TRANSDISCIPLINARY SCIENCE (TDS315123)

External Assessment Specifications

External Assessment Specifications inform the development of external assessments.

These specifications must be read in conjunction with the course document.

FORMAT AND STRUCTURE

The external assessment consists of two components:

- a folio
- an oral exam.

FOLIO GUIDELINES

These guidelines provide students, teachers and markers with details for this course about:

- what students must do for the folio that forms part of their assessment
- what is expected of teachers
- how markers are to assess students' work.

This document does not repeat necessary information found in other documents and must be read in the context of the course document (TDS315123 Transdisciplinary Science).

The *TASC Frequently Asked Questions – Externally assessed folios* document on the Folio Assessment page provides general information for all students and teachers, including a *how-to guide* for submitting external assessment material and a link to the TASC Academic Integrity Guide.

The final folio **must** be electronically submitted by the student to their provider for external assessment. The provider cannot extend this published final "due to teacher date" however they may set an earlier deadline for internal assessment purposes.

Due dates for folio submission are available from the TASC website.

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FOLIO STRUCTURE

The folio includes the following components:

- Learner Inquiry Project checklist
- a finalised inquiry question and context
- a scientific paper
- a screenshot of the scientific poster (a copy of the poster to be used in the oral presentation).

CRITERIA TO BE ASSESSED

The folio will be assessed externally by TASC to determine ratings on:

Criterion 3: analyse concepts, processes and interrelationships between scientific models and theories

Criterion 4: analyse and communicate scientific data and information

Criterion 5: analyse the interrelationships between local, national, and global contexts with an inquiry

Criterion 7: apply, analyse and adapt experimental design with an inquiry

Criterion 8: analyse, synthesise and represent scientific inquiry to make valid conclusions.

Course coverage

- the folio assesses the inquiry and findings.

Item type

- students will submit a word-processed product.
- all components are compulsory.

Time allocation

- approximately 10 hours for the finalised inquiry question and context.
- approximately 20 hours for the scientific paper.

Rating allocation

Extended ratings of A+, A, A- … B+, B, B- … C+, C, C- … t+, t, t- or z for each Criterion 3, 4, 5, 7 and 8.

ADVICE TO STUDENTS

You are required to submit a folio of your work consisting of:

1. Learner Inquiry Project checklist
2. finalised inquiry question and context
3. scientific paper
4. a screenshot of their scientific poster (a copy of the poster to be used in the oral presentation).

TASC will assess the folio to determine the course external assessment rating for Criteria 3, 4, 5, 7 and 8. If you do not submit a folio, you cannot achieve more than a Preliminary Achievement (PA) for this course. Learners need to be aware that each module has an experimental component: trialling their initial experiment in Module 1, experimenting broadly and deeply in Module 2 and undertaking final experiments in Module 3. This needs to be evident in the folio of work submitted.

Finalised inquiry question and context

Learners will finalise their inquiry question and context including:

- final inquiry question and context for inclusion in their external assessment portfolio containing the inquiry question justifying their choice with reference to:
    - data collected
    - processes undertaken
    - any changes in the ability to collect data
    - what has emerged from the preliminary analysis
    - opportunities to come to definite conclusions
    - any other relevant information, including but not limited to: data analysis, and scientific theories or models.
- summary and analysis of local, national and global context to provide an appropriate and relevant background for their inquiry, which may include analysis where:
    - the focuses of interest have been refined or replaced as new evidence, models or theories have emerged
    - there are opportunities to refine theories, gather more data or question the interpretation of data
    - technology has assisted in greater understanding
    - social, economic, cultural or sustainability considerations are important
    - there is collaboration
    - First Nations Peoples' knowledge can be applied.

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Scientific paper

Students will document the critical aspects of their inquiry in the form of a scientific paper. The focus is on what students have discovered, how they found it, and supporting evidence. This is all within the broader societal context of the study and what further investigation may be warranted. The paper should include:

- analysis of the findings
- risk assessments, ethical considerations and mitigation strategies applied the design, data and procedures used
- analysis of research, processes and systems analysis of the inter-relationships between data, theories and models
- the limitations of the primary and secondary data their interrelationships and how critical issues were addressed
- valid and reasoned conclusions with supporting evidence from scientific disciplines applied
- analysis of processes, data and conclusions recommending further investigation to verify interrelationships identified and gaps within the inquiry
- a detailed list of the Works Cited must be located at the end of the folio. This list should include all works used in both sections of the folio
- quotations must be presented as outlined in the referencing systems used.

