PRINCIPLES OF FOOD SCIENCE AND NUTRITION

BRIEF CONTENTS:
Physiologic and chemical roles of carbohydrates, lipids, proteins, vitamins, minerals and water in the human body. Understanding of nutrition standards and relationship between foods and nutrients. Factors affecting absorption, utilization, and the need for nutrients.

OBJECTIVES:
This course will provide students with an understanding of:
- Principles of nutrition.
- Human nutrient requirements.
- Fundamental mechanisms through which nutrition contributes to the maintenance of good health.
- Role of essential nutrients (macro and micro) in human.
- Nutrients and their biological role and function.
- Structure and properties of food components, including water, carbohydrates, protein, lipids and other nutrients.

ASSESSMENT METHODS:
Continuous assessment (40%) on:
- Quizzes, assignments and homework
Final Examination (60%) on:
- Final Written Exam

NUTRITION DURING LIFE CYCLE
This course is designed to provide recognition of the relationships among the physiological, biochemical, psychological, and sociological factors that affect nutrient requirements and recommendations over the life cycle.

OBJECTIVES:
This course will provide students with an understanding of:
- The nutritional needs of people in the various life stages.
- The life cycle groups are infancy, childhood, adolescence, adulthood, pregnancy, lactation, and elderly.
- From childhood until death, people have special nutritional requirements to assure health and growth.
- In addition, studying growth and developments and common problem and complication related to nutrition for each group.

ASSESSMENT METHODS:
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports
Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

**NUTRITIONAL BIOCHEMISTRY**

**BRIEF CONTENTS:**
This course aims to thoroughly acquaint the student with detail studies of metabolic roles of macro- and micronutrients in the body using an integrated approach to explore the roles of nutrients in biochemical, physiological, and metabolic functions.

**OBJECTIVES:**
*Expected students' outcomes on completion of the course are as follows:*
- Understanding key principles of metabolism.
- These principles are illustrated through study of the major metabolic pathways.
- Encourage an appreciation of the diversity and interconnection of metabolic pathways.
- Stimulate an understanding of the applicability of metabolism in a broad range of biological contexts.

**ASSESSMENT METHODS:**
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports
Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

**Nutritional Assessment**

**BRIEF CONTENTS:**
This course includes study and skills development in nutritional assessment and body composition assessment relevant to individual and population-based nutrition and dietetic practice. Key content areas include dietary assessment, anthropometry, laboratory and clinical methods.

**OBJECTIVES:**
*This course will provide students with an understanding of:*
- Various theoretical and practical methods of screening and assessment used to determine nutritional status including; historical, clinical, biochemical, and anthropometric methods.
- A comprehensive knowledge of the applications of each of these methods in a trial to help student in developing the ability of decision making; for a productive and effective nutrition care process.

**ASSESSMENT METHODS:**
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports

Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

FOOD SAFETY AND HYGIENE

BRIEF CONTENTS:
The course will discuss the background to food safety and deal with problems related to genetically engineered food, chemicals in the food chain, microbial toxins and foodborne disease and natural toxins.

OBJECTIVES:
*After attending this course, students should be able to:*
- Understand the principles of food safety and the diversity of food spoilage agents (physical and chemical) that affect the food and food pathogens involved in food-borne disease).
- Understand the importance of ensuring food remains free from contamination at all stages of food production and the important role they play in maintaining the standards at their level of operation.

ASSESSMENT METHODS:
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports

Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

MEDICAL NUTRITION THERAPY (1)

BRIEF CONTENTS:
This course is an integration of pathophysiology, biochemistry, anatomical and nutrition concepts that form the basis for medical nutrition therapy in health care. A study of nutrition status and assessments; nutrition care strategies; and the modification of normal food intake with emphasis on dietary adjustments necessitated by certain disease and disorder processes and conditions focusing on the hospitalized and/or ambulatory patient.

OBJECTIVES:
*After attending this course, students should be able to:*
- Introduce the principles of dietetics
- Discuss the promotive and curative role of dietetics in health and disease.
- Focuses on the patho-physiological changes of diseases that influence the nutritional status "know why", and the various nutritional changes that help to attain and maintain an optimum nutritional status "know how".
- Emphasizes the individual systems disorders.

