

Aquatic Practices 2019

Study plan

Section 1: School statement

School:	Queensland Curriculum and Assessment Authority
Subject code:	6401
Combined class:	No
School contact:	SEO
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Section 2: Course and assessment overview

Aquatic Practices is a four-unit course of study.

Units 1 and 2 of the course are designed to allow students to begin their engagement with the course content, i.e. the knowledge, understanding and skills of the subject. Course content, learning experiences and assessment increase in complexity across the four units as students develop greater independence as learners.

Units 3 and 4 consolidate student learning.

QCAA approval

QCAA officer:	Date:
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Unit	Module number and description	Time in hours	Electives	Core concepts and ideas	Assess no.	Assessment technique, description and conditions	Dimensions
1	Module 1: Safety on our coastlines This module explores the fundamentals of water safety, specifically on our beaches and in the surf zone, physical oceanography (coastal erosion, waves, currents and ocean processes) and first aid and rescue responses.	20	<ul style="list-style-type: none"> R2.2 Specialised skills are required to safely participate in aquatic activities 	E1: Environmental conditions <ul style="list-style-type: none"> E1.1 Understanding weather and tides is essential for activities in and on the water E1.2 Oceanography and riparian processes shape aquatic environments E2: Ecosystems <ul style="list-style-type: none"> E2.2 Aquatic habitats are the places where organisms live E2.3 Particular organisms are suited to aquatic ecosystems and habitats R1: Entering the aquatic environment <ul style="list-style-type: none"> R1.1 People engage with the aquatic environment in different ways C1: Employment <ul style="list-style-type: none"> C1.1 Core skills for work are valued by employers SM1: Legislation, rules and regulations for aquatic environments <ul style="list-style-type: none"> SM1.3 Observation of workplace health and safety practices is essential when participating in aquatic activities SM3: First aid and safety <ul style="list-style-type: none"> SM3.1 The aquatic environment poses particular threats SM3.2 First aid skills are applied in response to illness, injuries and emergencies SM3.3 Aquatic environment requires specialised safety skills SM4: Management practices <ul style="list-style-type: none"> SM4.1 Working with others is essential when working in aquatic environments 	1	Performance Demonstrate first aid and rescue skills in response to given aquatic scenarios. Continuous class time will be provided for skill development.	<ul style="list-style-type: none"> Knowing and understanding Analysing and applying Planning and evaluating

Unit	Module number and description	Time in hours	Electives	Core concepts and ideas	Assess no.	Assessment technique, description and conditions	Dimensions
1	<p>Module 2: Snorkelling in Australia's aquatic ecosystems This module assesses hazards and risk in aquatic environments (including dangerous marine creatures), safe snorkelling practices, snorkelling techniques and equipment maintenance. It includes an introduction to aquatic ecosystems, including threats to the environment, environment management and protection, and a review of eco-tourism practices in the aquatic context.</p>	35	<ul style="list-style-type: none"> R2.2 Specialised skills are required to safely participate in aquatic activities 	<p>E1: Environmental conditions</p> <ul style="list-style-type: none"> E1.1 Understanding weather and tides is essential for activities in and on the water E1.2 Oceanography and riparian processes shape aquatic environments <p>E2: Ecosystems</p> <ul style="list-style-type: none"> E2.2 Aquatic habitats are the places where organisms live E2.3 Particular organisms are suited to aquatic ecosystems and habitats <p>E3: Conservation and sustainability</p> <ul style="list-style-type: none"> E3.1 Marine and freshwater pests and threats, including pollution, impact on aquatic environments E3.2 Actions conserve, sustain and bioremediate aquatic environment <p>R1: Entering the aquatic environment</p> <ul style="list-style-type: none"> R1.1 People engage with the aquatic environment in different ways R1.2 Scientific principles explain how objects behave in the water <p>C1: Employment</p> <ul style="list-style-type: none"> C1.1 Core skills for work are valued by employers <p>SM1: Legislation, rules and regulations for aquatic environments</p> <ul style="list-style-type: none"> SM1.1 Commonwealth and state legislation, rules and regulations control activities in aquatic environments SM1.3 Observation of workplace health and safety practices is essential when participating in aquatic activities 	2	<p>Investigation Create a plan and presentation for an eco-tourism snorkelling business in an Australian location. Evaluate the factors that make it 'eco-friendly'.</p> <ul style="list-style-type: none"> Multimodal response Individual, presented in class. 3.0–5.0 minutes 	<ul style="list-style-type: none"> Knowing and understanding Analysing and applying Planning and evaluating

