Articulates with Program 2

LEARNING AND ASSESSMENT PLAN

**Stage 2 Physics**

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.

|  |  |  |  |
| --- | --- | --- | --- |
| School |  | Teacher(s) |  |

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

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

|  |
| --- |
| 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.

|  |  |  |  |
| --- | --- | --- | --- |
| Signature of principal or delegate |  | Date |  |

Stage 2 Physics

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%** | **Design Experiment**: Students are assessed on their design of an investigation. They then work in a group to implement one of the designs. Students determine the area of physics they intend to investigate, the experimental method, and type of analysis appropriate to the method (as per Science Inquiry Skills). Once the design has been assessed, students work in groups, select the design to implement, then undertake the experiment. Students record, represent, and analyse the data individually. | 1,2,3,4 | 4 | The total time allocated for supervision in class will be 70 minutes (30 minutes planning, 40 minutes collecting data). Students use homework time to complete the written report/multimodal product. The maximum report length is 1500 words, (excluding apparatus, method, results) or equivalent in multimodal form. |
| **Charge to mass ratio experiment:** Students use a Teltron tube to determine the charge to mass ratio of an electron. Students take measurements (from photographs) using the scale on the Teltron tube to determine the radius of curvature of a beam of electrons deviated using Helmholtz Coils. These values are used to calculate the charge to mass ratio. Students analyse data (including error analysis) and evaluate results in a written report. | 2,3,4 | 1,2,4 | Students are allocated 80 minutes of supervised class time to collect data and begin the report. Students have homework time to complete the written report. The maximum report length is 1500 words, excluding apparatus, method, results. |
| **Science as a Human Endeavour Task:** Students select one of the science as a human endeavour understandings and submit a presentation (report, website, video, oral presentation, etc.) based on the focus of the chosen understanding in a physics context. The context is to be negotiated with the teacher as well as the medium of the presentation. Students complete a research planning document. | 1 | 1,3,4 | Students are allocated 80 minutes of supervised class time to decide on a SHE understanding, determine research context and focus, and begin research. Homework time is available. The maximum word length for scientific communication is 1500 words for written work, 10 minutes for an oral presentation, or the equivalent for a multimodal product. |
| **Assessment Type 2: Skills and Applications Tasks**  **Weighting**  **40%** | **SAT1 – Motion**  Students are assessed on Subtopics 1.1, 1.2, and 1.3. They demonstrate their knowledge of these topics through routine and analytical questions within the scope of the subject and in new and familiar contexts. Students’ interpretive skills are assessed through a science inquiry skills question. | 2,3 | 1,2,4 | Written test, taken during supervised class time during an 80-minute double lesson.  Students are provided with a formula sheet. |
| **SAT2 – Electricity and Magnetism**  Students demonstrate their knowledge through routine and analytical questions covering content from subtopics 2.1, 2.2, 2.3, and 2.4. There are questions in new experimental contexts and the test includes an extended response question. | 3,4 | 1,2,4 | Written test, taken during supervised class time during an 80-minute double lesson. Students are provided with a formula sheet. |
| **SAT3 – Short-answer, extended response, and experimental skills test**  Students are assessed on their answers to short and extended questions and complete experimental skills questions from any topic within the scope of the subject outline to this time. | 2,3,4 | 1,2,4 | Written test, taken during supervised class time during an 60-minute double lesson. Students are provided with a formula sheet. |
| **SAT4 – Light and Atoms**.  Students are assessed using routine and analytical questions based on subtopics 3.1, 3.2, and 3.3. Some questions are related to science as human endeavour, and the test includes an experimental skills question, using a context within the subtopics. | 1,2,3 | 1,2,3 | Written test, taken during supervised class time during an 80-minute double lesson. Students are provided with a formula sheet. |
| **Assessment Type 3: Examination**  **Weighting**  **30%** | 2½-hour examination | Questions of different types cover all Stage 2 topics and science inquiry skills. Some questions may require students to integrate their knowledge from more than one topic and show an understanding of science as a human endeavour. | | |

***Eight assessments.*** *Please refer to the draft Stage 2 Physics subject outline.*