

CAMBRIDGE INTERNATIONAL AS & A LEVEL

Marine Science 9693

Syllabus Overview

Examinations 2028, 2029 and 2030

Understanding the whole syllabus

Scientific ideas become useful when they explain observations and predict what may happen in a new situation. The syllabus links factual knowledge with models, calculations and evidence. Practical skills run through the subject: measurements, variables, graphs and evaluation belong alongside the theory they help you understand.

For Marine Science 9693, the content map below follows the approved subject briefing and the official syllabus. Labels group related areas for orientation; the detailed syllabus remains the authority for individual learning requirements.

Content map

Syllabus area or component	What the area covers
AS: Water and Earth processes	At AS Level, you begin with water - examining bonding, solubility, density and pressure. You then explore tectonic processes, weathering, erosion, sedimentation, tides and ocean currents.
AS: Marine ecosystems and biodiversity	The course moves into interactions within marine ecosystems, the classification and biodiversity of marine organisms, and methods used to study populations. You will apply these ideas to major ecosystems, including the open ocean, coral reefs, rocky and sandy shores, and mangrove forests.
A Level: Physiology, resources and human impacts	At A Level, you examine the physiology of marine organisms, including cell structure, movement of substances, gas exchange and osmoregulation. You also study photosynthesis and respiration, sustainable fisheries, aquaculture, global warming, ocean acidification, conservation and the wider ecological effects of human activity.
Investigation and data skills	Practical work and the scientific method are integrated throughout the course. You will learn to plan investigations, assess risks, present and interpret data, use statistical techniques, evaluate methods and draw evidence-based conclusions.

These areas should be read as a connected course. Begin with the foundational knowledge identified in the first part of the map, then build towards the applications and explanations that depend on it. Keep definitions, diagrams, calculations and investigation skills connected. Revisit measurements and graphs while studying each topic, rather than saving practical preparation until the end. Where a row describes a choice of topics or components, study the selection required by your agreed route rather than treating all alternatives as compulsory.

Qualification and component choices

Qualification route	Components	Meaning
AS Level only	1 and 2	Standalone AS qualification, graded a-e
Staged A Level	1 and 2 first; then 3 and 4	Carry forward eligible AS marks within Cambridge rules and time limits
Full A Level in one series	1, 2, 3, 4	All required components; A Level graded A*-E

AS and A Level percentages refer to different qualification totals. A component can therefore have one weighting at AS and a different weighting in the full A Level. Confirm the entry option and any carry-forward arrangements with the centre.

All four components are written examinations. Investigative learning is still needed for the data-handling and practical-skills questions.

The assessed skills

Assessment objectives describe the abilities Cambridge looks for across the qualification. The following explanations paraphrase the syllabus objectives; they are not additional topics or separate orientation tasks.

Assessment objective	Meaning for the learner
AO1 Knowledge and understanding	Select accurate subject knowledge, terminology and examples that answer the question, and explain their meaning.
AO2 Handling and applying information	Interpret the information, apply an appropriate method and explain the relationships or reasoning that support the answer.
AO3 Experimental skills and investigation	Plan and understand methods, record and interpret observations, and evaluate the quality of an investigation.

These abilities work together in an answer. Accurate knowledge supports application, while a clear explanation shows how the evidence or method leads to a conclusion. The balance varies by component, so the next lesson connects these abilities with the actual assessment formats.

Key pointers: Follow the stated examination-year syllabus, cover the required areas for your route and develop skills alongside knowledge. **Next:** Open **Assessment Overview**.