



Course Syllabus of Principles of Human Nutrition

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(Hours Weekly)					
Location & phone number	770072719	Sat	Sun	Mon	Tue	Wed	Thu
Email	mansourghalib@yahoo.co.in		√				

II. General information about the course:

1.	Course Title :	Principles of Human Nutrition				
2.	Course Code and Number :	BND234				
3.	Credit Hours :	Credit Hours				Total
		Theoretical	Seminar/Tutorial	Practical	Training	
		2				2
4.	Study Level and Semester:	2 nd year / 1 st semester				
5.	Pre-requisites :	BND121				
6.	Co-requisites:	None				
7.	Program in which the course is offered:	Clinical Nutrition and Dietetic				
8.	Teaching Language:	English				
9.	Instruction location:	University of Science and Technology, Sana'a, Yemen				

III. Course Description :

This course provides student with integrated overview of physiological requirements and general characteristics of, carbohydrates, proteins, lipid, major vitamins, minerals and water that are determinants of health and disease, also include energy balance, body composition and other aspect related to biological determinants of nutrient requirements, dietary sources, intake levels based on food guide to enable them to understand the relationship between food, nutrition and human body through different teaching strategies. The teaching strategies will include lectures, self-learning and assignment. The students will be evaluated through report, written exam and practical exam. Nutritional biochemistry is an prerequisite course.

عميد الكلية:
د. عبدالله المخلافي

رئيس القسم:
د. عبد الحبيب ردمان

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المراجع :
د. عدنان القباطي
د. مجاهد نصار

الموصف :
د. منصور غالب

IV. Course Aims: This course is aimed to:

1. Enhance the knowledge of the student about the specific characteristics of each nutrients, their functions, food sources, results of a deficiency or excess and the conditions requiring an increase
2. Provide the students the ability to differentiate between energy in & energy out to maintain human nutrition/energy balance.
3. Demonstrate different formula for calculate total energy expenditures to maintain nutritional requirement.
4. Enable the students to interpret energy in & energy out to maintain human nutrition/energy balance.
5. Learn the students to discuss the principle and factor effecting human nutrition.

V. Course Intended Learning Outcomes (CILOs) :

1. Define important nutrition terminology, nutrients in food and in the body& outline the factors influence food choices.
2. Determine the amount of energy produced by the energy yielding nutrients.
3. Describe the specific characteristics of each nutrients, their functions, food sources, results of a deficiency or excess and the conditions requiring an increase.
4. Analyze the recommended practices to maintain human nutrition.
5. Explore nutritive value , source, health effects, human nutrition process and recommended intakes for different nutrients.
6. Differentiate between energy in & energy out to maintain human nutrition/energy balance.
7. Calculate total energy expenditures to maintain nutritional requirement.
8. Apply knowledge related to energy requirements & dietary references intake to support optimum human nutrition.
9. Cooperate with his or her head masters and solve any problem with mind and patient, respect the privacy of the patient.

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VI. Course Contents :				
Theoretical Aspect:				
No.	Course Units	Sub-topics	Week due	Contact Hours
1	Overview course of content & principle of human nutrition	-Introduction of important terminology -Factors affecting food choices -Nutrients in Foods and in the Body -Six Classes of Nutrients -Energy produced by the energy yielding nutrients & how the body uses energy	1 st	2
2	Carbohydrates	-Carbohydrates Definition -Types of Carbohydrates (nutritive value , source, health effects and recommended intakes) -Carbohydrate Digestion -Carbohydrate Absorption -Carbohydrate Metabolism -Lactose Intolerance -Glucose Homeostasis -Glycemic index -Glycemic load -Artificial Sweeteners	2 nd	2
3	Protein	-protein definition -protein function -Amino Acids(Essential & Non-Essential Amino Acids) -Protein Denaturation -Protein Quality -Vegetarian Diets -Protein Recommendation & protein sources -Health effect -Protein supplementation -Protein Digestion , absorption and transportation	3 rd	2
4	Lipids	-Lipids definition -Properties of Lipids -Function of lipids -Type of lipids -Lipids digestion absorption and transportation -Lipids recommendation & food sources	4 th	2
5	-Energy balance	-Terminology of energy balance	5 th	2
6		Mid-exam	6 th	2
7	-Energy balance	-Terminology of energy balance -Energy in: the calories food provides -Energy out: the calorie the body spends. -Components of Energy Expenditure (Basal metabolic rate (BMR) or Resting metabolic	7 th , 8 th , 9 th	6

	<p>-Estimation energy requirements & dietary references intake</p> <p>-Body weight& Body Composition</p>	<p>rate (RMR), Physical Activity (PA), Thermic effect of food (TEF), specific dynamic effect (SDE),specific dynamic activity (SDA), diet-induced thermogenesis (DIT)&Adaptive thermogenesis)</p> <p>-Estimation energy requirements & dietary references intake (Equations for Predicting Resting Energy Expenditure from Body Weight , Definition and uses of food guides And different dietary reference intake to assess/ evaluate nutritional need and recommended intake for human)</p> <p>-Body Weight& Body Composition (Weight-management lifestyle, Assessing Body Weight & Body Fat and Its Distribution)</p>		
8	Vitamins	<p>-Water soluble vitamins:</p> <p>a. their functions ,RAD/DRI,AI</p> <p>b. their food sources</p> <p>c. the results of a deficiency or excess</p> <p>d. the conditions requiring an increase</p> <p>e. the specific characteristics of each</p> <p>The fat soluble vitamins:</p> <p>a. their functions, RAD/DRI,AI</p> <p>b. their food sources</p> <p>c. the results of a deficiency or excess</p> <p>d. the conditions requiring an increase</p> <p>e. the specific characteristics of each</p>	10 th , 11 th , 12 th	6
9	Minerals, Water, and Body Processes	<p>-Role of minerals in regulating body processes.</p> <p>-Essential minerals and their major functions.</p> <p>-Characteristics of the minerals and the difference between macro- and micro minerals.</p> <p>-Major food sources of each mineral.</p> <p>-RDAs and the amounts required to maintain health.</p> <p>-Factors that affect the absorption of minerals.</p> <p>-Clinical effects of a deficiency or excess of each mineral.</p> <p>-Food-handling procedures that minimize mineral loss.</p> <p>-Major sources and functions of water in the body.</p> <p>-Evaluate the routes by which water is lost from the body.</p> <p>-Explain how fluid and electrolyte balance is maintained.</p> <p>-Analyze the recommended practices to</p>	13 th , 14 th , 15 th	6

		maintain fluid and electrolyte balance during athletic activity.		
10		Final exam	16 th	2
Total number of weeks and hours			16	32

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