**ASSESSMENT METHODS:**
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports
Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

**FOOD ANALYSIS**
**BRIEF CONTENTS:**
This course introduces the experimental procedures required for food analysis. Preparation of samples and reagents for analysis will be covered in terms of appropriate methods and safety aspects. The gross analysis of foods (moisture, fat, protein, ash and visual assessment...) will be covered. The principles used in the measurement of colour used for solids and liquids will be studied. A range of separation techniques will be considered both as techniques for analysis and for food purification.

**OBJECTIVES:**
After attending this course, students should be able to:
- To provide an integrated picture of the field of food analysis with emphasis on its importance in food industry, governmental agencies and universities.
- To provide students with an understanding of analytical methods used for measuring the chemical composition of food and the principles behind analytical techniques associated with food.
- To understand methods for the measurement of the physical properties of food as well as the management systems used by the food industry to ensure consistently high quality products.

**ASSESSMENT METHODS:**
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports
Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

**MEDICAL MICROBIOLOGY AND PARASITOLOGY**
**BRIEF CONTENTS:**
This course covers the basic concepts, principles and techniques of medical microbiology and parasitology. It looks at the domains of bacteria, viruses, fungi, parasites and microbial diseases. Students will be introduced to human infections caused by the main groups of bacterial, viral, parasitic and fungal pathogens and the mechanisms of disease causation.

**OBJECTIVES:**

*After attending this course, students should be able to:*
- Understand general principles of medical microbiology and parasitology.
- Identify microorganisms (bacteria, viruses, parasites and fungi) that are involved in human diseases.
- Recognize the importance of microbiology to applied areas of science.
- Describe the characteristics that differentiate prokaryotic from eukaryotic cells.
- Explain the general properties of pathogenic microorganisms (viruses, bacteria, fungi and parasites).
- Recognize infections of different body systems.

**ASSESSMENT METHODS:**

Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports

Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

**NUTRITION AND IMMUNOLOGY**

**BRIEF CONTENTS:**

This course will concentrate on current understanding of the interactions between nutrition and immunity, emphasizing the mechanisms of action of the nutrients concerned and the impact on human health.

**OBJECTIVES:**

*This course will provide students with an understanding of:*
- Fundamentals of immunology and immunological system
- Interactions between nutrition and immunity and mechanisms of action of the nutrients concerned and the impact on human health.
- The immune system and the effects of nutrition.
- Individual nutrients and nutrition and immunity throughout the life cycle
- The role of local immunity and breast-feeding in mucosal homeostasis and defense against infections
- Food allergy, exercise, and the aging of the immune system.

**ASSESSMENT METHODS:**

Continuous assessment (40%) on:
- Quizzes, assignments and homework

Final Examination (60%) on:
- Final Written Exam
NUTRIENT ESTIMATION

**BRIEF CONTENTS:**
This course introduces the student to important of food and well balanced diet. Also description of nutrients, their sources, functions and the daily requirements for different age groups.

**OBJECTIVES:**

*This course will provide students with an understanding of:*
- The basic concepts of adequate nutrition
- The important of food and well balanced diet
- Effects of good nutrition on health
- Factors which affect eating habits
- Description of nutrients, their sources, functions and the daily requirements for different age groups

**ASSESSMENT METHODS:**
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports
Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

MEDICAL NUTRITION THERAPY (2)

**BRIEF CONTENTS:**
This course is an integration of pathophysiology, biochemistry, anatomical and nutrition concepts that form the basis for medical nutrition therapy in health care. A study of nutrition status and assessments; nutrition care strategies; and the modification of normal food intake with emphasis on dietary adjustments necessitated by certain disease and disorder processes and conditions focusing on the hospitalized and/or ambulatory patient.

**OBJECTIVES:**

*This course will provide students with an understanding of:*
- The patho-physiology and nutritional therapy of some health disorders that could influence many organs or body systems.
- These conditions call for integration of previously acquired knowledge during studying the Medical Nutrition Therapy (1) course.