Unit	Module number and description	Time in hours	Electives	Core concepts and ideas	Assess no.	Assessment technique, description and conditions	Dimensions
				<p>SM2: Equipment maintenance and operations</p> <ul style="list-style-type: none"> • SM2.1 The natural environment impacts on reliable and safe operation of equipment • SM2.2 Regular maintenance is essential for reliable and safe operation of equipment • SM2.3 It is essential to follow equipment operating instructions at all times <p>SM3: First aid and safety</p> <ul style="list-style-type: none"> • SM3.1 The aquatic environment poses particular threats • SM3.2 First aid skills are applied in response to illness, injuries and emergencies • SM3.3 Aquatic environment requires specialised safety skills <p>SM4: Management practices</p> <ul style="list-style-type: none"> • SM4.1 Working with others is essential when working in aquatic environments 			

Unit	Module number and description	Time in hours	Electives	Core concepts and ideas	Assess no.	Assessment technique, description and conditions	Dimensions
2	<p>Module 3: Aquariums and aquaculture This module investigates biotic and abiotic factors affecting aquatic ecosystems, builds an understanding of setting up an aquaculture, aquaponics or mariculture system, and explores the regulation of aquaculture activities by the Queensland Department of Agriculture and Fisheries. Students will explore career and business opportunities relating to aquatic ecosystems, and the importance of water quality and nutrition in aquaculture enterprises.</p>	35	<ul style="list-style-type: none"> • C2.1 Different methods are suited to particular stock/plants, locations, climates, types of water and purposes • C2.2 Water quality is essential for animal/plant production • C2.3 Quantity and quality of nutrition is essential for organism production 	<p>E2: Ecosystems</p> <ul style="list-style-type: none"> • E2.1 Aquatic ecosystems include biotic and abiotic components • E2.2 Aquatic habitats are the places where organisms live • E2.3 Particular organisms are suited to aquatic ecosystems and habitats • E2.4 The condition of aquatic ecosystems varies as a result of the biotic and abiotic components <p>R1: Entering the aquatic environment</p> <ul style="list-style-type: none"> • R1.1 People engage with the aquatic environment in different ways <p>C1: Employment</p> <ul style="list-style-type: none"> • C1.2 There are different career opportunities and pathways in aquatic industry and businesses <p>SM1: Legislation, rules and regulations for aquatic environments</p> <ul style="list-style-type: none"> • SM1.2 Commonwealth and state legislation, rules and regulations are administered by government departments and authorities • SM1.3 Observation of workplace health and safety practices is essential when participating in aquatic activities <p>SM2: Equipment maintenance and operations</p> <ul style="list-style-type: none"> • SM2.2 Regular maintenance is essential for reliable and safe operation of equipment • SM2.3 It is essential to follow equipment operating instructions at all times <p>SM4: Management practices</p> <ul style="list-style-type: none"> • SM4.2 Completion of aquatic activities requires a range of management skills 	3	<p>Project Design, develop and maintain an aquarium or a small aquaculture facility, taking into consideration water quality, feeding requirements and nutrition sources.</p> <ul style="list-style-type: none"> • Written component Report including description of the species reared in the aquarium/facility, set-up plan, reflection on its effectiveness and any recommendations. 400–700 words • Performance component Set-up of system, water quality testing (checklist of assessable skills and practices) and monitoring of the aquaculture species. Continuous class time will be given for the demonstration of skills. 	<ul style="list-style-type: none"> • Knowing and understanding • Analysing and applying • Planning and evaluating

