برنامج نظم التغذية

Dietetic Program

# Level 3
# Sixth-Term

# برنامج نظم التغذية
# Dietetic Program

| | |
|---|---|
| **Course** | **Clinical Nutrition (1)** |
| **Code Number** | **Dar306** |
| **Credit Hours** | **2** |
| **Prerequisite Course** | **-** |
| **Course status** | **Compulsory course** |

**1) General instructional objectives (GIO)**

Students should have acquired the

1- Knowledge of nutrition support and emphasize ins important in patient care.
2- Practical aspects of need and provision of nutritional support and also nutritional therapy in genetic disease, thermal injury paediatric inpatients, cardiac, Diabetic, Hypertensive, Liver disease & hyperlipidemia, Obesity and Anemia, where nutrition support is of importance in reducing mortality and morbidity leading to early recovery.
3- Examination the role of nutrition in specific disease states
4- Presentation of case studies to help clarify.

**2) Scientific Contents**

Assessment of nutritional status in clinical practice, Energy in health and disease, Starvation, stress and disease: consequences, Value & importance of dietetics, Lipid malabsorption, Defects in protein digestion and absorption, Nutritional Aspects of genetic diseases (Carbohydrate metabolism, Amino acid metabolism, Disorders of lipid metabolism, Miscellaneous genetic diseases, Requirements that must be fulfilled in the therapeutic diet, Nutritional aspects of genetic disease, Nutritional aspects of thermal injury Diet, Nutritional support in liver disease, Nutritional management of pancreatitis, Diet therapy in diabetes mellitus, Nutritional aspects of anemia, Nutritional management in hypertensive patients.

**3) Teaching and learning methods**

1- Lectures
2- Practical lessons
3- Self learning
4- Cooperative learning
5- Case studies
6- Office hours (tutorial)

**4) – Student Assessment Methods**

1- Written examination
2- Practical examination
3- Mid – Term
4- Sheet examination
5- Oral examination

**5) References**

1- Gibney, M. J, Elia, M., Ljunggvist, O. and Dowsett, J. (2005). Clincal nutrition. Wiley-Blackwell. 496 pages.

# برنامج نظم التغذية
# Dietetic Program

| | |
|---|---|
| **Course** | **Community nutrition** |
| **Code Number** | **Fod301** |
| **Credit Hours** | **2** |
| **Prerequisite Course** | **Fdt101** |
| **Course status** | **Compulsory course** |

**1) General instructional objectives (GIO)**

On completion of this course you will be able to

1- Explain the influence of social, commercial and environmental factors on individuals and their food supply.
2- Critically analyse the nutritional health data collected in a community setting.
3- Demonstrate the ability to interpret the relationship between health and food choices in a community setting.
4- Demonstrate the ability to work in a small group.
5- Demonstrate the processes involved in designing, implementing and evaluating a community nutrition program through a service- learning project.

**2) Scientific Contents**

The role of the dietitian/nutritionist in identifying health and nutrition problems, Nutritional services with medical and social services within the community, the role of nutrition in health promotion and perspectives for resolving community nutrition problems, Needs assessment issues and national and state community nutrition programs, determinants of health outcomes, Measurement of nutrition and health status, food and nutrition policy, Legislative issues and management of community programs, Opportunities in community nutrition, Public health and community interventions, Community nutrition practice, Community versus public health nutrition, Basic competencies of the community dietitian, The concepts and knowledge required for the delivery of community nutrition services will be applied to program planning, intervention and program evaluation. Success factors in community-based nutrition programmes.

**3) Teaching and learning methods**

1- Lectures
2- Practical lessons
3- Self learning
4- Cooperative learning
5- Case studies
6- Office hours (tutorial)

**4) – Student Assessment Methods**

1- Written examination
2- Practical examination
3- Mid – Term
4- Sheet examination
5- Oral examination

**5) References**

1- Nankwe, N. (2013) Community nutrition: planning health promotion and disease prevention, Illinois state university, 472 pages.

