**FST 2204 DIETETICS**

**COURSE INSTRUCTORS**

* Magala-Nyago C. [Bed. Home Economics; MSc. Human Nutrition.; (PhD. Nutrition)
* Resource persons: Doctors/ Nutritionist at Mulago Hospital

**COURSE TYPE**

* Core course for Year 2 BSc. Food Science & Technology
* Principles of Human Nutrition

1. **COURSE STRUCTURE**

Course is 3 credit units (3 CU): 2 lecture hours and 2 practical hours per week for 15 study weeks; [i.e. 30 lecture hours & 30 practical hours equivalent to 45 contact hours].

1. **COURSE DESCRIPTION**

General dietetic principles and practice; Develop an in-depth understanding of the causes, dietetic management of diseases/ therapeutic role, prevention and dietetic care process of major lifestyle diseases: Obesity and overweight; protein energy malnutrition, diabetes mellitus; coronary heart disease; hypertension; gastrointestinal tract diseases; Therapeutic role and management of other diseases i.e cancer and HIV disease and AIDS; Basic counseling skills and assessment of patients with such disorders.

1. **COURSE OBJECTIVES**

**General objective**

This course is aimed at equipping students with knowledge and skills in how therapeutic diets prevent and influences the disease process of individuals and groups

**Specific Objectives**

* Demonstrate the ability to work autonomously with individual clients on a one to one basis, assessing needs, providing appropriate therapeutic interventions and facilitating behaviour change.
* Complement other health professionals in enhancing nutrition as part of the health care team
* Ability to formulate diets that will alleviate symptoms of the disease, prevent complications and promote health.

1. **RECOMMENDED REFERENCES**
   1. Manual of dietetic practice. Thomas B and Bishop J (Eds). Blackwell publishing. (Current edition)
   2. Principles of Nutritional Assessment. Gibson RS. Oxford University press. (Current edition)
   3. Nutrition and Diet Therapy. DeBruyne C and Whitney. (Current Edition)
   4. Nutrition and dietetics for health care by Barker HM. Churchill Livingstone. (Current edition)
   5. Applications in medical nutrition therapy. Zeman FJ and Ney DM. Merrill, Prentice Hall. (Current edition)
   6. Nutritional counseling for lifestyle change by Snetselaar L. Taylor & Francis CRC Group. (Current edition)
   7. Journal of clinical Nutrition and dietetics.