**ASSESSMENT METHODS:**
NUTRITION AND ECONOMY
BRIEF CONTENTS:
This course will provide detailed study of food availability, access and distribution among household in relation to food security nutrition and environment. Emphasis will be on understanding of the inter-linkages among food security, nutrition and environment.

OBJECTIVES:
After attending this course, students should be able to:
- An integrated understanding of the role of nutrition in global health issues, identify global food problems (Hunger, malnutrition and famine), health-related problems common to the developing world in contrast to the developed countries.
- Examine and explore issues relating to food security, food distribution, poverty and development, socio-economic factors and governance and their influence on nutrition.
- The ability to design, implement and evaluate nutritional programs for countries, regions and territories, food security and distribution pathways will be a major facet of the course.
- A thorough understanding of the economic cost of illness and poor nutritional status with an aim to provide appropriate guide to assessing nutritional and general health status, estimating costs in monetary and productivity terms will be a major emphasis.

ASSESSMENT METHODS:
Continuous assessment (40%) on:
- Quizzes, assignments and homework
Final Examination (60%) on:
- Final Written Exam

COMMUNITY NUTRITION
BRIEF CONTENTS:
This course will provide detailed study of nutrition-related problems in the community and the various resources, activities, agencies, and programs involved in health promotion and disease prevention and the important role of dietitians in the community and their interaction with other primary health care workers and voluntary organizations.

**OBJECTIVES:**

*This course will provide students with an understanding of:*
- Community-based nutrition needs
- Community-based intervention programs
- Community-based policy issues
- Nutritional needs of population groups
- Availability of nutritional resources in communities

**ASSESSMENT METHODS:**

*Continuous assessment (40%) on:*
- Quizzes, assignments, homework and practical reports

*Final Examination (60%) on:*
- Final Written Exam
- Final Practical Exam

**ENTERAL AND PARAENTERAL NUTRITION**

**BRIEF CONTENTS:**

This course is designed to explore nutrition support strategies and to provide dietitians with skills and knowledge to design assess and monitor routine enteral and parenteral feeding regimens.

**OBJECTIVES:**

*This course will provide students with an understanding of:*
- Enteral and Parenteral Nutrition Course is intended to teach the students all aspects of nutrition support including Total Parenteral Nutrition (TPN) and Enteral Nutrition (EN) indications, contraindications, method of administration, types, complications, monitoring parameters for each modality of nutrition support.
- This course is also intended to prepare the student to be able to recommend the appropriate calories, protein, fat, electrolytes, minerals, trace elements and multivitamins as per patient specific requirements and to perform all required daily calculation for parenteral and enteral nutrition requirements, TPN total osmolality, patient nitrogen balance status and the non-protein calorie to nitrogen ratio, how to choose the appropriate tube feeding formula according to patient situation.
- It is important that the student learn how to initiate, follow up and monitor a neonatal, pediatric, and adult TPN therapy as well as enteral nutrition tube feeding therapy.
- Clinical dietitian communication with medical & nursing or pharmacy staff for solving any problems regarding nutrition support is one of the objectives of this course.
-This course goal also is to prepare the student to teach patient and health care professional regarding nutrition support of patient's specific disease state and communicate all information pertinent to nutrition support in a clear, concise and organized manner.

**ASSESSMENT METHODS:**
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports
Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

**VOCATIONAL HEALTH AND SAFETY**
**BRIEF CONTENTS:**
This course is designed to describe the importance of health and safety. Also it gives comprehensive knowledge about occupational injuries and illnesses among health care workers and detailed guidelines for protecting their safety and health in hospitals.

**OBJECTIVES:**
After attending this course, students should be able to:
- Describe the importance of health and safety.
- Give a full comprehensive knowledge about occupational injury and illness among hospital workers
- Give detailed guidelines for protecting the safety and health of health care workers in hospitals

**ASSESSMENT METHODS:**
Continuous assessment (40%) on:
- Quizzes, assignments and homework
Final Examination (60%) on:
- Final Written Exam

**FOOD AND DRUGS**
**BRIEF CONTENTS:**
This course describes the importance of food-drug interactions on drug action and the effect of drugs on the nutritional status together with mechanisms of these interactions.