# برنامج نظم التغذية
# Dietetic Program

| | |
|---|---|
| **Course** | **Food preservation** |
| **Code Number** | **Fdt 311** |
| **Credit Hours** | **2** |
| **Prerequisite Course** | **Fdt207** |
| **Course status** | **Compulsory course** |

**1) General instructional objectives (GIO)**

On completion of this course you will be able to

1- Present fundamental and practical aspects of preservation methods.
2- Emphasize practical, cost-effective, and safe strategies for implementing preservation techniques.
3- Know the effect of each method on food properties.
4- Aware cutting-edge techniques such as controlled-atmosphere packaging, glass transition and state diagram, ultrasound, ohmic heating and antioxidant additives.

**2) Scientific Contents**

Postharvest handling and treatments of fruits and vegetables, Post-harvest handling of grains and pulses, Minimal processing of fruits and vegetables, Postharvest handling and preservation of fish and seafood, Postharvest handling of red meat and chicken, Postharvest handling of milk, Preservation using chemical and microbes, fermentation as a method for food preservation, Natural antimicrobials for food preservation, Antioxidants in food preservation, pH in food preservation, Nitrides in food preservation, Modified –atmosphere packaging of produce, Glass transition and state diagram of foods, Food preservation and processing using membranes, Stickiness and caking in food preservation, Drying and food preservation, osmotic dehydration of food, water activity and food preservation, surface treatments and edible coating in food preservation, Preservation suing heat and energy, Pasteurization, Canning, Salting, Smoking, Cooking and frying, Food preservation by freezing, Microwave pasteurization and sterilization of food, ultrasound in food processing and preservation, Ohmic heating, Light energy, Irradiation, Pulsed electric field, High pressure treatment, Magnetic field, Combined methods for food preservation.

**3) Teaching and learning methods**

1- Lectures
2- Practical lessons
3- Self learning
4- Cooperative learning
5- Case studies
6- Office hours (tutorial)

**4) – Student Assessment Methods**

1- Written examination
2- Practical examination
3- Mid – Term
4- Sheet examination
5- Oral examination

**5) References**

1- Rahman, M. S. (2007). Handbook of food preservation. CRC press. 1088 pages.

# برنامج نظم التغذية
# Dietetic Program

| | |
|---|---|
| **Course** | **Nutrition and metabolism (2)** |
| **Code Number** | **Fdt 312** |
| **Credit Hours** | **2** |
| **Prerequisite Course** | **-** |
| **Course status** | **Compulsory course** |

**) General instructional objectives (GIO)**

Students should have acquired the

1- Knowledge of basic principles of nutrition and metabolism and the biochemistry needed for comprehending the science of nutrition.
2- Understanding of the metabolic pathways and the biochemical basis of their nutritional and physiological importance.
3- Understanding of digestion and absorption of carbohydrates, fats, and proteins
4- Knowledge of integration and control of metabolism.

**2) Scientific Contents**

The regulatory nutrients, The water-soluble vitamins, sources, Digestion, Absorption, Transport, and storage, Functions and mechanisms of action, Metabolism and excretion, Recommended dietary allowance, Deficiency, The Fat-Soluble vitamins, sources, Digestion, Absorption, Transport, and storage, Functions and mechanisms of action, Metabolism and excretion, Recommended dietary allowance, Deficiency, Macrominerals, sources, Digestion, Absorption, Transport, and storage, Functions and mechanisms of action, Interaction with other nutrients, Excretion, Recommended dietary allowance, Deficiency, Toxicity, assessment of nutrition, Microminerals, sources, Digestion, Absorption, Transport, and storage, Functions and mechanisms of action, Interaction with other nutrients, Excretion, Excretion, Recommended dietary allowance, Deficiency, Toxicity, assessment of nutriture, Ultratrace elements, sources, Digestion, Absorption, Transport, and storage, Functions and mechanisms of action, Interaction with other nutrients, Excretion, Excretion, Recommended dietary allowance, Deficiency, Toxicity, assessment of nutriture.

**3) Teaching and learning methods**

1- Lectures
2- Practical lessons
3- Self learning
4- Cooperative learning
5- Office hours (tutorial)

**4) – Student Assessment Methods**

1- Written examination
2- Practical examination
3- Mid – Term
4- Sheet examination
5- Oral examination

**5) References**

Gropper, S.S., Smith,J.L. and Groff, J.L. (2009). Advanced nutrition and human metabolism. Wadsworth cengage larning. 623 pages.

