Course Syllabus of Principles of Food Science

Faculty : Medicine and Health sciences
Department: Health Sciences
Program Bachelor in Clinical Nutrition and Dietetic

I. General information about the course instructor :

Name	Dr. Mansour Mohammed Abdullah Ghaleb	Office Hours(3 Hours Weekly)					
Location & phone number	00967770072719	Sat	Sun	Mon	Tue	Wed	Thu
Email	mansourghalib@yahoo.co.in				√		

II. General information about the course :

1.	Course Title:	Principles of Food Science				
2.	Course Code and Number :	BND233				
3.	Credit Hours	Lecture	Seminar/Tutorial	Practical	Training	Total
		2	-	-	-	2
4.	Study Level and Semester:	2nd year / 1st semester				
5.	Pre-requisites :	BND121				
6.	Co-requisites :	None				
7.	Program in which the course is offered	Bachelor in Clinical Nutrition and Dietetic				
8.	Teaching Language:	English				
9.	Instruction location:	University of Science and Technology, Sana'a, Yemen				

III. Course Description :

This course provide student with basic knowledge of food value and composition to identify the nutritive value of different foods and the effect of different food processing on the nutritive value
Also introduce the basic concepts of chemical and physical properties as they related to food processing, preparation preservation which influence on the quality of food. The teaching strategies will include lectures, self-learning and assignment. The student will be evaluated through written exam, report and assignments evaluation. Introduction to Biochemistry is a pre-requisite course.

جامعة العلوم والتكنولوجيا
عمادة التطوير وضمان الجودة
معتمد
APPROVED

١٥ / ٩

عميد الكلية:
د.عبدالله المخلافي

رئيس القسم:
د.عبدالحبيب ردمان

المراجع:
د. صادق حسن
د. مجاهد نصار

الموصف:
د. فؤاد حسان
د.منصور غالب

IV. Course Aims: This course is aimed to:

1. Introduce students to the basic fundamentals of food science and underlying technology associated with providing a safe, nutritious, and abundant supply of fresh and processed foods to humans.
2. Provide the student the basic knowledge of common food types, their composition, nutritive value, criteria of selection and uses.
3. Enable student to understand the basic scientific principles explains how and why we process, prepare, and store foods for human consumption.
4. Assess the importance of food safety and testing.
5. ..١Enable the student to identify the effect of food processing on the nutritive value based on basic concepts of chemical and physical properties as they related to food processing.
6. Learn student to identify the functions, legislations and testing of food Additives.

V. Course Intended Learning Outcomes (CILOs) :

1. Describe common food types, their composition, nutritive value, criteria of selection and uses.
2. Recognize the principles and methods of food preservation and the development in food technology.
3. Identify the types of adulterants and tests for detecting adulterants.
4. Describe packaging materials , hazards and food laws and standards.
5. State function, legislations and testing of food Additives.
6. Formulate skill and techniques in food preparation with conservation of nutrients and palatability using cooking methods generally employed.
7. Analyze the nutritive value of different foods and the effect of different food processing on the nutritive value.
8. Apply deferent methods of food preservation and packaging.
9. Familiarize with food science literature and information resources.

جامعة العلوم والتكنولوجيا
عمادة التطوير وضمان الجودة
معتمد
APPROVED

١٥ / ١٠

المراجع:
د. صادق حسن
د. مجاهد نصار

الموصف:
د. فؤاد حسان
د.منصور غالب

VI. Course Contents

First: Theoretical Aspects

No.	Course Topics/Units	Sub-topics	No. of Weeks	Contact Hours
1	Overview of course content Food groups – a guide in menu planning	Functions of food: Physiological functions of food: Social functions of food: Psychological functions of food: Food groups-main nutrients Significance of the five-food group system Food pyramid :	1st	2
2	Cooking methods – merits and demerits	Objectives of cooking Cooking methods: Moist heat Dry heat Combination	2nd	2
3	Cereal and cereal products	Nutritive value of cereals Parboiling and milling – effect on nutrient content: Malting of cereals: Processed cereal products: Fermented cereal products: Advantages of including a combination of cereals in the menu: Role of cereals in cookery:	3rd	1
	Pulses	Nutrient content of pulses: Toxic substances in pulses: Germination – nutrient enhancement: Factors affecting pulse cookery: Role of pulses in cookery:		1
4	Vegetables and Fruits	Classification of vegetables: Nutrient content of vegetables and fruits: Pigments and flavor compounds chlorophyll : Pectin – role in gel formation: Need for inclusion of fruits and vegetables in the days menu: Conservation of nutrients in preparation and cooking of vegetables: Browning:	4th	1
	Milk and milk products	Nutritive value of milk: Types of processed milk:		1

المراجع:
د. صادق حسن
د. مجاهد نصار

الموصف:
د. فؤاد حسان
د.منصور غالب

		Physical properties of milk: Pasteurization of milk: Milk products: Role of milk and milk products in cookery:		
5	Flesh foods and egg	Nutritive value and selection criteria of meat, poultry, egg and fish: Use of egg in cookery:	5th	1
	Nuts and oil seeds	Nutritive value of nuts: Oil seeds: Role of nuts in cookery:		1
6	Fats and oils	Nutritional significance: Refined oils: Hydrogenation – vanaspathi and margarine: Rancidity: Smoking point: Role of fat / oil in cookery:	6th	1
	Spices and condiments	Spices and condiments in cookery Uses in cookery:		1
7	Sugar, jiggery and honey	Nutritive value: Stages of sugar cookery: Artificial sweeteners: Role of sugar in cookery:	7th	1
	Beverages and appetizers	Use in a day's menu: Nonalcoholic beverages : Carbonated non-alcoholic beverages: Malted beverages: Traditional beverages: Soups:		1
8	Midterm exam		8th	2
9	Food preservation	Food spoilage: Principles of food preservation: Methods of food preservation:	9th , 10th	4
10	Food adulteration	Definition: Types of adulterants: Tests for detecting adulterants: Packaging materials and hazards: Food laws and standards:	11th , 12th	4
11	Principles of Food packaging	Introduction Packaging functions Packaging environments Food packaging system Physical properties of Packaging	13th	2
12	Food Additives	Definition, function and legislations and testing of food Additives.	14th	2

المراجع:
د. صادق حسن
د. مجاهد نصار

الموصف:
د. فؤاد حسان
د.منصور غالب

13	Development in food technology	Food technology – genetically modified foods: Neutraceuticals: Algae as food: Organic foods: Functional foods:	15th	2
14	Final exam		16th	2
Total number of weeks and hours			**16**	32

المراجع:
د. صادق حسن
د. مجاهد نصار

الموصف:
د. فؤاد حسان
د.منصور غالب