**OBJECTIVES:**
After attending this course, students should be able to:
- Understand the pharmacological aspect of food-drug interactions through understanding the pharmacokinetics of a drug and the most important expressions related to it and understanding the pharmacodynamics of a drug.
-Realize the importance of food-drug interactions on drug action and the effect of drugs on the nutritional status together with mechanisms of these interactions.
-Apply the knowledge taken precisely with patients to avoid the hazards of food-drug interactions.

**ASSESSMENT METHODS:**
Continuous assessment (40%) on:
- Quizzes, assignments and homework
Final Examination (60%) on:
- Final Written Exam

**CLINICAL ROTATION IN MEDICAL NUTRITION THERAPY (1)**

**BRIEF CONTENTS:**
This course is the core course relevant to the clinical application of nutrition and dietetics knowledge and skills. It includes supervised individualized experience in clinical dietetics (needs assessment, nutrition care plan development, case study and documentation).

**OBJECTIVES:**
*After attending this course, students should be able to:*
- Provide practical skills in dietary planning and patient counseling.
- The student is moved from class room to the real environment of clinical dietitians in order to connect the theoretical knowledge with the clinical setting; in order to help student to adapt the profession environment.
- The student now will approach the therapeutic nutrition knowledge from another point of view; "The Case Study Approach"; in a situation that forces the integration of knowledge from all previously acquired knowledge; and helps the student to develop the required skills for decision-making

**ASSESSMENT METHODS:**
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports
Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

**FOOD HABITS AND SOCIAL CONCEPTS**

**BRIEF CONTENTS:**
This course is detailed study of the historical, social, psychological, economic, religious, and aesthetic significance of food customs in various cultures and societies. Fulfills multicultural, social and behavioral requirements for individual or Group.

**OBJECTIVES:**
*After attending this course, students should be able to:*
-Examine the relationship between society in cross-cultural perspective and food habit.
-Develop a “working knowledge” of how socio-culture, environmental and psychological factors influence food behavior and human health.

**ASSESSMENT METHODS:**
Continuous assessment (40%) on:
- Quizzes, assignments and homework
Final Examination (60%) on:
- Final Written Exam

**PROFESSIONAL SKILLS IN DIETETIC**

**BRIEF CONTENTS:**
This course is detailed study of the role of dietician in modern health care system and application of interviewing, counseling, and educational techniques in dietetics.

**OBJECTIVES:**
*After attending this course, students should be able to:*
- Understand the historical development and up-to-date picture of the profession of dietetics.
- Inspire choices and provide directions for satisfying careers in the profession of dietetics.
- Understand the knowledge and skills that are essential in whatever practice area dietitians are engaged.
- Be familiar with counseling skills for dietitian.
- Understand the importance of effective communication and the ability to work as a member of a multidisciplinary team.
- Understand the path to success in dietetics.
- Be familiar with preparation methods for practice and the major professional organizations.
- Focus on the future and crossing the bridge from student to professional.

**ASSESSMENT METHODS:**
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports
Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam
RESEARCH METHODS IN HEALTH SCIENCES

BRIEF CONTENTS:
This course is to assist students to improve their understanding of, and capabilities in, the research design, planning and implementation processes. A key element of the course is the opportunity to construct a research proposal that would assist in the preparations relating to the conduct of senior student research project.

OBJECTIVES:
*After attending this course, students should be able to:*
- Introduces the student to the research process with an emphasis on using research in health sciences.

ASSESSMENT METHODS:
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports
Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

METABOLIC AND GENETIC NUTRITIONAL DISORDERS

BRIEF CONTENTS:
This course describe genetic changes which take place in inherited diseases and explain the important role of dietetic therapy, screening, diagnosis and genetic counseling of genetic and metabolic disorders.

OBJECTIVES:
*After attending this course, students should be able to:*
- Provide an expanded idea of molecular genetics including the structure of chromosomes in the eukaryotic cell and the composition and function of genes.
- Understand genetic changes which take place in inherited diseases.
- Understand the role of dietetic therapy, screening, diagnosis and genetic counseling of genetic and metabolic disorders.