# برنامج نظم التغذية
# Dietetic Program

| | |
|---|---|
| **Course** | **Genetically modified food** |
| **Code Number** | **Gmcfd301** |
| **Credit Hours** | **2** |
| **Prerequisite Course** | **-** |
| **Course status** | **Compulsory course** |

**1) General instructional objectives (GIO)**

On completion of this course you will be able to

1-Present views of both opponents and propones of GM food in an unbiased and balanced manner.

2-Include up-to-date information on plant, animal and food biotechnology types and processes, as well as the use of biotechnology to produce biofuels

3-Discuss patenting in relation to GM foods and how this could affect the global food supply.

4-Cover contemporary consumer issues related to GM foods

**2) Contents**

GM technology, GM Controversy, GM and GE, GMOs, GM crops, and GM foods, Genetically modified organisms, Genetically Modified Cops, GM foods, Types of Biotechnology, Bioeconomy , Applications of Gentic Modification at the laboratory and Greenhouse levels, From the laboratory to Greenhouse techniques of GE, Methods for detection, Identification and quantification on GMs in food and feed, Genetically modified foods, composition of GE foods, Biotechnology in food processing and the uses of GMOs in the food industry, the future of GM Food, Laws, Regulations and Labeling for GM foods. GM foods or Not? The controversy. The effect of genetically modified feeds on milk Productivity, the effect of GM feeds on milk composition and serum metabolite profiles and transfer of tDNA into milk cows, A scientific perspective on labeling genetically modified food, Genetically modified organisms for agricultural food production, Biotechnology and the food label, European community legislation for traceability and labeling of genetically modified crops, food and feed, Genetically engineered animals and the ethics of food labeling, Mandatory genetic engineering labels and consumer autonomy, Consumer response to mandated labeling of genetically modified foods, Frankenfood free, Regulatory barriers to consumer information about genetically modified food,

**3) Teaching and learning methods**

1- Lectures
2- Practical lessons
3- Self learning
4- Cooperative learning

**4) – Student Assessment Methods**

1- Written examination
2- Practical examination
3- Mid – Term
4- Oral examination

**5) References**

1- Ruse, M. and Castle, D. (2002). Genetically Modified Foods. Prometheus Books. 350 pages

2- Mahgoub, S.E.O. (2015). Genetically Modified foods basics, applications and controversy. CRC press. 323 pages

# برنامج نظم التغذية
# Dietetic Program

| | |
|---|---|
| **Course** | **Food preparation** |
| **Code Number** | **Fod302** |
| **Credit Hours** | **2** |
| **Prerequisite Course** | **-** |
| **Course status** | **Compulsory course** |

**1) General instructional objectives (GIO)**

On completion of this course you will be able to

1- Demonstrate effective and safe cooking skills by planning, preparing and cooking using a variety of food commodities, cooking techniques and equipment.
2- Understand and explore a range of ingredients and processes from different culinary traditions to inspire new ideas or modify existing recipes.
3- Develop confidence in using the high level skills necessary in food preparation and cooking

**2) Scientific Contents**

The cookery processes and healthy eating, Prepare and cook basic meat, poultry and offal dishes, prepare and cook basic fish dishes, Prepare and cook basic cold and hot desserts, Prepare and cook basic sauces and soups, Prepare and cook basic pulse dishes, prepare and cook basic rice dishes, Prepare and cook basic dough products, Prepare and cook basic pastry dishes, Prepare, cook and finish basic cakes, sponges and scones, Prepare and cook basic egg dishes, Prepare and cook basic pasta dishes, Prepare and present food for cold presentation, Prepare and cook basic shellfish dishes, Cook-freeze food, Prepare and cook vegetable for basic hot dishes and salads, Prepare and cook basic vegetable protein dishes, Prepare and cook basic healthy food, Nutritional value of cooked food compare to fresh food, Glossary.

**3) Teaching and learning methods**

1- Lectures
2- Practical lessons
3- Self learning
4- Cooperative learning
5- Case studies
6- Office hours (tutorial)

**4) – Student Assessment Methods**

1- Written examination
2- Practical examination
3- Mid – Term
4- Sheet examination
5- Oral examination

**5) References**

1- Foote, R., Coulthard, P., Groves, T., Kenyon, B., Klaasen, D., Rabone, P., Stevenson, D. Tallon, H. and Ware, M. (2001). Food preparation and cooking: cookery units. Nelson Thornes. 442 pages.

