

Careers in shipping

Here are some of the careers offered on a research vessel ...

Captain

Responsible for ensuring the smooth running of the ship and that the ship arrives at the destination safely and efficiently. Qualifications: Master of the Sea.

Marine Engineer

Marine engineers are responsible for the provision, management and maintenance of engineering systems and equipment in or on anything that works in the marine environment including ships, offshore platforms and undersea vehicles. Qualifications: Degree, Diploma or B. Tech in Engineering and in-service training. Require mathematics and physical science in Grade 12.

Chief Navigation Officer

Responsible for the navigation of the vessel and ensuring that the ship remains stable. Qualifications: Diploma and in-service training.

Bosun

A bosun is responsible for the general maintenance of the vessel, including the operation of repair equipment such as cranes and hoists. Qualifications: In-service training and registration with the South African Marine and Safety Association (SAMSA).

Fishing Master

Responsible for the smooth operation of the trawl nets and assisting the scientists in collecting fish samples. Qualifications: In-service training and registration with the South African Marine and Safety Association (SAMSA).

Careers in research

Some careers open to those interested in research ...

Physical Oceanographer

These scientists study the physical properties of seawater. They measure currents, waves, tides, temperature and salinity (salt content) relying on ship based measurements, satellite imagery and automatic monitoring instruments. Physical oceanographers also investigate how the oceans are able to influence weather and climate.

Qualifications: Bachelor of Science (BSc) honours degree. Require mathematics and physical science in Grade 12.

Chemical Oceanographer

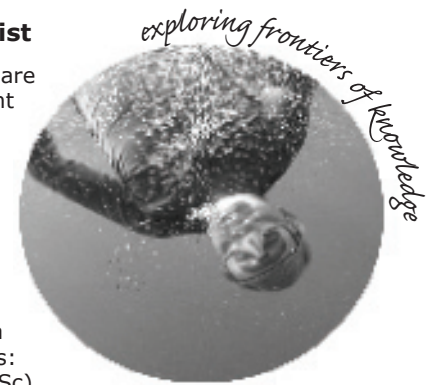
This discipline focuses on the chemical composition of seawater and the effect of chemicals in the marine environment. These scientists are interested in the levels of trace elements, oxygen, nutrients and dissolved organic and inorganic carbon in the seawater. Qualifications: Bachelor of Science (BSc) honours degree. Require mathematics and physical science in Grade 12.

Geoscientist

Geoscientists are involved in the study of the sea floor including contours and sediment structure. Qualifications: Bachelor of Science (BSc) honours degree. Require mathematics and physical science in Grade 12.

Marine Biologist

Marine biologists are interested in both plant and animal life in the sea. They study the distribution, abundance and life cycles of various organisms from plankton (small animals and plants) to whales and sea birds. Qualifications: Bachelor of Science (BSc) honours degree. Require mathematics and physical science or biology in Grade 12.



Ichthyology & Fisheries Science

Ichthyologists specifically study the biology, taxonomy and ecology of fishes. Fisheries scientists conduct research on fish populations that people harvest through fishing. Such courses often include the study of aquaculture (fish farming). Qualifications: Bachelor of Science (BSc) honours degree. Require mathematics and physical science or biology in Grade 12.

Zoologist

Zoologists study the diversity of the animal kingdom including the interaction between animals and the non-living environment. Qualifications: Bachelor of Science (BSc) honours degree. Require mathematics and physical science or biology in Grade 12.

Marine Technician

Marine technicians provide the technical and logistical support for research programmes. Their responsibilities include the collection and processing of data both at sea and on land. They must also be able to operate specialised electronic equipment and computers. Qualifications: Diploma or B.Tech Degree. Require mathematics in Grade 12.

Research Assistants

They provide technical support to both the scientists and technicians. This includes assisting with the collection and processing of samples and the operation of equipment. Qualifications: Bachelor of Science (BSc) degree. Require mathematics in Grade 12.



More Careers

A few more careers linked to the marine environment...

Commercial diving

Commercial divers work in harbours, dams, rough seas and bodies of water where visibility is very limited cleaning ship hulls, repairing dams, servicing pipelines and taking part in salvage and rescue operations. Commercial divers are also employed on oil rigs, for marine diamond exploration and for the collection of samples for scientists.

Qualifications: Minimum qualification Grade 10 with mathematics & science. Class IV Diving Qualification.

