, online registration reached 80% of the students who registered.

COLL Assignments

As a cost-saving measure, COLL has communicated the results of marked assignments to students by e-mail since January. Marked assignments are linked to ITS progress reports, allowing students to view and print their assignments via the ITS web.

Implementation of Goods Received Vouchers (GRV)

The procurement process was streamlined and improved through the acquisition of a GRV system that enhances financial controls over delivered goods and services. Pilot implementation and training took place during the first half of the year.

Online Payslips

A newly introduced online facility, called the "Employee Self Service," allows staff to view and / or print their payslips electronically. This facility improves access to information in a more efficient and effective way, whilst saving costs on other resources previously required to produce paper based payslips.

Development of Interface with NSFAF MIS

A project was initiated to develop an interface between the ITS system and the Namibia Students Financial Assistance Fund (NSFAF) Management Information System (MIS). This will eliminate the cumbersome, inefficient, time-consuming and outdated paper trail, while improving both response time and data accuracy. The interface is expected to be operational by February 2017.

Networks

The University faced many cyber security risks, but was successfully protected by the department.

Malware

A whopping 14 105 types of Malware attempted attacks on 64 devices on campus, which were neutralised.

The top position was occupied by the Locky Ransomware, which encrypts all documents on a device network and the encryption key is only provided once a ransom is paid. As in the case of blackmail paying the ransom does not guarantee the release of the encryption key.

Attacks on the Network (internal and external)

Targeted Attacks - Attacks on vulnerable devices, that were not protected properly with the latest security patches and anti-virus software, had to be dealt with effectively.

Indiscriminate Attacks - Similar efforts were instituted to ward off attacks that are broadcast to any device regardless of whether the target is potentially vulnerable.

Attack breakdown

Attack Classification	Number of Events	Risk Associated with the attack
Potential corporate Policy Violation	278	Information Theft: These events indicate usage of apps and protocols in ways that may be prohibited by organisation's policy.
A Network Trojan detected	46 425	Infrastructure Damage, Information Theft: A trojan is a programme that appears to be benign to an end-user but is in fact malicious. It can be used to steal information or cause damage.
Denial of Service	220	System Degradation, Denial of Service: Denial of Service (DoS) attacks - attack the reliability of the network infrastructure, causing service to be denied to legitimate users.
Administrator/ User Privilege Gain	903	Information Theft, Infrastructure Damage: Users on network machines who gain privileges illicitly may be able to steal information and control machines.

The miscellaneous category is for attacks that do not clearly fall in a specific category but would occur in multiple categories. The figures indicate that many devices used are infected with viruses, specifically Trojans. The security systems implemented prevent these infected devices from spreading further into the network.

NJUST has always been at the forefront of ICT security and has kept investing in systems that are regularly proving their worth.

Data Centre

Implementation of a Password Reset Portal

Due to high frequent calls to the ICT help desk relating to forgotten passwords, a self-service password reset service was implemented, allowing users to self-reset their passwords. This facility is highly secure, automated and has reduced undue pressure on the help desk service.



Systems Management Solution for Camera Surveillance

Milestone management servers and closed Circuit Television (CCTV) viewing stations were set up and distributed across the campus.

Security personnel in various locations on campus were provided with viewing stations that enable them to view multiple-site locations, giving them an opportunity to react quickly to events or incidents in their respective buildings.

After-hours ICT Support

Starting in July, after-hours ICT support services were introduced for all staff. This support is closely aligned to the Library opening times and is available as follows:

- » Mondays to Fridays (16:30 - 21:30)
- » Saturdays (08:00 - 17:00)
- » Sundays (14:00 - 20:00)

This after-hours service covers the main campus as well as all regional centres.

Data logging servers for the Namibia Institute of Space Technology (NIST)

The PC Support section assisted NIST to set up two servers to log weather data for the Institute and permit users to monitor the health of the data. The two logging servers get data from a receiver and data logger transmitter installed on campus. Another receiver and data transmitter will be installed at a regional centre.

Free Microsoft Office 365 for staff members

Microsoft Office 365 was made available for free to staff members, each up to five personal devices.

Staff can download and use the latest version of Microsoft Office applications, including Word, Excel, PowerPoint, OneNote, Publisher and Access. Alternatively, these applications can be used online through a web browser.

DICT and Facilities Helpdesk systems implementation

Two helpdesk systems were introduced in which staff are able to log calls or service requests related to either ICT or facilities.

Staff are thus able to place service requests and monitor the progress and status of these requests. The systems further keep them informed at every step of the management process of their call or request with automated notifications.

Solar Grid Energy System

The Pension Kleines Heim, a property of the University, became equipped with a solar grid-interactive photovoltaic system. The system was financed through a grant of the German agency DENA (Deutsche Energie-Agentur) that contributed half the funding. Excess electricity not used by Kleines Heim is transparently and automatically directed into the electrical grid of the City of Windhoek, hence contributing to the national supply of electricity. The excess that is fed into the grid is credited on the account of Kleines Heim. The system is expected to save up to 70% of the pension's electricity costs while generating positive cashflow from day one of its operations.

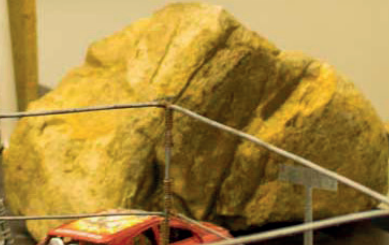
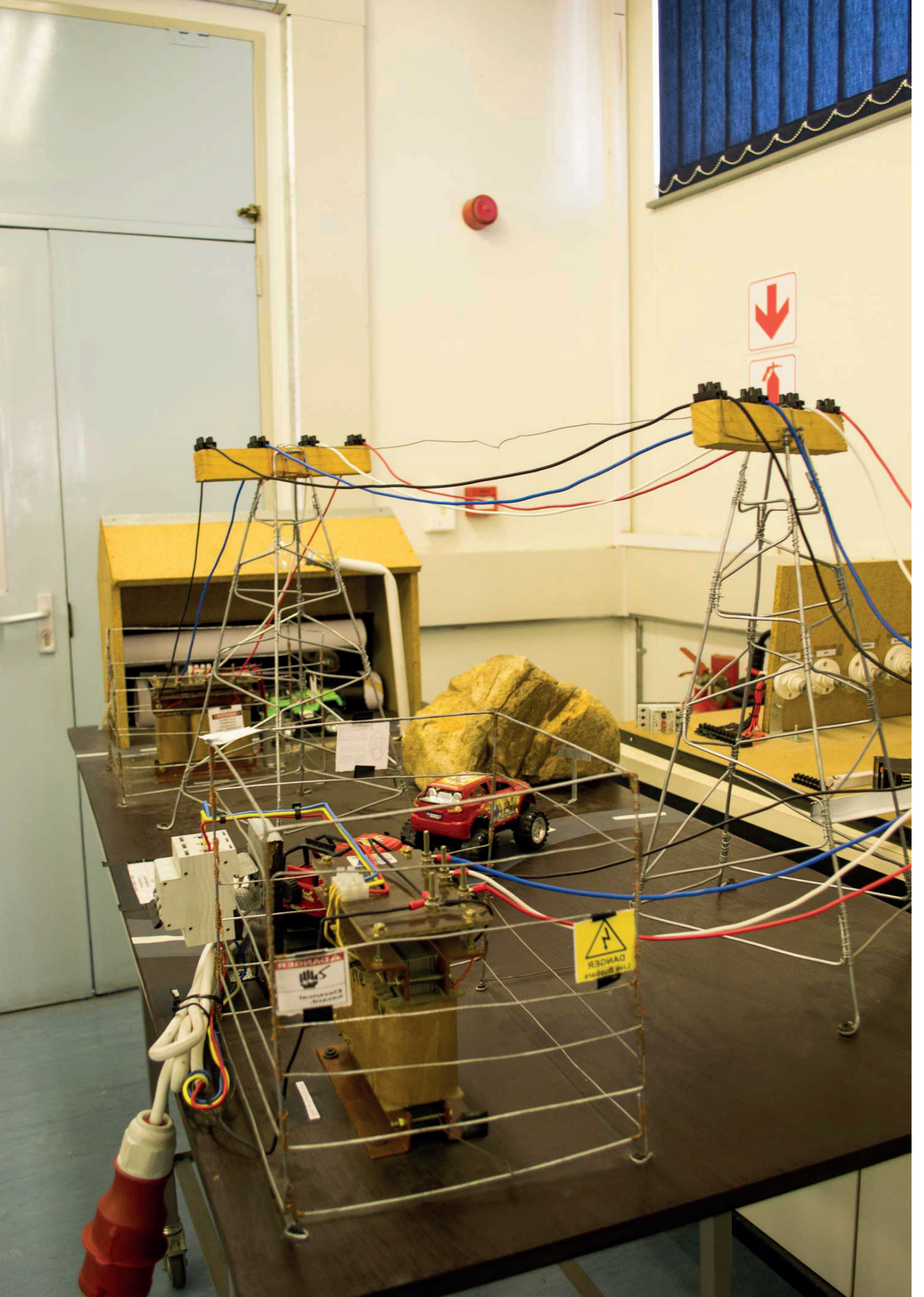
Auxiliary Services and Physical Infrastructure

