

(0603953) Proteins in Nutrition (3 Credit Hours)

An advanced study, based on the physiological and biochemical principles of protein digestion, absorption, metabolism and regulation; certain physiological, biochemical, and nutritional problems concerned with proteins and amino acids such as use of amino acids as supplement in health and disease; brief account of protein biosynthesis; study of various methods used in the nutritional evaluation of food proteins, taking into consideration human protein requirements.

(0603955) Nutrition Genomics (3 Credit Hours)

The course provides the main concepts of genomics, transcriptomics, proteomics, metabolomics and bioinformatics and their applications to human nutrition; discusses how individual genetic variation can influence nutrient metabolism and how nutrition can affect the expression of certain genes known to be involved in chronic diseases; introduces the latest functional genomic studies that relate to nutrient intake and polymorphisms, and clinical dietary strategies for the prevention of chronic diseases.

(0603956) Nutrition Immunity (3 Credit Hours)

The course reviews the fundamental concept of human nutrition, health and immunity; demonstrates how inflammation and immune disturbances are common in chronic diseases; presents the integrative nutrition approach to identify the underlying causes of inflammatory and immune-related conditions and associated nutritional influences; applies individualized nutritional interventions, as powerful modulators of the pathophysiology of inflammatory and immune responses.

(0603967) Nutritional Bioenergetics (3 Credit Hours)

An advanced level study of substrate and thermodynamics in metabolism; molecular, cellular and whole body energy metabolism and its regulation and methods of measurement; regulatory aspects of energy intake, energy expenditure, and body energy stores; white and brown adipose tissue cellularity and metabolic activity; thermogenic mechanisms and their hormonal regulation; biochemical and physiological aspects of fed-starve cycle and its nutritional interaction and metabolic consequences; homeostasis of body weight regulation; thermogenic defects in obesity and the effect of relevant polymorphism, dieting and exercise.

(0603968) Clinical Nutrition (3 Credit Hours)

Advanced level study of certain disease cases with emphasis on the role of nutrition and the use of appropriate diets needed for nutritional rehabilitation in selected infancy and childhood diseases and situations of main surgeries and severe illness which require long term rehabilitation such as burns, accidents, AIDS, cancer, kidney failure and transplant and respiratory diseases; The use and preparation of tube feeding formulas and total parenteral nutrition and relating the biochemical indices with the patient's nutritional status.

(0603971) Nutritional Epidemiology (3 Credit Hours)

Study of purposes, principles and methods of nutritional epidemiology, emphasizing advanced developments of nutritional epidemiological research designs, at local regional and international levels focusing on their implementation, processing and interpretation; hypothesis testing and estimation,

study design and internal validity; development of skills for critical review of the epidemiological literature on nutrition and health.

(0603972) Policies and Planning in Food and Nutrition (3 Credit Hours)

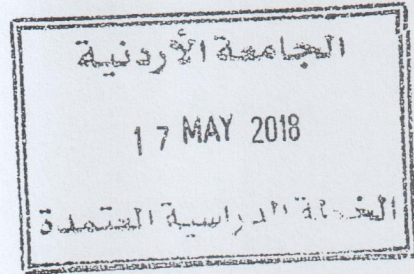
The course deals with the goals of food and nutrition policies; their developments and information required, as well as some concepts and practical considerations in planning; also it deals with evaluation of food and nutrition programs.

(0603991) Seminar in Human Nutrition and Dietetics (1 Credit Hours)

Oral reports and discussions of current research advances in human nutrition, particularly those related to student research subject, designed to broaden understanding of problems and stimulate research.

(0701911) Health Informatics (3 Credit Hours)

This course will examine the application of health informatics to health care research. The course content is designed to facilitate the acquisition of a set of systems skills that can be applied to clinical informatics, outcomes management, and health-related databases.



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Course description

(0641901) Experimental Design and Analysis (3 Credit Hours)

Advanced statistical method and concepts in designing experiments and analysis applied to agricultural experiments, such as incomplete block designs, lattice designs and lattice squares. Methods of combining experiments over years and locations, experiments of unequal size, tests of the treatments and places interactions, and repetitions in both space and time.

(0603933) Biotechnology in Food and Nutrition (3 Credit Hours)

Study of the applications of biotechnology in food examination; production of food substitutes and modification of food functional properties; unit operations that are used in biotechnology, bioreactors, and in bioconversion of raw materials; biotechnology of vitamins, growth factors, hormones, and amino acids regarding their production, modification, and the know how of their use in food enrichment; regulatory and social aspects of food and nutrition biotechnology.