# برنامج نظم التغذية
# Dietetic Program

| | |
|---|---|
| **Course** | **Internship (2)** |
| **Code Number** | **Unv310** |
| **Credit Hours** | **-** |
| **Prerequisite Course** | **-** |
| **Course status** | **Compulsory course** |

**1) General instructional objectives (GIO)**

Students should have acquired the

1- Importance of the collaborative role of dietitian with the health care team for management of patients' nutritional care
2- Understanding the system of food preparation unit and management of raw materials, tools and equipments in the hospital and University dorms.
3- Communication skills and nutritional education in order to food and nutrition counseling

**2) Scientific Contents**

Students internship will be training in intensive care unit, dialysis unit, , digestive and liver diseases division, general surgery unit, obstetrics and gynecology, Childern's hospital, Urology and nephrology center, nutritional units in hospitals or university residence (University dorms).

**3) Teaching and learning methods**

1- Self learning
2- Cooperative learning
3- Case studies

**4) – Student Assessment Methods**

1- Sheet examination
1- Oral examination
2- Term paper

| | |
|---|---|
| **Course** | **Food allergies and intolerance** |
| **Code Number** | **Dar 307** |
| **Credit Hours** | **2** |
| **Prerequisite Course** | **Pha201** |
| **Course status** | **Elective course** |

**1) General instructional objectives (GIO)**

On completion of this course you will be able to

1- Distinguish IgE-mediated food allergy from other forms of food allergy and food intolerance.
2- List the important aspects of the history required for evaluating patients with adverse reactions to foods, as well as the use and interpretation of skin testing and laboratory testing in the evaluation.
3- Review the acute and long term management of a food allergic patient.

**2) Scientific Contents**

The early life origins of food allergy, Food allergy, Mast cells, and IgE, The classical allergic disease, Treating classical allergies and identifying food allergens, Other forms of food allergy, The great controversy, Proteins as allergens: a toxicological perspective, Milk allergy, Peanut and tree nut allergy, The impact of cooking on protein antigenicity, Novel foods a source of novel allergens, Food intolerance, Mind and body, Chemical sensitivity, Food problems in children, What causes food intolerance, Preventing food sensitivity, The elimination diet, After the elimination diet-treating food intolerance.

**3) Teaching and learning methods**

1- Lectures
2- Practical lessons
3- Self learning
4- Cooperative learning
5- Case studies
6- Office hours (tutorial)

**4) – Student Assessment Methods**

1- Written examination
2- Practical examination
3- Mid – Term
4- Sheet examination
5- Oral examination

**5) References**

Brostoff, J. and Gamlin, L. (2000). Food allergies and food intolerance: The complete identification and treatment. Healing arts press. 480 pages.

.

# برنامج نظم التغذية
# Dietetic Program

| | |
|---|---|
| **Course** | **Medical plants** |
| **Code Number** | **Pha305** |
| **Credit Hours** | **2** |
| **Prerequisite Course** | **Pha202** |
| **Course status** | **Elective course** |

**1) General instructional objectives (GIO)**

On completion of this course you will be able to

1- Use of medicinal plants in prevention and healing of ailments.
2- Acquire good basic knowledge about herbal medicine as one of the most common alternative therapies.
3- Advise patients and publics to enhance recovery and achieve positive.
4- Presentation of case studies to help clarify.

**2) Scientific Contents**

Complementary and alternative medicine (CAM), Herb terminology, Herbal therapeutic systems, **,** Principles of herbal pharmacology, Principles of herbal treatment, Validating herbal therapeutics, Optimising safety, Dosage and dosage forms in herbal medicine, a systematic approach to herbal prescribing, Herbal approaches to pathological states Herbal approaches to system dysfunctions, How to use the monographs, Potentially toxic herbs, Ptential herb-drug interactions for commonly used herbs, Herbs and children:basic dosage rules, Herbs affect on renal system, central nervous system, cardiovascular system and digestive system, Herbs affect on eye diseases, rheumatic disease and skin diseases, Ligand-based virtual screening on some of the anticancer phytochemicals to develop an novel inhibitor of ß-catenin against cancer, The role of medicinal plants in traditional medicine and current therapy, Anticancer and cytotoxic effect of mylabris cichorii extract against dalton's lymphoma ascited induced tumor model, Herbal drug interaction.