Any reputable university endeavours to create a learning environment sensitive to the needs of the students and staff. The Department is responsible for implementing a financially sustainable management and maintenance programmes to ensure efficient and cost-effective support services. This also means a clean, healthy and safe learning environment. But the Government funding greatly affected campus expansion and facilities upgrade.

As a result, a contemplated infrastructure development delayed, will result in increased future costs. The state of funding affects the University's competitiveness, reputation and sustainability, and delayed provision of skills required for the new economy.

Two positive developments are noted, viz. the commencement of construction of the Parking Garage cum Post Graduate Centre and the acquisition of three hectares of land for campus expansion in Windhoek.





Academic Affairs

Continuous Transformation



Dr Andrew Niikondo
Deputy Vice-Chancellor:
Academic

The University continued its transformation and application of best practices to deliver relevant curricula and an enriched student experience. The implementation of the Strategic Plan saw the development of new programmes, a growth in graduate enrolments, an increasing recognition of faculty for research, scholarship, teaching, and service to the wider community, and outstanding accomplishments by students and graduates.

Activities to Support and Enhance Learning and Teaching

The University strives to foster independent learning, and encourage participation in scholarly activities. For all programmes re-curriculated since 2015, study materials were developed and posted online. Important issues such as course duplications and gatekeeper courses were addressed, ensuring that these are no longer a financial burden to NUST. Since Mathematics and English were identified as major challenges to students, various interventions, have been implemented, partly by increasing the use of tutors. This has been instrumental in improving the throughput rates.

The TLU was engaged in various internal staff development activities such as the following:

- » **Postgraduate Certificate in Higher Education (PGCHE):** This Certificate equips teaching staff with pedagogic and practice skills and was implemented. Amongst the various topics is Curriculum Design.
- » **Instructional Skills Workshops (ISW):** This equips faculty with methodology and pedagogic skills to successfully manage, deliver and present high quality lessons which were facilitated through the Webex application.
- » **Faculty Mentorship and Leadership Programme:** A mentorship and leadership programme was developed to support line managers, and newly appointed faculty or the existing faculty with serious teaching and assessment challenges. This mentorship and leadership programme will be piloted starting next academic year.

- » **Teaching Toolkit:** A teaching toolkit was developed to assist lecturers in lessons preparation, conduct research and on learning materials, preparing assessments, (formative and/ or summative), etc.
- » **Great Teachers' Workshop (GTW):** Fifty lecturers participated and shared their challenges and successes in the classroom. Lecturers learned how to address challenges experienced in the classroom and how to sustain their successes. Networking among lecturers was excellent and a community of practice forum to sustain the conversation and collaboration was created. The *MyNUST e-Learning System* was used to create the forum. Participants received 40 resources stored on memory sticks. The same resources will be shared with the University community at large through the TLU Portal.
- » **Webex Virtual Learning Platform Training:** This year, TLU not only used this platform to run mini-workshops and other professional development interventions, but also to train lecturers on how to utilise the platform to remotely deliver education. TLU supported COLL in training the regional representatives of COLL on how to utilise the system.



Harold Pupkewitz Graduate School of Business (HP-GSB)

Graduation is one of the most important benchmarks of success for a graduate school. This year, 32 students graduated with Master’s degrees, distributed among the following qualifications: 16 MBAs, 7 MIBs and 9 MLCMs. This is the highest number of graduates for the School and is a testament to new growth in the of HP-GSB. Two hundred and nineteen (219) students were enrolled in the four main programmes.

The PhD programme was accepted by Senate in October, with implementation foreseen in 2016.

Table: Academic Degree Programmes

Programme	Enrolment	Comments
Master of Business Administration (MBA)	36 (cohort 1) 33 (cohort 2) 33 (cohort 3)	Cohort 3 commenced in July.
Master of Leadership and Change Management (MLCM)	35 (cohort 5) 33 (cohort 4)	52 students from earlier cohorts still in the system.
Master of Leadership and Change Management (MLCM) – New Curriculum	20 (cohort 6)	Is due to a number of reasons: Entrance exam for MLCM applied for the first time this year. Students’ preference for the MBA causing a decline in MLCM numbers, in 33 in 2014; and 29 in 2015.
Master of International Business (MIB)	70	Phasing out in 2017, no new cohorts are being accepted.
Executive Master of Business Administration (EMBA)	5 (cohort 1)	No intake during 2016

Despite a very challenging year for executive education and training throughout Namibia, in no small part to a spending freeze by government, the School managed to host a wide range of very successful events, in particular the Annual Alumni and Friends Talk. However, with austerity measures being effected in 2017, another challenging year is anticipated.

Centre for Open and Lifelong Learning (COLL)

COLL firmed up support for its Regional Centre Network, with plans under way to open another Regional Centre in 2017 in Oranjemund as part of the Town’s transformation. Similarly support was extended to the NUST Satellite Campus development in Lüderitz as well as liaison with the Walvis Bay Town Council for the Walvis Bay Satellite Campus establishment.

The Courseware Development Team transformed the static print of instructional material into an interactive print,

utilising augmented reality that enables one to embed interactive rich digital media into print media, thereby changing the way educators and students experience interaction with traditional print-based study material. The team utilised Layar, a cutting-edge tool that allows for a meaningful, digitally enhanced view of the real world. This tool was showcased at the 2016 Windhoek Industrial and Agricultural Show, where the University received the Platinum Award as the best exhibitor.