Unit	Module number and description	Time in hours	Electives	Core concepts and ideas	Assess no.	Assessment technique, description and conditions	Dimensions
2	<p>Module 4: Marine biology This module involves hands-on laboratory and fieldwork experiences to discover the diversity that exists in local coastal and oceanic ecosystems. Students investigate the adaptations of aquatic organisms and their classification, and the traditional collection of species by Aboriginal peoples and Torres Strait Islander peoples. Students use technology (databases, virtual simulations, cameras) to help identify and classify organisms and participate in the CoralWatch citizen science program to contribute coral bleaching data from their local area.</p>	20	<ul style="list-style-type: none"> E4.2 Citizen science programs engage volunteers and the public in scientific research programs E4.3 Citizen science allows scientists to gather data over time, across large geographic areas to answer significant research questions 	<p>E2: Ecosystems</p> <ul style="list-style-type: none"> E2.2 Aquatic habitats are the places where organisms live E2.3 Particular organisms are suited to aquatic ecosystems and habitats E2.4 The condition of aquatic ecosystems varies as a result of the biotic and abiotic components <p>E3: Conservation and sustainability</p> <ul style="list-style-type: none"> E3.1 Marine and freshwater pests and threats, including pollution, impact on aquatic environments <p>C1: Employment</p> <ul style="list-style-type: none"> C1.1 Core skills for work are valued by employers C1.2 There are different career opportunities and pathways in aquatic industry and businesses <p>Cu1: Cultural understandings</p> <ul style="list-style-type: none"> Cu1.1 People source a range of resources from waterways <p>SM1: Legislation, rules and regulations for aquatic environments</p> <ul style="list-style-type: none"> SM1.1 Commonwealth and state legislation, rules and regulations control activities in aquatic environments <p>SM3: First aid and safety</p> <ul style="list-style-type: none"> SM3.1 The aquatic environment poses particular threats SM3.2 First aid skills are applied in response to illness, injuries and emergencies 	4	<p>Examination Respond to short response questions relating to the Marine biology module. 60.0–90.0 minutes</p> <ul style="list-style-type: none"> Short response test Supervised, closed book. 50–150 words per item 	<ul style="list-style-type: none"> Knowing and understanding Analysing and applying

Unit	Module number and description	Time in hours	Electives	Core concepts and ideas	Assess no.	Assessment technique, description and conditions	Dimensions
3	<p>Module 5: Boating This module investigates the fundamentals of working safely on the water (pre-departure checks, manoeuvring vessels, emergency communication, using safety equipment), monitoring weather and tides, equipment maintenance and navigation skills. Students are introduced to boat design and propulsion systems and investigate fishing/trawling and commercial shipping channels in the local area.</p>	40	<ul style="list-style-type: none"> • R2.1 Navigation knowledge and skills are essential for activities on the water • R2.2 Specialised skills are required to safely participate in aquatic activities • C3.1 Different vessel designs are suited to different situations 	<p>E1: Environmental conditions</p> <ul style="list-style-type: none"> • E1.1 Understanding weather and tides is essential for activities in and on the water • E1.2 Oceanography and riparian processes shape aquatic environments <p>E3: Conservation and sustainability</p> <ul style="list-style-type: none"> • E3.1 Marine and freshwater pests and threats, including pollution, impact on aquatic environments <p>R1: Entering the aquatic environment</p> <ul style="list-style-type: none"> • R1.1 People engage with the aquatic environment in different ways • R1.2 Scientific principles explain how objects behave in the water <p>C1: Employment</p> <ul style="list-style-type: none"> • C1.1 Core skills for work are valued by employers • C1.2 There are different career opportunities and pathways in aquatic industry and businesses • C1.3 Employers expect employees to build and update their knowledge and skills <p>SM1: Legislation, rules and regulations for aquatic environments</p> <ul style="list-style-type: none"> • SM1.1 Commonwealth and state legislation, rules and regulations control activities in aquatic environments • SM1.2 Commonwealth and state legislation, rules and regulations are administered by government departments and authorities • SM1.3 Observation of workplace health and safety practices is essential when participating in aquatic activities 	5	<p>Project Plan and evaluate a boating field trip, including demonstration of boating skills.</p> <ul style="list-style-type: none"> • Performance component Demonstration of boating skills. Annotated performance checklist of skills used as evidence of student achievement. • Written component Boating trip plan and evaluation. 500–900 words 	<ul style="list-style-type: none"> • Knowing and understanding • Analysing and applying • Planning and evaluating

