

# Strategic Plan 2021-2025

# **NUST Profile 2025**

### **QUALIFICATIONS PROFILE**

8	CERTIFICATES
7	DIPLOMAS
44	BACHELOR
15	P. BACHELOR
37	HONOURS
10	PG CERT/DIPLOMA
42	MASTER'S
12	PhD
175	TOTAL

### **HEADCOUNT BY ENROLMENT**



### **ENROLMENT PER QUALIFICATION**

ONLINE MEDICAL LAB SC. BRIDGING	40
InSTEM	350
CERTIFICATES/DIPLOMAS	1007
BACHELORS	9788
P. BACHELORS	1627
PG CERT/DIPLOMA	319
HONOURS	2362
MASTER'S	1496
PhD	208

## **GRADUATION PER QUALIFICATION**

Awarded

STAFF: STUDENT

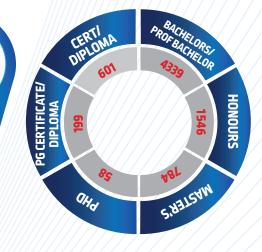
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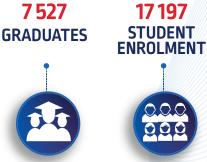
Research

Income (N\$ mil)









### ENROLMENT AND **GRADUATION RATIOS**

PG:UG Enrolment	1:3	
PhD:UG Enrolment	1:67	
PhD:Master Enrolment	1:7	
PG:UG Graduation	1:2	
<b>PhD:Masters Graduation</b>	1:14	



# List of Abbreviations and Acronyms

ADS	Academic Development and Support	HTTPS	High Technology Transfer Plaza Select
ATPI	Agriculture Trade Policy Institute	IDL	Innovation Design Lab
BI	Business Intelligence	ILMI	Integrated Land Management Institute
BRC	Biodiversity Research Centre	INCEIT	India Namibia Centre of Excellence in
CED	Centre for Enterprise Development		Information Technology
CEMMB	Centre of Mining and Mineral Benefaction	MIR	Management Information and Institutional
CEU	Cooperative Education Unit		Research
CSQM	Corporate Strategy and Quality Management	MTI	Materials Testing Institute
COO	Chief Operation Officer	NBII	Namibia Business Innovation Institute
СІТО	Chief Innovation Technology Officer	NEI	Namibia Energy Institute
DTBS	Digital Transformation Business Services	NGCL	Namibian-German Centre for Logistics
DVC	Deputy Vice-Chancellor	NGSA	Namibia Graduate School of Accounting
ED	Executive Director	NIST	Namibia Institute for Space Technology
EOSA	Earth Observation and Satellite Application	OVC	Office of the Vice-Chancellor
FCI	Faculty of Computing and Informatics	RIP	Research, Innovation and Partnership
FCHE	Faculty of Commerce, Human Sciences and	SRC	Students' Representative Council
	Education		Teaching, Learning and Technology
FEBE	Faculty of Engineering and the Built	ТТО	Technology Transfer Office
	Environment	TVET	Technical, Vocational and Educational Training
FHNRAS	Faculty of Health, Natural Resources and Applied Sciences	WIL	Work Integrated Learning
HP-GSB	Harold Pupkewitz Graduate School of Business		
HR	Human Resources		





# Acknowledgements

The Steering Committee for the review of the 2021-2025 Strategic Plan (SP) was constituted by the Vice-Chancellor of the Namibia University of Science and Technology, Dr Erold Naomab, in February 2021. The committee is most grateful for and acknowledges the strategic guidance and support provided by the Vice-Chancellor towards the implementation of tasks. The selfless contributions in the form of suggestions and comments received from internal (Faculty Deans, Associate Deans, Head of Departments, Directors of Centres, Units and Institutes and the entire staff of the University] and the external (CEOs, Directors and Managers of businesses, organisations and government agencies) stakeholders are similarly acknowledged and highly appreciated.

Responses to the online review of the SP received from members of the university community were immensely helpful in charting a course for the exercise. Thereafter, three separate stakeholders' workshops were held on 13, 14 and 19 May 2021, involving the Extended and Executive Management together with external stakeholders to further unpack, organise and harmonise comments and suggestions made on the SP through the electronic survey. This was with the view of ensuring that NUST is well positioned and strengthened during, and after, these current volatile national and global social and economic challenges as exacerbated by the Covid-19 pandemic. Furthermore, separate consultations were held with the Executive and Extended Management members of the university to validate the outcomes of the review exercise. The review procedure adopted was aimed at ensuring inclusivity and ownership of the outcomes of the SP and to ensure seamless implementation and achievement of the goals and objectives of the 2021-2025 SP.

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# 1. Chairperson's Foreword

Higher education institutions continue to evolve all over the world. This evolution, in most cases, is organic and requires an adequate response to the changing environment. The Namibia University of Science and Technology (NUST) is of no exception to this natural process. From the establishment of Technikon Namibia under the umbrella of the Academy for Tertiary Education to the Polytechnic of Namibia (est. 1994, became autonomous in August 1995, and fully independent in January 1996) and now to the Namibia University of Science and Technology, change is the only constant. All these transformations are in response to the changing and dynamic educational landscape as triggered and initiated by the development of the internet and technological advancement. These tools contributed to the transformation of the global economy with a profound influence on economic development and socio-cultural dynamics all over the world.

In order not to be left behind in the educational evolutionary transformation, it is of utmost importance that our education, research, technology and innovation landscapes are better positioned to play their role in the development and growth of the country. To do this requires the development of a high-level blueprint that is thorough, concise and aligned with national and international developmental frameworks such as the National Development Plan 5 (NDP-5 with NDP- 6 in progress), Vision 2030, the Harambee Prosperity Plan II, Agenda 2063 and the Sustainable Development Goals. For us, the blueprint is the NUST Strategic Plan that will provide the compass through which educational-, research-and technological advancement and innovation will be achieved. Through this, we will be among the league of higher education institutions that is responsive, and has responded to, the changing global educational landscape.

The 2021-2025 Strategic Plan of NUST was approved by the University Council in 2020. However, the dawn of the Covid-19 pandemic destabilised the global economy, disrupted educational processes and transformed socio-cultural interactions all over the world. As evident all over the world, our educational landscape also needs to respond to these impacts, hence the adjustment in the teaching, learning and research dispensations. From this, it became apparent that the approved 2021-2025 NUST Strategic Plan required adjustment to these disruptions, as initiated by the pandemic. Therefore, the Council approved the risk-based review and alignment of the 2021-2025 Strategic Plan to inform the current educational landscape.

I am confident that the revised plan, in tandem with the 2021-2025 Operational Plan will achieve our strategic intent and objectives as one of the foremost science and technology universities in the region, the continent and the world.

Ms Florette Nakusera Chairperson, University Council

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# 2. Vice-Chancellor's Remarks

It is a distinct honour for me to be the first Vice-Chancellor to lead the implementation of the first Strategic Plan 2021-2025 of the Namibia University of Science and Technology (NUST) after the name and mandate changed from the Polytechnic of Namibia. I would therefore, like to applaud the NUST leadership and community for crafting a solid document to lay the foundation of significance and excellence through a bottom-up consultative process that espouses ownership and accountability at all levels. As such, it is prudent to put the strategic risk-review and alignment exercise in context, so as to understand the implementation feasibility of the plan within a globally challenging period, precedent with the Covid-19 pandemic impact which in turn is coupled with economic, health and security challenges, nationally and internationally.

I have come to learn that the NUST community - students, staff and key stakeholders alike - take immense pride in their identity, reputation and commitment and it therefore makes it immensely rewarding for me to lead the university towards growth and sustainability. Hence, it comes as no surprise that the plan is focused on **people** (student-centric approach) and **systems** to drive the university towards **sustainability**. The review and alignment process thus provides an opportunity for the university to realistically reflect and re-engineer its course of strategic direction towards becoming the technological university of choice to study, work and partner with.

**Digital transformation** advancement will inevitably become more efficient, innovative and creative to embrace the 21<sup>st</sup> Century. The strategic intent therefore is to create a cohesive digital ecosystem through a distinctive approach to enquiry, scholarship and education which is open, intellectually rigorous and ethically grounded, with the emphasis on innovative student-centred learning and cross-disciplinary, collaborative and applied research.

It is a pleasure for me to reaffirm that this strategic plan provides the NUST community with the roadmap and unprecedented opportunity to embrace the prospects of the Fourth Industrial Revolution and beyond through an unwavering focus on innovatively advancing knowledge, thus remaining relevant, futuristic and making a lasting impact on society.