A video-conference initiative through a WebEx pilot was run to provide additional virtual lectures to distance education regional students as part of a scaled-up student support model. The Cisco WebEx is a video-conference platform with integrated audio, video and content sharing to bring the classroom to the student in the comfort of their home or in the COLL Regional Centre Computer Laboratories.

Through e-Learning initiatives and technology-enhanced instructional material, two fully-fledged eLearning courses were developed and offered to all students, irrespective of their mode of study. The enrolment numbers as well as students’ performance in these two e-Learning courses, i.e. Introduction to Digital Literature and Web Communication, were outstanding with a pass rate of 96% and 98% respectively. These courses are offered online only and are part of the Bachelor of English and Bachelor of Communication curricula. Both these courses received awards during the 4th Institutional Technology Day.

New Innovations

New initiatives and innovative projects were introduced:

- » **iPad Project:** COLL’s participation in the iPad Summit was a response to the initiative on the iPad Pilot Project, implemented in collaboration with the PC Centre and Apple Core Group to integrate iPads at NUST as part of COLL’s eLearning roll-out.
- » **COLL Using WebEx and NUST FM:** The COLL Team to provided additional academic support to regional distance education students. WebEx was piloted twice in the year to broadcast live lectures to the regions. COLL liaised with NUST FM to finalise all the arrangements for the broadcast of live tutorials to students. Students may either call in directly or send a WhatsApp message to a number at the station, which creates further integration of technology in teaching and learning and as such, facilitates collaborative learning.
- » **Revised Writer-Friendly Microsoft Word Template:** A writer-friendly Microsoft Word template based on empirical evidence to make writing of course material for distance education students less technical,

introduced two new design processes for effective and efficient course design.

The team promoted compensatory teaching on the MOODLE platform for one of the University's gatekeeper courses, i.e., Introduction to Mathematics, to improve student performance.

» **Scanning and Emailing of Tutor-Marked Assignments:**

A new initiative called "Assignment Turn-around Time" was introduced to address the delays in returning students' tutor-marked assignments (TMAs) via the Postal System.

Pilot scanning of TMAs and emailing to the students on their generic NUST email addresses was completed successfully in October 2015. Full scale implementation was launched in January 2016. The scanning is done by Document Warehouse and stored on the M-Files System. The Mail Merge software was used to return the scanned TMAs in bulk via email to the students.

4th Institutional Technology Day

The 4th Annual Institutional Technology Day was held under the theme "Advancement of Teaching, Learning, Assessment and Research using Technology at NUST." Various stakeholders were involved wherein Industry partners showcased their tools and devices. In a round-table discussion, faculty members shared how the integration of technologies advances teaching, learning, assessment and research. Staff and students who showcased the most innovative ways for using technology in both blended and fully-fledged online courses won prizes at the end of this event, sponsored by Nedbank Namibia, Oshitutuma Property Investment CC, Green Enterprise, PC Centre (Pty) Ltd and Pinnacle Africa respectively.





Library and Information Services

- » **E-resources Day:** The Online and Serials and the Faculty and Research Support Services held the department's first E-resources Day on 16 March. The event made electronic information resources available to the University community more visible in order to improve their usage, with practical demonstrations.
- » **New Website Template:** A new website template, which would be more suitable to its users' needs, but at the same time fit in with design of the University's website, was developed. This was done in cooperation with the Webmaster's section of DICT. It will be populated by the Webmaster and be operational in 2017.
- » **Sierra Migration Completed:** The Library and Information Services' (DLIS) migration to its new library management systems, Sierra, was completed. It is a user-friendly system and a positive move towards improved service delivery.

Library Developments

- » **Electronic Venue Booking System:** A new system to manage the booking and use of the facilities in the library, the free online booking software, called "booked", was installed and has been fully operational since March. All students have access to the system and can reserve a discussion room or study carrel through the Internet. The total bookings from January to November were 4 077.
- » **Digital Namibian Archive (DNA):** The structured engagement with the National Archives of Namibia was discontinued because the MOU lapsed after five years. More than 1001 picture/film negatives were scanned, processed and added to the DNA Collection in 2015 and 2016. The Library continues to maintain the DNA website and all images and documents are still accessible anyone.
- » **Computers in the Periodical Section:** Fourteen computer terminals were installed in the Periodicals Section for easy access to e-resources. Quick access guides to e-resources were developed and placed at each station. The following new e-resources were added to the Library collection:
 - Cambridge E-books
 - EBSCO's Tourism and Hospitality Complete

An e-resource trial was offered, which provides access to high-quality, peer-reviewed, open access articles.

Table: Regional Centre Acquisition Statistics

Name	Number of New Items	Total Number of Items in Stock
Gobabis	67	1 454
Katima Mulilo	65	1 477
Keetmanshoop	69	1 481
Ongwediva	106	2 545
Opuwo*	-	1 233
Otjiwarongo	60	1 608
Outapi	64	1 134
Rundu	63	1 472
Tsumeb	63	1 521
Walvis Bay	69	1 623

NUST Library-based Projects

- » **NUST Photograph Archive:** The archiving of photographs taken by university photographers continued onto the database, and the metadata wherever available. A total of 892 records were added during 2015 and 2016. The archive consists of 9 571 images. The archive is accessible online on the staff intranet.
- » **NUST in the News Collection:** Media articles (from the local media) about the University were archived on a regular basis. Most articles are copied from newspaper websites and the collection currently stood at 2 179 items.
- » **Ready Reference Collection:** New publications that were added to the collection consisted mainly of new issues of the Namibian Government Gazette. It holds 2004 issues of the Government Gazette and 49 other documents.
- » **Examination Papers Collection:** Past examination papers were added to the collection by scanning some of the documents, adding to metadata and the collection. The total collection by October stood at 4 687 papers for the period 2012 - 2016.
- » **NUST Curricula and Syllabi Collection:** This collection holds the old issues of Prospectuses, Curricula and Syllabi of NUST, and is available on the staff intranet. The latest approved Curricula and Syllabi for 2015 and for 2016 were processed and added. It holds a total of 102 documents.
- » **INK Collection of Staff Papers in Local Media:** A collection on opinion pieces by NUST staff in the local media was established in 2015, and now contains 75 documents.
- » **New Digitisation Projects:** The section collaborated with other departments, such as the Faculty of Engineering, to digitise old Video Home System (VHS) tapes. Additionally, the section also collaborated with the Department of Architecture and Spatial



Planning to digitise slides and negatives of the Edda Schoedder Collection, which was transferred from the Namibia Institute of Architects to the Department. The Collection contained pictures of old buildings in Omaruru, Karibib, Walvis Bay, Usakos and Otjiwarongo. A total of 131 VHS tapes were digitised and a total of 246 slides were scanned during this year.

- » **Donate-a-Book Project:** The Library's community outreach project, Donate-a-Book, took place during the months of September and October. The project was very successful and a total of 147 books and a complete set of Encyclopaedia Britannica were collected from the University community and donated to the Omaruru Community Library.

Programme Development

The Programme Development Unit (PDU) assists and guides departments on the development and review of programmes and qualifications, as well as the registration of all qualifications on the National Qualifications Framework (NQF). The development of all professional qualifications at the Institution is guided by two main principles that add value and quality to the curricula, namely: the involvement of stakeholders (nationally, regionally and internationally) and involvement of professional bodies in the curriculum development process.

