Stage 2

DESIGN AND TECHNOLOGY

Communication Products, Material Products, Systems and Control Products

Government of South Australia

SACE Board of SA

ASSESSMENT TYPE 1
SKILLS AND APPLICATIONS TASKS (20%)

Skills and applications tasks consist of specialised skills applications and materials applications.

For a 10-credit subject, students undertake ***two*** skills and applications tasks: one specialised skills application and one materials application.

For a 20-credit subject, students undertake ***three or four*** skills and applications tasks: at least one specialised skills application and at least one materials application.

Students demonstrate skills and understanding of the materials and components, techniques, and equipment that they consider for use in Assessment Type 2.

Specialised Skills Application

Students, in consultation with their teachers, identify an area of learning to develop and demonstrate skills and knowledge of processes and production techniques for realisation of their product(s) or system(s). The skills area chosen may provide further development of existing skills or develop new skills required for the product realisation. Students and teachers may negotiate whether it would be appropriate to demonstrate these skills in a single session, or over a more extended period of time.

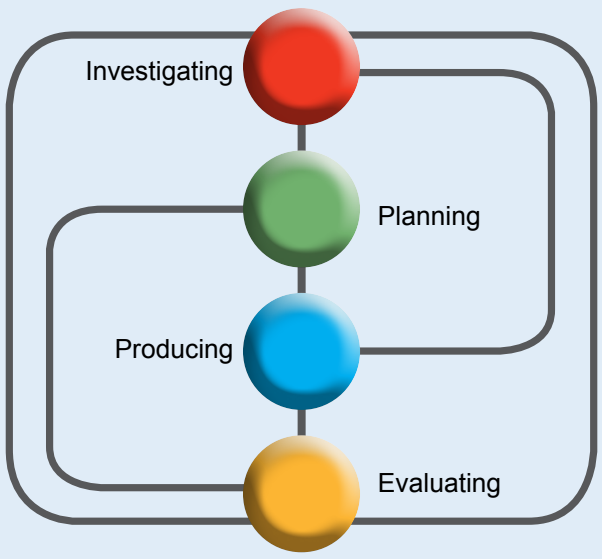
This assessment covers aspects of the investigating, planning, and producing parts of the design cycle and could consist of one activity or a series of activities. Evidence of student learning could be presented in the form of a completed product, annotated photographs of a product or completed processes, or a checklist.

Materials Application

Students investigate and analyse the functional characteristics and properties of two or more materials or components they are considering for use in the creation of their product(s) or system(s). They report on how their research into and testing of the functional characteristics and properties of these materials or components will affect their selection for use in the realisation of their product(s) or system(s).

Presentation of this information could be in the form of annotated images, computer generated information, scanned images, annotated visual displays, multimedia presentations, web pages, oral presentations, or written reports.

The materials application covers aspects of the investigating and planning parts of the design cycle and should be a maximum of 800 words if written or a maximum of 5 minutes if oral, or the equivalent in multimodal form.



The Design Process

ASSESSMENT TYPE 2
PRODUCT (50%)

For a 10-credit subject, students create ***one*** product that allows them to demonstrate an appropriate range of skills, techniques, knowledge, and ideas. The product is supported by a product record that documents the process, including modifications, planning, and production.

For a 20-credit subject, students create ***one minor*** product and ***one major*** product that allow them to demonstrate an appropriate range of skills, techniques, knowledge, and ideas. The products are each supported by a product record that documents the process, including modifications, planning, and production. The minor product may be a component of, or designed to complement, the major product.

The product (or minor product and major product) may be a product or system. A product may also be a model, prototype, process, or part.

Students present for assessment the product(s) they have made in response to the design brief developed for their folio in Assessment Type 3. (For a 20-credit subject, a separate design brief may be used for the minor product.)

The product record(s) may include, as appropriate, evidence related to:

- development of any skills that were not included in Assessment Type 1
- selection and use of appropriate components, specialised processes, or production techniques
- application of knowledge and understanding to create the product
- the specifications of a prepared design brief
- safe and accurate use of appropriate equipment and processes
- modification of the design brief as a result of technical problems that arise
- use of materials with appropriate functional characteristics and properties
- ongoing reflection on ideas and procedures.