ASSESSMENT METHODS:
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports
Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam
CLINICAL ROTATION IN MEDICAL NUTRITION THERAPY (2)

BRIEF CONTENTS:
This course is the core course relevant to the clinical application of nutrition and dietetics knowledge and skills. It includes supervised individualized experience in clinical dietetics (needs assessment, nutrition care plan development, case study and documentation).

OBJECTIVES:
After attending this course, students should be able to:
- Provide practical skills in dietary planning and patient counseling.
- The student is moved from classroom to the real environment of clinical dietitians in order to connect the theoretical knowledge with the clinical setting; in order to help student to adapt the profession environment.
- The student now will approach the therapeutic nutrition knowledge from another point of view; "The Case Study Approach"; in a situation that forces the integration of knowledge from all previously acquired knowledge; and helps the student to develop the required skills for decision-making

ASSESSMENT METHODS:
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports
Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

NUTRITIONAL EPIDEMIOLOGY

BRIEF CONTENTS:
This course introduces the fundamental principles and practices of epidemiology in public health. Students will examine basic epidemiological concepts and methods, explore their application, perform elementary epidemiological reviews and critiques, and reflect in the role of epidemiology in public health.

OBJECTIVES:
This course will provide students with an understanding of:
- The fundamental principles and practices of epidemiology in public health
- Basic epidemiological concepts and methods
- How to can control malnutrition in societies
- Reflect in the role of epidemiology in public health

ASSESSMENT METHODS:
Continuous assessment (40%) on:
- Quizzes, assignments and homework
Final Examination (60%) on:
MANAGEMENT OF NUTRITION SERVICES AND DIETETIC
BRIEF CONTENTS:
The planning, operation, management and evaluation of foodservice plays an important role in providing essential services in a range of settings. This course will critically examine and contrast the efficient processes involved in the provision of food and nutrition services.

OBJECTIVES:
After attending this course, students should be able to:
- Understand food service operations or clinical management.
- Meet the need and demands of today's health care food service directors by providing the latest information on food service management and operations.
- Understand leadership, quality control, human resource management, communications, and financial or control management at Kingdom of Saudi Arabia.

ASSESSMENT METHODS:
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports
Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

ADVANCED TOPICS IN FOOD SCIENCE AND NUTRITION
BRIEF CONTENTS:
This course describes some important advanced topics in nutrition and food sciences and students gain greater understanding of how these topics affect health and illness.

OBJECTIVES:
After attending this course, students should be able to:
- Understand some important advanced topics in nutrition and food science
- Gain greater understanding of how these topics affect health and illness,
- Provides information on a wide range of nutrition promotion topics.
- Improve the students abilities to work with these essential topics in whatever practice area they are engaged.

ASSESSMENT METHODS:
Continuous assessment (40%) on:
- Quizzes, assignments and homework
NUTRITION FOR HEALTH AND FITNESS

BRIEF CONTENTS:
This course identifies the nutrition as a tool for achievement of optimal health and maximum fitness for all ages and genders.

OBJECTIVES:
After attending this course, students should be able to:
- Understand the application of nutritional science; to the more recent concepts; where an increasing emphasis is being placed upon the prevention of degenerative diseases.
- Identify the nutrition as a tool for achievement of optimal health and maximum fitness for age and gender.

ASSESSMENT METHODS:
Continuous assessment (40%) on:
- Quizzes, assignments, homework and practical reports
Final Examination (60%) on:
- Final Written Exam
- Final Practical Exam

STUDENT RESEARCH PROJECT

BRIEF CONTENTS
In this course students will work with a faculty member or selected senior staff in the hospital to select a topic of interest to the student and must be related to clinical nutrition. The student will be encouraged to integrate information and data acquired in the research with the information gained from his literature search to provide the basis for his/her final project report seminar.

OBJECTIVES:
This course will provide students with an understanding of:
- The literature associated with clinical nutrition
- The methods of library research
- The techniques associated with writing a paper suitable for publication in a professional journal

ASSESSMENT METHODS:
Final Assessment (100%) on:
- Student Project Seminar
- Student Project Report