



**Course Curriculum for Master's Degree in Clinical Nutrition**  
**College of Applied Medical Sciences**  
**Department of Clinical Nutrition**

Level	Course Code	Course Title	Required or Elective	Prerequisite Courses	Credit Hours
Level 1	1702611-3	Regulation of Macronutrients in Human Nutrition	R	-	3
	1702612-3	Public Health Nutrition	R	-	3
	1702613-3	Micronutrients Metabolism	R	-	3
Level 2	1702621-3	Research Methods in Clinical Nutrition	R	1702612-3	3
	1702622-3	Advanced Nutritional Assessment	R	1702611-3	3
	1702623-3	Exercise Physiology	R	1702611-3	3
	1702624-2	Nutritional Genomics	R	1702613-3	2
Level 3	1702631-2	Applied Biostatistics	R	1702621-2	2
	1702632-1	Seminar	R	1702621-2	1
	1702633-3	Advanced Clinical Nutrition: Critical Care and Nutrition Support	R	1702622-3	3
	1702634-2	Sports Nutrition	R	1702623-3	2
	1702635-3	Obesity and Weight Management	R	1702611-3	3
Level 4	1702641-3	Endocrine Disorders	R	1702611-3	3
	1702642-3	Oncology Nutrition	R	1702622-3	3
	1702643-3	Advanced Clinical Nutrition: Pediatrics	R	1702622-3	3
	1702644-3	Research Project	R	1702631-2	3

### Course Description

#### Regulation of Macronutrients in Human Nutrition / 1702611-3 Nut

This course will provide students with key concepts of macronutrients metabolic regulation in the context of human nutrition and whole body metabolism. Students will learn how the different nutrients are used by the body to maintain energy homeostasis. The focus will be on biochemical reactions that take place in cells, how these reactions are influenced and regulated by the different nutrients and what the consequences are for the whole body.

### **Public Health Nutrition/ 1702612-3**

This course develops the knowledge and skills of public health nutrition and how the philosophy of public health relates to epidemiology. Students will study the frameworks used to examine public health issues and examine key historical and current public health nutrition challenges and policies.

### **Micronutrients Metabolism / 1702613-3**

An advanced level study of the physiological and biochemical aspects of vitamins and minerals, emphasizing their nutritional and pharmaceutical interactions and associated effects on their functions, requirements, deficiency signs and toxicity.

### **Research Methods in Clinical Nutrition/ 1702621-3**

This course will provide an opportunity for participants to establish or advance their understanding of research through critical exploration of research language, ethics, and approaches. The course introduces the language of research, ethical principles and challenges, and the elements of the research process within quantitative, qualitative, and mixed methods approaches. Participants will use these theoretical underpinnings to begin to critically review literature relevant to their field or interests and determine how research findings are useful in forming their understanding of their work, social, local and global environment.

### **Advanced Nutritional Assessment/ 1702622-3**

This advanced course covers the nutritional assessment for healthy individuals and in different chronic diseases, with emphasizing on computerized dietary analysis systems, assessment of the hospitalized patients, and learning how to interpret the biochemical tests with their relationship to nutrition diagnosis.

### **Exercise Physiology/ 1702623-3**

This course focuses on providing insights, foundational knowledge and skills specific to sport and exercise courses and programs. This course presents fundamental information essential to understanding sport and exercise concepts and constructs in order to introduce commencing students to specialized levels of professional expertise in sport and exercise. This module aims to provide students with the scientific basis of different types of training.

### **Nutritional Genomics/ 1702624-2**

This course is designed to provide the student with an understanding of the fundamental concepts involved in how nutrients regulate gene expression (nutrigenomics) and how an individual's genotype influences their nutrient requirements (nutrigenetics). In addition, it is designed to provide the student with an understanding of unique roles of

diet on the relevant examples of complex diseases relating to nutrition such as obesity, Crohn's disease, diabetes or cardiovascular, and its effect on progression of ageing.

### **Applied Biostatistics / 1702631-2**

The course does not assume previous biostatistics or statistics courses and begins with the basic concepts and tools. Covered are types of data, tables and graphs, types of summarizing numbers, confidence intervals, testing hypotheses, including  $\alpha$ -levels, p-values,  $\beta$ -values, statistical power; normal tests; t-tests, regression, correlation, chi-square and basic analysis of variance techniques. All these tests will be applied in the latest version of SPSS software.

### **Seminar / 1702632-1**

Presentations and discussions by post-graduate students on current topics in the areas of clinical nutrition. In this course, each student will participate in many activities that will hone the oral presentation skills: observation, question, critique, research, and presentation.

### **Advanced Clinical Nutrition: Critical Care and Nutrition Support/ 1702633-3**

Students will understand and explore nutrition support strategies and gain the skills and knowledge to design, assess and monitor routine enteral and parenteral feeding regimens in the prevention and treatment of malnutrition and many different diseases. Students will learn techniques of data collection and interpretation related to nutrition support therapies. Lectures and discussions will be supplemented with cases study.

### **Sports Nutrition / 1702634-2**

This course has been designed to provide students with a basic and advanced understanding of sports nutrition concepts. It explores the macronutrients metabolism and energy needs for athletes, discusses at pre-event nutrition, nutrition for recovery, key vitamins and minerals for athletes and popular dietary supplements.

### **Obesity and Weight Management / 1702635-3**

This course covers current research and future possibilities in overweight and obesity, **nutrition management of overweight and obesity, role of physical activity in weight loss and maintenance, behavior management of obesity, medical complications and pharmacotherapy in overweight and obesity, nutritional care of the bariatric surgery patients, and over-the-counter (OTC) dietary supplements in weight management.**

### **Endocrine Disorders / 1702641-3**

The course aims to provide essential and advanced information related to the endocrine system and the different hormones physiology and pathology in human together with their clinical manifestations in relation to body development, metabolism and the functions of major systems in relation to the profession of Clinical Nutritionist.

### **Oncology Nutrition/ 1702642-3**

This course provides an intensive and evidence-based learning with the latest information on implementing nutrition care for oncology patients. Recognize the nutritional requirements and nutritional care for different oncology diseases, an overview of critical illness, its consequences on organ function, treatments, and effects on nutrient metabolism, as well as determine the possible dietary supplements that could be used in cancer prevention and treatment all will be explored in this advanced course.

### **Advanced Clinical Nutrition: Pediatrics / 1702643-3**

This course examines pediatric nutrition in both health and disease including different formulas. The physiological, biochemical and nutritional aspects of disease processes relevant to infants and children will be studied. Neonatal Nutrition of preterm and sick term infants and management of high risk infants in ICU, epilepsy, neonatal surgery, burns and trauma will be considered.

### **Research Project/ 1702644-3**

This course will provide students with the learning opportunity of performing multidisciplinary research within the Clinical Nutrition field. Students will initiate, plan and execute an individually constructed piece of research project and are expected to report on their findings. Students will identify issues within their program, and specifically within their optional subjects, to investigate with the use of appropriate research methods, either theoretical or applied, and participate in research activities which will include a literature search, the collection and analysis of data, (either primary or secondary data) and the preparation of a research project.