

The blue economy - NMMU is ready to offer solutions



Prof Derrick Swartz

A message from the Vice-Chancellor ...

WITH five of its seven campuses located a few hundred metres from the sea, and within 25 kilometres of two major ports, Nelson Mandela Metropolitan University's involvement in the blue economy is inescapable.

innovation that will make a positive contribution to realising the economic potential of our oceans whilst protecting South Africa's marine biodiversity. It has extensive linkages with both industry and the public sector and is renowned for its innovative approaches to the curriculum and research.

Building on this base, NMMU's strategy into the next decade is to develop a new range of ocean sciences programmes and research projects to significantly upscale our support for this crucial sector.

We are the proud hosts of the headquarters of the South African International Maritime Institute which has been established through funding support from

national government to coordinate the development and implementation of a national maritime skills development plan.

NMMU looks forward to taking critical steps in a collective effort to help Africa take its rightful place in the blue economy.

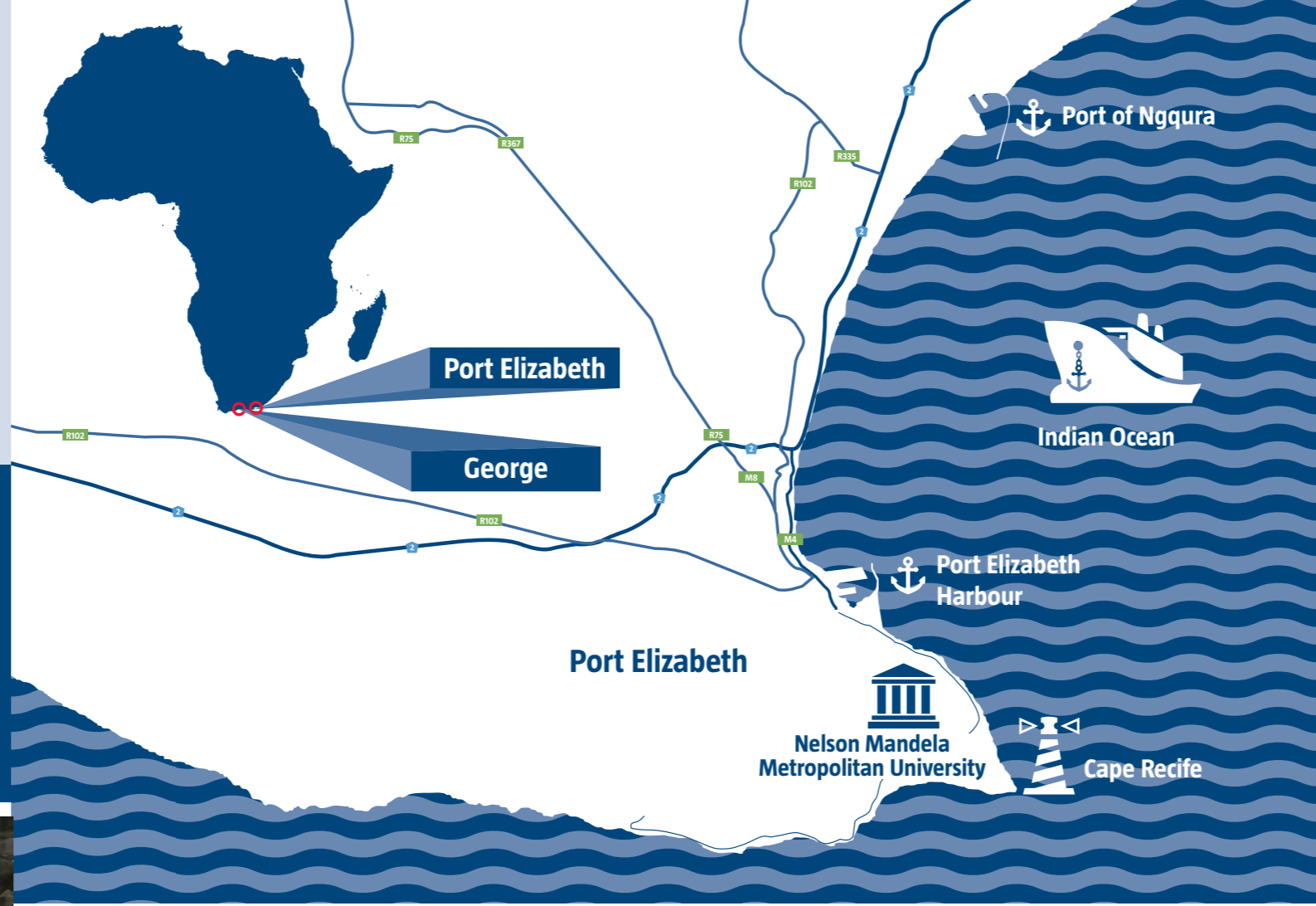
The opportunities

The unlocking of our blue economy for sustainable ocean development offers new growth areas around:

- ▶ Offshore oil and gas exploration
- ▶ Marine transport and manufacturing
- ▶ Aquaculture
- ▶ Ocean governance and marine protection services
- ▶ Marine and coastal tourism
