



# Transdisciplinary Science Level 2-3

## Scoping Paper

### Years 9 to 12 Learning 2020 Course Development

#### **The purpose of this scoping paper**

The purpose of this paper is to provide information regarding the scope of the proposed *Transdisciplinary Science Level 2-3* including the:

- *Rationale*
- *Relationship to:*
  - *Senior Secondary Australian Curriculum (where applicable)*
  - *Years 9 to 12 Curriculum Framework*
  - *General Capabilities*
- Existing pathways and possible Future Provision
- Course Design

It is designed to enable all interested stakeholders to reflect and provide initial feedback on the rationale and relationships as italicised above. The additional information is included for noting.

Additionally in consideration of the information provided in this scoping paper we are seeking your suggestions for the core concepts, big ideas, essential learnings or important considerations you would like to see included in this proposed course.



## Consultation

Throughout the course development process there will be four opportunities for formal stakeholder consultation:

- Course Scope
- Structural Overview and Key features (November/December 2020)
- Initial Draft Course (March 2021)
- Final Draft Course (June 2021)

This scoping paper represents the first of four course consultation points for teachers to engage in the course development process for *Transdisciplinary Science Course Level 2-3*.

## Course Rationale

As part of a group of three flexible science courses with *Introductory Science* Level 1 and the *Transdisciplinary Science* suite Levels 2-3 provides a powerful platform for all learners to develop their capabilities, in particular to think creatively, work collaboratively, and be innovative.

Learners undertaking *Transdisciplinary Science* Levels 2-3 will apply inquiry-based approaches to design, plan, and undertake investigations on a short term or more extended scale, responding to local or global situations. Both collaboratively and individually, students will employ a scientific approach to collecting, representing, and analysing data, using technological tools effectively. After critically evaluating their procedures or models, students communicate scientifically to draw evidence-based conclusions that may lead to further testing, exploring more effective methods or solutions, or new questions. That is, they will be equipped to navigate, understand and adapt to what we experience as 21st Century learners.

Innovative and critical thinking in the world of science underpins a cohesive understanding of the natural world and the discovery of new ways of doing and thinking. Science is continually refining and expanding knowledge and, as this happens, stimulating new questions for future investigation.

Of the 22 divisions of academic student in the Fields of Research 2007 classification, 10 are scientific and 3 have deep and rich relationships with science.

(<https://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/1297.0Main%20Features52008> )

In practice, most modern and applied science flows between these divisions and is transdisciplinary once contextualised. Only half of these divisions, which are then further divided into recognisable disciplines, are represented within the current TCE offerings.

## Years 9 to 12 Curriculum Framework

[Years 9 to 12 Education Framework](#) informs the design of *Transdisciplinary Science Levels 2-3* and it fits within the Transdisciplinary Projects focus area of the [Years 9 to 12 Curriculum Framework](#).

## Pathways

The *Transdisciplinary Science* suite of courses enables learning continuity from Years 9-10 Australian Curriculum Science to Years 11-12 through sequenced learning pathways.



## Relationship to the Senior Secondary Australian Curriculum

The *Transdisciplinary Science* suite of courses do not align with any particular course from Senior Secondary Australian Curriculum Science. This suite will draw heavily from the Science as a Human Endeavour and Science Inquiry Skills that are common across all of Senior Secondary Australian Curriculum Science. In addition, *Transdisciplinary Science* Levels 2-3 will provide an opportunity to utilise Science Understanding from the currently unrepresented Senior Secondary Australian Curriculum: Earth and Environmental Science. Almost all jurisdictions in Australia offer courses that reflect what is proposed for *Transdisciplinary Science* Levels 2-3.

## Australian Curriculum General Capabilities

The *Transdisciplinary Science* suite of courses is designed to enable teachers to design courses of study which draw on the cross curriculum priorities and develop the General Capabilities: Literacy, ICT, Critical and Creative Thinking, Ethical Understanding, Personal and Social Capability and Intercultural Understanding.

## Relationship to Replacement courses

*Transdisciplinary Science Level 2 - 3* is a new course.

## Senior Secondary Accreditation Framework






This course will be developed to address the Principles and Standards of the [Senior Secondary Accreditation Framework](#).

## Course Design

This proposal is in line with the draft Integrated Policy Model. From the Articulation, extension and enrichment: section this is a Level 2-3 course pair. Each course is 150 hours and will be divided into three equally weighted modules of 50 hours each.

## Relationship to possible Future Provision

Learning Area Roadmaps are available on the Years 11 & 12 website: <https://11and12.education.tas.gov.au/learning-area-road-maps/>

| FOCUS AREA   | P       | 1                    | 2  | 3 | 4                    |
|--|---------|----------------------|--|---|----------------------|
|  Discipline-based     |         |                      | Biology<br>Physical Sciences                       |   |                      |
|  Transdisciplinary    |         |                      | Transdisciplinary Science<br>Environmental Science |   |                      |
|  Professional Studies |         |                      |  |   | Chemistry<br>Physics |
|  Work-based           |         |                      |  |   |                      |
|  Personal Futures     | Science | Introductory Science |  |   |                      |