Dr Erold Naomab Vice-Chancellor

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# 3. The Strategic Plan Review Process

The blueprint for sustainable growth, the first Strategic Plan (2021-2025) of the Namibia University of Science and Technology was approved by the University Council since transforming from Polytechnic to University. With the appointment of the new Vice-Chancellor in January 2021, the Council and Senate approved a riskbased review of the Strategic Plan in terms of alignment with the current vision and mission of the university as well as the prevailing national and global challenges. Hence, it became imperative to examine factors that may impact the realisation of performance indicators as contained in the plan.

implement this, the Vice-To Chancellor constituted an eightmember Steering Committee with the mandate to conduct a risk-based review and alignment of the approved Strategic Plan. Embedded in this task was also a review of the organisational structure and system to subsequently develop a high-level implementation plan for the reviewed Strategic Plan. Inclusivity is the cornerstone of the review process as reiterated by the Vice-Chancellor, and thus the developed survey for receiving views, opinions and comments on all aspects of the Strategic Plan was circulated to the entire university community for responses.

The compiled comments on the goals, strategic objectives and their key performance indicators were further reviewed through intensive workshops with internal (Deans and Associate Deans of Faculties, Head of Departments, Directors of Units and Centres and Students' Representatives at NUST) and external (CEOs, Managers, Directors of businesses, organisations and government agencies) stakeholders. Participation of our external stakeholders in the exercise was particularly important, since they contribute significantly towards who we are as a public Higher Educational Institution in the service of our nation. Constructive feedback was received during these consultative workshops and the outcomes constitute the core of this reviewed strategic plan.



# 4. Conceptual Framework of the Risk-based Review Process

#### Rationale

The 2021-2025 Strategic Plan of NUST was approved by the University Council in 2020. However, the onset of the Covid-19 pandemic disrupted global educational processes with a serious impact on human health, the economy and socio-cultural dynamics. By this, the core mandate of NUST, as with other Higher Education Institutions across the world, became "business unusual" with a need to re-strategize on how to mitigate the challenges as a result of the pandemic without compromising the vision of the university. A risk-based review of the SP, as requested by the Vice-Chancellor was approved by the University Council with the subsequent constitution of a Steering Committee to implement the exercise.

#### **Conceptual Framework**

The Strategic Plan (SP) is a highlevel blueprint which guides an organisation in steering its activities, its management of resources, and its control mechanisms for the implementation and evaluation of the impact of its goals and objectives. The risk-based review is a proactive process that tends towards identifying, managing and proposing mitigation and corrective measures.

This philosophy was applied to the review process. In order to demonstrate infusion of thought leadership and adherence to recognised procedural best practice, the method used in conducting the risk-based review and alignment was consistent with the balanced-scorecard and integrated cascade of choices (Martin & Lefley, 2013) approaches. The balanced scorecard approach considers the linkage between performance. client/customer perception, areas of strength, creativity and innovation, as well as financial stability. An integrated cascade of choices focused on organisational purpose and vision, operating sphere and products, competitive advantage, capabilities and optimal management systems, and structures and measures required to support the choices. These are recognised globally procedural standards and good practice that are widely applied in the review of organisational strategies.

#### Summary

This report reflects the outcome of a high-level enterprise risk evaluation management (ERM) approach and recommendations on the University's goals, strategic objectives and the key performance indicators by the internal and external stakeholders. This was obtained through consultative engagements in response to the results of the survey of the review exercise. The detailed recommendations from stakeholders on potential risks and corrective measures on the goals, strategic objectives and key performance indicators are attached to this report as addenda. The revised projections, academic and organisational structures are further attached for ease of reference. The following key risks were identified:

- **Strategic**: risks relating to deviation from the business model or plan.
- **Financial:** monetary penalties as part of regulatory enforcement action; related manpower or equipment costs [new technology, for example]; lost revenue or profits.
- Compliance: relating to regulatory, systemic and governance frameworks.
- **Operational:** relating to resources [financial, human (including structural) and physical] and day-today operations and performance.
- Reputational: risk of losing customers and brand loyalty suffering.

An additional Risk-based Review Report provides an overview of the analysis and should be read concurrently with the Strategic Plan.





# 5. Strategic Imperatives (2021-2025)

# Vision

A premier technological university known for knowledge creation, innovation, and entrepreneurship.

# Mission

An engaged and responsive university, meeting the needs of stakeholders through excellent education, applied research, innovation and service.

# Values

- 1. **EXCELLENCE**: Excellence is the cornerstone of our operations through the delivery of relevant and responsive education.
- INSTITUTIONAL AUTONOMY AND ACADEMIC FREEDOM: We espouse the fundamental values of the freedom to set and implement our own policies and priorities for teaching, research, and community service and freedom of enquiry for students and staff members to pursue their research, teaching, and learning activities.
- 3. **COLLEGIALITY**: We support and promote the principle and culture of collegiality and integrity among staff members, united with a common purpose of collectively achieving our vision and mission.
- ACCOUNTABILITY AND SUSTAINABILITY: Reflection of sustainability, through exercising prudency and accountability in all facets of our operations is one of our enshrined values for progressive growth and development.
- 5. **DIVERSITY**: We strongly embrace, uphold and implement the doctrine of diversity in all our endeavours as entrenched in the constitution of the Republic of Namibia.

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# Goal 1

Building a vibrant and engaging learning environment.

# Goal 2

Leading research, innovation, partnership and entrepreneurship. **Goal 3** Securing institutional efficiency and sustainability.

# Goal 4

Driving human-centric digital transformation for Industry 4.0 and beyond.



# 6. Thematic Areas

#### 1. People

- Creating a transformative student experience through a sustained university culture. Enhancing research collaboration and impact to boost the ranking of the university.
- Managing and actively steering the institutional cultural change.

#### 2. Systems

Strengthening the quality of teaching and learning by means of blended and online learning in response to the Covid-19 pandemic, and beyond.

#### 3. Sustainability

• Ensuring institutional growth and operational sustainability.

# 7. Competitive Advantage

### NUST will project its competitive advantage through the following:

- 1. Signature programmes, projects, and services;
- 2. Robust and supportive learning environment;
- 3. Strengthened leadership in modern pedagogy;
- 4. Development and offering of responsive curricula informed by research;
- 5. High-quality research, innovation and entrepreneurship;
- 6. Vigorous partnerships and networks; and
- 7. Sound governance and management.

# **GOAL 1:** Building a Vibrant and Engaging Learning Environment

We are committed to the design and delivery of excellent teaching and learning to enhance the NUST distinctiveness, reputation and student success through an embedded university-wide holistic academic and student support model to widen access and success, meeting our commitments to the nation. This commitment will deliver a quality, responsive and flexible student experience with high levels of student satisfaction to contribute to a robust and agile Teaching Excellence Framework (TEF).

STRATEGIC OBJECTIVES (SOs)	KEY PERFORMANCE INDICATORS (KPIs)
<b>SO1:</b> Develop a comprehensive digitised marketing, recruitment, and	1. Increase overall student enrolment by 6% annually.
retention strategy to broaden access to students from all over the world.	2. Increase first-year student retention from 78.9% in 2019 to 82.7% by 2025.
	3. Increase the overall graduation rate from 24.2% in 2019 to 43.2% by 2025.
	4. Achieve a ratio of Bachelor-to-Doctorate degrees awarded of 72:1 by 2025.
	5. Increase the number of internationally accredited programmes from 2 in 2019 to at least 7 by 2025.
	6. Increase international student enrolment from 6% in 2019 to at least 10% by 2025.
<b>S02:</b> Provide an innovative and responsive teaching and learning environment that supports 21 <sup>st</sup>	<ol> <li>Lecturers trained annually in student-centred pedagogy to ensure active and meaningful learning in a blended learning environment.</li> </ol>
Century pedagogy, the 4 <sup>th</sup> Industrial Revolution (4IR) and beyond.	<ol> <li>100% of the courses offered in a high-quality blended and supportive learning environment by 2025.</li> </ol>
	<ol> <li>Synchronise teaching, learning and assessment annually with required NQF levels to ensure quality teaching, learning and assessment.</li> </ol>
<b>SO3:</b> Develop and implement a comprehensive student-centred academic support structure that	<ol> <li>Create an optimal virtual and blended Teaching, Learning and Assessment Support Structure by 2022.</li> </ol>
meets the diverse profile and needs of students to succeed in the virtual and blended learning environment.	<ol> <li>Introduce focused student induction/orientation and tutorial support to ensure self-directed-, collaborative- and student-centred learning from 2022.</li> </ol>
	<ol> <li>Develop an implementation framework for eWIL to ensure 21<sup>st</sup> Century graduate career- and professional advancement by 2022.</li> </ol>
<b>SO4:</b> Maintain local presence, extend national footprint and international reach.	<ol> <li>Develop an international perspective to teaching by 2022 – adapting and re-using programmes to serve new markets.</li> </ol>
	2. Develop Regional Expansion Strategy from 2021 - 2025.
	3. Establish at least three Satellite Campuses in a phased approach by 2025.
	4. Consolidate the network of Regional Centre establishments by 2025.
	5. Design joint degree and courseware to serve a global market from a multi-cultural base.