Folio length and word count

- the folio has a 4500-word maximum:
    - 1500 words maximum for finalised inquiry question and context (both combined)
    - 3000 words maximum for scientific paper
- a maximum of 40 A4 equivalent pages (includes research, evidence of planning, concept sketches with annotations, photographs, charts/diagrams, etc.). Not included in this maximum limit:
    - a cover page (only containing the inquiry question and the candidates TASC ID)
    - references
    - a clear photographic image or screenshot of the presentation poster prepared as part of Module 3 related reference list.
- folios that exceed the 40-page limit will only have the first 40 pages assessed.

Presentation of folio

Electronic submission: the folio **must** be submitted to the teacher electronically as a PDF file. See the *TASC Frequently Asked Questions – Externally Assessed folios* document on the TASC Folio Assessment page for detailed instructions.

When presenting your folio, the following **must** be noted:

- the folio must be a single coherent folio presentation.
- the folio must be submitted as a single file no larger than 100 megabytes in total size, not a series of separate files.
- you are expected to provide a reworked, and polished, word-processed product.
- your teacher is required to see all versions of your work, so it is essential to 'Save as' each time you produce a new draft of your work.
- allowances will not be made for technological failures including software and hardware malfunctions. The best way to protect yourself from technological failure is to make a hard copy of each draft.
- proofreading and editing are an essential part of the process. Careful attention needs to be given to correct spelling of all proper nouns.
- quotations must be presented as outlined in the referencing system used.
- your extended design project must use 1.5 spacing only. This makes it easier for examiners to read your work on the electronic devices. Use a clear size 11 font such as Palatino, Baskerville, Calibri, Helvetica, or Gill Sans MT.
- your TASC ID should appear on every page of the folio as a header.
- every page must be paginated.
- borders, decorations and "project" style covers do not add to the integrity of the extended design project and must not be used.
- do not include your name, the name of your teacher or your school or college in any part.

Referencing

- for this course American Psychological Association (APA) is the preferred style.
- regardless of the formal referencing style chosen, you must consistently use a single referencing style in all components of your folio.
- refer to Academic Integrity information on the TASC website for information about referencing styles, frequently asked questions, and tips and hints for correct referencing.
- a detailed list of works cited must be shown in the Reference List.

Declaration form

Students **must** complete and submit to their provider the student folio declaration available under the *Supporting documents* on the relevant course page on the TASC website before submitting their folio. Further information for students and providers on the Student folio declaration form is available in the *Student folio declaration form information sheet* on the Folio assessment page.

ADVICE TO TEACHERS

For each of your students you are required to:

- see all work as it progresses
- make sure the presentation and content requirements for the folio and the penalties for not meeting them are well known.

Each module requires students to complete experimental work. Each module's assessment will be a scientific presentation of the observations and data gathered from the experiments completed in the Module. Students need to be able to discuss in their oral presentation how they have developed their inquiry through the different experiments and then be able to draw conclusion and synthesise their findings from these 3 Modules.

SUBMISSION OF FOLIO

The provider **must** submit the folio to TASC via TRACS as one complete electronic document to within
48 hours of the published *due to teacher* date.

TRACS submission requirements are available on the How to submit student folios – TRACS Help (tasc.tas.gov.au) page.

INSTRUCTIONS TO MARKERS

The Criteria to be assessed through the marking of the folio are:

Finalised inquiry question and context

Criterion 4: analyse and communicate scientific data and information

Criterion 5: analyse interrelationships between local, national, and global contexts within an inquiry within a scientific inquiry

Criterion 7: analyse and adapt experimental design within an inquiry

Scientific paper

Criterion 3: analyse concepts, processes and interrelationships between scientific models and theories

Criterion 4: analyse and communicate scientific data and information

Criterion 8: analyse, synthesise and represent scientific inquiry to make valid conclusions

Prior to the commencement of marking, markers will be required to meet with the Marking Co-ordinator. This meeting will include training in the use of the marking guide, the course criterion elements and standards-when determining ratings.