Qualifications Registered on the NQF

There were 132 qualifications registered on the NQF. However, the five-year registration period of 33 of these qualifications expired in 2015, but the NQA granted extension of registration until the 2016 academic year.

Training

The PDU provided guidelines and support to various Faculties to ensure that programme development is carried out in accordance with the Institution's Strategic objectives. Programme documents are requirements of the Curriculum Framework, Professional Bodies and the NQF. Training sessions on Curriculum Development were conducted for academic staff during TLU sessions. Staff of the Quality Assurance Unit (QAU) enrolled for the Postgraduate Certificate in Higher Education were also engaged in curriculum development activities.

The Unit collaborated with other academic support centres/units to strengthen programme development and delivery.

Curriculum Review

The PDU proposed the review of the Curriculum Framework in order to examine the relevance of the qualifications in relation to global trends and the new mandate of the University.

Excellence Awards

Recognising Outstanding Teachers of the Year

Academic staff were recognised with Teaching Excellence Award for their outstanding performance in teaching and learning.

The overall winners as per category were as follows:

- » Mr Munyaradzi Mukesi (Faculty of Health and Applied Sciences)
- » Mr Hugh Ellis (Faculty of Human Sciences)
- » Prof Husin Jazri (Faculty of Computing and Informatics)

Recognising Outstanding Researchers of the Year

The table below shows growth in research outputs over recent years.

Table: Research Output

Research Output	2013	2014	2015	2016
Journal articles	53	69	57	121
Conference proceedings	43	49	85	147
Book chapters	6	4	0	11
Books	2	2	6	3
Total	104	124	147	282
Per Capita	0.3	0.3	0.4	0.8

In promoting research at the University, top performers in research were also recognised. Two categories of researchers, namely, junior or emerging researchers and advanced or senior researchers were established at Faculty level. Junior researchers are holders of Master's degrees while senior researchers are holders of Doctorates. The winners were as follows:

Table: Researchers of the Year

Faculty	Established Researcher	Emerging Researcher
Computing and Informatics	Prof Juergen Sieck	Mr Atlee Gamundani
Engineering	Dr Michael Mutingi	-
Health and Applied Sciences	Dr Sylvester Moyo	Mr Munyaradzi Mukesi
Human Sciences	Dr Haileleul Zeleke Woldermariam	-
Management Sciences	Prof Samuel Mensah	-
Natural Resources and Spatial Sciences	Dr David Uchezuba	-



Recognising Outstanding National Researcher of the Year

Dr Heike Winschiers of the Faculty of Computing and Informatics was chosen as the Best Researcher of the Year as well as the Best Scientist of the Year by the National Commission for Research, Science and Technology. She is known worldwide for her nascent research into Indigenous Knowledge Systems, especially her research methods, such as action research, through community participatory design techniques.

Work Integrated Learning (WIL)

Promoting and facilitating graduates' employability remains the primary focus for Cooperative Education Unit (CEU). For the purpose of benchmarking and keeping up with best practices, the CEU renewed its membership in the World Association on Cooperative Education (WACE), while membership in the Southern African Society of Cooperative Education (SASCE) was maintained.

Student Placement

Eighteen Memoranda of Agreements were signed with different companies for the purpose of student placement, and 887 students benefitted across the country. Seven hundred sixteen "walk-in" students were recorded. Four students were hosted at the Unit for their Work Integrated Learning (WIL) experience, from the Faculties of Management Sciences and Human Sciences, particularly the Departments of Management, Marketing and Logistics and Communication.

Conference and Workshops

Work Readiness workshops were conducted to ensure students' preparedness for WIL placement. Seven hundred and eight staff members and students from different programmes attended the workshops. They received coaching and preparations for interviews as well as coaching and preparations for interviews, and improving of the quality of their CVs and documents for job applications.

The Unit hosted the Vocational Education Training and Development symposium in collaboration with Rostock University in Germany, financially supported by the Volkswagen (VW Foundation) under the theme "Current situation and development of further education research in vocational and training in Sub-Saharan Africa." The symposium was attended by more than 40 participants from universities in Africa and around the world. CEU participated at the 6th Annual Conference of the Institute for People Management (IPM). This was an opportune

time for staff to liaise with HR Practitioners from around the country and to further advocate for the WIL concept.

The Faculty of Computing and Informatics hosted three international conferences. The International ACM incorporating Culture and Computer Science, was organised with its partner university, HTW in Berlin, Germany. The Namibia Women in Computing Conference supported by Google and the Faculty organised the first-ever Africa-wide ACM incorporated Human Computer Interaction Conference (AfriCHI) in Nairobi, Kenya. The latter research conference had participants from 21 countries and sponsors such as ACM SIGCHI, University of Nairobi, Microsoft Research, IBM Research Africa, Google, Kenya Education Network (KENET).

Community Engagement Projects

Social Security Commission-Development Fund (SSC-DF)

project: The CEU concluded the SSC-DF project, which commenced in 2014. The SSC-DF funded a total of 28 employment and training projects throughout the country and CEU was contracted on behalf of the Institution to monitor and evaluate the SSC development projects in 14 regions of the country. The SSC-DF project activities have been successfully implemented in accordance with the terms of the contract. The final hand-over meeting was held on 22 September, and the final report was submitted on 29 November. Through this consultancy, CEU purchased a vehicle which is now part of NUST fleet.

Multi-disciplinary Student Research Development Teams (MRSDT)/Voice of Business (VoB):

Following the closure of the project at the end of 2014, NUST and Wismar University of Applied Science (WUAS) developed a new project under the name Voice of Business (VoB) as a result of input from industry. The new partnership also includes Vaal University of Technology (VUT) South Africa, over the period of 2015 - 2018. Four staff members attend a meeting at WUAS and VUT. The team developed a course introductory video which precedes the employability course, thereby equipping students with work-readiness skills prior to the commencement of WIL. Through the project, funded by the German Academic Exchange Service (DAAD), the University acquired a simulation game which will enhance the advancement of applied teaching and learning.

Knowledge, Integration and Transparency in Education (KITE):

The Unit facilitated the implementation of the Knowledge, Integration and Transparency in Education (KITE) project with support from the Erasmus Mundus Programme of the European Union. This project awarded in a number of scholarships to students to study at prestigious universities in Europe. Three students and two staff members participated in an exchange programme with European universities in Hungary, Portugal and Sweden.



International Relations

His Excellency Shri Pranab Mukherjee, the President of India, visited the University. At this occasion, he announced the establishment of a Centre of Excellence in Information Technology at this University, through the Faculty of Computing and Informatics.

The Faculty of Computing and Informatics also became a student certification partner for Oracle to fill the void in the industry. Furthermore, the Faculty actively engaged Industry Partners in defining industry needs.

Several prominent scientists were hosted by the Faculty Health and Applied Sciences during the Faculty Research Day. Faculty and students contributed both orally and through poster presentations.

The Faculty of Human Sciences hosted an English Language Fellow (ELF), from the University of Michigan, USA. She assisted the department with the curriculum review of the Service Courses in English and with NETA activities.

The Finnish Ambassador led a delegation of about 20 professors from various universities in Finland, who came to Namibia to set up partnerships. Two B360 experts, Mr Patrick Zeiger and Ms Andrea Zeiger visited the Technical

Education section for three weeks to assist with the re-curriculation and benchmarking exercises carried out by this academic section for the Certificate, Higher Certificate and Diploma qualifications.