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# **GOAL 2:** Leading Research, Innovation, Partnership and Entrepreneurship

The promotion of a culture of innovation and entrepreneurship, underpinned by a well-established research base, in tandem with other components of our research and teaching landscape. This will assist us in transforming these research and innovation outputs into commercially viable and socially relevant products and services through the pursuance of internationalisation through strategic partnerships across the quadruple helix.

#### STRATEGIC OBJECTIVES (SOs)

**S01:** Establish a distinct research portfolio supported by outstanding students and academic staff.

**SO2:** Build and strengthen innovation and technology capacity.

S03: Fostering an innovative and diverse entrepreneurial culture and environment.

**S04:** Promote strategic and sustainable partnerships for local relevance, regional impact, and global recognition.

#### **KEY PERFORMANCE INDICATORS (KPIs)**

- Create and empower a cohort of developing researchers and post-graduate students through strategic recruitment, training, and mentorship programme from 2021.
- Achieve a progressive 10% increase in research and innovation funding and output from each defined research cluster from 2021-2025.
- Realise improved research governance through functional polices (revised/new) with clear accountability protocols across faculties, institutes, and statutory bodies by 2022.
- To increase 6% on average annually (from 3% in 2019) multidisciplinary external grant and contract research for enhanced culture and recognition by from 2021.
- Develop flexible models for effective utilisation of the university's intellectual property by 2023.
- Increase the number of intellectual property licence agreements emanating from research and development (R&D) activities and outputs into products, processes and services that are of benefit to society by 2025.
  - Increase the number of commercialised IPs by 2025.
- Facilitate knowledge and technology transfer and commercialisation opportunities across integrated research portfolios by 2022.
  - Increase the quantity and quality of entrepreneurship-based research outputs, products, technologies, impact, and collaborations from 2022.
- Develop entrepreneurial initiatives by increasing the number of students and staff engaging in formal learning in entrepreneurship as from 2022.
- 3. Achieve national entrepreneurial and innovation (technology) reach/relevance outreach by 2025.
- Establish multi-disciplinary internal collaboration through the creation of two sustainable distinct entities of excellence, increasingly with national and international partners per research portfolio by 2025.
- Achieve an African recognition rating of within the top 100 by 2025 from current 139 in 2021) through collaboration with strategic alliances on the joint production of research outputs and staff and student mobilities/exchange numbers.
- Increasingly achieve strategic and high-quality research collaboration through partnerships with other HEIs, alumni, industries, government, and international institutions from 2021-2025.
  - Effectively promote, disseminate, and communicate research outputs and activities through strategic engagements with diverse stakeholders by 2022.

# GOAL 3: Securing Institutional Efficiency and Sustainability

As a public educational institution, it is imperative that institutional sustainability is ensured across all operations. This requires the utmost balance between operational costs involving academic programmes, research and development, physical and technology infrastructure, human capital and development, students, and staff-support services. Quality and excellent service to students and stakeholders must be maintained at all times. We prioritise the sustainability of financial and human resources, hence the strong consideration and emphasis placed on income-stream diversification, prudent management of financial resources, strategic attraction, retention of staff, and promoting a vibrant campus experience for students.

STRATEGIC OBJECTIVES (SOs)	KEY PERFORMANCE INDICATORS (KPIs)
<b>S01:</b> Develop and identify opportunities for diversifying and increasing income streams to ensure the university's long-term sustainability.	<ul> <li>Increase in revenue generated from 3<sup>rd</sup> and 4<sup>th</sup> stream income by the end of 2025 for sustainability through the following:</li> <li>1. Annual 10% increase in revenue generated by short courses across the university from 2022 onwards.</li> <li>2. Establish a business strategy and commercial entity by 2023.</li> <li>3. Achieve five start-up companies incubated annually.</li> </ul>
<b>S02:</b> Prudently manage the University's financial resources.	<ol> <li>Annual 3-5% savings on budget in line with subsidy allocation.</li> <li>Achieve and maintain optimal lean and highly efficient academic and administrative structures to realise the university's strategic goals by 2023.</li> </ol>
<b>S03:</b> Strengthen the employment brand to position the university as the preferred employer of choice.	<ol> <li>Prioritise the appointment of strategic and resourceful staff for improved teaching, learning and quality research output, and postgraduate supervision as from 2022.</li> <li>Bolster leadership and professional development programmes and digital proficiencies of staff to deliver effective services as from 2022.</li> <li>Develop a succession plan, engagement, recognition, and retention strategy to ensure a broad pool of highly competent staff by the end of 2023.</li> <li>Promote accountability, integrity, and ethical conduct through performance agreements by 2022.</li> </ol>
<b>S04:</b> Align university policies and practices to reflect the new imperatives and our commitment to service delivery.	<ol> <li>Develop new, and review, existing university governance documents, policies, procedures and practices that lead to efficiency, transparency and accountability in decision-making by the end of 2022.</li> </ol>
<b>S05:</b> Champion the reduction of carbon footprint and utility consumption of the university.	<ol> <li>Annual 10% reduction in on-site carbon footprint and energy consumption as of 2022.</li> <li>Create stewardship of water and waste management programmes as of 2022.</li> </ol>
<b>S06:</b> Create an enabling environment that promotes a vibrant and lifelong student campus experience.	<ol> <li>Provide, annually, at least 2-3 accessible infrastructures to create an integrated vibrant campus life experience as from 2022.</li> <li>Achieve, annually, 2-3 student engagement/ participation in national or regional competitive sporting/cultural/educational activities from 2022.</li> <li>Progressively accomplish 5% increase in the student satisfaction index in sporting/cultural and national/regional interactive activities from 2022.</li> </ol>

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# **GOAL 4:** Driving Human-centric Digital Transformation for Industry 4.0 and Beyond

Our relevance and provision of excellent teaching and learning, research and administration require that all cyber-physical systems be based on cutting-edge technologies to achieve the philosophy of the 4th Industrial Revolution, and beyond. Through this, an efficient and integrated creative value chain for real-time decision-making processes will be enhanced and realised. Integrating human values in creative technologies (Technical and Vocational Training) will augment intelligence for employment sustainability as we aspire towards Industry 4.0 and beyond.

# STRATEGIC OBJECTIVES (SOs) S01: Transform NUST towards an Industry 4.0-ready academic

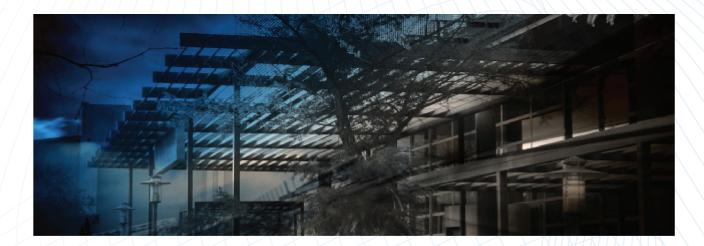
institution.

**S02:** Reengineer business processes to leverage technology, optimise operations and services, as well aid in decision-making using business intelligence.

**SO3:** Embrace human values to augment intellectual intelligence for sustainable graduate employability.

#### **KEY PERFORMANCE INDICATORS (KPIs)**

- Develop a comprehensive Digitalisation Strategy and governance framework aligned with the national and global ICT agenda and Fourth Industrial Revolution (4IR) by 2022.
- Provide an attractive cyber-physical ecosystem for partnership with communities, industries, and universities to explore areas of untapped potential by 2023.
- Reduce business process inefficiencies and consolidate data analytics through the deployment of streamlined automated processes and digital technology from 2022 onwards.
- Establish functional, coordinated systems and mechanisms across all faculties and support functions to drive DT for Industry 4.0 and beyond as from 2021.
- Annually identify and develop critical, intelligent tools to improve operational excellence for the creative value chain by 2022.
  - Integrate creative technologies in Technical, Vocational Education and Training (TVET), Work Integrated Learning (WIL) for sustainable employability by 2022.



