

SCIENCE

LEARNING AREA OVERVIEW

Learning Area Statement:

Science provides rational and evidence-based ways of answering interesting and important questions about the biological, physical and technological world. The knowledge it produces has proved to be a reliable basis for action in our personal, social and economic lives. Science is a dynamic, collaborative and creative human endeavour arising from our desire to make sense of our world through exploring the unknown, investigating universal mysteries, making predictions and solving problems.

BIG IDEAS: Consensus of understanding • Evolution of understanding • Modelling and rationalising • Systems and simplification • Synthesis and creativity • Testing and contesting • Inquiry and wonder • Cause and effect

(Based on: <https://www.australiancurriculum.edu.au/f-10-curriculum/science/rationale/>
and <https://www.australiancurriculum.edu.au/f-10-curriculum/science/aims/>)

independent
schools
tasmania



Catholic
Education
Tasmania

Planned expiry of current courses*:

EXPIRING END 2021	EXPIRING END 2022	EXPIRING END 2023	EXPIRING END 2024	EXPIRING END 2025	EXPIRING END 2026	EXPIRING END 2027
Nil	Life Sciences 2	Biology 3 Physical Sciences - Foundation 2 Physical Sciences 3	Chemistry 4 Physics 4	Environmental Science 3	Preliminary Science Stages 1-4	Nil

* Subject to development, accreditation and course renewal processes

Current Complementary Offerings Include:



HAP

- Biology of Animals
- Biology of Plants
- Chemistry 1A
- Chemistry 1B
- Ecology
- Physics 1A
- Physics 1 B



UCP

- A practical Introduction to Temperate Marine Biology
- A Primer of Marine and Antarctic Science



CERT I, II, III

- Cert I Aquaculture
- Cert I Horticulture
- Cert II Agriculture
- Cert II Animal Studies
- Cert II Aquaculture
- Cert II Electrotechnology
- Cert II Horticulture
- Cert III Agriculture
- Cert III Animal Studies
- Cert III Health Services Assistance



ASBA

Australian School-based Apprenticeships

An Australian School-based Apprenticeship (ASbA) is a paid, employment-based training arrangement.

Students in Year 10, 11 or 12 are able to combine work, training and education to gain a nationally recognised qualification, usually at Certificate II or III level – across almost every industry sector and training package.

What could an ASbA look like in the Science learning area?

This learning area complements ASbA pathways. For example, a learner could be employed as a school-based apprentice one or two days a week in the energy and renewables industry.

For further information please visit the Department of Education's Website - <https://www.education.tas.gov.au/parents-carers/parent-fact-sheets/australian-school-based-apprenticeship-asba/>








KEY TASMANIAN INDUSTRIES

- Advanced Manufacturing
- Antarctic and Southern Ocean
- Building & Construction
- Cultural & Tourism Industry
- Defence
- Education and training
- Food & Agribusiness
- Forestry & related Industries
- Information, Communication & Technology
- Mining and mineral processing
- Renewable Energy
- Science

Planned course provision*

PRELIM	LEVEL 1	LEVEL 2	LEVEL 3 (and further pathways)	LEVEL 3/4 (and further pathways)
Preliminary Science (Stages 1 - 4)	Science	Biology	Biology	
		Environmental Science	Environmental Science	
		Transdisciplinary Science	Transdisciplinary Science	
		Physical Sciences	Physical Sciences	Chemistry 4
				Physics 4

KEY - Focus Areas

 Transdisciplinary Projects	 Professional Studies	 Discipline-based Study
 Work-based Learning	 Personal Futures	

* Subject to development, accreditation and course renewal processes.
† Replacements for Community Services Learning, Financial Literacy, Road Safety Education and Basic Road Safety will be developed as part of the Life Ready Learner module suite. View the Planned Course Provision Document for details.

