

## **POST GRADUATE DIPLOMA IN NUTRITION**

### **COURSE DESCRIPTION**

#### **HFN 700: Nutrition in the Lifespan**

Nutritional requirements through the Lifecycle Pre-conception, pregnancy, nutrition, nutrition during lactation, infant nutrition, nutrition of under-fives and the school age child nutrition during adolescence, adulthood and nutrition of the elderly. Emphasis on special nutrient requirements, meeting nutrient needs and the challenges faced in meeting the needs in resource-poor settings.

#### **HFN 701: Principles of Human Nutrition**

Macronutrients and micronutrients: functions, sources, recommended dietary allowances, results of deficiencies and excess intake. Nutrient metabolism with special emphasis on factors affecting human dietary requirements. Nutrient-drug, interactions. Anti-nutrients and their influence on nutrient metabolism and bioavailability. Nutrition supplements.

#### **HFN 702: Nutritional Epidemiology**

Principles and techniques of epidemiology. Incidence, prevalence and severity of nutritional problems. Disease causation. Study designs retrospective, cross-sectional and prospective. Survey methodologies. Epidemiological tools in prediction and identification of nutrition related problems such as cancer, cardiovascular heart diseases and diabetes. Population screening. An analysis of general disease outbreaks and progression.

#### **HFN 703: Nutrition Assessment and Surveillance**

Overview of basic concepts, common malnutrition problems, vulnerable groups to malnutrition, determinants of nutritional status, methods for the assessment of nutritional status, common indices of nutritional status. Comparison of anthropometrics data to reference standards. Analysis of nutrition data. Overview of nutrition interventions and their importance. Concept of early warning system. Mini Field work

#### **HFN 704: Maternal and Child Nutrition**

Growth cycle, relationship between nutrition and the growth process, nutrition requirement of the growing foetus, child, pre-conception, pregnant mother, potential risks in pregnancy, food selection, diet during labour and delivery. Diet and nutrition of the lactating mother. Breastfeeding, formulas and replacement feeding of the infants. Complementary feeding Food habits. Nutritional and supplementary feeding programmes.

#### **HFN 705: Therapeutic Nutrition**

Path physiology of specific disease states with special attention to nutritional management as part of the therapy. Nutrition in Gastro Intestinal Tract, cancers, diabetes mellitus, renal disorders, liver disorders, weight management, febrile conditions (acute & chronic), cardiovascular disorders, stress and trauma, pre-and post-operative nutrition. Drug-nutrient interrelations. Food and nutrient supplements.

#### **HFN 706: Project in Foods, Nutrition and Dietetics**

Proposal development in a selected topic in the areas of food, nutrition and dietetics.  
Data collection on the proposed topic, report writing and presentation. (**Two semesters**)  
A nutrition project to be presented at the end of the programme.

### **HFN 707: Clinical Dietetics**

Principles of diet therapy. Qualitative and quantitative diet modifications. Use of food exchange system in diet formulations and applications in different clinical conditions. Energy and protein modified diets. Fluid diets. Sodium restricted diets. Fibre and fat modified diets. Nutrition support by enteral and parenteral nutrition. Development of nutrition care plans. Case studies in health care facilities. Role of dieticians in health care team.

### **HFN 708: Nutritional Biochemistry**

Biochemical and physiological functions of nutrients. Metabolism and utilization of dietary proteins, amino acids, carbohydrates, lipids, minerals and vitamins. Starvation, FAO indications in surveying food quality. Blood plasma, urine, vitamins and minerals. Biochemical aspects a balance diet - chemical score, nutrient utilization and effects. Nutrients, hormones and enzymes. Biochemical methods of nutritional assessment.

### **HFN 709: Nutrition and Food Security and Policies**

Food and nutrition problems and policies at national and international levels, as they affect household and community food security. Economic environment in relation to food availability and natural disasters and proposed strategies of interventions. Food habits as they affect nutritional status. Toxicant and additives in the food chain. Food and Nutrition policies.

### **HFN: 710 Programme Design, Monitoring and Evaluation in Nutrition**

Project and Programme design methods and concepts programme life cycle. Targeting programme beneficiaries and importance of community participation. Constraints to programme design and implementation. Programme evaluation techniques. Design or evaluate a project/programme.

### **HFN 711: Statistics and Research Methods**

Statistics and research methods concepts, levels of measurements, descriptive and inferential statistics. Probability and normal distributions. Types of research, qualitative and quantitative approaches to research, review of literature, research proposal and report writing process, data analysis, presentation and interpretation.

### **HFN 712: Nutrition Anthropology**

Social and cultural aspects of food production and utilization by population groups. Relationship between basic social-cultural factors, dietary customs and habits; changing roles and practices of traditional institutions on food utilization of different population groups, with emphasis on effects of urbanization, technology, health education and lifestyle. Development of social-cultural surveys for problem identification.

### **HFN 713: Nutrition and HIV/AIDS**

Impact of HIV and AIDS in nutrition, Nutrition and effects during different stages of HIV and AIDS progression. Breastfeeding for HIV/AIDS mothers. Prevention of mother to child transmission. Nutrition

effects and implications for HIV and AIDS in different physiological states. Nutrition in maintenance of the immune system.

#### **HFN 714: Nutrition in Emergencies**

Nutritional strategies in emergency situations: Assessment of the nutritional situation, rapid nutrition surveys among populations in emergency situations. Types of nutrition interventions in emergencies. Monitoring and Evaluation of Intervention programmes; planning food rations, Selective Feeding programmes. National and International emergencies. Challenges in the implementation of nutrition programmes in emergency situation. Nutrition disaster preparedness.

#### **HFN 715: Food Processing, Preservation, Storage and Legislation**

Quality of raw food materials. Deterioration of food materials: cases, effects and control. Nutrient loss and conservation. Factors affecting acceleration of changes and related losses. Principles of food preservation: heat processing, irradiation, chilling, freezing; concentration, dehydration; pressure; fermentation; use of additives, smoking, enzyme activity. Process optimization and packaging. Food storage.

#### **HFN 716: Food Microbiology**

Isolation of cultures and screening for new products in curriculum development. Microbial aspects of food processing. Nutritional improvement of processes. Industrial micro-organisms. Fermentation processes, enzymes and cell culture. Anti-microbial substances. Disposal and sterilization. Current trends in food microbiology.