NATS 7017 FOOD PRODUCT DESIGN

Credit Points 10

Legacy Code 301183

Coordinator Christine Hutchison (https://directory.westernsydney.edu.au/search/name/Christine Hutchison/)

Description This unit introduces students to theories and practices underpinning new product development, including idea generation, market research and product lifecycles. Students will apply emerging technologies, new ingredients and other innovative concepts relating to food preservation and food evaluation to research and develop new food products. Students will work on formulation design, assessment of ingredient and additive functions, effects of processing, optimization of quality and acceptability of foods. They will assess product packaging and storage stability, along with developing a food safety plan. They will also produce a final product specification and labelling requirements compliant with current food regulations.

School Science

Discipline Food Science and Biotechnology

Student Contribution Band HECS Band 2 10cp

Level Postgraduate Coursework Level 7 subject

Pre-requisite(s) NATS 7016 AND
NATS 7015

Co-requisite(s) NATS 7018

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Integrate and apply key theoretical and practical principles and techniques underpinning a food product development process.
2. Design, conduct and analyse consumer surveys.
3. Apply experimental design techniques in product design, optimisation and product formulation.
4. Formulate new food products; manipulate food ingredients and additives to ensure effective development of product, addressing the product design brief and consumer marketing requirements.
5. Analyse the product for physical, chemical, microbiological and sensory attributes.
6. Apply the skills of critical analysis in the evaluation of scientific and technical data.
7. Develop a food safety plan for the new product and ensure it complies with current food regulations.
8. Communicate the results of the development process using a range of modes and formats, including reports and Power Point presentations.

Subject Content

1. Purpose of new product development, product life cycles, triggers for new products.
2. Theories and techniques applied in new product development, such as Quality Function.
3. Deployment, the Stage-Gate? process, and Experimental design in product development.
4. New product ideation, development of concept statements or product design briefs, market and consumer requirements, new product requirements, limitations.
5. Consumer survey design and analysis.
6. Ingredient selection: carbohydrates, proteins, fats, additives.
7. Food formulation design and ingredient interactions.
8. Product performance evaluation - scale up and production issues.
9. Shelf life determination.
10. Food regulation requirements for new products.
11. Practical work directed at creating a new food product, including consumer survey, formulation, scale-up, food safety and packaging requirements, chemical, microbiological and sensory assessment.

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/ Group Task
Quiz	5 x 15 minutes	10	N	Individual
Literature Review	1,500 words	25	N	Individual
Presentation	20 minutes	15	N	Group
Report	5,000 words	40	N	Group
Log/ Workbook	Weekly Log	10	N	Individual

Prescribed Texts

- Campbell-Platt, G. (2017). Food Science and Technology. 2nd ed, IUFoST, Wiley-Blackwell. U.K.

Teaching Periods

Spring

Hawkesbury

Day

Subject Contact Christine Hutchison (https://directory.westernsydney.edu.au/search/name/Christine Hutchison/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=NATS7017_22-SPR_HW_D#subjects)