(0603941) Functional Foods (2 Credit Hours)

A postgraduate level course that discusses the different categories of functional foods: nutraceuticals (including micronutrients), microbiological preparations (probiotics & prebiotics) active amines, organic acids and phytochemicals claimed to be beneficial to health. The claims, fads associated with such food components and their applications in the prevention and treatment of complicated chronic diseases such as cancer, C.N.S disabling diseases, obesity, immune deficiencies and diseases of the elderly are focused upon.

(0603943) Arabic Traditional Foods (3 Credit Hours)

Advanced discussion of the genesis and development of the Traditional Arab Foods and the influence of Arab culture on its development and quality. The course covers the effect of the environment on the development, preservation and spread of the Arab foods. It also discusses the role of the Islamic jurisprudence on the formation of the dietary patterns in the Arab world. Examples from nonarab cultures are also discussed. The course includes research papers on the relationship between the anthropology, environment and food.

(0603951) Carbohydrates in Nutrition (3 Credit Hours)

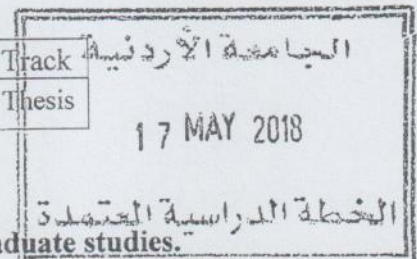
An advanced level study of the physiological molecular and biochemical aspects of carbohydrates including digestion, absorption and metabolism and their regulatory aspects; as well as the study of certain carbohydrate-related physiological, genetic and biochemical problems.

(0603952) Lipids in Nutrition (3 Credit Hours)

An advanced level study of the physiological molecular and biochemical aspects of lipids including digestion, absorption and metabolism and their regulatory aspects. It also involves the study of the regulatory and metabolic aspects of the cell membrane on both structural and functional levels as well as the study of certain lipid-related physiological, genetic and biochemical problems.

1.	School	Agriculture
2.	Department	Nutrition and Food Technology
3.	Program title (Arabic)	دكتوراه في تغذية الانسان والحميات
4.	Program title (English)	Ph. D in Human Nutrition and Dietetics

	Specialization #	Degree	Dep #	School #	Year	Track
Plan Number	031	9	3	6	2014	Thesis



First: General Rules & Conditions:

1. This plan conforms to valid regulations of the programs of graduate studies.

2. Specialties of Admission:

- The First priority: M.Sc. in Human Nutrition and Dietetics or Clinical Nutrition
- The Second priority: M.Sc. in Nutrition and Food Technology
- The Third priority: M.Sc. in Public Health (Human Nutrition).
- The Fourth priority: B.Sc. in Human Nutrition and Dietetics or Nutrition and Food Technology at the same time has M.Sc. in food Science and Technology Or M.Sc. in Biological Science or M. Sc. In Health Sciences.

3. **Admission policies:** The First Policy will be adapted

Second: Special Conditions: None.

Third: Study Plan: Studying (54) Credit Hours as following:

1. Obligatory Courses (21) credit hours:

Course No.	Course Title	Credit Hrs	Theor y	Practical	Pre/Co-requisite
0641901	Experimental Design and Analysis	3	3	-	-
0603941	Functional Foods	2	2	-	-
0603951	Carbohydrates in Nutrition	3	3	-	-
060 3952	Lipids in Nutrition	3	3	-	-
0603953	Proteins in Nutrition	3	3	-	-
0603968	Clinical Nutrition	3	3	-	-
0603972	Policies and Planning in Food and Nutrition	3	3	-	-
0603991	Seminar in Human Nutrition and Dietetics	1	1	-	-

2. Elective Courses (15) Credit Hours: from the following:

Course No.	Course Title	Credit Hrs.	Theory	Practical	Pre/Co-requisite
0603933	Biotechnology in Food and Nutrition	3	3	-	-
0603943	Arabic Traditional Foods	3	3	-	-
0603955	Nutrition Genomics	3	3	-	-
0603956	Nutrition Immunity	3	3	-	-
0603967	Nutritional Bioenergetics	3	3	-	-
0603971	Nutritional Epidemiology	3	3	-	-
0701911	Health Informatics	3	3	-	-

3. Pass the qualifying exam : (0603998)
4. Thesis: (18) Credit hours (0603999)
5. Arabic Language Exam (2501700)

*notes