Penalties

TASC takes the issue of academic integrity very seriously. If it is found that you breached the external assessment rules and have not maintained academic integrity when submitting your work for assessment, a penalty may be applied.

The following penalties will be applicable through the marking process:

- folios that exceed the 40-page limit will only have the first 40 pages assessed.

ORAL EXAM STRUCTURE

The oral exam includes two components:

- a presentation
- an oral defence

Students are required to prepare, provide, present and defend to a marking panel the A1 presentation poster prepared as part of Module 3 showing work relating to the inquiry question. It is recommended that text should be minimised, graphs and charts should only be included if directly relevant and images must enhance the evidence provided. Text must be 16 point or larger.

It is advised to summarise the findings of the scientific inquiry to highlight the inquiry in a few key results.
All information must be brief and simple – communicating one or two key findings only. The poster is evidence alongside the scientific paper and **must not** attempt to replicate it.

The presentation includes a question-and-answer session about the inquiry undertaken. This will aid the markers to determine the depth of the student's understanding of their inquiry topic.

Assessed criteria

The oral exam will be assessed externally by TASC to determine ratings on:

Criterion 3: analyse concepts, processes and interrelationships between scientific models and theories

Criterion 4: analyse and communicate scientific data and information

Criterion 8: analyse, synthesise and represent scientific inquiry to make valid conclusions.

Course coverage

- the presentation and oral defence assess the inquiry and findings.

Item type

- students will present their A1 presentation poster to markers
- students will respond to a question-and-answer session by markers
- all components are compulsory.

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Time allocation

Students will be allocated a maximum of 10 minutes to present their A1 presentation poster to markers and will respond to questions from markers for 12-15 minutes.

Markers work to a tight schedule; students are required to ensure presentation time does not exceed the specified presentation time.

Note: If a student finishes their presentation in less than the allocated 10 minutes, they will still have a maximum of 12-15 minutes of question time.

TASC will provide venue and scheduling information in Term 3 to students and providers.

Rating allocation

Extended ratings of A+, A, A- … B+, B, B- … C+, C, C- … t+, t, t- or z for each Criterion 3, 4 and 8.

ADVICE TO STUDENTS

You are required to display an A1 poster in support of your inquiry consisting of:

- the inquiry question
- a summary of findings
- analysis of the inter-relationships between data, theories and models with reference to scientific disciplines applied
- the limitations of the primary and secondary data, their interrelationships and how critical issues were addressed
- valid and reasoned conclusions with supporting evidence from scientific disciplines applied
- analysis of processes, data and conclusions and recommending opportunities for further investigation to verify interrelationships identified and gaps within the inquiry
- references and acknowledgement of other sources, bibliography.

TASC will assess the presentation to determine the course external assessment rating for Criteria 3, 4 and 8. If a student does not attend their presentation, they cannot achieve more than a Preliminary Achievement (PA) for this course.

ADVICE TO TEACHERS

For each of your students you are required to:

- see all work as it progresses
- ensure each student has a poster ready for display
- ensure the students are aware of the date and time of their presentation
- remind students scheduled times and dates are not negotiable and if missed they know the penalty for not attending
- teachers are not permitted to be present at the time of the practical assessment.

INSTRUCTIONS TO MARKERS

The Criteria to be assessed through the marking of the presentation and question-and-answer session are:

- Criterion 3: analyse concepts, processes and interrelationships between scientific models and theories
- Criterion 4: analyse and communicate scientific data and information
- Criterion 8: analyse, synthesise and represent scientific inquiry to make valid conclusions

Penalties

TASC takes the issue of academic integrity very seriously. If it is found that you breached the external assessment rules and have not maintained academic integrity a penalty may be applied.

The following penalties will be applicable through the marking process:

- if a student fails to attend the presentation they will be provided with 'z' notations for each of the criteria for this component of the external assessment.

RECORDING OF EXTERNAL ASSESSMENTS

Video/aural recordings of TASC external assessments is **NOT** permitted under any circumstances.

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