PRE-APPROVED LEARNING AND ASSESSMENT PLAN

**Stage 2 Earth and Environmental Science**

Pre-approved learning and assessment plans are for *school use only*.

* Teachers may make changes to the plan, retaining alignment with the subject outline.
* The principal or delegate endorses the use of the plan, and any changes made to it, including use of an addendum.
* The plan does not need to be submitted to the SACE Board for approval.

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| School |  | Teacher(s) |  |

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| SACE  School Code | | |  | Year |  | Enrolment Code | | | | |  | Program Variant Code (A–W) |
| Stage | Subject Code | | | No. of Credits (10 or 20) |
|  |  |  |  | **2** | **E** | **E** | **S** | **20** |  |

**Addendum – changes made to the pre-approved learning and assessment plan**

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| Describe any changes made to the pre-approved learning and assessment plan to support students to be successful in meeting the requirements of the subject. In your description, please explain:   * what changes have been made to the plan * the rationale for making the changes * whether these changes have been made for all students, or for individuals within the student group. |

**Endorsement**

The use of the learning and assessment plan is approved for use in the school. Any changes made to the plan support student achievement of the performance standards and retain alignment with the subject outline.

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| Signature of principal or delegate |  | Date |  |

Stage 2 Earth and Environmental Science

Assessment Overview

The table below provides details of the planned tasks and shows where students have the opportunity to provide evidence for each of the specific features of all of the assessment design criteria.

| **Assessment Type and Weighting** | **Details of assessment** | **Assessment Design Criteria** | | **Assessment conditions**  (e.g. task type, word length, time allocated, supervision) |
| --- | --- | --- | --- | --- |
| **IAE** | **KA** |
| **Assessment Type 1: Investigations Folio**  Weighting  30% | **Team Field Investigation**: Effects of sulfide mining on an ecosystem – Brukunga  Students will work in teams of 4 to identify a problem that sulfide mining has caused in the local ecosystem of the Dawsley Creek catchment area. They collect primary data using a range of field sampling techniques, chemical and physical tests, and field notes. Students individually analyse their data and identify how the mining operation has impacted on interactions within and between Earth systems. Students will submit an individual field report and their field note book. | 2,3,4 | 2,4 | Planning and preparation including risk assessment and researching secondary data – 2 lessons. Field sampling and testing – day field trip – 4 – 5 hours  Total of 1500 words (excluding plan, materials, risk assessment, results) |
| **Design Practical Investigation**: Exploring Groundwater systems with sand tank model  Students use a groundwater mode to individually design an investigation around the impact of groundwater use on groundwater quality and/or quantity. When the design has been assessed, students in pairs, nominate the design to implement. Students make and record observations, analyse their observations, and formulate conclusions. Students prepare and submit an individual report. | 1,2,3,4 | 1,4 | Design – individual; Implementation - collaborative, supervised task.  Planning and preparation including risk assessment – 1 lesson  Modelling and data collection: 120 minutes in the Flinders University School of Earth Sciences laboratory.  Total of1500 words (excluding materials, method, results) |
| **SHE Investigation:** Students investigate an aspect of Earth Systems with an emphasis on Science as a Human Endeavour. This investigation focuses on at least one key concept of Science as a Human Endeavour and may draw on a context suggested in the topics being studied or explore a new context. | 3 | 2,3,4 | Students have 2 weeks to gather information to use to write the report.  The report is an individual task.  Up to a maximum of 1500 words or a maximum of 10 minutes in total for an oral presentation, or the equivalent in multimedia form. |
| **Assessment Type 2: Skills and Applications Tasks**  Weighting  40% | **Earth Systems Poster**: Students investigate an environmental issue caused by human activity. They analyse the effects of this activity on the interactions within and/or between Earth’s spheres.  They prepare a presentation using data selected from a range of sources that examine the interactions of Earth’s spheres and discuss the earth and environmental concepts that explain the issue. They describe one strategy developed from scientific research that has minimised the impacts of the human activity. | 2,3 | 1,3,4 | Students will have 1 lesson of planning time and 1 week to gather information and construct their poster.  Students will present their poster to the class, teacher, and a panel of experts in a gallery walk. They will have the opportunity to respond to questions from the teacher, students, and experts.  Students will be assessed on the quality of their information presented on both the poster and in their answers to questions. |
| **Topic Test**: Earth Resources  Students demonstrate knowledge and understanding of Topic 2: Earth Resources. They apply their knowledge, analyse hand specimens and data, and form conclusions using appropriate terms and conventions. They do this in a range of question types: multiple choice, short answer, and extended response. | 2, 3 | 1,2,3,4 | 90 minute timed test under supervision. |
| **Topic Test**: Earth’s Sustainable Future  Students demonstrate knowledge and understanding of Topic 3: Earth’s Sustainable Future. They apply this knowledge, analyse data, and form conclusions using appropriate terms and conventions. They do this in a range of question types: multiple choice, short answer, and extended response. | 3 | 1,2,3,4 | 90 minute timed test under supervision. |
| **Topic Test**: Climate Change  Students demonstrate knowledge and understanding of Topic 4: Climate Change. They apply this knowledge, analyse data, and form conclusions using appropriate terms and conventions. They do this in a range of question types: multiple choice, short answer, and extended response. | 3 | 1,2,3,4 | 90 minute timed test under supervision. |
| **Assessment Type 3: Earth Systems Study**  Weighting  30% | Students undertake one fieldwork investigation into a particular local environmental issue, concern, initiative, or successful undertaking that can be linked to topics studied in Stage 2 Earth and Environmental Science. Students develop a research question, then design, plan, undertake, and report on a field-based extended investigation to answer the question. Students analyse the information gathered in terms of the interactions of two or more Earth system. | 1, 2, 3, 4 | 1, 4 | The proposal and report address the requirements in the subject outline and should be a maximum of 2000 words, if written, or the equivalent in multimodal form. |

***Eight assessments.*** *Please refer to the Stage 2 Earth and Environmental Science subject outline.*