# Pre-approved Learning and Assessment Plan

Stage 1 Robotic and Electronic Systems (for use from 2022)

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) |
|  |  |  |  | **1** | **R** | **E** | **S** | **10** |  |

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 1 Robotic and Electronic Systems (10-credits)

# 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 the assessment design criteria.

Assessment Type 1:Specialised Skills Tasks (30%)

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| --- | --- | --- | --- | --- | --- |
| Assessment details | Assessment design criteria | | | | Assessment conditions  (e.g. task type, word length, time allocated, supervision) |
| I | D | P | E |
| Specialised Skills Task 1 – Battery Tester Design and Development (20%)  Design, produce and test a functional battery tester PCB circuit using simulated software as specified by the teacher. |  |  | 1,2 | 1 | The combined evidence for the specialised skills task should be a maximum of 500 words if written, a maximum of 3 minutes if oral, or the equivalent in multimodal form. |
| Specialised Skills Task 2 – Production manual for an aspect of their major product (10%)  Students will select from identified skills and production processes and create a recorded production manual and written checklist to aid another person in the process and assembly of an aspect of their product. Peers will provide feedback by reviewing manual instructions and accuracy of checklist. |  |  | 1,2 | 1 | Evidence completed in multimodal form to a maximum of 2.5 minutes and the one A4 checklist. |

Assessment Type 2: Design Process and Product (70%)

| Assessment details | Assessment design criteria | | | | Assessment conditions  (e.g. task type, word length, time allocated, supervision) |
| --- | --- | --- | --- | --- | --- |
| I | D | P | E |
| **Part 1: Design Folio (20%)**  Students are required to investigate and design a Digital Security SAFE, which they will then produce in “Part 2”.  The folio **must** include:  Investigation and Analysis:   * A design brief that outlines functional outcomes, aesthetic considerations, constraints and a statement of intent, and identification of criteria to evaluate the success of the solution. * Research and analysis of existing design concepts/products and their features.   Design and Planning:   * Communicating design intent that validates a Circuit design and technical drawings (schematic and PCB) solution that best meets the design brief. * Costing of project * Circuit mounting solutions within housing * Creation of code to control SAFE project * An issues analysis relating to ‘advanced technologies’, as guided by the teacher   Evaluation:   * Comparison of the realised product with the criteria specified in the design brief * Reflection on outcomes with recommendations for possible improvement or redevelopment of designs or procedures * Evaluative observations about the student’s own skill development.   Their work is to be presented as part of a Folio upon completion. | 1,2 | 1,2 |  | 1 | The evidence of the design folio should be a maximum of 1250 words if written or 7 ½ minutes of recorded oral communication, or the equivalent in multimodal form. |
| **Part 2: Production**  2a: Solution – Product (40%)  The students produce the SAFE project as designed in their Folio.  2b: Product Record (10%)  They produce a Photographic Record that includes evidence of:   * Development of skills * Selection and use of appropriate processes and techniques * Modification to the design as a result of technical problems that arise * Ongoing reflection on ideas and procedures.   The realised solution **must** be showcased in the video/photographic record. |  |  | 1,2 | 1 | The evidence of production of the realised solution and the product record should be a maximum of 500 words if written or 3 minutes of recorded oral communication, or the equivalent in multimodal form. |

*Three assessments. Please refer to the Stage 1 Design, Technology, and Engineering subject outline.*