The Faculty of Natural Resources and Spatial Sciences hosted a workshop on the DAAD funded project: Green Infrastructure and Urban Biodiversity Research. The four institutions collaborating on the project and represented at the workshop include: Institute for Environmental Planning (IUP), University of Leibniz, Hannover; Department of Architecture and Spatial Planning (DASP), the Ethiopia Institute of Architecture and Building Construction (EiABC), Addis-Ababa; and the Department of Architecture, Kwame Nkrumah University of Science and Technology (KNUST), Ghana.

The collaboration with NASA underscored two major projects: NASA-AERONET and NASA-ORACLES. The AERONET resulted in the establishment of a total network of seven sun-photometer instruments across Namibia and five of these are tied to NUST collaboration with NASA-AERONET. These measure aerosols and their impact on the atmosphere. The ORACLES project resulted in research being conducted to measure the aerosols' effect on the subcumulus clouds over the coast of Namibia.





PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

An award-winning university



NUST is your engaged, productive partner in higher education and innovation.





Brand Ambassadorship

Engaging the university community

Brand Ambassador of the Month

The Brand Ambassador of the Month award programme (BAM) was introduced in July. The programme, under the motto "Attitude Counts", aims to recognise desired behaviours across the diverse range of roles and employees at the University. The programme recognises efforts, bolster employee engagement, promotes performance excellence and workplace happiness.

The BAM committee agreed that the criteria for nominating the Brand Ambassador of the Month will be aligned to the University's theme for that year.

The following were the recipients:

1. Dr Adam Flowers, Faculty of Health and Applied Sciences (FHAS) - July
2. Ms Muriel Mouton, FHAS - August
3. Ms Antoinette Wentworth - September
4. Ms Celeste Espach, FNRSS - October

Ms Antoinette Wentworth was announced the first Ultimate Brand Ambassador of the Month at the NUST year-end function.

Windhoek Show

NUST was awarded the Platinum Award at the Windhoek Industrial and Agricultural Show as the best exhibitor in the indoor category, the highest award that can be bestowed on a participant in the Show.

NUST was one of the biggest exhibitors at the annual show that has become the largest trade and exhibition showpiece in the country. More than 200 students and staff exhibited various projects.

Rebranding

The new brand has necessitated that staff receive training in the intricacies and use of the brand. In efforts to continuously align the staff with the new brand, a number of workshops have been held to encourage the University community to 'own the brand'. The workshops are facilitated by the Institution's Brand Champion to affect the transformation, and to own the brand.







Research Projects

Global and local impact

The University's commitment to innovation is demonstrated by various initiatives, from business management processes to new inventions such as the production of a first prototype of the Namibian Solar Electricity Utility Vehicle (NSEUV), commonly referred to as Solar Taxi. Once successfully launched, this vehicle is set to positively change the Namibian public transport system.

Furthermore, the University is primarily focused on applied research, with the following projects underway:

- » In partnership with the Ministry of Mines and Energy, coordinating the service contract for the "Scoping Report: Towards 50% Rural Electrification." This is to identify, describe and find solutions to challenges inhibiting accelerated rural electrification in Namibia.
- » An initiative in a consortium with Finnish and local companies to create a 'Smart Community' which aims to devise solutions for holistic community development by responding to the challenges of rapid urbanisation in Namibia. The project promotes local economic and social development and value creation in an environmentally, socially and culturally sustainable way.
- » A partnership with the Ministry of Agriculture, Water and Forestry, on in the Moringa Tree Project. The activities include planting the tree, research on its medicinal properties and benefits, and the use of its seeds for water purification.
- » Research on Namibian Energy - Fuel Mix and its implications for Climate Change and also research on a Water secure Future: Building Climate Smart Cities in Namibia.
- » The SCORE Project with the Ministry of Environment and Tourism and the Ministry of Agriculture, Water and Forestry to strengthen the adaptive capacity for climate change and to reduce vulnerability to droughts and floods for rural households. The Project covers eight regions, namely Oshana, Oshana, Kavango West, Kavango East and Kunene.
- » Other project are the monitoring and modelling of the Geo-magnetically-induced currents of the Namibian Power network and the Water holding capacity of Namibia's atmosphere.
- » Other research outputs covered are as such as: innovation entrepreneurship and creativity, economic development and poverty alleviation, tourism and hospitality, marketing, and logistics.

At the global level, the Institution continued to attract scholars, researchers and students from top universities and companies. One such example is the collaboration with NASA (National Aeronautics and Space Administration) on two projects: NASA-AERONET (Aerosol Robotic Network) and NASA-ORACLES (Observations of Aerosols above Clouds and their interactions). During the year, collaboration with the NASA-AERONET programme resulted in the establishment of a total network of seven AERONET sun-photometer instruments across Namibia. Five of these are tied to NUST collaboration with NASA-AERONET.

The second project, NASA-ORACLES helped to facilitate the link between the University, NASA and the Namibian government. The NASA-ORACLES 2016 campaigns, was the first of three planned field campaigns which attracted approximately 100 visiting scientists. NUST staff and students collaborated in a variety of ways through shadowing programmes, science roadshows, presentations and research development.

Fabrication Laboratory (FABlab) Projects

The FABlab at NUST was founded and officially opened in February 2014 and is the first rapid prototyping and design laboratory in Namibia, one of the largest and most equipped FABlabs in Africa. The FABlab addresses development challenges in the knowledge economy, focusing on the creation of new and innovative products and technology knowledge and skills transfer in the country.

Research and development projects underway included the following:

- » The "LARRY" project, a self-driving autonomous robot rover designed to navigate roads and eliminate human error, the major cause of motor vehicle accidents.
- » Students-produced drones which provide solutions to the healthcare industry and anti-poaching campaigns. The drones can be used to deliver medical supplies to remote areas and they can also be used to monitor and track down poachers.
- » The centre was selected by the Office of the First

