

Marine sciences curriculum

If all goes according to plan, learners at schools around the country may have the option of taking Marine Sciences as a school subject within a few years. On 19 July 2019, the subject's Curriculum and Assessment Policy Statement (CAPS) for Grades 10 to 12 – developed by the education team from the Two Oceans Aquarium in Cape Town – was gazetted for public comment.

Some revisions would likely be made on the basis of comments received, but the curriculum as gazetted covers the following four strands, all of which are to be taught in each school term.

- **Oceanography**, including marine geology, geography, chemistry and physics, explaining:
 - the sea floor and sediments, together with the structure and origins of coastlines and how these change over time
 - the chemical composition and properties of sea water, and the effects of pollutants on ocean life
 - the ways in which the ocean acts as a driver of weather and climate
 - the waves, tides and currents
- **Marine Biology**, investigating the classification, fundamental biology, evolutionary processes, marine biodiversity and the adaptation of organisms to their environments
- **Ecology**, exploring ecosystems such as rocky shores, kelp forests and sandy beaches through ecological concepts, including nutrient cycles and food chains
- **Humans and the Ocean**, highlighting:
 - marine careers
 - marine protected areas (MPAs) as a model for sustainably managing ocean resources
 - the harvesting of renewable and use of non-renewable ocean resources

- the importance of research in understanding the ocean and the effects that human activities and practices have on the ocean and larger global patterns (for example, climate change and ocean acidification).

During 2019, Marine Sciences was introduced as a Grade 10 pilot subject at three schools – South Peninsula High and Simon's Town School in the Cape Town area, and Gansbaai Academy in the Overberg area – working in close partnership with the Two Oceans Aquarium.

The subject was offered as an 'after-school extra' on two or three afternoons per week, depending on the school's preference, and learners from neighbouring schools and surrounding areas could attend too, subject to their successful application and a supporting letter from their own school.

At South Peninsula High, for example, 21 learners participated in the 2019 programme, and 11 of these were from four other schools. Simon's Town School had 24 learners signed up, but all but three of these were from the home school, which has a particularly strong marine focus. The Lawhill Maritime Centre forms part of the school, offering a Maritime Studies course comprising two specialised subjects – Maritime Economics and Nautical Science – for learners in Grades 10 to 12. Asked in October how the Marine Sciences programme was going, teacher Asheeqah Davis replied: "I'm having a blast with the kids – they're thoroughly enjoying it!"

In 2020 the official pilot will begin, with the Grade 10s of 2020 taking Marine Sciences as one of their matric subjects in 2022. The three existing schools and at least three other schools, all in the Western Cape, have confirmed that they will be offering it as an 8th subject, with lessons during school hours.



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