Current pathways in – pathways out

PATHWAYS IN		PATHWAYS OUT
Australian Curriculum		Australian Curriculum – Packages of Learning
Links to Foundation to Years 10 Australian Curriculum Science are in brief:		Packages of Learning are aligned to an identified growth industry and adopt an integrated approach to teaching the Australian Curriculum in years 9 & 10.
Biology	Earth and Environmental Science	
<ul style="list-style-type: none">diversity and evolutioninteraction and interdependence in the environmentform and featuressystems and functions	<ul style="list-style-type: none">deep timeecologyEarth changes	<ul style="list-style-type: none">Advanced Manufacturing,Agriculture, Food and Natural ResourcesArchitecture and ConstructionHealth and Community ServicesHospitality and Tourism
Physics	Chemistry	
<ul style="list-style-type: none">forces and behaviourenergy transfer and transformation	<ul style="list-style-type: none">properties and structurechanges in structure and energy	
https://www.australiancurriculum.edu.au/f-10-curriculum/science/		
Mathematical skills expected of learners studying senior secondary science. https://www.australiancurriculum.edu.au/f-10-curriculum/science/		
		The Science courses may provide a pathway to certificate or diploma courses offered by TasTAFE and/or through a private provider, such as:
		<ul style="list-style-type: none">Agriculture and ScienceBuilt Environment and EngineeringHealth and Aged CareElectrotechnologyHorticulture & Conservation and Land Management
		Pathways to Tertiary study
		The University of Tasmania has a broad range of offerings at both undergraduate and postgraduate level for learners in the Science area, such as:
		<ul style="list-style-type: none">College of Arts, Law and EducationCollege of Health and MedicineCollege of Sciences and EngineeringMenzies Institute for Medical ResearchUniversity College

Curriculum priorities



ENGAGEMENT

Strengthening engagement for learners with innovative curriculum at point of need and place



PATHWAYS

Strengthening pathways for learners through a tailored and future-focussed curriculum that leads into further education, training and work



WORK AND LIFE

Preparing learners for work and life with contemporary curriculum that leads to productive and fulfilling lives

Planned course provision by year*

2022

PRELIM	LEVEL 1	LEVEL 2	LEVEL 3 (and further pathways)	LEVEL 3/4 (and further pathways)
Preliminary Science (Stages 1-4)	Science	Life Sciences (15)	Biology (15)	
			Environmental Science (15)	
		Transdisciplinary Science		
		Physical Sciences Foundation (15)	Physical Sciences (15)	Chemistry 4 (15) Physics 4 (15)

2023

PRELIM	LEVEL 1	LEVEL 2	LEVEL 3 (and further pathways)	LEVEL 3/4 (and further pathways)
Preliminary Science (Stages 1-4)	Science	Biology	Biology (15)	
			Environmental Science (15)	
		Transdisciplinary Science	Transdisciplinary Science	
		Physical Sciences Foundation (15)	Physical Sciences (15)	Chemistry 4 (15) Physics 4 (15)

2024

PRELIM	LEVEL 1	LEVEL 2	LEVEL 3 (and further pathways)	LEVEL 3/4 (and further pathways)
Preliminary Science (Stages 1-4)	Science	Biology	Biology	
			Environmental Science (15)	
		Transdisciplinary Science	Transdisciplinary Science	
		Physical Sciences	Physical Sciences	Chemistry 4 (15) Physics 4 (15)

* Subject to development, accreditation and course renewal processes.

Planned course development activity by year*

2022

Early Development	Development and Accreditation	Resource Development and Professional Learning	Implementation		NO LONGER AVAILABLE
TRANCHE 3	TRANCHE 2	TRANCHE 1B	TRANCHE 1A	TYPE	
4 Chemistry	2 Physical Sciences	2 Biology	1 Science	★	
4 Physics	3 Biology	3 Transdisciplinary Science	2 Transdisciplinary Science	★	
	3 Physical Sciences				

2023

Early Development	Development and Accreditation	Resource Development and Professional Learning	Implementation		NO LONGER AVAILABLE
TRANCHE 4	TRANCHE 3	TRANCHE 2	TRANCHE 1B	TYPE	
2 Environmental Science	4 Chemistry	2 Physical Sciences	2 Biology	■	Life Sciences (LSC215120)
3 Environmental Science	4 Physics	3 Biology	3 Transdisciplinary Science	★	
		3 Physical Sciences			

2024

Early Development	Development and Accreditation	Resource Development and Professional Learning	Implementation		NO LONGER AVAILABLE
TRANCHE 4	TRANCHE 3	TRANCHE 2	TRANCHE 1B	TYPE	
P Preliminary Science	2 Environmental Science	4 Chemistry	2 Physical Sciences	■	Physical Sciences Foundation (PSC215118)
	3 Environmental Science	4 Physics	3 Biology	■	Biology (BIO315116)
			3 Physical Sciences	■	Physical Sciences (PSC315118)

KEY - Type

■ Evolution of previously existing TASC-Accredited Course

★ New Contemporary Course

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