# 8. Implementation

The strategic objectives will be progressively and responsively implemented to meet the ongoing and changing needs of our students, staff and partners. These will include trialling and assessing new initiatives on a regular basis to continuously improve our approaches.

implementation The developed plan will support these strategies and clearly outline roles and responsibilities in delivering the actions while being mindful of the timeframes. We will continue to engage with, and be informed of, value-adding initiatives from our external partners for progressive feedback development and opportunities throughout our activities.

Institution-wide collaborative approach will be essential for the successful implementation of the Strategic Plan, as our achievements will rely on shared responsibilities and accountability. As student voices are a priority, our programmes and activities will include ongoing opportunities for feedback from students, while student representatives will continue to be included in relevant advisory groups.

# 9. Conclusion

To meet the educational needs of students in the 21st Century and beyond, higher education service providers should continuously evaluate and implement operational changes as dictated by technological revolution, socio-economic realities, and responsive teaching and learning pedagogies, as reflected by blended teaching and learning dispensation, among others. This assertion is echoed by the statement of a notable educationist, Alwin Toffler, who says "The illiterate of the 21st Century will not be those that cannot read and write but those who cannot learn, unlearn and relearn". Hence, the need to review, analyse and update educational operating systems to meet the needs of current and future generations is of utmost importance.

This need has been realised by us at NUST and bold steps are being taken to ensure that the institution is relevant in the 21st Century educational dispensation, meeting the needs of our society, the continent, and the global community.

## Addendum 1 Academic Structure

#### Faculty of Computing and Informatics

## School of Computing (INCEIT)

#### **Computer Science**

- Computer Science
- Computational Sciences (Al)
   Communication Networks
- Systems Administration
- Cisco Networking Academy and Instructor
- Training Centre
   Oracle Academy
- Robotics Lab
- Robotics Lab

#### **Cyber Security**

- · Cyber Security
- Systems Security
- Network Security
- Software Security
  - Cyber Defense Lab
  - Checkpoint Secure Academy
  - Fortinet Academy

#### Software Development

- Software Engineering
- Human Computer
- Interaction (HCI)
- UX /Interaction Technology

#### School of Informatics, Journalism and Media Technology

#### Informatics

- Data Science
- Informatics
- Health Informatics
- Web Informatics
- Information Technology

#### Journalism and Media Technology

- Journalism and Multimedia Technology
- Advanced Journalism
   Studies
   Multimedia Design and
- Multimedia Design and Production
   Public Relations and
- Advertising
- Creative Media/ Production House/Lab

#### Faculty of Commerce, Human Sciences and Education

School of Commerce and Management Sciences

#### Economics, Accounting and Finance (NGSA)

#### Accounting

Chartered Accounting
 Economics

#### Governance and Management Science (HP-GSB, CED)

- Business Management Business and Information
- Administration Business Administration
- Entrepreneurship
- Human Resources
- Management
- Monitoring and Evaluation
   Leadership and Change Management

#### School of Human Sciences and Education

#### **Social Sciences**

- Applied Linguistics
- Criminal Justice
- Technical and Vocational

### Education and Training (Creative Technologies)

- Technical Vocational Education and Training
- Higher Education Educational Planning
- Hospitality and Tourism
- Culinary Arts
   Hospitality Management
- Tourism Management
- Tourism, Innovation and Development

#### Marketing, Logistics and Sport Management (NGIL)

- Marketing
  Logistics and Supply Chain
- Management
- Procurement Management
  Sports Management
- Transport Management

#### Communication and Languages

· English

### Faculty of Engineering and the Built Environment

Faculty of Health, Natural

**Resources and Applied Sciences** 

School of Agriculture and Natural

**Resources Sciences** 

Agribusiness Management

Natural Resources Sciences

Nature Conservation

School of Health Sciences

**Emergency Medical Care** 

**Preventative Health Sciences** 

Health Information Systems

School of Natural and

Applied Sciences

**Biology, Chemistry and Physics** 

Natural and Applied

Mathematics, Statistics and

Mathematics and Statistics

Sciences

**Actuarial Sciences** 

Environmental Health

Management

Human Nutrition

Natural Resources

**Clinical Health Sciences** 

Medical Laboratory

Sciences

Management

Agricultural Sciences and

Agribusiness

Agriculture

Horticulture

#### School of Engineering and the Built Environment

#### Architecture, Planning and Construction

#### Architecture

- Regional and Rural Development
- Town and Regional Planning
   Urban and Regional
- Planning
- Quantity Surveying
- Informal Settlement Upgrading

#### Civil, Mining and Process Engineering (MTI, CEMB, NEI)

## Chemical Metallurgy

• Mining

#### Land and Spatial Sciences (ILMI

- Geomatics
- Geoinformation Technology
  GIS and Earth Observation
- Land Administration
- Property Studies
  Building and Control
- Management
- Spatial Planning

#### School of Engineering

#### Civil and Environmental Engineering

Engineer

- CivilEnvironmental
- Infrastructure and Facilities Management
- Sustainable Energy Systems
- Integrated Water Resources
   Management

#### Mechanical, Industrial and Electrical Engineering

- Mechanical
- Industrial
- Electronic
- Power
   Electrical

[ 17 ]

# Addendum 2 Qualifications Development Chart

BRIDGING / CERTIFICATES / DIPLOMAS	2020	2021	2022	2023	2024	2025
INSTEM	V					
Medical Laboratory Sciences (Bridging)		V				
C. Artificial Intelligence and Machine Learning		V				
C. Advanced Web Technologies		v				
C. Big Data Analytics using High Performance Computing		V				
C. Big Data Technologies	V					
C. Ethical Hacking and Info Security	V					
C. Network Security		v				
C. Python Programming (Advanced)		v				
	V	v				
C. Python Programming (Beginners)						
C. Technical Vocational Education and Training (Phasing out: 2023)	V					
HC. Technical Vocational Education and Training (Phasing out: 2022)	V					
D. Civil	V					
D. Geomatics	V					
D. Land Administration (Phasing out: 2021)	V					
D. Property Studies	V					
D. Theory of Accounting	V					
D. Business Process Management	V					
D. TVET Management	V					
D. TVET Trainer	V					
BACHELOR	2020	2021	2022	2023	2024	2025
Accounting (Chartered Accountancy)	V					
Accounting	V					
Agriculture	V					
Applied Mathematics and Statistics	V					
Architecture	V					
Building, Control and Inspection				V		
Business Management						
	V					
Business and Information Administration	٧					
Business and Information Administration Computer Science (All Specialisations)	√ √					
Business and Information Administration Computer Science (All Specialisations) Computer Science (Cyber Security)	٧					
Business and Information Administration Computer Science (All Specialisations) Computer Science (Cyber Security) Computer Science (Artificial Intelligence)	√ √ √		V			
Business and Information Administration Computer Science (All Specialisations) Computer Science (Cyber Security) Computer Science (Artificial Intelligence) Communication	√ √ √		V			
Business and Information Administration Computer Science (All Specialisations) Computer Science (Cyber Security) Computer Science (Artificial Intelligence) Communication Criminal Justice (Correctional Management)	√ √ √ √		V			
Business and Information Administration Computer Science (All Specialisations) Computer Science (Cyber Security) Computer Science (Artificial Intelligence) Communication Criminal Justice (Correctional Management) Criminal Justice (Policing)	√ √ √ √ √		V			
Business and Information Administration Computer Science (All Specialisations) Computer Science (Cyber Security) Computer Science (Artificial Intelligence) Communication Criminal Justice (Correctional Management) Criminal Justice (Policing) Civil	<ul> <li>√</li> </ul>		V			
Business and Information Administration Computer Science (All Specialisations) Computer Science (Cyber Security) Computer Science (Artificial Intelligence) Communication Criminal Justice (Correctional Management) Criminal Justice (Policing)	√ √ √ √ √		V			



