UNIVERSITI TEKNOLOGI MARA

FST437: BASIC FOOD SCIENCE & TECHNOLOGY

Course Name (English)	BASIC FOOD SCIENCE & TECHNOLOGY APPROVED
Course Code	FST437
MQF Credit	2
Course Description	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.
Transferable Skills	knowledge, communication, writing
Teaching Methodologies	Lectures, Discussion
CLO	CLO1 Describe major food components and explain various aspects of food science and technology including sensory, nutrition, food law, preservation and food safety CLO2 Demonstrate responsibility in performing task related to food science and technology project CLO3 Produce written report in selected issues of food science and technology
Pre-Requisite Courses	No course recommendations

Topics
1. Introduction 1.1) Introduction
2. Chemistry of food components 2.1) Carbohydrates – classification, structure, chemical reactions and functional properties of sugars and polysaccharides 2.2) Proteins – classification, structure of amino acids and protein, chemical reactions and functional properties of proteins 2.3) Lipids – structures and types of lipids, chemical reactions and functional properties of lipids 2.4) Vitamins and Minerals – sources and classification 2.5) Water – types and function 2.6) Nutrition - nutrient requirement and Food Guide Pyramid
3. Sensory Evaluation 3.1) Definition and Sensory attributes 3.2) Types of sensory tests 3.3) Food product development 3.4) Stages of food product development
4. Food law and regulation 4.1) Malaysian Food Act and Food Regulation 1985 4.2) FAO, WHO, CODEX, FDA and USDA
5. Food safety 5.1) Definition of food safety and Types of hazards 5.2) Food borne illness 5.3) Personal hygiene, HACCP and GMP
6. Food preservation 6.1) Types of preservation methods
7. General food processing and quality 7.1) Meat products 7.2) Dairy products 7.3) Fruits and vegetables products

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Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Group Project	Students will be working with 4-6 group members and submit Food Science related topics assignments and present in the form of report/ online video/ infographic poster.	15%	CLO2
Individual Project	Students will be given Food Science topics and submit the assignment individually.	15%	CLO3
Test	Two (2) online tests. Test 1 consists of multiple choices and True or False Questions (25%). Test 2 consists of multiple choices and True or False Questions (25%).	30%	CLO1

Reading List

Recommended Text

- **Bennion, M. & Scheule, B. 2015, *Introductory Foods*, 14 Ed., Pearson Education Inc. United Kingdom**
- **Bennion, M. 2000, *The Science of Food*, John Wiley and Sons London**
- **Murano, P.S. 2007, *Understanding Food Science and Technology*, Thomson Wadsworth Australia**
- **Parker, R. & Pace, M. 2017, *Introduction to Food Science and Food Systems*, 2 Ed., Cengage Learning USA**
- **Jeantet, R., Croguennec, T., Schuck, P. and Brulé, G. 2016, *Handbook of Food Science and Technology 1: Food Alteration and Food Quality*, John Wiley & Sons, Inc.**

Reference Book Resources

- **deMan, J.M. Finley, J., Hurst, W.J., Lee, C. 2018, *Principles of Food Chemistry*, 4 Ed., Aspen Publishers Inc.**
- **Sikorski, Z.E. 2002, *Chemical and Functional Properties of Food Components*., CRC Press Boca Raton**
- **Fennema, O. Damodran, S. and Parkin, K. 2017, *Food Chemistry*, 5 Ed., Apple Academic Press Inc. Canada**

Article/Paper List

This Course does not have any article/paper resources

Other References

This Course does not have any other resources

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