SAMPLE COURSE OUTLINE

MARINE AND MARITIME STUDIES
ATAR YEAR 12
### Sample course outline

**Marine and Maritime Studies – ATAR Year 12**

**Unit 3 and Unit 4**

**Semester 1**

<table>
<thead>
<tr>
<th>Week</th>
<th>Syllabus content</th>
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</thead>
</table>
| 1-2  | Structure of the syllabus  
• course outline  
• assessment outline  
Snorkelling and diving  
• snorkelling equipment: types, preparation, fitting and removing  
• buddy responsibilities: pre-dive and post care and maintenance of equipment  
• hand signals  
Oceanography  
• Western Australian ocean currents, including Leeuwin, West Australian and South Equatorial, and their influence on Western Australian marine ecosystems |
| 3-4  | Snorkelling and diving  
• entry and exit techniques relevant to a natural environment  
• underwater swimming in a natural environment  
• finning: technique, direction control in a natural environment  
• mask defogging  
• clearing a partially flooded mask  
• snorkel breathing  
• snorkel clearing blast and displacement method  
Oceanography  
• comparisons of the production of biomass and transfer of energy in Western Australian marine ecosystems |
| 5-7  | Snorkelling and diving  
• duck diving, safe descending  
• descending and ascending technique  
• methods of equalising ear pressure  
• tired buddy tow  
• cramp release  
Oceanography  
• phytoplankton and zooplankton: identification, life cycles, interactions, seasonal patterns, importance to fish stocks, and measurement |
| 8-11 | Snorkelling and diving  
• ditch and recovery of an object: weight belt  
• positive, negative and neutral buoyancy  
• establish neutral buoyancy at the surface  
• making observations while snorkelling in a natural environment  
Oceanography  
• characteristics of coral communities, including role and importance to the marine environment, and coral bleaching process  
• impact of the enhanced greenhouse effect on coral bleaching |
| 12-14 | Environmental and resource management  
• major issues affecting Australia’s marine environment  
• types of marine pollutants  
• processes used to manage and control marine pollutant problems |
<p>| 15   | Examination revision |
| 16   | Semester 1 examination |</p>
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| 1–2  | Environmental and resource management  
|      | • strategies for managing marine biodiversity  
|      | ▪ role of marine protected areas and zones  
|      | ▪ global protection of cetaceans  
|      | ▪ role of scientific research in marine environmental management |
| 3–4  | Environmental and resource management  
|      | • ecotourism, reasons for rules and the ethical management of human interactions with whale sharks, dolphins and whales |
| 5–7  | Oceanography  
|      | • impact of the enhanced greenhouse effect on marine habitats and coastal communities, coral bleaching, global sea levels and thermohaline current  
|      | • cause, effect and measurement of coastal erosion, including longshore currents, accreting and eroding beaches, deposition and sand budgets  
|      | • features, role and impact of coastal engineering structures, including physical barriers, sand bypass systems, artificial reefs, ports and canals |
| 8–10 | Snorkelling and diving  
|      | • underwater vision: the eyes, refraction, light and colour  
|      | • underwater hearing: the ear, effects of water on sound  
|      | • heat loss underwater: ways to reduce  
|      | • pressure: effect of depth on body  
|      | • Boyle’s Law  
|      | • barotraumas  
|      | • carbon dioxide poisoning  
|      | • Archimedes’ principle |
| 11–14| History and archaeology  
|      | • methods of locating shipwrecks  
|      | • formation and decay processes associated with wreck sites (including metal corrosion)  
|      | • underwater wreck site excavation: techniques, processing and recording, recovery of artefacts, lift bags (purpose, use and calculations)  
|      | • conservation techniques (on-site and laboratory)  
|      | • the Batavia shipwreck, including:  
|      | ▪ historical background  
|      | ▪ location process  
|      | ▪ survey  
|      | ▪ excavation  
|      | ▪ recovery  
|      | ▪ conservation and interpretation of artefacts |
| 15   | Examination revision |
| 16   | Semester 2 examination |