**4. COURSE CONTENT, METHODS OF INSTRUCTION, TOOLS AND**

**EQUIPMENT**

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| **TOPIC** | **CONTENT** | **METHOD OF INSTRUCTION/ Time allocation** | **TOOLS/ Equipment needed** |
| 1. General dietetic principles and practice | * Diet, health and disease * Healthy eating and lifestyles * Food guidelines * Dietary assessment * Dietary modification * Food composition tables * Estimating caloric requirements * Food service in hospitals and institutions * Dietary assessment in clinical practice * Changing health behaviour * Assessment of nutritional status * Anthropometric measurements of students/school children * Evaluation of the food service at the hospital and University Hall | -Interactive lectures  (2 hr) with assignments  Interactive lectures  (2 hr) with assignments Discussions  Practical (2 hrs)  Interactive lectures  (1 hr) with case study  Interactive lectures  (1 hr)  Lab practical (1 hrs) and assignment  Practical (1hr) Visit the University kitchen and food service unit | LCD projector/ White boards  e-learning materials, Internet,  Food composition tables  Computer packages for data analysis  Foods and food models  Weighing scales Food measuring equipment  Nutrition analysis packages  Case study requirements  Foods and food models  Growth centile charts  e-learning  Nutrition analysis packages  Anthropometric equipment (Weighing scales, stadiometers  measuring tapes  skin fold calipers) |
| 1. Obesity | * Definition and prevalence of obesity * Aetiology and risk factors * Classification and categories of interpretation for adults and children * Complications of obesity * Dietetic care process in the management and prevention of obesity /overweight * Measurement of obesity / overweight * BMI, waist circumference, skin fold thickness and mid upper arm circumference measurements of students/school children * Diet plans for obese and over weight clients | Interactive lectures  (2 hr) with case presentation  discussions,  Lab practical (2 hrs) and assignment  Lab practical (2 hrs) and assignment | LCD projector/ White boards  Case study equipments  Anthropometric equipment  Growth centile charts  BMI for age charts  Foods  Cookers  Cooking utensils |
| 1. Diabetes mellitus | * Definition and prevalence * Pathophysiology * Types of diabetes mellitus * Signs and symptoms * Aetiology and risk factors * Micro and macrovascular complications of diabetes mellitus * Nutrient metabolism as affected by uncontrolled diabetes * Dietetic/nutrition care process * Dietary management and prevention of diabetes mellitus * Diagnosis for pre-diabetes * Diagnosis for diabetes * Case studies at the diabetic clinic and endocrine ward * Preparation of high dietary fiber diets | Interactive lectures  (2 hr) with case studies at endocrine ward  Interactive lectures  (2 hr) with assignment  Lab practical (2 hrs) | LCD projector/ White boards  LCD projector/ White boards  Visual aids (patients)  LCD projector/ White boards  Foods  Cookers  Cooking equipment and utensils  Food scales  Biochemical analysis equipment-glucometer with accessories  Foods |
| 1. Coronary heart disease (CHD | * Definitions and prevalence of CHD * Pathogenesis of CHD * Risk factors for CHD * Complications of CHD * Life style changes to control CHD * Dietetic care process * Dietary recommendation for the treatment and prevention CHD * Diagnostic techniques (dyslipidaemia) * Dietary treatment in the different patterns of dyslipidaemia) * Planning and preparation of cardioprotective diets * Clinical assessment of CHD patients. * Dietary history of patients * Assessing electrical activity of the heart | Interactive lectures  (2 hr) with case studies at the Uganda Heart Institute  Lab practical (3 hrs)  Ward rounds to assess and counsel patients at the heart Institute  . | LCD projector/ White boards  Visual aids (patients)  Foods  Cooking stoves  Cooking utensils  Electrocardiogram (ECG) |
| Mid-term test | | | |
| 1. Hypertension/ high blood pressure | * Definition and how blood pressure is generated * Classification of blood pressure levels * Causes of hypertension * Dietetic care process * Monitoring of blood pressure * Dietary management * Dietetic care process | Interactive lectures  (2 hr) with case studies presentation  -invited speaker  Lab practical (2 hrs)  Nutrition lab | LCD projector/ White boards  Equipment for Blood pressure equipment (visomat)  Foods |
| 1. Protein energy malnutrition (PEM) | * Definition * Types of PEM * Classification of nutritional status * Pathophysiology of PEM * Signs and symptoms * Dietary treatment and management of PEM in the hospital * Methods of feeding * Psychomotor stimulation * Prevention of PEM * Follow up * Nutritional assessment of children with PEM * Therapeutic diet formulations & preparation for children with PEM * Preparation of foods high in energy and specific nutrients for children during the critical, stabilization and rehabilitation phases * Counseling care givers | Interactive lectures  (2 hr) with case studies  Practical (5hr) at Mwanamugimu nutrition unit | LCD projector/ White boards  Anthropometric equipments  Percentile growth charts  Computers  Nutrition analysis packages  Foods  Cookers and cooking utensils  Food scales |
| 1. Gastrointestin-al tract (GIT) diseases   7.1 Diseases of the  mouth  7.2 Diseases of the  stomach  7.3 Diseases of the  intestines | * Overview of GIT diseases * Definition * Types of diseases * Causes * Diagnosis * Management of * Therapeutic indications of foods for the mouth * Preparation of soft solid, semi-solid and liquid diets * Foods high in specific nutrients * Practicing proper dental and oral hygiene * Definition * Types of diseases of the stomach * Causes * Therapeutic indications of foods for the stomach * Dietary management * Preparation of a variety of soft, anti-acid, bland diets and high in antioxidants. * Definition * Types of diseases of the intestines * Causes * Therapeutic indications of foods for intestines * Dietary management * Preparation of oral rehydration salts (ORS) and high mineral salts diets * Preparation of lactose free milk and milk products and anti inflammatory diets * Preparation of low and high dietary fiber diets | Interactive lectures  (2 hr) and case study  Discussions  Lab practical (2 hrs)  Interactive lectures  (2 hr)  Lab practical (2 hrs)  Interactive lectures  (2 hr) with assignment  Discussions  Lab practical (2 hrs)  Pilot plant | LCD projector/ White boards  Foods  Food scales  Flossing materials  LCD projector/ White boards  Foods  Cooking equipments  LCD projector/ White boards  Measuring jugs  Food scales  Foods |
| 1. HIV/AIDS | * Definition and prevalence * Routes of transmission * Effects of HIV/AIDS on nutrition * Complications associated with anti retroviral therapy (ART) * Components of nutrition care and support * Effect of Nutrition on HIV/AIDS * HIV/AIDS related diseases and nutrition * Nutritional assessment of HIV/AIDS patients * Dietary management in HIV/AIDS * Dietetic care process | Interactive lectures  (2 hr) with case presentation  Practical (2 hrs) | LCD projector/ White boards  Anthropometric equipment  Bioelectrical Impedance analysis equipment (BIA)  Foods |
| 1. Cancer and Nutrition | * Definition of cancer * Types of tumors and causes * Signs and symptoms * Food related cancer causing factors * Effect of cancer on nutrition * Effect of cancer treatments on nutrition * Nutrition therapy for cancer conditions * Feeding methods * Palliative care for cancer patients * Preparation of meals for cancer patients and for prevention of cancer * Dietetic care process | Interactive lectures  (2 hr) with case presentation  Visit to cancer ward and clinic. Discussions  Lab practical (2 hrs)  Pilot plant | LCD projector/ White boards  Anthropometric equipments |
| 1. Communicat-   ion and  counseling  strategies | * Components of the communication process * General principles of effective counseling * Counseling approaches to initiate and adhere to behavior change. * Counseling of clients with different diseases | Interactive lectures  (2 hr) with  Discussion groups  Case presentations | LCD projector/ White boards  Foods  Food models  Anthropometric equipment |
| Final examination | | | |

**5. SUMMARY OF TIME (as contact hours)**

* Lecture hours 30 hr
* Practicals 30 hr

1. **OVERALL COURSE EVALUATION**
   * Assignments (at least three assignments) 10%
   * Practical and class attendance 10%
   * Field trips and case studies 20%
   * Mid semester Course tests (one course test) 10%
   * Final examination 50%