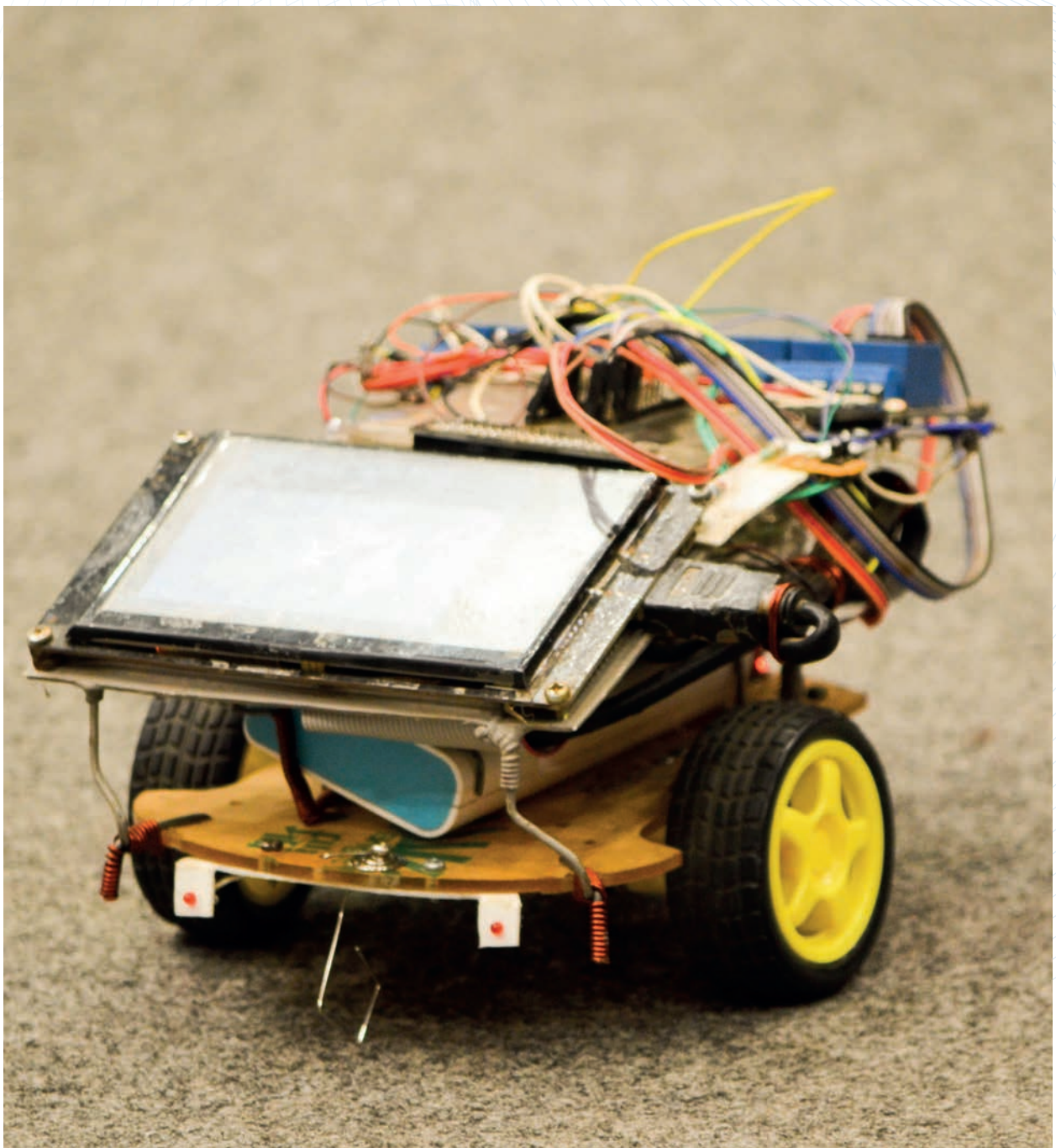
Lady of the Republic of Namibia (OFL) through the One Economy Foundation as the implementing agent for a new project which aims to identify, package and promote local products, a goal towards sustainable job creation and industry decentralisation within the country.

The main aims of the newly introduced Symposium are: to give students an opportunity to present and demonstrate their scientific work; equip students with technical and scientific writing skills; enhance focus on applied research; and develop a culture of publishing amongst young researchers.

First Students Research Symposium

During October, the University hosted a one-day Student Research Symposium (SRS), themed: *“Research and Innovation: The Pathway to a Sustainable Nation”*.

Students showcased and presented their applied research addressing some of the pressing issues in Namibia, such as water shortages; social inequality; access to information; black economic empowerment approaches; determinants of HIV infection and prevalence in Namibia; fire history and many more.







STEM Fields

Reaching our targets

To fulfil its new mandate of being at the centre for development and creation of knowledge in the fields of science and technology, the University introduced the following new qualifications:

- » Bachelor of Science: Health Information Systems
- » Bachelor of Engineering: Industrial Engineering
- » Postgraduate Diploma in Health Information Systems and Management
- » Postgraduate Diploma in Applied Radiation Science and Technology
- » Master of Science in Applied Statistics
- » Master of Science in Mathematics
- » Doctor of Engineering

Validation of Architecture degrees

The validation board of the Namibia Council for Architects and Quantity Surveyors (NCAQS) granted unconditional and full validation to two Architecture degree programmes offered by the Department of Architecture and Spatial Planning.

Accreditation of Academic programmes

The following programmes received accreditation from the National Council of Higher Education (NCHE) in consultation with the Namibia Qualifications Authority (NQA):

- » Bachelor of Biomedical Sciences Honours
- » Bachelor of Environmental Health Sciences Honours
- » Bachelor of Journalism and Communication Technology Honours
- » Bachelor of Office Management and Technology
- » Bachelor of Science in Applied Mathematics and Statistics
- » Bachelor of Science in Applied Mathematics Honours

Enrolment and Graduation STEM

Enrolment statistics - (STEM Fields)

Field of Study	Female	2016	
		Male	Total
NON-STEM	5 010	3 582	8 592
STEM	1 495	2 666	4 161
TOTAL	6 505	6 248	12 753

Overview of postgraduate enrolment per faculty

Faculty	Qualification Type	2016 Enrolment		
		Female	Male	Total
Computing and Informatics	Honours	56	82	138
	Postgraduate Certificate	8	11	29
	Master's	35	44	79
	Doctorate	18	17	25
Engineering	Master's	27	15	77
	Doctoral		1	1
Health and Applied Sciences	Honours	50	15	30
	Postgraduate Certificate / Diploma	7	11	18
	Master's	5	5	10
Human Sciences	Honours	74	35	109
Management Sciences	Honours	233	112	345
	Master's	67	69	136
Natural Resources and Spatial Sciences	Honours	39	50	89
	Master's	18	28	46
TOTAL		602	530	1132



Student Achievements

Hoisting the NUST Brand

As a student-centred university, the Institution continuously strives to improve optimal learning experiences and services that ensure that students become well-rounded citizens during and after their studies. As first priority, students deserve the greatest educational opportunities and, in turn, the University celebrates top achievers. The following are some of the many students who made great strides during the year:

- » Two Architecture Honours students, Ndeshipanda lita and Elao Martin, won the prestigious annual **Murray and Roberts Des Baker Architecture Students Design Competition** in South Africa. Their project entitled "Architecture of Crisis - Windhoek Communal Borehole Wells," was awarded the first prize amongst 16 entries from mainly South African schools of architecture by a high-ranking international jury. The winning project focused on the acute water crisis in Windhoek, proposing a city-wide intervention to provide communal water infrastructure which also functions as interactive community spaces
- » As part of the **B360 Education Partnerships Internship Programme**, Ralf Uunyuni, a Bachelor of Economics graduate, spent three months working at Credit Suisse, commonly referred to as the Swiss Bank, in Zürich as part of his Work Integrated Learning (WIL) experience.

Through B360, European experts teach at institutions of higher education in Southern Africa on a voluntary basis and African students complete internships in Europe. Students, apply for placement through NUST and are interviewed, thereby selecting 'cream of the crop'.

- » A team of eleven students from the Faculty of Computing and Informatics won first prize at the **International Collegiate Cyber Security Competition** held in the USA. The competition, which was held for the first time, involved three institutions, namely Highline College, University of Washington Tacoma and NUST. The competition was designed to assess the students' depth of understanding and operational competency in protecting corporate network infrastructures and business information systems.
- » Roelf Diergaardt, a Basic Skills Chef Certificate student, won a gold medal at the first **National Skills Competition (NSC)**. Twelve competitors from different Vocational Training Centres nationwide came together at the Ramatex premises in the capital. Organised by the Namibia Training Authority and World Skills Namibia, the event aimed at uplifting the training standards for vocational skills and change societal negative perceptions of jobs in this field.









