



## UNIVERSITI TEKNOLOGI MARA

### CBE670: FOOD SCIENCE AND TECHNOLOGY

<b>Course Name (English)</b>	FOOD SCIENCE AND TECHNOLOGY <b>APPROVED</b>
<b>Course Code</b>	CBE670
<b>MQF Credit</b>	3
<b>Course Description</b>	This is an introductory course in food science and technology. It covers an introduction to the food processing industry, food constituents, composition and processing of different food commodities, sensory and nutritional aspects, food safety and legislation, packaging of food product and product development in food industries.
<b>Transferable Skills</b>	Communication skill, teamwork and system thinking skill
<b>Teaching Methodologies</b>	Lectures, Blended Learning, Case Study, Discussion
<b>CLO</b>	CLO1 Explain various aspects of food science and technology including nutrition, product performance, safety, packaging and product development CLO2 Distinguish the processing method of various food commodities. CLO3 Evaluate engineering application in food industry CLO4 Demonstrate scientific approach that involved in food industry
<b>Pre-Requisite Courses</b>	No course recommendations
<b>Topics</b>	
<b>1. Overview of food chemistry and food industries</b> 1.1) Significant of nutrients such as carbohydrate, protein, fiber, energy, lipids, vitamins, minerals and water in food component 1.2) Food guide pyramid 1.3) Food and related industries in food processing	
<b>2. Food processing method</b> 2.1) Overview of various processing method in food industry 2.2) Bioprocess engineering application in production of food: Latest technology and future trend 2.3) Performance parameters for food processing	
<b>3. Sensory evaluation in the food processing</b> 3.1) Effective testing 3.2) Affective testing 3.3) Perception method 3.4) Sensory attribute with the food composition	
<b>4. Food Safety and Food Quality</b> 4.1) Food microbiology and food borne pathogens 4.2) Overview of HACCP, GMP and food hygiene 4.3) Overview of FAO, WHO, CODEX, FDA and USDA 4.4) Malaysian's food safety system	
<b>5. Preservation in food processing</b> 5.1) Overview of food preservation 5.2) Preservation methods of different food types 5.3) Current trend in food preservation 5.4) Improvement of food preservation through engineering practice	
<b>6. Food packaging</b> 6.1) Packaging material 6.2) Interaction of packaging material with food 6.3) Packaging system 6.4) Environmental impacts of packaging 6.5) Current trend in food packaging	

**7. Product development**

- 7.1) Introduction to the product development
- 7.2) Product development process
- 7.3) Packaging system
- 7.4) Innovation in food industry
- 7.5) Class Protocols

Assessment Breakdown	%
Continuous Assessment	100.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	n/a	10%	CLO1
	Assignment	n/a	10%	CLO2
	Assignment	n/a	10%	CLO3
	Group Project	n/a	10%	CLO3
	Group Project	n/a	10%	CLO4
	Test	Test 1	10%	CLO1
	Test	Test 3	20%	CLO3
	Test	Test 2	20%	CLO2

Reading List	Recommended Text	• Geoffrey, C.P. 2010, <i>Food Science and Technology</i> , John Wiley and Sons
	Reference Book Resources	<ul style="list-style-type: none"> <li>• Singh and Heldman 2001, <i>Introduction to Food Engineering</i>, 3 Ed., Academic Press</li> <li>• Fellows, P., Woodhead 2000, <i>Food Processing Technology, Principles and Practice</i>, 2 Ed., Cambridge</li> <li>• Sivasankar B 2002, <i>Food Processing and Preservation</i>, Prentice Hall India</li> </ul>
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	