Earth & Environmental Science

General Senior Subject

General

School Code	ESC		
Year Level	11 & 12	**QCE Credits**	4
Subject Type	General Subject	**VET Contribution**	N/A
Recommended Academic Performance	Science—B Standard Foundation General Maths—C Standard English—C Standard		
21st Century Skills			

Earth & Environmental Science is an interdisciplinary subject that provides opportunities for students to engage with the dynamic interactions in and between four systems: geosphere, hydrosphere, atmosphere and biosphere.

Students examine the evidence underpinning theories of the development of the Earth systems, their interactions and their components. They investigate how Earth processes involve interactions of Earth systems and are interrelated through transfers and transformations of energy. They examine renewable and non-renewable resources, the implications of extracting, using and consuming these resources, and associated management approaches. They consider how Earth processes and human activity can contribute to Earth hazards, and the ways in which these hazards can be predicted, managed and mitigated to reduce their impact on earth environments.

Students learn and apply aspects of the knowledge and skills of the discipline (thinking, experimentation, problem-solving and research skills), understand how it works and how it may impact society.

Pathways

A course of study in Earth & Environmental Science can establish a basis for further education and employment in the fields of geoscience, soil science, agriculture, marine science, environmental rehabilitation, urban planning, ecology, natural resource management, wildlife, environmental chemistry, conservation and ecotourism.

Objectives

By the conclusion of the course of study, students will:

- describe and explain scientific concepts, theories, models and systems and their limitations
- apply understanding of scientific concepts, theories, models and systems within their limitations
- analyse evidence
- interpret evidence
- investigate phenomena
- evaluate processes, claims and conclusions
- communicate understandings, findings, arguments and conclusions.

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Structure:

Unit 1	Unit 2	Unit 3	Unit 4
Introduction to Earth systems • Earth systems and models • Development of the geosphere • Development of the atmosphere and hydrosphere • Development of the biosphere	**Earth processes — energy transfers and transformations** • Energy for Earth processes • Energy for atmospheric and hydrologic processes • Energy for biogeochemical processes	**Living on Earth — extracting using and managing Earth resources** • Use of non-renewable Earth resources • Use of renewable Earth resources	**The changing Earth — the cause and impact of Earth hazards** • The cause and impact of Earth hazards • The cause and impact of global climate change

Assessment:

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

Summative assessments:

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Data test	10%	Summative internal assessment 3 (IA3): • Research investigation	20%
Summative internal assessment 2 (IA2): • Student experiment	20%		
Summative external assessment (EA): 50% • Examination			

Costs

It is expected that students studying this subject participate in BYOD. Please see page 155 for further information and device specifications.

- Approximately $30 cost for excursion