Institutional Excellence

Creating sustainable futures

A large group of parliamentarians of the African Caribbean Pacific (ACP) – European Union (EU) Joint Parliamentary Assembly (JPA) visited NUST in October to attend a workshop hosted under the theme “Renewable Energy: Creating Our Sustainable Future.”

The workshop consisted of several presentations and exhibitions where various projects were showcased in line with the theme. The exhibitions were created in an informal setting to enable the exhibitors to interact informally with the delegates.

During the workshop, the Namibia Energy Institute (NEI) highlighted the use of renewable energy technologies that offer a ray of hope to developing regions such as sub-Saharan Africa, where millions of people long for universal access to adequate modern energy services.

The Deputy Director of Energy in the Ministry of Mines and Energy provided an overview of the resources in Namibia and said: “Modern energy unlocks access to improved quality of life, and our country has enormous potential for

cleaner energy namely solar, wind, biomass and natural gas. However, having potential is not enough. Potential does not light a bulb. Green, efficient, reliable, affordable and sustainable energy generation, transmission and distribution processes are needed.”

Another key presentation was given by the Innovation Design Lab, titled “Namibian Solar Electric Utility Vehicle (NSEUV): An environmental friendly solution.” The NSEUV is a multidisciplinary applied innovation project which aims to mitigate the African society’s impact on climate change. Delegates were impressed by the detailed demonstration of how the vehicle operates with the use of solar energy.

The ACP-EU JPA was created out of the desire to bring together the elected representatives of the European Community - Members of the European Parliament, and the elected representatives of the ACP Member States that have signed the Cotonou Agreement which aims to reduce and eventually eradicate poverty.





News and Milestones

January

- Major boost for FABlab from USA
- Student registration a success
- Unforgettable experiences in Finland



February

- Ritja Career Fair a big hit
- Dutch funding serves SADC region at large
- NUST student to represent Africa
- NAMHUB aims to create clean logistics industry
- **CED wins international award**
- Snakes in the class!
- Research projects drive innovation
- History meets Technology
- Norwegian students gain grassroots experience
- Government committed to advancing higher education - Dr Ndjoze-Ojo
- Innovations will respond to needs of the people

March

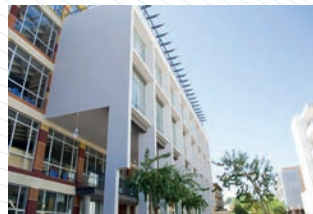
- NUST and Swedish University assess water problems
- NEED promotes renewable energy
- Students attend Kenyan Summer School
- **NUST performance: Diamond Arrow Award**
- Universities collaborate on Earth Observation
- Learners flock to Career Fair
- International student numbers growing
- Faculty of Human Sciences exceeds research targets
- Sunita comes on board
- **First Women in Computing Conference held in Namibia**
- Housing and land affordability placed in the spotlight

April

- Weyulu calls for people skills
- Zaaruka encourages small start
- Water and sanitation woes to be addressed
- Department impresses Ministerial delegation
- Paramedics ready for emergencies
- Netball team makes clean sweep
- Rugby players make NUST proud
- Students exposed to new technologies
- Learners eager to study at NUST
- Staff kept abreast of changes
- **Leadership Award goes to NUST**
- Finland invites NUST as partner
- SRC hands over reigns
- **NUST receives accolades in India**
- E-resources Day creates widespread enthusiasm
- **Student team to USA for cybercrime competition**

May

- African universities discuss new Energy programmes
- Research important to NUST
- Students empowered in Enterprise Systems
- Postgraduate scholarships to promote excellence in land governance
- Busy Innovation Week for NBII
- Council validates Architecture degrees
- Graduates encouraged to become job creators
- Survival of African Languages at stake



June

- Company rewards top students
- Students and staff visit Google and Facebook
- India funds IT Centre of Excellence
- NUST team off to USA
- **Parliamentary delegates meet on NUST campus**
- Students receive practical training in Livestock Science and Management
- Choir visits South to meet youth
- NUST student in national side
- **Hotel School wins award at Expo**
- First Writing Retreat held on campus
- Mining Advisory Board meets





July

- More NUST programmes accredited
- Human Sciences Faculty hosts third Research Seminar
- Karate team strikes gold
- **Cyber Security team secures top honours in USA**
- **Staff member honoured for conservation efforts**
- Biomedical students reach out to Karas youth
- Agreement to boost financial literacy
- Start-ups seek water crisis solutions
- Researchers weigh in on driver behaviour
- Institution exhibits in Ongwediva
- ALASA promotes mother tongues
- **Tjivikua honoured in the USA**
- Agreement will boost Research and Innovation
- Certification of lecturers commences

August

- Business School takes in new cohort
- Students fired up after Germany visit
- Faculty strengthens research portfolio
- NUST delegation shares research findings in Denmark
- Students empower communities to deal with climate change
- Festival honours traditional values
- Programming competition attracts more teams
- NUST plays important role in developing skills
- Computing Faculty set on societal digital transformation
- Chinese bursaries awarded to top InSTEM students
- Dr Adam Flowers is Brand Ambassador of the Month
- International students welcomed

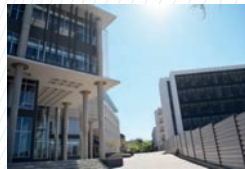


September

- BUN ready to partner with NUST
- Logistics sector needs more training
- NUST student wins national first prize
- NUST grooms high school learners
- Architecture Department grows steadily
- Keep NUST clean, Namibia green
- **Architecture students beat the best in Southern Africa**
- Secretaries rewarded
- NUST students join NASA project
- New Doctoral programmes offered
- NUST takes lead in VET development
- Foreign students complete European Summer School
- NGIL to train students to deal with natural disasters

October

- **Computing Professor scoops two national awards**
- Festival cultivates interest in Science
- Housing project for Keetmanshoop
- President urges graduates to help build the nation
- Founding Chancellor ready for new challenges
- Katjavivi appointed Chancellor
- First Council elects leaders
- **NUST stand best at Windhoek Show**
- Learners debate energy sources
- Technology's fight against GBV
- **First NUST Student Research Symposium**



November

- Young entrepreneurs could boost education system
- Students in awe of Swiss experience
- Students exceed expectations
- NUST renews agreement with German university
- New Master's degree in Geoinformation
- Unemployed youth graduate
- Yearbook and Graduate Survey launched
- **NUST team wins Cyber Security Competition**
- Technology vital for cultural heritage
- NUST to develop National Council staff
- Mining challenges impact local industry

December

- Technology and innovation spotlighted
- Wentworth wins first UBAMA
- Writing workshop for African academics
- Namdeb to prepare students
- New project will enhance student skills
- Entrepreneurs with disabilities graduate
- **Mutingi is Researcher of the Year**
- Agreement will change farming methods
- Call for stronger links with industry





The University Community is proud to congratulate the Team of **Digital Forensics** Students of the **Faculty of Computing and Informatics** for winning the **first prize** in the **International Collegiate Cyber Security Competition** which was recently held in Seattle, Washington DC.

The competition assessed the student teams' level of competence in protecting

corporate network infrastructure and business information systems. The NUST Team competed against Highline Community College and the University of Washington Tacoma and **secured top honours** after successfully responding to a series of random cyber attacks issued by a pool of qualified industry experts.

