

# Unit Outline (Higher Education)

|                            |   |
|----------------------------|---|
| <b>Institute / School:</b> | Institute of Innovation, Science & Sustainability     |
| <b>Unit Title:</b>         | PRODUCT AND PROCESS DEVELOPMENT                       |
| <b>Unit ID:</b>            | SCFST3026   |
| <b>Credit Points:</b>      | 15.00   |
| <b>Prerequisite(s):</b>    | (SCCHM2001 and SCFST2023 and SCMIC2001 and SCMOL2001) |
| <b>Co-requisite(s):</b>    | Nil   |
| <b>Exclusion(s):</b>       | (SF723)   |
| <b>ASCED:</b>              | 019905  |

## Description of the Unit:

The unit provides students with an advanced knowledge of tools and methods of product and process development in the food industry. Students develop project management and problem solving skills, and learn to plan and lead projects in all stages from development of concepts through to implementation, considering consumer insight, regulatory requirements, formulation and costs analysis, scale-up, sensory evaluation, stability and shelf life validation, and to deliver results within allocated time, resources and project success criteria. The course also applies and integrates basic principles of science and technology learnt in previous semesters through formulation of food products and development of manufacturing processes.

**Grade Scheme:** Graded (HD, D, C, P, MF, F, XF)

## Work Experience:

No work experience: Student is not undertaking work experience in industry.

**Placement Component:** No

**Supplementary Assessment:** Yes

Where supplementary assessment is available a student must have failed overall in the Unit but gained a final mark of 45 per cent or above, has completed all major assessment tasks (including all sub-components where a task has multiple parts) as specified in the Unit Description and is not eligible for any other form of supplementary assessment

**Course Level:**

| Level of Unit in Course | AQF Level of Course |   |   |   |   |    |
|-------------------------|---------------------|---|---|---|---|----|
|                         | 5                   | 6 | 7 | 8 | 9 | 10 |
| Introductory            | ■                   | ■ | ■ | ■ | ■ | ■  |
| Intermediate            | ■                   | ■ | ■ | ■ | ■ | ■  |
| Advanced                | ■                   | ■ | ✓ | ■ | ■ | ■  |

### Learning Outcomes:

#### Knowledge:

- K1.** Recognize the key criteria for successful product/process development
- K2.** Demonstrate an in-depth knowledge of functional food properties, food safety and statutory regulations
- K3.** Identify factors that influence the economic feasibility of product/process development
- K4.** Investigate the role of consumer surveys and marketing in product development

#### Skills:

- S1.** Formulate a specific research problem for the food industry (product/process) with defined objectives
- S2.** Develop investigative and analytical skills to solve a research problem
- S3.** Construct a feasibility study centred around a product/process
- S4.** Apply process flow charting, basic plot plan and basic plant layout to a product/process
- S5.** Summarise and present research findings to a scientific audience
- S6.** Demonstrate the capacity to work effectively in a team

#### Application of knowledge and skills:

- A1.** Develop a viable food product that meets consumer expectations
- A2.** Evaluate the viability of the product/process developed by applying economic concepts
- A3.** Prepare a written report in an accepted format using appropriate scientific language
- A4.** Translate written format works into oral formats

#### Unit Content:

The unit is concerned with both the theoretical and practical aspects of formulating foods and process development and improvement .

Topics may include:

- Developing the product concept
- The product development process
- Product design and the consumer
- The mechanics of product development and food formulation
- Economics of food product development
- Old and new plants for manufacturing new food products
- Integration of material properties, process protocols, machinery and land to develop prototype plant with full economic feasibility;
- Transfer of the product from the bench top through commercial production into the marketplace;
- Regulation compliance, shelf-life testing, microbial and food safety

#### Learning Task and Assessment:

| Learning Outcomes Assessed | Assessment Tasks   | Assessment Type   | Weighting |
|----------------------------|--|-------------------|-----------|
| K1-K4, S3, S6              | Product/ Process development synopsis proposal                               | Written report    | 10-20%    |
| K1-K4, S1-S6, A1-A3        | Product/ Process development report  | Written report    | 20-40%    |
| K1-K4, S5, S6, A3, A4      | Product/ Process development presentation                                    | Oral presentation | 10-30%    |
| K1-K4                      | Demonstrate and apply knowledge from course content in response to questions | Test              | 20-40%    |

**Adopted Reference Style:**

Australian Harvard

Refer to the [library website](#) for more information

Fed Cite - [referencing tool](#)