# Pre-approved Learning and Assessment Plan

Stage 2 Material Products (context: Composite materials)

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** | **M** | **M** | **A/B** | **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 |  |

# Assessment overview

Stage 2 Material Products – 10 credits

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 1: Skills and Applications Tasks – weighting 20%

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| --- | --- | --- | --- | --- | --- |
| Assessment details | Assessment design criteria | | | | Assessment conditions  (e.g. task type, word length, time allocated, supervision) |
| I | Pl | Pr | E |
| Specialized Skills Application  CAD Drawing  Students are to produce a fully dimensioned CAD (Computer Aided Design) drawing. Assessment is based on the completeness and accuracy of the rendered 3D image drawing and a dimensioned working drawing using relevant technical language. |  | 2 | 1,2,3 |  | supervised: 2 weeks |
| Materials Application  Material Properties  Students investigate the properties of materials or components being considered for use in their ‘Product’. Students will devise and conduct relevant tests whilst observing safe procedures. Students will draw conclusions regarding the implications for the type of product being fabricated, and make a recommendation with regard to their own major product.  The investigation should involve practical testing and a comparative evaluation. Report should include tables, comparative examples, annotated images and graphs. | 1,3,4 | 3 |  | 3 | 3 weeks in total with one lesson per week supervised to verify work and check progress.  A maximum of 800 words or 5 minutes of oral, or the equivalent in multimodal form. |

Assessment Type 2: Product – weighting 50%

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| Assessment details | Assessment design criteria | | | | Assessment conditions  (e.g. task type, word length, time allocated, supervision) |
| I | Pl | Pr | E |
| Product  Students create the product that they designed in their Folio task. They keep a product record that includes evidence of:   * development of skills * selection and use of appropriate components, specialized processes, and production techniques * application of knowledge and understanding necessary to create the product * safe and accurate use of appropriate equipment * modification of the design brief as a result of technical or aesthetic problems that arise * use of materials with appropriate characteristics and properties * on-going reflection on ideas and procedures. |  | 3 | 1,2,3 | 2 | Eight weeks Unstructured in supervised workshop.  The Product record may consist of a range of different forms of documentation appropriate to the product(s), for example:   * a journal or work notes * annotated images of production processes * computer-generated information with scanned images * annotated visual displays * multimedia presentations * web pages * oral presentations * a flow chart * reports |

Assessment Type 3: Folio – weighting 30%

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| Assessment details | Assessment design criteria | | | | Assessment conditions  (e.g. task type, word length, time allocated, supervision) | |
| I | Pl | Pr | E |
| External assessment (two assessments for the folio)  Product design (documentation and analysis)  *Students create a design brief and analyse their investigation and planning for their major product, based on the skills and activities outlined in the section ‘The Design Process’ section of the Learning Scope and Requirements*  The design brief should include a statement of intent, functional outcomes, aesthetic considerations, and constraints. It can be presented in dot point form.  The investigating part of the design process should include an investigation into the impact on individuals, society, and/or the environment of technological practices related to the type of product that the student is designing. The analysis involved in investigation can be included in the product design documentation or in the product evaluation. | 1,2,3,  4,5 | 1,2,3 |  | 1,2,3,4 | The combined evidence should be a maximum of 2000 words if written, or a maximum of 12 minutes recorded oral documentation, analysis, and evaluation, or the equivalent in multimodal form. |
| Product evaluation:  *Students evaluate their producing skills, using evidence from the major product record in Assessment Type 2, and evaluate their realised major product.*  The evaluation should include:   * a critical comparison of the realised product with the requirements of the design brief, and an explanation of and justification for any changes made * a review of criteria, standards, reliability, safety, quality, and cost-effectiveness * reflection on outcomes, with recommendations for possible improvement or redevelopment of designs or procedures * analysis of the impact of the product on individuals, society, and/or the environment (if not part of product design documentation) * evaluative observations about the student’s own skills development.   Evidence of development, with supporting written or oral summaries that explain, analyse, and evaluate the process and product, could take the form of:   * sections of the product record * photographic or electronic or digitally generated materials * audiovisual evidence * materials or products * models, sketches, diagrams, or annotations.   Oral summaries may emerge from teacher-led discussion questions. |

*five assessments.**Please refer to the Stage 2 Design and Technology subject outline.*