BACHELOR	2020	2021	2022	2023	2024	2025
Economics	V					
Electronic Engineering (Phasing out: 2024)	v					
Power Engineering (Phasing out: 2024)	V					
English	V					
Entrepreneurship	V					
Emergency Medical Care	V					
Geomatics	V					
Geoinformation Technology	V					
Hospitality Management	v					
Horticulture	V					
Human Resources Management	v					
nformatics	V					
Land Administration	V					
ogistics and Supply Chain Management	V					
Mechanical	V					
Marketing	V					
Marine Engineering	V					
Natural Resource Management	V					
Property Studies	V					
Public Management	V					
lournalism and Media Technology	V					
Regional and Rural Development	V					
Quantity Surveying	V					
Sports Management	V					
Science (Biology, Chemistry, Physics, Mathematics)	V					
Tourism Management	V					
Tourism, Innovation and Development	V					
Fransport Management	V					
Town and Regional Planning	V					
Technical Vocational Education and Training			V			
PROFESSIONAL BACHELOR	2020	2021	2022	2023	2024	2025
Chemical Engineering	V					
Civil Engineering	V					
Emergency Medical Care				V		
Environmental Health Sciences	V					
Human Nutrition	V					
Health Information Systems Management	V					
Industrial Engineering		v				
Mechanical Engineering	V					
Medical Laboratory Sciences	V					
Metallurgy	V					
Mining Engineering	V					
Power Engineering	V					

POSTGRADUATE CERTIFICATE / DIPLOMA	2020	2021	2022	2023	2024	2025
Civil, Mechanical, Electrical and Electronics Engineering	2020	2021	√	2023	2024	2023
Forensic Investigation			v	V		
Health Information Systems Management	V			v		
Higher Education	V					
ICT Policy and Regulations	V					
Information Systems Audit	V					
Management	V					
Applied Radiation Science and Technology	V					
Rescue	V					
Technical Vocational Education and Training			V			
BACHELOR HONOURS	2020	2021	2022	2023	2024	2025
Accounting	V					
Agriculture	V					
Applied Mathematics	V					
Applied Statistics	V					
Architecture	V					
Artificial Intelligence			V			
Business Management	V					
Computer Science (All Specialisations)	V					
Communication	V					
Criminal Justice	V					
Economics	V					
Educational Planning			V			
Electronic Health			v			
English	V					
Emergency Medical Care	V					
Finance		v				
Geomatics	V					
Geoinformation Technology	V					
Human Computer Interaction			v			
Human Resources Management	V					
Health Information Systems Management			v			
Horticulture				V		
Hospitality and Tourism Management	V					
Informatics (All Specialisations)	v					
Informal Settlements Upgrading			V			
Journalism and Media Technology	V					
Labour Relations		V				
Land Administration	V	v				
Logistics and Supply Chain Management	v v					
Eogistics and Supply chain Management	v					

BACHELOR HONOURS	2020	2021	2022	2023	2024	2025
Marketing	V					
Natural Resource Management (Nature Conservation)	V					
Governance, Public Policy and Accountability	V					
Property Studies (Phasing out: 2021)	V					
Regional and Rural Development	V					
Natural and Applied Sciences	V					
Transport Management		V				
Technical Vocational Education and Training					V	
Quantity Surveying	V					
Urban and Regional Planning	V					
MASTERS	2020	2021	2022	2023	2024	2025
Accounting		v				
Agribusiness Management	V					
Applied Mathematics	V					
Applied Statistics	V					
Architecture	V					
Business Administration	V					
Civil Engineering	V					
Communication				V		
Computer Science	V					
Chemical Engineering				v		
Criminal Justice and Criminology				V		
Data Science		v				
Econometrics and Applied Policy Analysis		v				
Executive Master of Business Administration	V					
English and Applied Linguistics	V					
Electrical Power			v			
Environmental Engineering	V					
Geoinformation Science and Earth Observation	V					
Human Resources Management	V					
Health Sciences	V					
Hospitality and Tourism		٧				
Industrial Engineering	V					
Informatics	V					
Infrastructure and Facilities Management					٧	
Integrated Water Resources Management	V					
Journalism and Media Technology	V					
Leadership and Change Management	V					
Logistics and Supply Chain Management	V					
Management	V					
Marketing	V					



MASTERS	2020	2021	2022	2023	2024	2025
Mechanical Engineering			V			
Mechatronics Engineering				V		
Mining Engineering		V				
Metallurgy		V				
Monitoring and Evaluation			v			
Natural and Applied Sciences		V				
Natural Resources Management	V					
Governance, Public Policy and Accountability				v		
Procurement Management			V			
Spatial Sciences	V					
Sustainable Energy Systems	V					
Technical Vocational Education and Training					V	
PHD / DOCTORAL	2020	2021	2022	2023	2024	2025
Computer Science	٧					
English and Applied Linguistics			v			
Engineering	V					
Health Sciences		v				
Informatics	٧					
Management Sciences		v				
Mathematics		V				
Natural and Applied Sciences				٧		
Natural Resources Sciences	V					
Social Sciences					V	
Spatial Sciences	V					
Statistics		V				
Statistics		v				

## Addendum 3 Qualifications Mix

Programmes	NQF Field of Learning					QUALIFICA	TIONS			
		Certificate	Diploma	Bachelor	Professional Bachelor	Postgraduate Certificate/ Diploma	Bachelor Honours	Masters	Doctoral	NDP-5 Desired Outcomes
Artificial Intelligence and Machine Learning	Physical, Mathematical and Computer Sciences	•				$\langle \rangle$		$\mathbb{X}$		D012
Advanced Web Technologies	Physical, Mathematical and Computer Sciences	•		$\sum$		$\langle \rangle$		$\overline{\ }$		D012
Big Data Analytics using High Performance Computing	Physical, Mathematical and Computer Sciences	•			$\langle \rangle$	$\langle \rangle$		$\mathbb{Z}$	$\backslash$	D012
Big Data Technologies	Physical, Mathematical and Computer Sciences	$\bullet$		$\sum$		$\langle \rangle$	$\langle \ \rangle$		$\backslash$	D012
Ethical Hacking and Info Security	Physical, Mathematical and Computer Sciences		$\backslash$				$\sum$	$\overline{)}$		D012
Network Securities	Physical, Mathematical and Computer Sciences	•				$\langle \rangle$				D012
Python Programming (Advanced)	Physical, Mathematical and Computer Sciences	$\bullet$			$\langle \rangle$				$\sum$	D012
Python Programming (Beginners)	Physical, Mathematical and Computer Sciences	•			$\overline{)}$			/		D012
Computer Science	Physical, Mathematical and Computer Sciences			•			•		•	D012
Informatics	Physical, Mathematical and Computer Sciences			$\bullet$				•	•	D012
Data Science	Physical, Mathematical and Computer Sciences									D012
CT Policy and Regulations	Physical, Mathematical and Computer Sciences	$\left  \right\rangle$				$\mathbf{}$		$\langle \rangle$		D012
Information Systems Audit	Physical, Mathematical and Computer Sciences			$\overline{)}$						D012
Electronic Health	Physical, Mathematical and Computer Sciences						•			D012
TOTAL		8	0	2	0	2	3	3	2	) )
Civil	Manufacturing, Engineering and Technology		•	•	•			•		D02
Civil, Mechanical, Electrical and Electronics	Manufacturing, Engineering and Technology					•				D02
Mechanical Engineering	Manufacturing, Engineering and Technology			•	•			•		D07
Elec and Telecommunication Engineering	Manufacturing, Engineering and Technology			•	•					D07
Power Engineering	Manufacturing, Engineering and Technology			•	•					D07
Marine Engineering	Manufacturing, Engineering and Technology			•						D07
Mining Engineering	Manufacturing, Engineering and Technology				•			•	/ /	D07
Electrical Engineering	Manufacturing, Engineering and Technology							/ • /		D07
Chemical Engineering	Manufacturing, Engineering and Technology				•/		/ /	•		D02
Infrastructure and Facilities Management	Manufacturing, Engineering and Technology							/		D02
Sustainable Energy Systems	Manufacturing, Engineering and Technology							•/		D029
ndustrial Engineering	Manufacturing, Engineering and Technology				-			-		D029
ntegrated Water Resources Management	Services and Life Sciences							•/		D010
Environmental Engineering	Manufacturing, Engineering and Technology			/		/ /		/	/	D029
Metallurgy	Manufacturing, Engineering and Technology			/	•			•/		D029
Mechatronics	Manufacturing, Engineering and Technology			/ /				/		D029
Engineering PhD)	Manufacturing, Engineering and Technology			/		/ /			•	D02, 28,2
TOTAL		0	1	5	8	1	0	12	1	