Unit	Module number and description	Time in hours	Electives	Core concepts and ideas	Assess no.	Assessment technique, description and conditions	Dimensions
				<p>SM2: Equipment maintenance and operations</p> <ul style="list-style-type: none"> • SM2.1 The natural environment impacts on reliable and safe operation of equipment • SM2.2 Regular maintenance is essential for reliable and safe operation of equipment • SM2.3 It is essential to follow equipment operating instructions at all times <p>SM3: First aid and safety</p> <ul style="list-style-type: none"> • SM3.1 The aquatic environment poses particular threats • SM3.2 First aid skills are applied in response to illness, injuries and emergencies • SM3.3 Aquatic environment requires specialised safety skills <p>SM4: Management practices</p> <ul style="list-style-type: none"> • SM4.1 Working with others is essential when working in aquatic environments • SM4.2 Completion of aquatic activities requires a range of management skills 			

Unit	Module number and description	Time in hours	Electives	Core concepts and ideas	Assess no.	Assessment technique, description and conditions	Dimensions
3	<p>Module 6: Navigation</p> <p>This module expands on knowledge and skills developed in Module 5: Boating to allow students to gain a deeper understanding of pilotage, navigation equipment, charts, position fixing, GPS systems and charting courses. Navigation will be conducted in the local area.</p>	15	<ul style="list-style-type: none"> R2.1 Navigation knowledge and skills are essential for activities on the water 	<p>E1: Environmental conditions</p> <ul style="list-style-type: none"> E1.1 Understanding weather and tides is essential for activities in and on the water <p>C1: Employment</p> <ul style="list-style-type: none"> C1.2 There are different career opportunities and pathways in aquatic industry and businesses <p>SM1: Legislation, rules and regulations for aquatic environments</p> <ul style="list-style-type: none"> SM1.1 Commonwealth and state legislation, rules and regulations control activities in aquatic environments SM1.2 Commonwealth and state legislation, rules and regulations are administered by government departments and authorities SM1.3 Observation of workplace health and safety practices is essential when participating in aquatic activities <p>SM4: Management practices</p> <ul style="list-style-type: none"> SM4.1 Working with others is essential when working in aquatic environments 	6	<p>Examination</p> <p>Respond to short response questions assessing navigation knowledge, concepts and skills. 60.0–90.0 minutes</p> <ul style="list-style-type: none"> Short response test Supervised, closed book. 50–250 words per item 	<ul style="list-style-type: none"> Knowing and understanding Analysing and applying

Unit	Module number and description	Time in hours	Electives	Core concepts and ideas	Assess no.	Assessment technique, description and conditions	Dimensions
4	<p>Module 7: Sustainable recreational fishing</p> <p>This module introduces students to the fundamentals of recreational fishing equipment and techniques. Students explore Queensland regulations on catch and gear, plan activities to target species of their choice, and learn about and take part in sustainable fishing practices. Student will investigate indigenous fishing practices that have existed and continue to exist in their local area and across Australia.</p>	30	<ul style="list-style-type: none"> • Cu2.1 Aquatic industries and activities were, and continue to be economically, socially and culturally significant 	<p>E1: Environmental conditions</p> <ul style="list-style-type: none"> • E1.1 Understanding weather and tides is essential for activities in and on the water <p>E2: Ecosystems</p> <ul style="list-style-type: none"> • E2.1 Aquatic ecosystems include biotic and abiotic components • E2.2 Aquatic habitats are the places where organisms live • E2.3 Particular organisms are suited to aquatic ecosystems and habitats <p>E3: Conservation and sustainability</p> <ul style="list-style-type: none"> • E3.2 Actions conserve, sustain and bioremediate aquatic environment <p>R1: Entering the aquatic environment</p> <ul style="list-style-type: none"> • R1.1 People engage with the aquatic environment in different ways • R1.2 Scientific principles explain how objects behave in the water <p>C1: Employment</p> <ul style="list-style-type: none"> • C1.2 There are different career opportunities and pathways in aquatic industry and businesses • C1.3 Employers expect employees to build and update their knowledge and skills <p>Cu1: Cultural understandings</p> <ul style="list-style-type: none"> • Cu1.1 People source a range of resources from waterways • Cu1.2 Indigenous peoples have spiritual, social, economic and cultural links with waterways and places • Cu1.3 There are different social and cultural attitudes to industries and activities associated with and impacting on aquatic environments 	7	<p>Performance</p> <p>Demonstrate the rigging of fishing gear, the selection of bait and the catch and release of a target species, using three different fishing methods. Teacher annotations on the instrument-specific standards matrix and a checklist of assessable skills will be provided to guide the task. Continuous class time will be given for the demonstration of skills.</p>	<ul style="list-style-type: none"> • Knowing and understanding • Analysing and applying • Planning and evaluating