**3) Teaching and learning methods**

1- Lectures
2- Practical lessons
3- Self learning
4- Cooperative learning
5- Case studies
6- Office hours (tutorial)

**4) – Student Assessment Methods**

1- Written examination
2- Practical examination
3- Mid – Term
4- Sheet examination
5- Oral examination

**5) References**

1- Bone, K. and Mills, S. (2013). Principles and practice of phytotherapy: Modern herbal medicine. Churchill Livingstone, 1056 pages.

| | |
|---|---|
| **Course** | **Filling and Packaging Technology** |
| **Code Number** | **Dar 303** |
| **Credit Hours** | **2** |
| **Prerequisite Course** | **-** |
| **Course status** | **Elective course** |

**1) General instructional objectives (GIO)**

On completion of this course you will be able to

4- Present fundamental and practical aspects of Packaging food.
5- Emphasize practical, cost-effective, and safe strategies for implementing packaging techniques.
6- Know the effect of packaging on food properties during storage.
4- Presentation of case studies to help clarify

**2) Scientific Contents**

Packaging a total concept, Systems approach to packaging, test procedure for packaging materials & packaged products, Packaging as a preservation technique, Types of packaging materials used for foods, Food packaging interaction, Packaging of coffee and tea, Packaging of frozen seafood's, preservation of fresh foods, Shelf life assessment of processed foods, Post packaging pasteurization, Carton board, fording cartons for food packaging, Thermoformed and blow moulded containers for food packaging, Packaging of milk and dairy products, Packaging of cereal and cereal products, Packaging of edible oils, Packaging of beverages, Eco friendly and safe packaging of food. Requirements for preservation, storage distribution and transportation of fresh fruits and vegetables.

**3) Teaching and learning methods**

1- Lectures
2- Practical lessons
3- Self learning
4- Cooperative learning
5- Case studies
6- Office hours (tutorial)

**4) – Student Assessment Methods**

1- Written examination
2- Practical examination
3- Mid – Term
4- Sheet examination
5- Oral examination

**5) References**

1- Bard, E.I.R.I. (2008). Hand book of food packaging technology. Engineers India research institute. 413 pages.

# برنامج نظم التغذية
# Dietetic Program

| | |
|---|---|
| **Course** | **Nutrition in cases of physiological stress** |
| **Code Number** | **Dar308** |
| **Credit Hours** | **2** |
| **Prerequisite Course** | **-** |
| **Course status** | **Elective course** |

**1) General instructional objectives (GIO)**

On completion of this course you will be able to

1- Provide nutritional evaluation guidelines for bariatric surgical patients, treatment recommendations, and dietary management techniques.
2- Examine eating behaviors before and after bariatric surgery as well as psychological issues including eating and mood disorders.
3- Address nutritional needs of special populations undergoing bariatric surgery including adolescents, pregnant or lactating women, and severely obese ICU patients.

**2) Contents**

Introduction of nutritional gastrointestinal physiology imposed by bariatric surgical procedures, Nutritional assessment of the bariatric surgery patient, Nutrition management pre- and post-surgery, Anemia and bariatric surgery, Metabolic bone disease following bariatric surgery, Nutrition of thermal injury.

**3) Teaching and learning methods**

1- Lectures
2- Practical lessons
3- Self learning
4- Cooperative learning

**4) – Student Assessment Methods**

1- Written examination
2- Practical examination
3- Mid – Term
4- Sheet examination
5- Oral examination

**5) References**

1- Kushner, R.F. and Still, C. D. (2014). Nutrition and bariatric surgery. CRC Press. 308 pages.

| | |
|---|---|
| **Course** | **Nutrition in critical care (1)** |
| **Code Number** | **Md311** |
| **Credit Hours** | **2** |
| **Prerequisite Course** | **-** |
| **Course status** | **Elective course** |

**1) General instructional objectives (GIO)**

On completion of this course you will be able to

1- Know the nutritional requirements of patients who are severely ill.
2- List key variables to consider in assessing nutritional risk in ICU patients
3- List strategies to improve nutritional adequacy in the critical care setting.