Programmes	NQF Field of Learning					QUALIFICA	TIONS			
		Certificate	Diploma	Bachelor	Professional Bachelor	Postgraduate Certificate/ Diploma	Bachelor Honours	Masters	Doctoral	NDP-5 Desired Outcomes
Applied Radiation and Technology	Health Sciences and Social Services		1	X	H	·	1	H		D029
Environmental Health Sciences	Health Sciences and Social Services		X	H	•			H	1	D029
Health Information Systems Management	Health Sciences and Social Services		1			1.	•	X		D033
Applied Mathematics and Statistics	Physical, Mathematical and Computer Sciences		T		H	T	:			D033
Emergency Medical Care	Health Sciences and Social Services		T		Ð			H	H	D021
Sciences	Health Sciences and Social Services	T	H				1	-	$\sum$	D021
Human Nutrition	Health Sciences and Social Services	T	X	H	•	TF	T	FT		D021
Medical Laboratory Sciences	Health Sciences and Social Services	1	K	$\mathcal{V}$	•	T	1	X	X	D021
Health Sciences	Health Sciences and Social Services		1	X	$\mathbf{X}$		$\sum$	•	À	D021
Natural and Applied Sciences	Health Sciences and Social Services	$\geq$	1	Č	X	24	•	•		D021
Rescue	Health Sciences and Social Services	$\leq$	$\geq$	$\leq$		•	$\geq$	$\mathcal{D}$	JX.	D021
Biomedical Sciences	Health Sciences and Social Services				•			$\leq$	TH	D021
TOTAL		0	o	3	6	3	5	4	4	
Communication	Communication Studies and Languages			•			•	• /	[]]]]	D01
English	Communication Studies and Languages			•			•			D01
English and Applied Linguistics	Communication Studies and Languages							•/	//•//	D01
Criminal Justice (Policing and Correctional Management	Law, Military Science and Security			•			•		(///)	D030
Criminal Justice and Criminology	Law, Military Science and Security							//•//		D030
lournalism and Media Technology	Communication Studies and Languages			•			• /		(///)	D030
Public Management	Business, Commerce and Management			•			//		(///)	D032
Governance, Public Policy and Accountability	Business, Commerce and Management						•//	/•//	(////	D032
Educational Planning	Education, Training and Development						/•//		////	D020
Technical Vocation Education and Training (Management and Trainer)	Education, Training and Development	•	•		•	•		/•/	////	D019
Forensic Investigation	Education, Training and Development					• //	()////		(///	D019
Higher Education	Education, Training and Development					•///	/////		(///	D020
Social Sciences	Education, Training and Development						()////	////	/•/	D020
TOTAL		2	2	6	1	3	7	6	2	

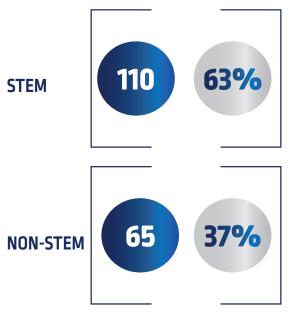
Programmes	NQF Field of Learning					QUALIFICA	TIONS			
		Certificate	Diploma	Bachelor	Professional Bachelor	Postgraduate Certificate/ Diploma	Bachelor Honours	Masters	Doctoral	NDP-5 Desired Outromes
Accounting	Business, Commerce and Management Studies				$\sim$	$\langle \rangle$				D02
Accounting (Chartered	Business, Commerce and Management Studies		$\frown$		$\frown$	$\searrow$	$\square$	$\overline{}$		D02
Culinary Arts	Services and Life Sciences	$\sim$			$\bigtriangledown$	$\frown$	$\sim$	$\overline{}$		D08
Economics	Business, Commerce and					$\overline{}$		$\overline{}$		DO2
Econometrics and Applied Policy	Management Studies Business, Commerce and					$\overline{}$				DO2
Analysis Fourism, Innovation and	Management Studies Services and Life Sciences							Ň		D08
Development Fourism Management	Services and Life Sciences		$ \rightarrow $					$\rightarrow$		D08
Hospitality Management	Services and Life Sciences				$\setminus$					DO8
Business Management	Business, Commerce and			$\left  \bullet \right $				•		D05
	Management Studies		$\langle \rangle$				$\mathbf{\bullet}$			D031
Business Administration	Business, Commerce and Management Studies			•	$\langle \rangle$	$\langle \rangle$	$\langle \rangle$	<u> </u>		D05 D031
Entrepreneurship	Business, Commerce and Management Studies	$\backslash$	$\mathbf{A}$	$\mathbf{\bullet}$	$\langle \rangle$	$\langle \rangle$				D024
Human Resources Management	Business, Commerce and Management Studies			) •	$\left  \right\rangle$	$\setminus$	$(\bullet)$	$\bullet$		D02
Business and Information Administration	Business, Commerce and Management Studies				$\setminus$				$\left \right\rangle$	D04
Marketing	Business, Commerce and Management Studies	$\left \right\rangle$	$\langle \rangle$	$\bullet$				•		D02
Monitoring and Evaluation	Business, Commerce and Management Studies			$\square$	/ /				$\langle \rangle$	D05 D031
Procurement Management	Business, Commerce and Management Studies						$\langle \rangle$	•		D05 D031
Transport Management	Business, Commerce and									D011
ogistics and Supply Chain	Management Studies Business, Commerce and				$\left \right\rangle$					D011
Management Logistics	Management Studies Business, Commerce and		$\langle \rangle$							D011
_abour Relations	Management Studies Business, Commerce and					$\rightarrow$		+		D011
eadership in Change Management	Management Studies Business, Commerce and			$  \rangle$		$\rightarrow$	•	$\rightarrow$	$\left  \right\rangle$	D031
Executive Master of Business	Management Studies	( )		$  \rangle$				-		D031
Administration	Business, Commerce and Management Studies							•		
Finance	Business, Commerce and Management Studies						•			D04
Sports Management	Business, Commerce and Management			•						D025
Management	Business, Commerce and Management Studies					•		•		D025
Management Sciences	Business, Commerce and Management Studies	/							•	D025
Business Process Management	Business, Commerce and Management Studies	/ /	•							D025
Office Management and Technology	Business, Commerce and Management Studies	/		•	/ /					D025
TOTAL	indiagement staates	0	2	17	0	1	11	12	1	
Agriculture	Agriculture and Nature Conservation		/ /	•			•	/	/ /	D03
Agribusiness Management	Agriculture and Nature Conservation							•/		D03
Building, Control and Inspection	Physical Planning and Construction	/		•/				_/	/	D022
Natural Resource Management	Agriculture and Nature					/ /			/ /	D03
Nature Conservation) Property Studies	Conservation Physical Planning and									D028 D022
Quantity Surveying	Construction Physical Planning and					/ /				DO9
Geoinformation Technology	Construction Physical Planning and	<i>/</i>	/ /		/ /			//	-/	D012
Geomatics	Construction Physical Planning and					/ /	-/			D012
	Construction		•		/ /		<b>_</b>		/ /	D012
Architecture	Physical Planning and Construction	/		•			•	-		
Fown and Regional Planning	Physical Planning and Construction			•				/ /		D022
Regional and Rural Development	Services and Life Sciences			•			•			D022
nformal Settlements Upgrading	Services and Life Sciences						•			D022
lorticulture	Agriculture and Nature Conservation		/	•				/		D03
Spatial Sciences	Manufacturing Engineering and Technology					/ /		•	•	D03
and Administration	Physical Planning and Construction							/		D022
Jrban and Regional Planning	Physical Planning and			/				—		D022
Natural Resources Sciences	Construction Agriculture and Nature			$\sim$						DO3
GIS and Earth Observation	Conservation							/_		/
TOTAL							12	5	2	
		0	3	11	1	0	12	5	2	
GRAND TOTAL		10	8	44	15	10	37	42	12	

## Addendum 4 Qualifications Compilation: 2025

## Qualifications Profile: 2025

/	Qualification	TOTAL
	Certificate	8
	Diploma	7
	Bachelor	44
	Professional Bachelor	15
	Postgraduate Certificate/Diploma	10
	Honours	37
	Master's	42
	Doctorate	12
	TOTAL	175

## **Qualifications Mix**



## Addendum 5 Total Projected Student Enrolment

## **Total Enrolment**

	Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
Undergraduate	10 700	10 695	10 166	10 492	11 218	11 923	12 793
Postgraduate	1845	1806	2 881	3 530	3 891	4 219	4 404
TOTAL	12 545	12 501	13 047	14 022	15 109	16 142	17 197