Unit	Module number and description	Time in hours	Electives	Core concepts and ideas	Assess no.	Assessment technique, description and conditions	Dimensions
				<p>SM1: Legislation, rules and regulations for aquatic environments</p> <ul style="list-style-type: none"> • SM1.1 Commonwealth and state legislation, rules and regulations control activities in aquatic environments • SM1.2 Commonwealth and state legislation, rules and regulations are administered by government departments and authorities • SM1.3 Observation of workplace health and safety practices is essential when participating in aquatic activities <p>SM2: Equipment maintenance and operations</p> <ul style="list-style-type: none"> • SM2.1 The natural environment impacts on reliable and safe operation of equipment • SM2.2 Regular maintenance is essential for reliable and safe operation of equipment • SM2.3 It is essential to follow equipment operating instructions at all times <p>SM3: First aid and safety</p> <ul style="list-style-type: none"> • SM3.1 The aquatic environment poses particular threats 			

Unit	Module number and description	Time in hours	Electives	Core concepts and ideas	Assess no.	Assessment technique, description and conditions	Dimensions
4	<p>Module 8: Food from the sea This module explores the management, conservation and use of aquatic resources as food sources, including the commercial collection and rearing of different species. Students will be introduced to the career opportunities in fishing and seafood collection and preparation, and safe seafood preparation and handling techniques. Students will be given an overview of traditional methods for gathering, preparing and cooking foods from the sea.</p>	25	<ul style="list-style-type: none"> C2.1 Different methods are suited to particular stock/plants, locations, climates, types of water and purposes 	<p>E3: Conservation and sustainability</p> <ul style="list-style-type: none"> E3.1 Marine and freshwater pests and threats, including pollution, impact on aquatic environments E3.2 Actions conserve, sustain and bioremediate aquatic environment <p>C1: Employment</p> <ul style="list-style-type: none"> C1.2 There are different career opportunities and pathways in aquatic industry and businesses <p>Cu1: Cultural understandings</p> <ul style="list-style-type: none"> Cu1.1 People source a range of resources from waterways Cu1.2 Indigenous peoples have spiritual, social, economic and cultural links with waterways and places Cu1.3 There are different social and cultural attitudes to industries and activities associated with and impacting on aquatic environments <p>SM1: Legislation, rules and regulations for aquatic environments</p> <ul style="list-style-type: none"> SM1.2 Commonwealth and state legislation, rules and regulations are administered by government departments and authorities <p>SM3: First aid and safety</p> <ul style="list-style-type: none"> SM3.2 First aid skills are applied in response to illness, injuries and emergencies 	8	<p>Investigation Choose an Australian commercial fishery and investigate the species they target, its fishing methods, its sustainability management practices and current status, and track the catch from ocean to plate.</p> <ul style="list-style-type: none"> Written response Article for a local seafood magazine. 600–1000 words 	<ul style="list-style-type: none"> Knowing and understanding Analysing and applying

Aquatic Practices 2019

Teacher:

Class:

Student name:

Year:

Unit	Module of work	Assessment Instrument No.	Assessment Instrument	Formative or Summative	Knowing and understanding	Analysing and applying	Planning and evaluating
1	Module one Safety on our coastlines	1	Performance	F			
	Module two Snorkelling in Australia's aquatic ecosystems	2	Investigation	F			
2	Module three Aquariums and aquaculture	3	Project	F			
	Module four Marine biology	4	Examination	F			
Interim Standards							
Interim Result							
3	Module five Boating	5	Project	S			
	Module six Navigation	6	Examination	S			
4	Module seven Sustainable recreational fishing	7	Performance	S			
	Module eight Food from the sea	8	Investigation	S			
Exit Standards							
Exit Result							