- ▶ Small harbour development



ROCKY RESEARCH ... Prof Renzo Perissinotto (right), who holds a Research Chair in Shallow Water Ecosystems at Nelson Mandela Metropolitan University, collects samples with students at rare living rock pool systems recently discovered in the Eastern Cape.



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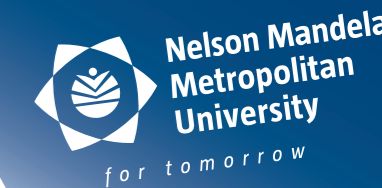
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Ocean Sciences

'Our strategy is to develop a whole new range of maritime and marine education and training, research, innovation and engagement programmes to support Africa's blue economy'

– Nelson Mandela Metropolitan University Vice-Chancellor Prof Derrick Swartz

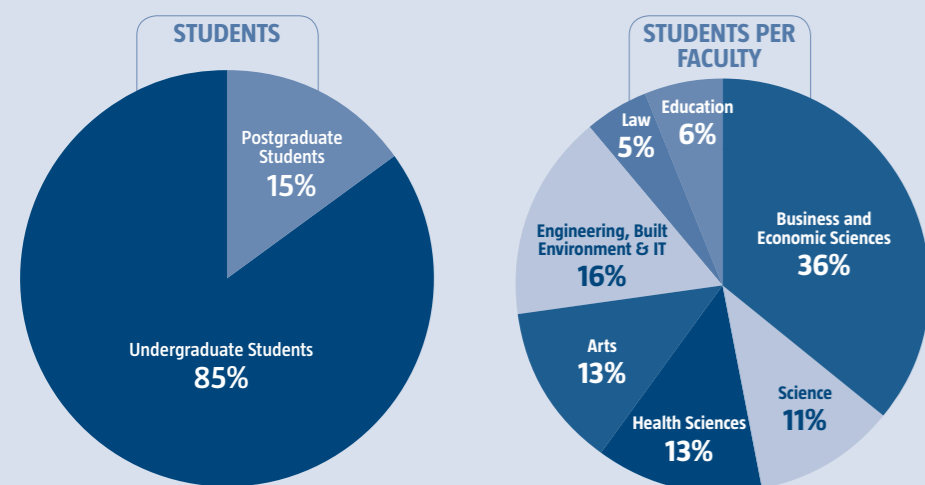




About us

Nelson Mandela Metropolitan University is one of six comprehensive universities in South Africa and is recognised for its contribution to generating cutting-edge knowledge towards a sustainable future. It offers a wide range of study options and access routes with qualifications from certificate to doctoral level.

Total number of students: 26 871



Ocean Sciences Strategy (2016-2020)

The University has adopted a five-year Ocean Sciences Strategy which is informing:

- ▶ The development of exciting new and revised qualifications with various ocean sciences specialisations;
- ▶ The scaling up of transdisciplinary research and innovation capabilities to address grand challenges associated with the ocean; and
- ▶ The establishment of strategic partnerships locally, nationally and globally.