A product record is used to provide evidence of modification and planning, production, and/or evaluation aspects of the design process that occur during the creation of the product, to inform assessment of the product(s) and support the evaluation in Assessment Type 3.

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ASSESSMENT TYPE 3
FOLIO (30%)

The folio consists of documentation and analysis of the product design process and product evaluation.

For both a 10-credit subject and a 20-credit subject, the investigation section of the design process includes an analysis of the impact of the product or system, and/or technologies related to it, on the individual, society, and/or the environment.

For a 10-credit subject, students undertake and document ***one*** product design process and ***one*** product evaluation for the product in Assessment Type 2.

For a 20-credit subject, students undertake ***one*** product design process and ***one*** product evaluation for the major product in Assessment Type 2. For the minor product, students do not include a separate design brief in the folio. The design brief for the minor product may be based on the design brief for the major product, or may be provided by the teacher.

This assessment type is designed to enable students to further develop and refine their use of the design process. They investigate technical skills, analyse possible applications of these skills, and evaluate ways in which their own skills have developed and improved.

Product Design (Analysis and Documentation)

For both a 10-credit subject and a 20-credit subject, students create a design brief and document their investigation and planning, based on the skills and activities outlined in 'The Design Process' section in 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.

Product Evaluation

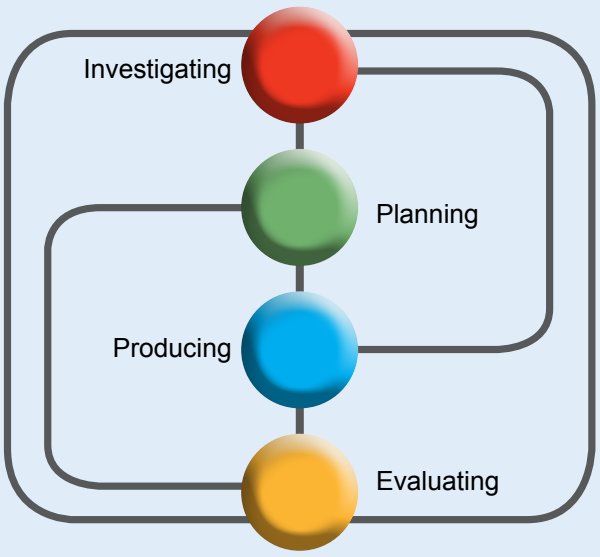
For both a 10-credit subject and a 20-credit subject, students evaluate their producing skills, using evidence from the product record in Assessment Type 2, and evaluate their realised product.

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.

For a 10-credit subject, the combined evidence in the folio should be a *maximum of 1000 words* if written or a *maximum of 6 minutes* of recorded oral documentation of the design process and evaluation, or the equivalent in multimodal form.

For a 20-credit subject, the combined evidence in the folio should be a *maximum of 2000 words* if written or a *maximum of 12 minutes* of recorded oral documentation of the design process and evaluation, or the equivalent in multimodal form.



The Design Process

Assessment design criteria and specific features

Investigating

I1	Identification of a need, problem, or challenge.
I2	Creation and validation of an initial design brief based on needs analysis and task identification.
I3	Investigation and critical analysis of the characteristics of existing products, processes, systems, and/or production techniques.
I4	Investigation of product material options and analysis for product use.
I5	Investigation into the impact of products or systems on individuals, society, and/or the environment.

Planning

PI1	Analysis of information to develop solutions to an identified design brief.
PI2	Communication of product design ideas, using relevant technical language.
PI3	Testing, modification, and validation of ideas or procedures.

Producing

Pr1	Application of skills, processes, procedures, and techniques to create a product or system to a chosen standard and specification.
Pr2	Use of resources, equipment, and materials to create a product or system safely and accurately.
Pr3	Development of solutions to technical problems that may arise during product or system realisation.

Evaluating

E1	Evaluation of product success against design brief requirements.
E2	Evaluation of the effectiveness of the product or system realisation process.
E3	Reflection on materials, ideas, or procedures, with recommendations.
E4	Analysis of the impact of the product or system on individuals, society, and/or the environment.

This poster provides an overview of the subject. Teachers should refer to the subject outline for details.