

Subject Description Form

Subject Code	ABCT4424
Subject Title	Food Product Development
Credit Value	3
Level	4
Pre-requisite	ABCT3419 Food Engineering and Processing I Laboratory, ABCT4421 Food Engineering and Processing II Laboratory
Objectives	This subject aims to promote students' abilities to apply their knowledge of food chemistry, microbiology, food safety, food analysis, nutrition, processing and packaging in the design and development of a new food product from market concept to practical prototype.
Intended Learning Outcomes	<p>Upon completion of the subject, students should be able to:</p> <ol style="list-style-type: none"> a) Understand the food development cycle and key steps in new product development b) Understand the basics of project management and the evaluation of market needs c) Integrate multidiscipline knowledge required to develop a new food product from concept to prototype or pilot-scale production with inclusion of a critical analysis of the quality, safety, shelf-life, packaging, labelling and cost of the product d) Analyse data collected during the development phase of a new food product e) Demonstrate competency to develop a new food product proposal and produce a report to professional standards as a team
Subject Synopsis/ Indicative Syllabus	<p><u>Introduction</u> – an overview of food product development</p> <p><u>New food product brief</u> – assign groups and identify group leader by group members, discuss market trends, develop a product concept and product concept refinement.</p> <p><u>Prototype development and time line considerations</u> – discuss and define food ingredients, food processing, shelf-life, safety tests and nutritional labelling; Define key milestones and time line in the food product development project; make a real food product and perform sensory evaluation; require group discussion and teamwork.</p>

<p>Teaching/Learning Methodology</p>	<p>Students will be assigned to product developing teams. Each team will develop the new product concept and finally make it a real food product. Each team member will be responsible for one key aspect and give an oral report on the related aspect. Midterm and final examination will be administered. About 18 hours of lectures will be given by course instructor(s) and invited speakers with rich experiences in business, food industries or the government. The rest of hours are mainly for group-based discussions and hands-on practice in the laboratory. Written progress record (a logbook with laboratory notes), final written and oral progress reports will be evaluated periodically. Good projects will be encouraged to attend national or world-wide competitions.</p>																																			
<p>Assessment Methods in Alignment with Intended Learning Outcomes</p>	<table border="1" data-bbox="516 716 1328 1102"> <thead> <tr> <th>Specific assessment methods/tasks</th> <th>% weighting</th> <th>a</th> <th>b</th> <th>c</th> <th>d</th> <th>e</th> </tr> </thead> <tbody> <tr> <td>1. Quiz</td> <td>20%</td> <td>√</td> <td>√</td> <td></td> <td>√</td> <td></td> </tr> <tr> <td>2. Project</td> <td>50%</td> <td>√</td> <td>√</td> <td>√</td> <td>√</td> <td>√</td> </tr> <tr> <td>3. Examination</td> <td>30%</td> <td>√</td> <td>√</td> <td></td> <td>√</td> <td></td> </tr> <tr> <td>Total</td> <td>100 %</td> <td colspan="5"></td> </tr> </tbody> </table> <p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <ol style="list-style-type: none"> 1. Students are assessed by both Continuous Assessment and Examination components, Continuous Assessment is based on a quiz, and a group project. 2. For project, each group needs to prepare progress records, lab reports, one final written report and one oral presentation. The progress records and lab reports will be assessed through a logbook with laboratory notes and three brief oral progress reports reflect efficient planning, organization and execution of the project as a group. They are evaluated in the form of group-based assessment. The group project is used to assess students' abilities to integrate and apply the knowledge acquired in development of a new food product. 3. The quiz and final examination are used to assess the knowledge acquired by students from lectures and other learning outcomes expected. 4. The students are required to obtain a grade D or above in both the Continuous Assessment and the Examination components. 	Specific assessment methods/tasks	% weighting	a	b	c	d	e	1. Quiz	20%	√	√		√		2. Project	50%	√	√	√	√	√	3. Examination	30%	√	√		√		Total	100 %					
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Student Study Effort Required	Class contact:	
	▪ Lecture	18 Hrs.
	▪ Seminar/Tutorial	6 Hrs.
	▪ Lab	15 Hrs.
	Other student study effort:	
	▪ Project execution, written and oral reports	82 Hrs.
	Total student study effort	121Hrs
Reading List and References	<ol style="list-style-type: none"> 1. Methods for Developing New Food Products: by F. Aramouni and K. Deschenes. 2015. 2. New Food Product Development: From Concept to Marketplace, Third Edition, Gordon W. Fuller, CRC Press, 2016. 3. Foods: Experimental Perspectives, 8th Edition, Professor Margaret Emeritus McWilliams Ph.D. R.D. Pearson Education, Inc., 2016 4. Foods: A Scientific Approach, 3rd ed., Charley, H. and Weaver, C.M., Merrill Pub Co, 1997 (1998) 5. Food Product Development: Based on Experience, Catherine Side Wiley-Blackwell; 1 edition (2010) 	