The University is uniquely located along a dynamic shoreline rich in marine biodiversity with pristine coastal vegetation. Furthermore, with the assistance of national government, NMMU has established a dedicated Ocean Sciences Campus, the first of its kind in South Africa.

What's in place?

Current programmes

NMMU offers postgraduate programmes in Maritime Studies, Oceanography, and Law of the Seas as well as an array of short learning programmes specifically customised for executive leadership development within the marine and maritime sectors.

Proposed programmes

Building on what is currently in place, NMMU plans to systematically introduce various new ocean sciences programmes over the next few years, including:

- ▶ Marine engineering
- ▶ Marine spatial planning
- ▶ Maritime logistics, shipping and port management
- ▶ Coastal, cruise and marine tourism
- ▶ Nautical sciences
- ▶ Naval architecture
- ▶ Marine resource economics



Picture by: Andrew Witte

Our partnerships and collaborations

NMMU works closely with an array of national and international partners in advancing its scientific contribution to the oceans economy, including:

- ▶ World Maritime University, Sweden
- ▶ Washington State University, USA
- ▶ Oldenburg University, Germany
- ▶ University of North Carolina, USA
- ▶ Universidade Federal do Rio Grande do Sul, Brazil
- ▶ Plymouth University, UK
- ▶ Southampton University, UK
- ▶ Agder University, Norway
- ▶ University of Tromsø – The Arctic University, Norway
- ▶ University of Bergen, Norway
- ▶ Satakunta University of Applied Sciences, Finland
- ▶ South African International Maritime Institute
- ▶ South African Environmental Observation Network (SAEON)
- ▶ South African Institute for Aquatic Biodiversity (SAIAB)
- ▶ Oceans and Coasts (O&C) division of the Department of Environmental Affairs
- ▶ South African National Parks
- ▶ Council for Scientific and Industrial Research
- ▶ South African Maritime Safety Authority
- ▶ Wärtsilä
- ▶ Transnet
- ▶ Bayworld
- ▶ Nelson Mandela Bay Development Agency



MARITIME PARTNERSHIP ... Vice Chancellor, Prof Derrick Swartz (fourth from left), meeting with high-level delegates from Southampton University to forge a partnership between NMMU and the National Oceanographic Centre Southampton (NOCS).

Our research, our engagement, our commitment to tomorrow

Nelson Mandela Metropolitan University already has significant research capabilities in ocean sciences and is perfectly positioned in Algoa Bay as the best monitored coastal area in Africa.

Research and engagement centres

NMMU has 20 research and engagement centres, many of which respond directly to the needs of the blue economy. Among these, is the Coastal and Marine Research Institute which focuses on estuarine, sandy beach, oceanographic and island ecosystems as well as plant, aquatic, fish and coastal ecology, ocean currents, marine spatial planning and sustainable coastal livelihoods. The activities of the Institute contribute directly to the University's ocean sciences strategy by fostering transdisciplinary research, innovation and postgraduate studies across various faculties.

NMMU also conducts research pertaining to the economic potential of the ocean, including:

- ▶ Modelling the oceans economy
- ▶ Shipbuilding with a focus on the design and construction of small- to medium-sized and specialised vessels
- ▶ Small harbour development

Operation Phakisa

South Africa's launch of Operation Phakisa: Realising the Economic Potential of South Africa's Oceans, in 2014, marked the first cross-cutting government intervention focusing on the ocean's economy. Key initiatives have been identified to realise the immense potential

of the oceans economy to contribute to radical economic transformation. NMMU is recognised as part of the solution in realising that potential, particularly as it relates to education, skills development, pioneering research and innovation, and community engagement.

Research Chairs

NMMU has research chairs in the following areas pertinent to ocean sciences:

- ▶ Ocean Sciences and Marine Food Security
- ▶ Marine Spatial Planning
- ▶ Earth Stewardship Science
- ▶ Law of the Sea and Development in Africa
- ▶ Shallow Water Ecosystems



HANDS-ON LEARNING ... Wärtsilä's Greg Davids and School of Engineering Director Prof Dalenca Pottas, at the handover of the R6.2m state-of-art ship's engine to be used for teaching within the School of Engineering.



Picture by: Dr Thibaut Bouveroux