Environmental Education Officer

Environmental education officers are involved in making the general public and learners aware of the marine environment and the importance of conserving it.

Qualifications: Teaching qualification or Diploma in Nature Conservation or Bachelor of Science (BSc) Degree.

Marine Conservation

Marine conservation includes monitoring of commercial fish catches, enforcing government regulations, communicating with the public with regards to the wise use of our marine resources and interacting with all sectors of the fishing industry.

Qualifications: Diploma in Marine Conservation or Diploma in Nature Conservation. Recommended subjects in Grade 12 - mathematics and biology.

Underwater Remotely Operated Vehicle (ROV) Technician

An ROV Technician operates and maintains all aspects of a Remotely Operated Vehicle. The technician operates ROV equipment including video and still cameras, acoustic positioning systems, SONAR, robotic arms; supervises the launch and recovery of the ROV and performs preventative maintenance on equipment associated with an ROV as well as the vessel itself.

Qualifications: Degree or Diploma in Engineering with experience. Require mathematics and physical science in Grade 12.

Useful Contacts

Council for Geoscience
Private Bag X112, Tshwane, 0001
<http://www.geoscience.org.za/>

Department of Environmental Affairs
and Tourism
Chief Directorate: Sea Fisheries
Private Bag X2, Roggebaai, 8012

The Engineering Council of SA
The Manager
Corporate Communications
Private Bag X691, Bruma, 2026
<http://www.ecsa.co.za/>

National Ports Authority Training
Academy
P.O. Box 1027
Portcon International
Durban
4001
Tel: 031 - 361 6345

Training Centre for Seamen
Private Bag X7, Roggebaai, 8012

Maritime Industry Training Board
P.O. Box 6354
ROGGEBAAI
8012

General Information

The prerequisites and entrance requirements at universities and technikons may differ, therefore we recommend that you contact the university or technikon of your choice to ensure that you meet with their specific requirements.

Along with the subjects stated under the various careers, a matriculation exemption is required to gain acceptance to a Bachelor of Science (BSc) Degree.

For more information contact:



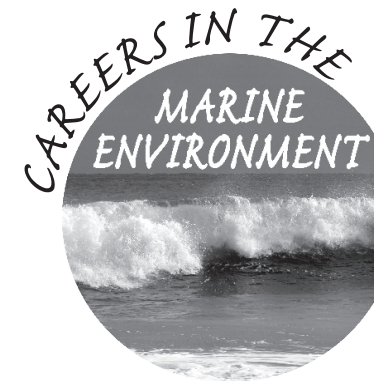
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Acknowledgement and disclaimer

This brochure was prepared by Berny Snow and Karen Binning of the African Coelacanth Ecosystem Programme (ACEP), Phase 1. All reasonable steps to ensure the accuracy and completeness of the information contained herein were taken. SAIAB and ACEP Phase 2 do not accept any responsibility for errors, inaccuracies, omissions and other shortcomings.



Careers in Harbours or Ports

Harbours or ports offer a wide variety of careers, with some positions offering in-service training.

Below are just a few ...

Port Manager

Managing the daily running of a harbour, overseeing all the various divisions.

Qualifications: A degree in business, accounting or any other discipline where management skills are taught.

Vessel Traffic Service Operator

A Vessel Traffic Service Operator guides all the ships entering and leaving a harbour.

Qualifications: Grade 12 certificate and in-service training.

Marine Safety and Environmental Officer

Ensures the safety of all personnel who work in a harbour. They also ensure the harbour follows correct procedures with regards to environmental issues, e.g. waste management.

Qualifications: Safety, Health & Environmental certified and in-service training.

Pilot

A pilot commands a ship and steers it out of harbours. The pilot directs course and speed of the ship on the basis of specialized knowledge of local weather, tides and underwater hazards.

Qualifications: Master of the Sea.

Tug Master

The Tug Master steers the tug boat which moves or tows a ship on arrival in a port into the area allocated for it. The tug boat also guides the ship out of the port when it departs.

Qualifications: Master of the Sea.

Engineer

Civil engineers are responsible for developing infrastructure of the ports including the building of new ports, building and maintenance of roads in the ports as well as maintaining structures and facilities that support daily life in a port.

Qualifications: Degree, Diploma or B. Tech in Engineering. Require mathematics and physical science in Grade 12.