We are proud of you, congratulations and thank you!



The University Community is proud to congratulate the **Vice-Chancellor, Dr Tjama Tjivikua**, for the achievement of being awarded the **African Leadership Medal of Honour** for *pioneering excellence and innovation in tertiary education in Africa*.

Dr Tjivikua was inducted into the **African Leadership Hall of Fame** at the 2nd African Pioneering Institutions of Excellence Showcase as part of the crowning activities for the 2016 African Development Forum in Atlanta, Georgia, USA.

At the same event, Dr Tjivikua was also conferred with the **Congressional Commendation by the Georgia Legislative Black Caucus** (State of Georgia, House of Representatives, USA).

The African Leadership Medal of Honour is reserved for distinguished Africans who have displayed exceptional leadership, impacted on lives positively and advanced the course of development in Africa. Dr Tjivikua was meritoriously selected and unanimously endorsed by the Board of Advisors of the African Leadership Group. Dr Tjivikua led the Polytechnic of Namibia since its inception and was instrumental in its transformation to the Namibia University of Science and Technology.



PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

An award-winning university



NUST is determined to contribute to providing solutions to problems faced by the nation.





Audited Financial Statements

STATEMENT OF INCOME AND EXPENDITURE FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2016 AND 2015				
Description	2016	% of Total	2015	% of Total
	N\$	[approx.]	N\$	[approx.]
REVENUE				
Subsidy	387 762 766	59	619 451 000	72
Tuition Income	224 537 870	34	192 186 825	22
Residence Income	12 711 626	2	11 962 197	1
Other Income	36 560 530	6	42 264 599	5
Total Revenue	661 572 792		865 864 621	
EXPENDITURE				
Personnel and related costs	535 751 816	72	478 333 937	73
Administrative and other costs	151 523 657	20	129 088 884	20
Depreciation	52 672 004	7	48 480 472	7
Total Expenditure	739 947 477		655 903 293	
Operating Surplus/(Deficit)	-78 374 685		209 961 328	

SUBSIDY AND COST ANALYSIS AND ASSETS		
Description	2016	2015
Subsidy as % of total revenue	59	72
Tuition as % of total revenue	34	22
Subsidy per student (N\$)	30 406	48 588
Cost per student (N\$)	58 021	51 447
NBV of PPE (N\$)	1 344 847 263	1 254 940 209
Total Assets (N\$)	1 614 863 052	1 735 845 954

*Average exchange rate for 2016: US\$1.00 = N\$12.75

NBV = Net Book Value

PPE = Property, Plant and Equipment



Council and Management

The Council

Members	
Adv Esi Schimming-Chase (<i>Chairperson</i>)	Mr Goms Menetté (<i>Deputy Chairperson</i>)
Dr Tjama Tjivikua	Dr Andrew Niikondo
Dr Gert Günzel	Ms Linda Aipinge
Dr Michael Humavindu	Mr Samuel Januarie
Ms Maureen Kambala	Mr Michael Mutonga
Ms Kondjeni Nkandi	Mr Markus von Jeney
Mr Salomo Mbai (<i>Senate Representative</i>)	Mr Oscar Mwangingi (<i>SRC Member</i>)

Management

Executive and Senior Management	
Designation	Name
Vice-Chancellor	Dr Tjama Tjivikua
Deputy Vice-Chancellor: Administration and Finance	Dr Gert Günzel
Deputy Vice-Chancellor: Academic Affairs	Dr Andrew Niikondo
Registrar	Mr Corneels Jafta
Deputy Registrar	Ms Selma Heelu
Bursar	Ms Mamijoo Tjejamba
Deputy Bursar	Ms Justine Shingenge
Director of Student Services	Dr Frieda Shimbuli
Chief Librarian	Ms Judy Grobler
Director of Human Resources	Ms Riëtte Duvenhage

Deans	
Faculties	Name
Computing and Informatics	Dr Anicia Peters
Engineering	Dr Samuel John
Health and Applied Sciences	Dr Sehaam Kahn
Human Sciences	Dr Sarala Kriskhnamurthy
Management Sciences	Dr Cyril Ogbokor (<i>Acting</i>)
Natural Resources and Spatial Sciences	Dr Rolf Becker

Directors and Heads	
Units, Centres and Institutes	Name
Information Communication Technology	Mr Laurent Evrard
Institutional Planning	Ms Neavera Olivier
Communications and Marketing	Mr Kaitira E Kandjii
International Relations	Dr Marius Kudumo
Quality Assurance Unit	Ms Himeesora Kaimu
Centre for Enterprise Development	Mr Godwin Chisenga
Centre for Open and Lifelong Learning	Dr Delvaline Mōwes
Cooperative Education Unit	Ms Sophia Shuungula (<i>Acting</i>)
Programme Development Unit	Dr Colen Tuaundu
Projects Services Unit	Dr Anna Matros-Goreses
Teaching and Learning Unit	Mr Maurice Nkusi (<i>Acting</i>)
Namibia Energy Institute	Dr Zivayi Chiguvare
Namibia Business Innovation Institute	Ms Dorothea Mischo
Namibian-German Institute for Logistics	Mr Logan Fransman



**PAMIBIA
UNIVERSITY
OF SCIENCE
AND TECHNOLOGY**



BLOCK A	A16. Information Centre and Kiosk	BLOCK E
A1. Elisabeth Haus (OVC)	A17. Office Block	E1. Health and Applied Sciences
A2. Sander Haus		E2. Mining Engineering
A3. Administration	BLOCK B	E3. Civil Engineering
A4. Land Management	B1. Quality Assurance Unit	E4. Architecture
A5. Centre for Open and Lifelong Learning		
A6. Department: Student Services	BLOCK C	BLOCK F
A7. Monresa Residence (Ladies)	C1. Foundation House	F1. Hotel School
A8. Höpker Residence (Ladies)	C2. F8 Johan Albrecht Street	F2. Pre-Fabricated Classrooms
A9. Shangri-La Residence (Men)		F3. New Energy Efficient House
A10. Clinic	BLOCK D	
A11. Vocational Training	D1. Library and Information Services	BLOCK G
A12. Oppenheimer House	D2. Engineering	Proposed in Campus Development Framework
A13. Dawakos House	D3. Auditoria	
A14. Centre for Enterprise Development	D4. Science and Technology	BLOCK H
A15. Lecture Block		Proposed in Campus Development Framework



	BLOCK I Proposed in Campus Development Framework	BLOCK K K1. Cooperative Education Unit	BLOCK P Proposed in Campus Development Framework
	BLOCK J J1. Teaching and Learning Unit J2. Haydn Street Nr 9 J3. Pre-Fabricated Classrooms J4. Daniels Guesthouse J5. Namibia Energy Institute J6. FabLab J7. Namibian-German Institute for Logistics J8. NGIL House J9. Namibia Business Innovation Institute J10. Brahms Street	BLOCK L L1. Computing and Informatics House	BLOCK Q Proposed In Campus Development Framework
		BLOCK M Proposed in Campus Development Framework	BLOCK R Proposed in Campus Development Framework
		BLOCK N N1. Hotel Pension Kleines Heim	BLOCK S S1. Poly Heights
ork		BLOCK O O1. Proposed in Campus Development Framework	
ork			



NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Annual Report 2016

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