

MASTERS OF FOOD, NUTRITION AND DIETETICS

COURSE DESCRIPTIONS

HFN 500: Advanced Human Nutrition

A comprehensive study of macronutrients and micronutrients nutrient metabolism special emphasis on factors affecting human dietary requirements. Nutrient-drug interactions. Nutrient-nutrient interactions. Anti-nutrients and their influence on nutrient metabolism and bioavailability. Nutrition supplements. Food intolerance. Nutrition enhancers. Medical aspects.

HFN 501: Advanced Nutritional Epidemiology

Principles and techniques of nutritional epidemiology. Incidence, prevalence and severity of nutritional problems. Disease causation models. 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. Interpretation of study findings.

HFN 502N: Research Methods

Quantitative and qualitative approaches. Statement of the problem, objectives, research questions and hypotheses. Theoretical and conceptual frameworks. Review of literature. Research design, sampling and sample size determination. Data collection methods and instruments. Methods of data analysis. Interpretation and presentation of data. Research proposal development, research report writing and dissemination of findings.

HFN 503: Applied Statistics

Descriptive and inferential statistics to include parametric and non-parametric statistics and their uses in data analysis and hypothesis testing. Graphic presentation of data Multi-variate analysis. Statistical packages in nutrition.

HFN 504N: Nutrition Assessments

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 anthropometric data to reference standards. Analysis of nutrition data. Use of EPI INFO and ANTHRO packages to analyze and interpret nutrition data. Mini Field work for one week.

HFN 505: Nutrition and Food Security

Food and nutrition problems, policies both at national and international levels, as they affect household and community food security. Determinants of food security gender and food security coping strategies. Economic environment in relation to food availability and natural disasters and proposed strategies of interventions. Food habits as they affect nutritional status. Food processing, preservation and storage to ensure food availability. Toxicant and additives in the food chain. Livelihoods issues in food security. Water and sanitation.

HFN 506N: Advanced Nutritional Biochemistry

Biochemical and physiological functions of nutrients in the body. Metabolism and utilization of dietary proteins, amino acids, carbohydrates, lipids, minerals and vitamins. Starvation, FAO indications in surveying food quality – Nitrogen balance, P.E.R, NPU, BV carbohydrates tolerance tests, lipoproteins and cholesterol. Bone, plasma, urine and other tissues vitamins and minerals. Biochemical aspects of formulation a balance diet –chemical score, animal experiments-nutrient utilization and effect on growth and body composition. Interrelationship

between nutrients, hormones and various enzymes. Biochemical methods of nutritional assessment.

HFN 507N: Seminars in Foods, Nutrition and Dietetics

Examination and critical analysis of current issues in foods and nutrition. Extensive library search and review of literature on selected topical issues in foods and nutrition. Use of internet in research. Seminar presentations on findings of the library search or independent project. Critiquing of articles. Developing a project paper for examination. Presentation techniques, actual presentation.

HFN 508N: Programme Design, Monitoring and Evaluation

Project and programme life cycle, Programme design methods Qualitative and quantitative methods in problem identification and analysis, programme implementation, monitoring and evaluation. Targeting programme beneficiaries, importance of community/industry participation. Constraints to programme design and implementation. Programme evaluation techniques. Design or evaluate a project/programme.

HFN 509: Food Microbiology and Biotechnology

Isolation of cultures and screening for new products in curriculum development. Nutritional improvement of processes and process optimization. Industrial micro-organisms. Fermentation, heat and mass transfer, recovery and purification. Enzymes and cell cultures. Food Biotechnology. Anti-microbial substances. Disposal and sterilization. Flavours. Biologically based preservation. Systems instrumentation.

HFN 510N: Community Nutrition Surveillance and Interventions

Types of nutrition surveillance and their importance. Concept of early warning system techniques inter-sectoral Collaboration with Governmental and NGOs in early warning systems. Evaluation of nutritional surveillance programs. An overview of the existing nutritional problems, their causes, consequences and interventions. Community problem diagnosis approaches including rapid assessment procedures (RAP), the planning of interventions (top-up versus bottom-up approaches) and intervention selection criteria.

HFN 511: Advanced Therapeutic Nutrition

Path physiology of specific disease states with special attention to nutritional management as part of the therapy. Nutrition and cancer nutrition and diabetes mellitus, nutrition and HIV/AIDS, nutrition and kidney disorders, nutrition and liver disorders, nutrition and weight management nutrition and fevers (Tuberculosis, typhoid), Nutrition and Cardiovascular disorders. Drug-nutrient interrelations and incompatibilities.

HFN 512: Advanced Nutrition in Exercise and Sports

Principles of Nutrition in sports. Muscle metabolism. The cross over concepts. Fluid and fuel intake in sports. Body composition determination. Nutrition before during and after exercise. Role of vitamins and minerals in exercise and sports. Nutrition therapeutic modalities, recovery and regeneration. Use of dietary supplements; nutrition immune modulation.

HFN 513N: Advanced Ergogenic Aids in Sports Performance

Key concepts on ergogenic aids, muscle biochemistry and systems physiology in functioning of ergogenic aids, their effect on human performance, side effects, legality, critical review of current literature on ergogenic aids, consensus statements of the International Olympic

Committee (IOC) and position stand of the American College of Sports Medicine (ACSM) on the use of alcohol and ergogenic aids for improving performance.

HFN 514: Advanced 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, and infant (0-12 months). Breastfeeding, formulas and feeding of the infants. Complementary feeding. Food habits. Nutritional and supplementary feeding programmes. Childhood disease, immunization. IYCF, policies in maternal and child nutrition. Exposure to MCH clinic.

HFN 515N: Nutrition in Emergencies

Types of emergency situation. Assessment of nutrition situation in emergencies using SMART methodology. Nutritional strategies and interventions in emergency situations. Human rights approaches to emergency situations and nutrition concerns. Cultural dynamics; Gender issues in emergency; Sphere standards; Disaster preparedness plan: Planning, implementation, monitoring and evaluation. Resource mobilization. Data management in emergency. Challenges in management of a crises situation. Designing a program in emergency. Water and sanitation.

HFN 516: Advanced Nutrition in 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. Case studies.

HFN 517: Nutrition and HIV and AIDS

Impact of HIV/AIDS in nutrition, Nutrition and effects during different stages of HIV/AIDS progression. Breastfeeding for HIV/AIDS mothers. PMTCT. Nutrition effects and implications for HIV/AIDS in different physiological states. Nutrition in maintenance of the immune system.

HFN 600: Thesis (Equivalent of 8 units)

A thesis of original research should be presented at the end of the programme.