## Total Enrolment (STEM and NON-STEM)

	Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
NON-STEM	7 459	7 211	6 944	7 190	7 536	7 846	8 299
STEM	5 086	5 290	6 103	6 832	7 573	8 296	8 898
TOTAL	12 545	12 501	13 047	14 022	15 109	16 142	17 197

# Addendum 6 Enrolment per Qualification Type

Qualification	Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
Medical Lab Science (Bridging)	0	0	25	30	35	40	40
INSTEM	358	325	350	350	350	350	350
Certificate/Diploma	606	501	762	863	930	935	1 0 0 7
Bachelors	8 703	8 760	7 852	7 959	8 492	9 036	9 788
Professional Bachelors	1 033	1108	1 174	1 287	1408	1 517	1 627
Postgraduate Certificate / Diploma	131	157	215	287	312	320	319
Honours	1145	1 025	1663	1 999	2 110	2 290	2 362
Master's	528	559	884	1 091	1 283	1399	1496
PhD	41	50	98	129	164	188	208
TOTAL	12 545	12 501	13 047	14 022	15 109	16 142	17 197

## Addendum 7 Graduation per Qualification Type

Qualification Type	Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
Certificate/Diploma	352	289	438	498	542	558	601
Bachelor's Degree	1 751	2 142	2 393	2 811	3 266	3 864	4 159
Professional Bachelor's Degree	111	116	134	146	161	171	180
Postgraduate Certificate / Diploma	82	86	125	174	190	202	199
Honours	617	627	1 031	1240	1350	1 557	1546
Master's	113	150	373	504	636	714	784
PhD	4	1	4	11	20	40	58
TOTAL	3 032	3 412	4 498	5 385	6 165	7107	7 527

## Addendum 8 Retention

## First-year Retention Rate (%)

		20	2020	2021	2022	2023	2024	2025
78.9 80.5 80.9 81.2 81.6 82.7	78.9 80.5	78	80.5	80.9	81.2	81.6	82.7	82.7

## Overall Retention Rate (%)

Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
83.2	82.8	83.2	83.5	83.9	84.4	84.4

## Addendum 9 Promotion

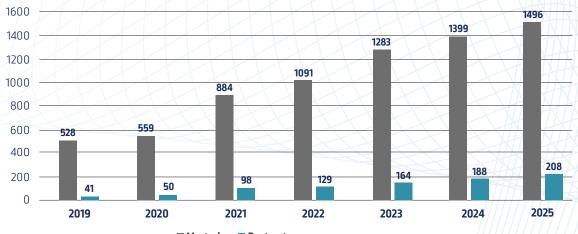
Promotion rates are calculated by number of students (head count) who passed divided by all enrolled students (head count).

## Undergraduate Promotion Rate (%)

Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
61.7	63.8	64.8	65.5	66.5	68.6	68.6

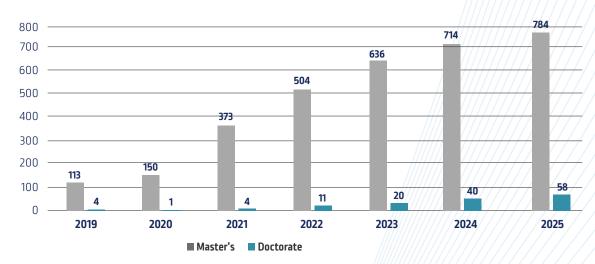
## Addendum 10 Master's to Doctoral Enrolment and Graduation

### Master's to Doctoral Enrolment



Master's Doctorate

### Master's to Doctoral Graduation



Addendum 11 NUST Research Output (All peer-reviewed research publications (Faculty) in listed journals/book chapters/books; all peer-reviewed conference proceedings; registered patents, prototypes, artistic outputs, artifacts or trademarks; all Master's and Doctoral degrees awarded).

### **NUST Research Output**

	Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
Publications	296	258	325	402	430	464	472
Artefacts/Prototypes	17	8	10	13	15	17	19
Patents	0	0	0	1	0	1	1
Conference Proceedings	42	31	51	60	66	75	77
New/Improved Services/Products	1	2	2	5	5	1	1
Master's Awarded	113	150	373	504	636	714	784
PhDs Awarded	4	1	4	11	20	40	58
Total Output	473	451	765	996	1172	1 312	1412
Academic Staff	422	433	467	493	508	526	526
Ratio per capita	1.1	1.0	1.6	2.0	2.3	2.5	2.7

# Addendum 12 Research Productivity, Income and Impact

## Research Productivity

	Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
Research Income (N\$ mil)	41.3	35.1	43.9	46.5	54.7	62.4	67.3
Peer Reviewed Articles	172	225	276	342	356	379	386
Collaborative Projects	44	44	46	48	48	50	50
Conferences/Workshops	10	11	14	16	17	19	19
Peer reviewed articles per capita	0.41	0.52	0.59	0.69	0.70	0.72	0.73

## Research Income (N\$ million)

Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
41.30	35.12	43.92	46.45	54.69	62.36	67.32

### **Research Impact**

	Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
Sabbaticals	б	7	8	11	20	30	32
Citations per staff member	45	52	63	71	79	89	91
Postdoctoral Fellows	43	32	49	57	60	65	67
Research Fellows	0	1	2	15	18	25	25
Research Chairs	0	0	1	2	3	9	9

## Addendum 13 Academic Staff Projections

### Academic Staff Projections

Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
422	433	467	493	508	526	526

### Academic Staff Qualifications

Faculty	Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
Diploma	0	1	1	1	1	1	1
Bachelors	23	19	21	18	15	12	12
Honours	41	38	31	26	23	23	23
Master's	236	241	239	225	206	197	190
PhD	122	134	175	223	263	293	300
TOTAL	422	433	467	493	508	526	526

# Academic Staff Projections per Job Title

Faculty	Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
Teaching Assistants	0	7	10	10	10	10	10
Junior Lecturer	75	76	59	48	40	34	34
Lecturer	233	235	232	216	203	194	188
Senior Lecturer	66	66	88	118	138	150	152
Associate Professor	26	29	42	53	61	73	76
Professor	22	20	32	43	50	58	59
Adjuncts	0	0	10	5	6	7	7
TOTAL	422	433	473	493	508	526	526

## Technical Support Staff

Faculty	Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
Laboratory Manager	0	0	1	1	1	1	1
Chief Lab Technician	0	0	1	1	2	2	2
Senior Lab Technician	0	0	1	2	3	3	3
Lab Technicians	32	34	35	39	42	45	24
Lab Assistants	5	5	5	5	5	б	3
Storeman	0	0	0	0	0	1	1
Total	37	39	43	48	53	58	34

### Staff:Student Ratio

Baseline 2019	COVID-19 2020	2021	2022	2023	2024	2025
30	29	28	28	30	31	33

## Addendum 14 Administrative Staff Projections

Baseline 2019	COVID-19 2020	2021				
	2020	2021	2022	2023	2024	2025
47	47	84	86	88	90	90
143	143	144	150	152	153	154
157	157	134	133	138	139	140
43	43	20	24	26	28	28
41	41	26	13	13	13	13
36	36	40	42	44	44	44
36	36	15	19	20	20	20
503	503	463	467	481	487	489
	47 143 157 43 41 36 36	47     47       143     143       157     157       43     43       41     41       36     36       36     36	47     47     84       143     143     144       157     157     134       43     43     20       41     41     26       36     36     40       36     36     15	47     47     84     86       143     143     144     150       157     157     134     133       43     43     20     24       41     41     26     13       36     36     40     42       36     36     15     19	47       47       84       86       88         143       143       144       150       152         157       157       134       133       138         43       43       20       24       26         41       41       26       13       13         36       36       40       42       44         36       36       15       19       20	47       47       84       86       88       90         143       143       144       150       152       153         157       157       134       133       138       139         43       43       20       24       26       28         41       41       26       13       13       13         36       36       40       42       44       44         36       36       15       19       20       20