**2) Scientific Contents**

Hemodynamic monitoring in critical care, Acid base balance in context of critical care, Liver dysfunction in critically III patients, Nutrition and acute lung injury in critical care, Eicosanoid synthesis and respiratory distress syndrome in intensive medicine, Muscle weakness, Molecular Mechanism and nutrition during critical illness, Thyroid function in critical illness, Obese patient in intensive care unit, Adipose tissue and endocrine function in critical care, Extent and nature of infectious diseases in critical care, Critically III patients and circulating amino-Terminal Pro-C-Type natriuretic peptide, Immunonutrition in intensive care, Critical nutrition in stroke, Perioperative immunonutrition in major abdominal surgery, Glutamine supplementation in multiple trauma of critical care, Plasma phospholipid fatty acid profiles in septic shock, Constipation in intensive care, Educational, recording and organizational interventions regarding critical care nutritional support, Extent and impact of malnutrition in critically III patients, Nutrition status and length of hospital stay, Nutritional screening tools in critical care, Nutritional screening and assessment tools for cardiac surgery and ICU, Pediatric ICU and Nutritional assessments, Diagnosis and prevalence of Iron deficiency in the critically III, Metabolic rate in older critically III patient, Bioenergetic gain of citrate-Anticoagulated continuous renal replacement therapy, Protein intake in critically III adults, Nutrition in critically III and injured patients: focus on pathophysiology, Initiation, choice, energy requirements and complications.

**3) Teaching and learning methods**

1- Lectures
2- Practical lessons
3- Self learning
4- Cooperative learning
5- Case studies
6- Office hours (tutorial)

**4) – Student Assessment Methods**

1- Written examination
2- Practical examination
3- Mid – Term
4- Sheet examination
5- Oral examination

**5) References**

1- Rajendram, R., Preedy, V.R., Patel, V.B. (2015). Diet and nutrition in critical care. Springer. 2137 pages.

# برنامج نظم التغذية
# Dietetic Program

| | |
|---|---|
| **Course** | **Toxicological chemistry** |
| **Code Number** | **Chm305** |
| **Credit Hours** | **2** |
| **Prerequisite Course** | **Fdt204** |
| **Course status** | **Elective course** |

**1) General instructional objectives (GIO)**

On completion of this course you will be able to

1- Focus on analytical techniques in food safety chemistry research.
2- Provide comprehensive treatment of the most common food toxicants
3- Present approaches to reduce toxicant/contaminant levels.

**2) Scientific Contents**

History and scope of toxicology, Principles of toxicology, Mechanisms of toxicity, Risk assessment, Absorption, Distribution, and excretion of toxicants, Biotransformation of xenobiotics, Toxicokinetics, Chemical carcinogensis, Genetic toxicology, Developmental toxicology, Toxic responses of the blood, Toxic responses of the immune system, Toxic responses of the liver, Toxic responses of the kidney, Toxic responses of the respiratory system, Toxic responses of the nervous system, Toxic responses of the ocular and visual system, Toxic responses of the heart and vascular system, Toxic vascular system, Toxic responses of the skin, Toxic responses of the endocrine system, Toxic effect of pesticides, toxic effect of metals, Toxic effects of solvents and vapors, Toxic effect of radiation and radioactive materials, Toxic effect of calories, Nanotoxicology, Air pollution, Ecotoxicology, Food toxicology, Analytical and forensic toxicology, Clinical toxicology, Occupational toxicology, Regulatory toxicology.

**3) Teaching and learning methods**

1- Lectures
2- Practical lessons
3- Self learning
4- Cooperative learning
5- Case studies
6- Office hours (tutorial)

**4) – Student Assessment Methods**

1- Written examination
2- Practical examination
3- Mid – Term
4- Sheet examination
5- Oral examination

**5) References**

1- Klaassen, C. (2013). Casarett & Doull's Toxicology: The basic science of poisons. MCGraw-Hill Education. 1454 pages