جامعة الشرقية
A' SHARQIYAH UNIVERSITY

Course Descriptor
FSHN N262 Nutritional Biochemistry

Proposed Academic Year	2021-2022	**Last Reviewed Academic Year**	2020-21
Course Code	FSHNN262	**Course Title**	Nutrition Biochemistry
Credit hours	3	**Level of study**	Bsc
College / Centre	CAHS	**Department**	FSHN
Co-requisites	Nil	**Pre-requisites**	FSHNN 162 CHEM201, CHEM281

1. COURSE OUTLINE

The course provides basic information about nutrients along with their function in metabolism and links this information to the role of nutrition in long-term health and prevention of disease. It will provide information about the biochemical mechanisms associated with digestion and absorption of macro, micronutrients. The course will also deal with chemistry, biochemistry of both fat and water soluble vitamins, role of macro minerals and trace elements.

2. AIMS

On successful completion of the course, the students will be able to understand better the following topics:

(a) Chemistry, Biochemistry of nutrients
(b) Metabolism of macro- and micronutrients
(c) Role of vitamins and minerals in the wellbeing of body
(d) How food is digested, absorbed and metabolized
(e) Role of enzymes in the overall metabolism of nutrients.

3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS (Indicative)

Learning Outcomes (Definitive)		**Teaching and Learning methods (Indicative)**	**Assessment (Indicative)**
1.	Identify the chemical structure and chemical properties of macro- and micronutrients	Lectures and tutorials	In-class tests, quizzes
2.	Explain how nutrients are delivered to the body	Lectures and tutorials	Quizzes, written examination
3.	Understand the concept of digestion and absorption of nutrients	Lectures and tutorials	Written examination, quizzes

4.	Discuss the major pathways for metabolism of nutrients and the key regulating mechanisms of these pathways	Lectures and tutorials	Written examination, quizzes
5.	Discuss the essential functions of nutrients in human cells and tissues	Lectures and tutorials	Quizzes, written examination
6.	Determine the pathologies associated with nutrient deficiencies, nutrient toxicities, or with common metabolic disorders	Lectures and tutorials	Written examination, assignment, quizzes

4. ASSESSMENT WEIGHTING

Assessment	**Percentage of final mark (%)**
Quizzes	20%
Assignment	10%
Online activity	5%
Mid-Term Exam	25%
Final Exam	40%
TOTAL	**100%**

5. ACHIEVING A PASS

Students will achieve **<u>03</u>** credit hours for this course by passing **<u>ALL</u>** of the course assessments *(quizzes , Midterm examinations and final examinations)*and achieving a **minimum overall score of <u>50%</u>**

6. COURSE CONTENT (Indicative)

WEEK	**LECTURE TOPIC**	**TIME (HOURS)**
1	Outline Introduction	3
2	Proteins – Amino acids & peptide structure, function	3
3	Proteins……Quiz 1	3
4	Carbohydrates – Saccharides & their types, structure, function, digestion, assimilation	3
5	Carbohydrates	3
6	Lipids – structure & function of essential & non-essential fats	3

Course Descriptor

FSHN N262 Nutritional Biochemistry

6. COURSE CONTENT (Indicative)

WEEK	LECTURE TOPIC	TIME (HOURS)
7	Lipid	3
8	Enzymes in metabolism	3
9	Metabolic pathways – carbohydrates	3
10	Metabolic pathways – proteins	3
11	Metabolic pathways – lipids	3
12	Vitamins & their role in metabolism	3
13	Minerals & their role in metabolism	3
14	Minerals & their role in metabolism	3
15	Minerals & their role in metabolism	3
16.	Revision	3
	TOTAL HOURS	45
	PLUS RECOMMENDED INDEPENDENT STUDY HOURS	15
	TOTAL COURSE HOURS	60

7. RECOMMENDED READING

1. Text: Lehninger's "Principles of Biochemistry", 6th edition.
2. Lippincot's Illustrated Review: Biochemistry, 6th edition
3. Nutritional Biochemistry by Tom Brody 2009. (2nd Edition), Academic Press. Inc.
4. Lecture Notes & Presentation material will be provided by the Instructor.

Library + online resources:

http://www.wiley.com/college/boyer/0470003790/animations/animations.htm
http://themedicalbiochemistrypage.org/
http://www.journals.elsevier.com/the-journal-of-nutritional-biochemistry/