# Addendum 15 Technology Infrastructure Development

$\langle \rangle \rangle \rangle$		2020	2021	2022	2023	2024	2025	TOTAL
	Data Centre Infrastructure	350,000	4,320,000	120,000	2,100,000	570,000	100,000	7,560,000
CAPEX	Nutanix Infrastructure	2,750,000	1,750,000	4,750,000	1,750,000	1,750,000	1,750,000	14,500,000
	External Connectivity	50,000	500,000	2,500,000	0	0	0	3,050,000
	Campus Network	4,115,000	4,115,000	4,615,000	4,715,000	3,265,000	3,965,000	24,790,000
	Network Operations Support	1,050,000	550,000	50,000	0	0	100,000	1,750,000
	Desktops and laptops for NUST staff	4,700,000	4,700,000	4,700,000	4,700,000	4,700,000	4,700,000	28,200,000
	Electronic Systems	1,450,000	3,250,000	1,450,000	1,450,000	1,450,000	1,450,000	10,500,000
	Software (new)	7,300,000	800,000	800,000	800,000	800,000	800,000	11,300,000
	Software licensing (Current)	12,625,000	12,625,000	12,625,000	12,625,000	12,625,000	12,625,000	75,750,000
	Software licensing (new)	655,000	1,605,000	1,675,000	1,695,000	1,715,000	1,735,000	9,080,000
OPEX	Managed Print Services	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	48,000,000
	Projects	350,000	1,000,000	0	0	0	0	1,350,000
	Training	850,000	400,000	400,000	400,000	400,000	400,000	2,850,000
	Telephone and Connectivity	13,000,000	13,000,000	13,000,000	13,000,000	13,000,000	13,000,000	78,000,000

SUMMARY	
SUMMARY	

57,245,000

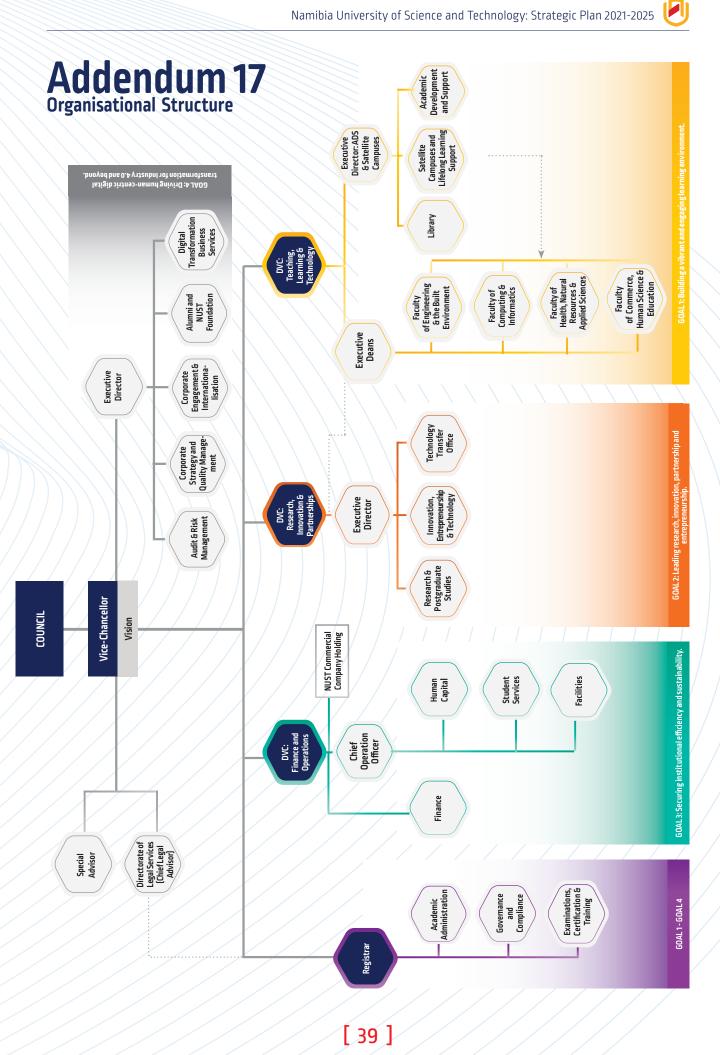
56,615,000 54,685,000 51,235,000

48,625,000 316,680,000

48,275,000

## Addendum 16 Physical Development Projections

CAPITAL PROJECTS	Project Cost (N\$ million)
NUST CAMPUS CONSOLIDATION STRATEGY AND SUPPORTING PROJECTS	
Student Centre – PRIORITY PROJECT	PPP Funding
Student Accommodation – PRIORITY PROJECT	PPP Funding
"Oude Rust" Old Age Home Property – <b>PRIORITY PROJECT</b>	140
Entrances and supporting infrastructure – <b>PRIORITY PROJECT</b>	10
Urban Integration and Precinct Development	20
Middle Campus Consolidation – <b>PRIORITY PROJECT</b>	15
Review of the NUST Master Plan	1
NUST EXISTING BUILDING OPTIMISATION STRATEGY	
Poly Heights	25
Office Block	10
Lecture Block	5
Storch House (FCI)	2
Kleines Heim	3
On-Campus Water Reticulation Systems PHASE I – <b>PRIORITY PROJECT (LOWER CAMPUS)</b>	10
On-Campus Water Reticulation Systems PHASE II	20
OTHER NUST CAPITAL PROJECTS	
Academic and Student Development Building	30
Multi-Purpose Hall/Convention Centre	120
Media and Digital Centre	10
NUST REGIONAL CENTRES	
Lüderitz Satellite Campus (under construction 2020) – <b>PRIORITY PROJECT</b>	65
Otjozondjupa Satellite Campus – <b>PRIORITY PROJECT</b>	10
Walvis Bay Satellite Campus PHASE I – <b>PRIORITY PROJECT</b>	35
Ohangwena Satellite Campus PHASE I	40
Oranjemund Regional Centre	5
Documentation for standardisation of Regional Centres and Satellite Campuses	2
SPECIAL PROJECTS	
On-Campus Energy Generation – <b>PRIORITY PROJECT</b>	18



## Addendum 18 Financial Projections: 2021-2025

	COVID-19 2020	2021	2022	2023	2024	2025
	N\$ mil	N\$ mil	N\$ mil	N\$ mil	N\$ mil	N\$ mi
Main Revenue Streams						
Subsidy (70% of OPEX)	504	672	676	678	681	683
Tuition	191	223	258	297	338	385
Student Residences	11	11	12	12	13	13
Other (Hotel School, Poly Heights, Kleines Heim)	10	16	16	17	18	18
Sub Total (A)	716	922	962	1004	1050	1099
Diversified Third Stream Income						
Research grants (Addendum 13)	35	44	47	55	62	67
Industry (Consulting/Advisory Contracts)	1	3	3	3	3	4
Commercialisation Activities of BDII	5	5	6	7	7	8
Philanthropic, NUST Foundation and Alumni	5	11	13	16	19	23
Sub Total (B)	41	63	69	81	91	102
Total Revenue (C= (A+B))	757	985	1031	1085	1141	1201
Expenditure						
Employment costs	700	735	736	738	742	750
Once-off cost for Early Retirements		15				
Envisaged savings – part-time/overtime contracts/early retirement		-18	-15	-15	-15	-15
Funded Centres and Institutes		-7	-7	-7	-7	-7
Reduction in Administrative Component		-16	-18	-17	-12	-12
Sub Total: Employment cost (D)	700	709	696	699	708	716
Supplies and Services (3% savings in utilities 2023-25)	197	211	226	219	208	198
Research Expenditure (92% of Research Income)	32	40	43	51	57	62
Sub Total (E)	229	251	269	270	265	259
Total Operating Expenditure (F = (D+E))	929	960	965	969	973	975
Operating Profit / (Loss) (G = (C-F)) Outstanding 2019/2020 Subsidy	-172	<b>25</b> -175	66	116	168	225
Movable CAPEX (H)	14	26	26	26	26	26
Novaole CAPEX (H) Net Loss/Profit:(I = (G - H))	-186	-176	40	90	142	199
Net Loss/Pront:[I = [G - H]] Cumulative Shortfall			40 -323			
Cumulative Shortfall	-186	-362	-525	-232	-90	109

	COVID-19 2020	2021	2022	2023	2024	2025
	N\$ mil	N\$ mil	N\$ mil	N\$ mil	N\$ mil	N\$ mil
Summary Cost of the Plan						
Employment Cost	700	709	696	699	708	716
Supplies and Services	197	211	226	219	208	198
Movable CAPEX	14	26	26	26	26	26
Technology Infrastructure Development (Addendum 17)	55	54	52	48	45	46
Research Cost	32	40	43	51	57	62
Physical Development (Addendum 18)	66	45	68	50	35	60
Special Project (Solar Project) (Addendum 18)		18				
Regional Expansion (Addendum 18)		45	56	35	40	60
Total Cost	1064	1148	1167	1128	1 119	1167
Employment Cost: Total Cost Ratio	0.66	0.62	0.60	0.62	0.63	0.61



#### Strategic Plan 2021 - 2025

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