**Pre-approved Learning and Assessment Plan**

**Stage 2 Material Solutions (Food Design) (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) |
|  |  |  |  | **2** | **M** | **R** | **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 |  |

Assessment overview

Stage 2 Material Solutions (Food Design) — 20-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:Specialised Skills Tasks – 20%

| **Assessment details** | **Assessment design criteria** | | | | **Assessment conditions**  (e.g. task type, word length, time allocated, supervision) |
| --- | --- | --- | --- | --- | --- |
| **I** | **D** | **P** | **E** |
| **Specialised Skills Task 1**  Students will produce a range of food products suitable for a new restaurant that includes vegan options or specific dietary requirements. The food will be designed and developed under teacher supervision and will include   * development of concept ideas through to production * food safety and quality control   This task should allow students to demonstrate a range of skills needed to produce their designed products. Evidence to be recorded through visual, oral discussion and/or written comments. Students will evaluate the new food products against set criteria, relevant to the design and realisation process. |  |  | 1 | 1 | Evidence for each task should be provided in multimodal form to a maximum of three minutes or 500 words in written format |
| **Specialised Skills Task 2**  Students will undertake two methods of food preparation (e.g. sous vide, 3D printing, air-frying, flash freezing, food drying or molecular gastronomy) and review the skills, techniques and possible applications for their AT2 product. This task will support students to develop basic skills in food production, monitor food safety and the efficient use of technology in preparing food products to industry standard.  Evidence to be recorded through visual, oral discussion and/or written comments. Students will evaluate the technology or equipment used for the specific food products created against set criteria relevant to the design and realisation process. |  |  | 1, 2 | 1 | Evidence for each task should be provided in multimodal form to a maximum of three minutes or 500 words in written format |

Assessment Type 2: Design Process and Product – 50%

| **Assessment details** | **Assessment design criteria** | | | | **Assessment conditions**  (e.g. task type, word length, time allocated, supervision) |
| --- | --- | --- | --- | --- | --- |
| I | D | P | E |
| **Part 1: Investigate and create a design brief**  For this, students will investigate and analyse food products that clearly connect to the design brief. (For example, the design brief could investigate a range of vegan food products as a basis for a menu in a new vegan café or alternatively, a range of products to provide alternatives for dietary requirements). Investigate food market trends and new food products to experiment with sensory features and characteristics such as flavour, smell, texture, and visual appeal, fresh and cooked characteristics, keeping qualities, reliability, safety and taste etc. in direct relation to the design brief. | 1 | 1 |  |  | The task(s) must include a showcase and evaluation of the solution or product in the form of a video or photographic record. The rest of the evidence may be completed in written or multimodal form. The task(s) should be up to a total maximum of 3000 words or the equivalent in multimodal form where 6 minutes is equivalent to 1000 words. |
| **Part 2: Design, develop and plan** concept ideas for food products that meet the design brief. Identify and plan the food products you intend to create. Complete a multimodal presentation to show your development and planning. Validate a design solution that best meets the brief and develop a flow chart to support the production process of the planned food items. Students must provide ingredient and costing list for the food products they intend to use as well as a procedure for the safe and timely production of the food. |  | 2 |  |  |
| **Part 3: Product Realisation and Evaluation**  **Develop selected** food products by applying skills, processes, procedures and techniques to create products that best meet the outcomes of the design brief. It is expected a range of industry-standard technology/and or equipment will be used to create unique food items with consistent quality and outcomes to support the design brief. Photographic evidence is required.  **Evaluate** the design process by reviewing the food products created in response to the design brief as well as the product realisation. Students should produce visual evidence of the solution to the food products created focusing on skills, processes, application of knowledge and understanding, safe use of equipment and modification of processes as a result of any issues that may have arisen. |  |  | 1, 2 | 1 |

Assessment Type 3: Resources Study – 30%

| **Assessment details** | **Assessment design criteria** | | | | **Assessment conditions**  (e.g. task type, word length, time allocated, supervision) |
| --- | --- | --- | --- | --- | --- |
| **I** | **D** | **P** | **E** |
| **Part 1: Resource Investigation**  Students will investigate and analyse the sensory properties of two or more food products of their choice. (Examples: vegan meats, gluten-free breads). Students will create a series of tests to generate data on the functional characteristics – including flavour, taste, texture and visual appeal of fresh and cooked samples of the chosen food products.  Students will evaluate the overall effectiveness of their products, drawing on taste testing of products by prospective industry clients. Students could be expected to improve their products, based on test results and feedback.  OR  The development of particular food products using a range of industry-standard technology and/or equipment following required food safety and quality control methods.  Students will evaluate the overall effectiveness of equipment or technology used. Students could be expected to improve their products, based on test results and feedback.  For either investigation, students are to include a comment on how the investigation will inform their AT2: Design Process and Product. | 1 | 2 |  |  | The Resource Study should be presented in written or multimodal form or a combination of both. It should be up to a maximum of 2000 words if written or the equivalent in multimodal form, where 1000 words is equivalent to 6 minutes. |
| **Part 2: Issues exploration**  Students will investigate one or more of the following strategies or approaches to their solution in development of their food product for commercial application :   * the sustainability of the ingredients investigated and tested * ethical issues related to the ingredients used and the outcome and/or solution, e.g. lab-grown ‘meats’ or plant-based ‘meats’ * technical challenges facing the success of the proposed food product * cultural and environmental influences on the popular trends in food production relating to chosen food products * legal responsibilities in the development and manufacture of the selected food items for industry including quality control and HACCP management in relation to International Food Standards * biological and/or chemical hazards possibly used in the production of raw plant materials, or additives including chemicals which may have been used in processing raw foods * economic considerations in relation to purchasing, storage, packaging; labour and equipment required * time management and value of manufacturing a product on a small or large scale. | 2 |  |  | 1 |

*Please refer to the Stage 2 Design, Technology, and Engineering subject outline.*